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## Introduction: Language and Surplus

Any and all architectural materializations can be argued to be the result of a form of surplus, an excess that is not to be misinterpreted as a vice, but rather an essential part of the structure of tectonic thought: that all architectures negotiate technical and communicative interests as an artifice, not as natural fact. Even the most technical of architectural requirements can rarely, if ever, determine a singular outcome, overcoming any possibility of structural, functional, or formal determinism. Part of the allure of the Classical reference in architecture is its systematic nature as a language, the relationship of its parts to the whole, and the idea that in its time, it was the result of a social contract of sorts; it was a shared system of construction as much as a shared system of communication, and thus enabled a range of manipulation from prose to poetics and from use to abuse.<sup>1</sup> For this reason, the vicissitudes of the Classical language, its details, and its joinery form a narrative that tells of its orthodoxies and transgressions, from the ideals of Andrea Palladio to the heresies of Giulio Romano. With the cultural changes of the past century, we have also witnessed the demise of Classicism in its central authority. Modernity, and what happens post-modernity brings with it forms of heterogeneity and cultural plurality that render obsolete the kind of hegemony once enjoyed by Classicism, and with it is lost the social order that not only brought forth its details but also their legibility. Notwithstanding these historic changes, the detail of contemporary architecture still enjoys a paradigmatic role in its account of current debates, predicaments, and our cultural condition. However, without the monocular lens of Classicism, we require multiple vantage points to make visible certain relationships that would otherwise get submerged by the indifference of relativism. This introduction attempts to chart some of these tendencies, along with the polemics, arguments, and debates that travel with them.

With the multitude of formal projects, theoretical platforms, and cultural differences, the theme of “performance” has somehow come to characterize a renewed thirst for an alibi of certainty. Performance has come to stand in for functionalism and this ambiguous umbrella has been posited as a response to a range

of cultural phenomena, among them the grand narrative of ecological deterioration. In this context, performance offers redemption in light of architectural conceits, and as such serves both to eliminate and justify play. At the same time, in light of unprecedented technological advancement, from digital fabrication techniques to smart material applications, performance has offered a new technical culture with its own protocols, employing quantification to give moral absolution for its desire for formal innovation. In a parallel mode, renewed theoretical interest has emerged around themes such as ornament, pitting morality against performance and adopting the production of affect as an unquantifiable metric against which to judge formal maneuvers.

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## A Discipline in Search of a Medium

Notwithstanding the evident contradictions between the technical mandates of architecture and their requisite expression, the launching point of this discussion, beyond theories of tectonics, needs to address the techniques that guide the various disciplines, trades, construction guilds, and sub-contractors. Consider the myriad of details: the mortise and tenon connection for wood, the plug weld for steel, the butt-joint for glass, the stacked bond for masonry, a Soss hinge for paneling, or fabric forming for concrete. All of these details and procedures produce irreducible conditions by which the means and methods of an architecture – and its effects – are calibrated. It is one of today’s ironies that design contracts, e.g. in the USA, specify that the architect is responsible for design intent, while the contractor is responsible for – and ultimately in charge of – the means and methods of construction. This legal detail sets up an adversarial relationship between these protagonists, divorcing the architect from the very techniques that help determine budget, scope, and implementation, while also distancing the contractor from the conceptual, theoretical, and organizational underpinnings of a design intent; in one simple act, it neuters the architect as a builder while lobotomizing the builder as thinker. Overcoming this legal loophole, one would need to imagine the necessity of the architect’s role within the means and methods of production, not only from a practical point of view, but also to re-establish a platform of









Herzog & de Meuron, Signal Box - Auf dem Wolf, Basel, Switzerland, 1995, facade detail.

empowerment: to create reciprocity between ideas and matter, conceptual strategies and implementation, or between process and product. What also seems to be at stake is the definition of what constitutes the medium of architecture. It is rarely challenged that architecture brings to building a certain level of self-consciousness – elevating it to an intellectual project, but the role of materiality and its precise dependence on the detail has not always been paired up as a conceptual investment. Of course, historically this emphasis has waxed and waned. Ludwig Mies van der Rohe's allegiance to the detail is well recorded in his by now infamous quotes: "Architecture starts when you carefully put two bricks together" or "God is in the details." At the same time, the discipline witnessed the demise of the detail after Brutalism with the ascendance of post-modernism and its emphasis on representation, iconography, and semantics; this was mostly documented in paper architecture initially, but then subsequently followed by its implementation through a building industry that had, by then, taken the reigns from the architectural profession. In that context, the detail was seen either as the "natural" consequence of process, an end-game bonus, or the fulfillment of a final phase – but it was never treated as the generator of a project, and hence central to the medium. Thus, for this discussion, I will try to bind the material detail to the very definition of the medium in the same way we may tie oils to painting or clay to pottery – the joint being the precursor or microscopic evidence of architectural thought at work. Returning back to the techniques then, it is hard to imagine the conceptual contributions of the Gamble House outside of the mortise and tenon joint inasmuch as we would miss the radical silence of Farnsworth House without the presence of the plug weld – the absence of a joint. Arguably, the Gamble House would be a debased intellectual investment if it were balloon-framed as much as if the Farnsworth House were to be assembled with exposed nuts, bolts, and washers. The precondition of the detail as the generator of ideas, inventions, and disciplinary advancement is at the core of this investment.

From a theoretical perspective, Gottfried Semper's characterization of the "Four Elements" – mound, hearth, roof, and enclosure – has helped guide the discipline towards

an understanding of the connection between architectural elements and their materio-technical counterparts, thus linking the mound to masonry, the hearth to clay, the roof to carpentry, and the enclosure to weaving. If the performative aspects of each media are not obvious enough, the mere identification of "difference" between the elements is an important act of codification, because it instills in the architectural mindset an ideology of appropriateness to the use of materials. Thus, the use of wooden foundations in Venice actually reinforces the spirit of Semper's argument even if it refutes it in fact. At the same time, the performative interpretation falls short of explaining the ideological aspects of appropriateness, especially when confronted with aesthetic acts of surplus or resistance: if all the wooden piers under Venice – in their invisibility – help float the city, it does little to explain the tectonic peculiarities of the Venetian Palazzo. The patterned elaborations on the facade of the Palazzo Ducale, for instance, require a rhetorical reading of Semper's theory to underline the difference between a facade woven out of reeds and a facade that extracts out of the bonding pattern of masonry block construction an iconographic relationship with textiles. The mediation, negotiation, and ultimate fusion between material behavior and visual performance is thus at the root of this tectonic appeal to the detail.

### Beyond Paper: Reclaiming Material Agency

In the landscape of contemporary architecture, various protagonists have played a critical role in advancing certain propositions within this debate. To start, it would be hard to imagine the kinds of material research and speculations of the last decade – in both practice and academia – without the presence of Herzog & de Meuron. Their systematic assault on the architectural culture of the 1980s, by way of material investigations, came with such a clear didactic dimension, that it challenged many methodological debates that dominated the times – to name a few, the stability of typology (Aldo Rossi), the emphasis on process (Peter Eisenman), or the indulgence of composition (Coop Himmelblau). All such procedures were to be examined through the lens of material operations with the detail as interlocutor. Their portfolio expanded one building at a time,



with each one examining architecture not so much through their authorship, but rather through a deliberate radicalization of propositions about joinery, material behavior, and their requisite effects on long-standing traditions. Their Signal Box in Basel was one such testing ground, and it underlined the freedom of the skin from the contents of the building, while using copper's innate malleability as the vehicle by which the seamless operability of its apertures became possible (ill. p. 36). If that project produced one of the most salient icons of its time, it also displayed a certain orthodoxy with respect to the latency of material behavior, something all architects would look at with awe, or jealousy, for its obviousness. However, Herzog & de Meuron's focus on phenomena is not to be understated, and maybe it is their emphasis on effect that helps understand the perverse, if precise, calculations of their experiments. The levity of the Madrid CaixaForum, for instance, acquires its significance precisely because of its irreverence to gravity and the logic of brick construction, cutting the building at its ankles and objectifying it as a curated artifact, much like the contents of the building. Robbed of its original tectonic logic, the building instead acquires a new relationship with the public at the ground level, something that the original power plant's load-bearing walls could not impart. Perhaps more importantly, the building also engages a broader discursive battle with preceding mythologies, making brick, as it were, do precisely what it does not want to do; through an act of inversion (or negation), its arches, vaults, and thick walls now truncated from their conventional duties, can finally display the kind of weight and girth intended for masonry construction.

As a foil to those practices that have advanced material consciousness, Eisenman's admission of disinterest in construction, material research, and the building industry, serves as a good polemical alternative. His buildings are both the victim and benefactor of this bias towards the rigors of formal operations. Rarefied a discourse though it may be, his interiors – built out fully in gypsum board – help to retain a focus on immateriality, geometry, and the indexicality of his process, an abstraction so pure that it challenges the very tenets on which conventional tectonics is founded: gravity, differentiation of functional attributes, and tactility, among

other factors. At the same time, his eventual and inevitable engagement with the world of construction products and conventions – expansion/construction joints on the one hand, or baseboards, window sills, and door jambs on the other – remain so passive that they are devastating to his very cause, undermining the argument about form in which he is so invested. Consider Eisenman's iterative engagement with the Derridean fold; the search for the constitution of a trace in its most universal sense lead him, not so surprisingly, to a series of projects that, as architectural figures, appeared “folded,” but also renditions that leave procedural traces of the folding process in the final account. If one cannot tolerate the literalness of this response, one should be reminded that architecture remains, despite all conceptual claims, devoted to spatialization and figuration as a central vocation, and by extension material agency as its medium. In this sense, Eisenman can hardly be faulted for extending this age-old dedication to the *métier*, even if there are fundamental problems in using architecture as an illustration of conceptual claims. But given that the fold has such vast implications and potentials from the viewpoint of construction, the corollary challenge would be to determine how one could interrogate the medium of architecture to conceptualize the fold – not so much as a metaphor for a theory, but rather as a procedural device to advance the discipline itself; implicit in this challenge is the burden of examining the “seam” of the fold, the “continuity of matter” over the fold, the “thickness” of the fold, among a host of questions which cannot escape material thinking. Lest this be misunderstood as an advocacy for pragmatism, feasibility, or construction management, then the relationship between constructive logics and theoretical possibilities must be underlined to understand the conceptual stakes within this debate: the notion that buildings themselves contain embodied knowledge, polemical stances, and theoretical advancement.

Extending this preoccupation with the fold towards more sophisticated ends, the roof of the Kyneton House by John Wardle lends a more precise eye towards disciplinary invention by way of engaging the details of its conception (ills. pp. 38, 39). Researched through the process of scoring and folding paper, the roof establishes an extended covering that protects









John Wardle Architects, Kyneton House interiors.



the Australian house from the sweltering heat, while also using its folds to create apertures to bring in southern light. Working with the rigor of origami, the geometry of the roof is folded out of a pure rectangle, making each facet the result of a clear rotation from this primary figure. In turn, acknowledging the innate complexity of the roof as a composite system – fabricated in zinc, sheathing, structural steel, and gypsum board – the project is layered in such a way as to expose the various strata as independent laminates. These laminations point to a phenomenon so endemic of contemporary construction: that mass, despite its volume, is gauged and fabricated by sheet material; concealing the volume of the roof through the displacement of the various strata, the articulation of these laminations exposes this tectonic current to surreal ends. While each strata plays on its own material logic, the thinness and levity of each layer makes the roof appear to hover, disengaged from the very house it protects, assuming a relationship with the horizon; its razor-like folds speak to the distant topographies while the flatness of the overall figure to the expanse of the plains. The pedigree of this thinking is, of course, quite different from the preoccupations of Deleuzian thinking, and yet the fold is an indispensable device that speaks to the manifold tectonic imperatives the roof has to engage: from water drainage to lighting apertures, from structural forces to layers of skins, and from applications of metal sheathing to plastering processes. Though highly crafted, Wardle is carefully waging a struggle against the individual technical feats of the building's components, while framing the broader conceptual readings that are unleashed by the building as a whole – escaping as it were the simple fascination with craft, and instead placing his investment in the intellectual paybacks of material operations. Wardle's separation of materials and their subsequent re-joining acknowledges the literal movement of a building – the varied rates of expansion and contraction of different materials – but more importantly helps to conceptualize this fact as the basis for a spatial and tectonic layering. If his theoretical claims are restrained, the building's effects, instead, are quite startling, de-familiarizing the very conventions on which each craft is based.

## Inputs, Constraints, and Intent

The fold, taken more literally, is a staple of technical culture; no one knows this better than Frank Gehry, who effectively radicalized the metal sheathing industry over the past 20 years with his wide adaptations of metal skins (ills. pp. 63, 67, 71-74). Blurring the traditional seams between roofs, facades, and socles, Gehry's predisposition towards figuration required a technology that could navigate the most extreme hydrological mandates. Working with conventional standing and flat seam detailing, he advanced the geometric possibilities of panel construction one shingle, or seam, at a time. Despite the sophistication of the complex curvatures he enables – or maybe precisely because of them – his paneling systems remain indifferent to the very figures they adorn – inattentive to the differences between coping or corner conditions, as much as perhaps irreverent to the syntactic demands of tectonic differentiation. Extended as wallpaper over the elevations, the metal panels become part of an extended monolithic field that wraps the architectural figure. Even if left untransformed, the flat seam detail is a crucial detail that makes this broader architectural strategy possible.

In contrast, if the hydrological demands for the Fabrications installation by Office dA are negligible, then the advancement of folding as an instrumental device is demonstrated through the development of the "stitched seam" (ills. p. 41). Researched and developed with Milgo Bufkin, the stitched seam acknowledges the thickness of metal sheathing by laser-scoring offset seams with correspondent dimensions, ensuring structural stability while also enabling the continuity of material. Notwithstanding the sartorial metaphor, the stitch is the result of a material extraction, not joinery; in turn, the precision of its CNC logic offers minimal tolerances, mass customization, and a tectonic logic that overcomes the strict conventional divisions between structure and skin. The detail, in fact, is in service of a broader conceptual aim that pushes to the extreme the phenomenal motivations of tectonic thinking: to demonstrate the radical schism between retinal and constructive thinking. The installation is conceived as an anamorphic projection, producing the illusion of a flat rectangular panel, whose discrete units appear





Gramazio & Kohler, Gantenbein Winery facade (Bearth & Deplazes, principal architects of Gantenbein Winery), Fläsch, Switzerland, 2006, non-standardized brick facade, fabrication.

perfectly plumb and level from a privileged vantage point – a device that relates to conventional checks and balances on the construction field. While the construction of steel panels underscores the elemental and aggregative differences between each panel and their requisite parts (the jig, fold, and reveal), the anamorphosis helps to conceal the traces of its very construction in the flattening out of the perspective. From a broader technical level, the installation is also built without bolts; steel folds are wrapped around structural jigs adopting plug welds to conceal the traces of construction, supporting the tension between conceptual and technical agendas.

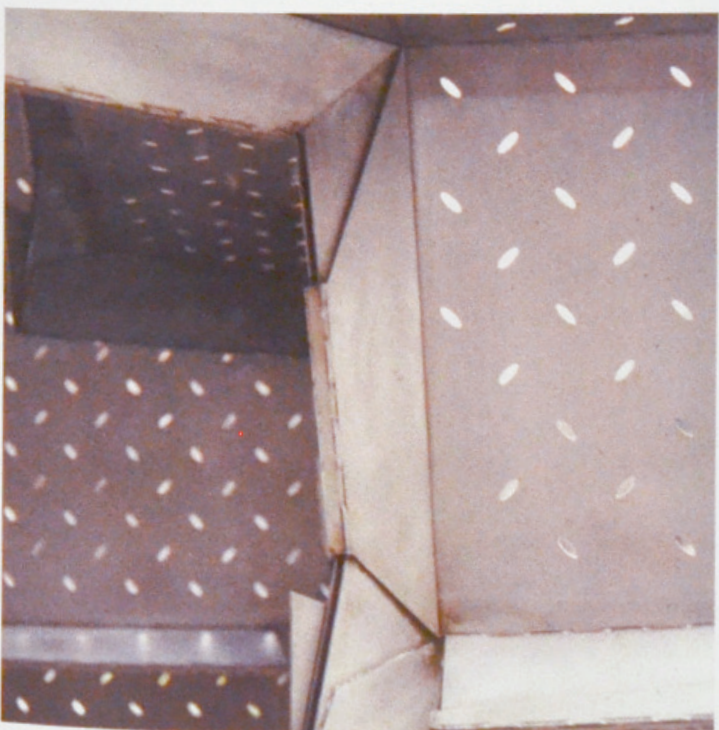
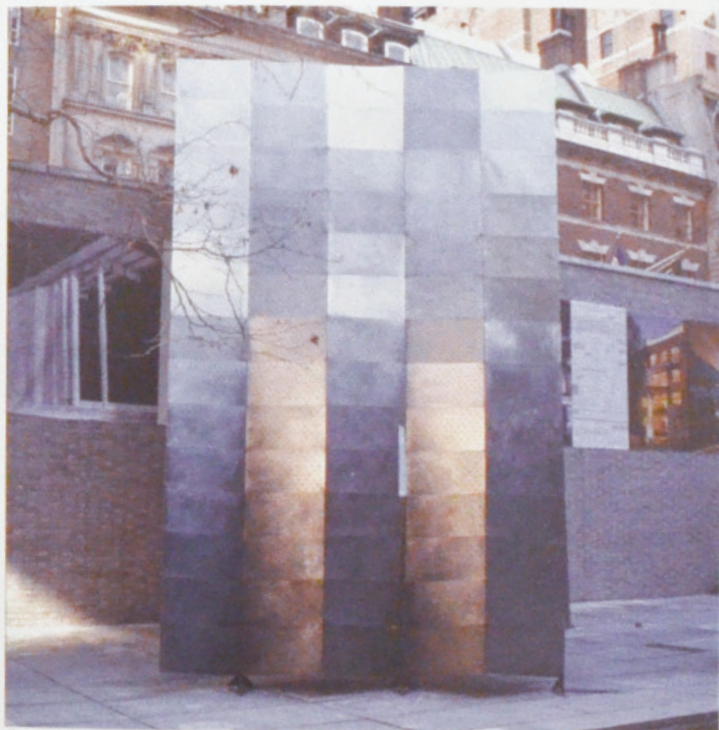
Within the context of contemporary culture, the Fabrications installation speaks to a tendency that is well outlined in Greg Lynn's foreword to the "Intricacy" exhibition.<sup>2</sup> In the essay, Lynn offers a theoretical vantage point that helps to situate much of current thinking within the terrain of tectonic thought. Lynn identifies how computation and the digital platform have produced the possibility of a new attitude towards the detail, drawing emphasis away from the uniqueness of the joint and instead supplanting it with the idea of the detail as omni-present, as a distributed system, or as a field condition. Implicit within the intricate is the bias towards continuity, monolithic singularity, and self-similar organic relationships of part to whole, overturning traditional hierarchies, types, and collage-based assemblages. In turn, various pedagogies of the past decade have given priority to material thinking and the subsequent means of aggregation, to geometric speculations and systemic permutations, and more recently, to scripted procedures that have attempted to automate much of the conceptual apparatuses that aim to re-center the work of authorship around parameters.

## Digital Research

Within the context of the exhibition, the Tongxian Art Project illustrates Lynn's point by way of the "variable bonding," a masonry bond that abandons the traditional adherence to the Common or Flemish bond in lieu of an organizational configuration that enables multiple architectural possibilities by using the detail to engage integrative strategies: structural

optimization, environmental calibration, programmatic adaptation, and other architectural contingencies. This proposition was maybe best illustrated in Casa La Roca, where the experimentation was tested between bricks, blocks, and tile, all of which displayed their own unique innate potentials (ill. p. 53). Tongxian, though conceived on a parametric conceptual platform, is in fact delivered in archaic terms, using CAD files as its instrument. This thinking takes a radical leap forward with the aid of R-O-B, an apparatus unavailable at the time of Tongxian, but an instrumental protagonist in the work of Gramazio & Kohler, who take the same conceptual platform to a new technical level (ills. pp. 40, 56). Their work with masonry essentially re-confirms the premises of the Tongxian project, in part due to the aggregate nature of masonry blocks, which define the configurability of joinery within the system. Instead, their research with Foam and the Disintegrated Wall offers new conceptual hurdles which escape material unitization, and a scenario whereby the joint is divorced from its conventional geographic alliances: thresholds, corners, junctions. Instead, these experiments are either the result of pure geometric speculation or a negotiation with material behavior. The Foam research, akin to the work of Roxy Paine, takes advantage of the viscosity of the material to gauge robotic instrumentality and test the limits of mimesis, where organic matter confronts systemic fabrication. In the case of the Disintegrated Wall, excavation and geometric patterning operate with utter independence of the panels that drive the experiment; the panels dematerialize as the configurative logic of perforations, by way of the Voronoi diagram – a special kind of decomposition of space determined by distances to a specified discrete set of objects in the space – takes front stage. In the perforated wall, the eventual abandonment of the panel sets the stage for the complete independence of aggregative logics, geometric speculations, and their subsequent effects. In essence, freed from the shackles of unitized construction, the architect invents other alibis that can drive formal derivations – testing functional, performative, and technological parameters through the digital media to advance architectural malleability towards inventive terrain, bringing a material agency to intricacy beyond the realm of mere visualization. Still, the dominant results of their research have resulted in surfaces, with lesser spatial consequences.





Other parallel researches engaged in the intricate by the likes of Ali Rahim have produced geometric propositions with greater formal and spatial range, even when they operate with complete irreverence, indifference, or innocence to typological questions. For this reason, Rahim's towers may either have missed the boom in Dubai or they simply could not work out the *pro formas* in time (ill. p. 169). Whatever the reason, what is lacking in the towers is a sense of indispensability – the idea that the form, in some way, contains a narrative that cannot be value-engineered. Others testing similar territory, such as Kengo Kuma, in his Granada Performing Arts Center, show more strategic alliances with typological and functional attributes, linking the hexagonal geometry with the vineyard seating, the rakes of staircases, and the structural logic of the proposal – all in all, constructing an alibi that organically binds the detail to the broader geometry.

### The Acrobatics of the Cover-Up

If the intricate operates to spread the realm of the detail, to dematerialize, and to offer variability in the joint, its pre-disposition towards patterning helps to camouflage all those architectural mandates that come to crowd, compromise, and complicate conventional architectural strategies. For this reason, the techniques of the minimalists cannot be overlooked as part of this debate. If their tendency towards reduction, silence, and abstraction is well documented, the joinery that makes this architecture possible is also instrumental to its cause. For instance, the butt-glazed joints of the Glass Pavilion of the Toledo Museum of Art by SANAA help to dematerialize the glass walls, but they can only be paired up with the broader efforts of erasing all other evidence of architectural bureaucracy: the apparatus of mechanical engineering, structure, fire suppression systems, and the host of programmatic equipment that overwhelms conventional work (ills. pp. 42, 43). The stubborn and insistent battle for the primacy of affect over substance requires the understanding that the majority of joinery and detail is kept behind the scenes precisely so that the detail is not fetishized on the surface or in the foreground. For this reason, the Toledo Museum enjoys several hundred carefully located beam penetrations above the level of the ceiling so as to protect the sanctity of the extended flat roof slab. This enables SANAA









Morger & Degelo with Christian Kerez,  
Kunstmuseum Liechtenstein,  
Vaduz, Liechtenstein, 2001, exterior wall detail.

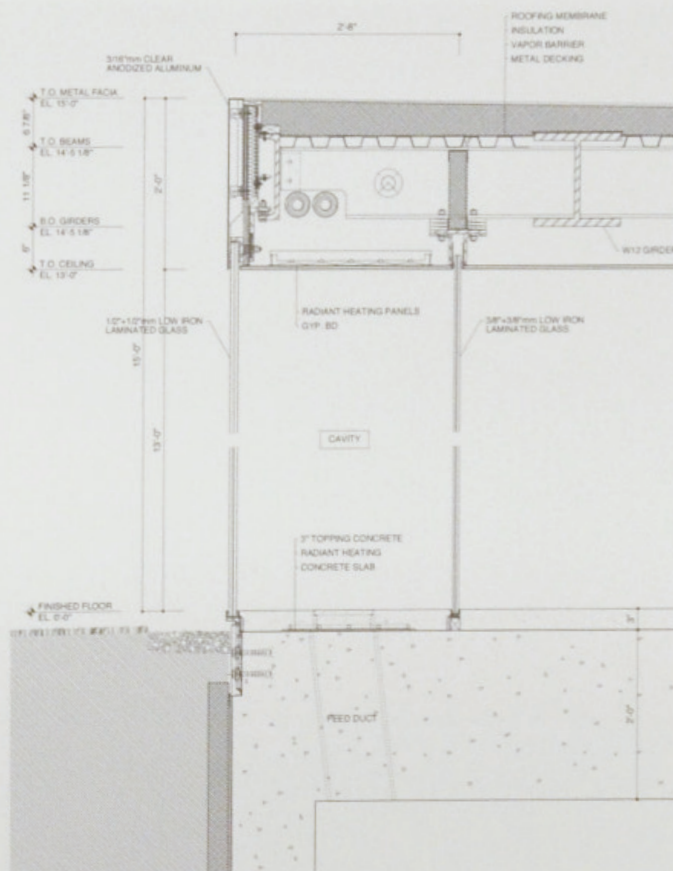


SANAA, Glass Pavilion, Toledo Museum of Art,  
wall section detail.

to play with transparency, reflectivity, ambiguity, and a range of other effects produced by the layering of glass, in order to establish a significant relationship with the glass “content” of the building, unhindered by the brutal proliferation of architectural requirements. The strange absence of lines in the presentation drawings then, are to be taken literally, as if to evacuate her architecture of all detail; in turn, this is accompanied by a thick manual of working drawings that extensively locate each and every joint that is suppressed within the backstage of her buildings. If the Glass Pavilion extends the landscape of the museum into the surrounding park, the Lichtenstein Museum by Morger & Degelo and Christian Kerez indulges in a similar sensibility to different ends (ills.). Working with black polished concrete, amplified by dark glass and mullions, the building is designed to reflect the landscape around it. The polish of the surface dissolves the aggregates, as if refined terrazzo, concealing any and all expansion joints. Again, evacuated of all detail, what remains is a void, a reflection, and a desire for architecture to disappear – a desire which cannot approach fulfillment if betrayed by evidence of the detail.

## Performance and Its Predicaments

Still, the majority of projects do not permit the luxuries of budget or the added leniency of code that is somehow bestowed on rarefied minimalist projects, and thus their rewards are few and far between for the greater mass of architects. Nonetheless, the idea that the emancipation from the detail – or the visible detail – can lead to a tectonics of ephemera, a perceptual phenomenon, or a dematerialized affect, is a seductive proposition, using material conceits to point to immaterial potentialities. In response to this, the work of Philippe Rahm brings up further challenges by dealing precisely with non-retinal techniques, using atmosphere, thermodynamics, and the environment not merely as alibis for the building’s performance, but as rationale for form itself (ills. pp. 44, 183). If his rhetoric displays an innocent yearning for environmental determinism, it is made more complex by a self-conscious play between spatial and material projections that pit form against performance. Enhanced by a myriad of charts and thermal diagrams, projects like the Interior Gulf Stream and the Convective Museum lay



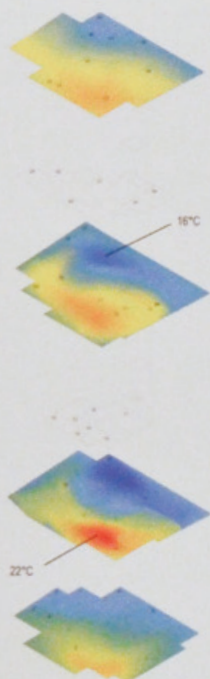




bare the materio-linguistic biases of an architecture in search of an alibi. Rahm finds himself in a classic predicament: that while form is always informed by some sort of performance, it is at the same time never determined by it independent of external cultural forces that engage language or the vocabulary of material influences. One is reminded that even if Boston Symphony Hall is regarded as having one of the world's best acoustics at the level of performance, that still does not explain its detailed syntactic differences from the Concertgebouw in Amsterdam; as such, architecture, it would seem, thrives precisely from a certain autonomy from performance, or at least it gains productively from this friction. Still, Rahm's position points out how we are in a historical moment where the rigors of environmental modeling can produce a credible link with form, if only to challenge conventional typologies, organizations, and material distributions. For the moment, his work remains in progress, and thus further elaborations of this argument will only be enhanced and compromised as he takes on building projects, a chapter that has yet to come.

### Difficult Synthesis

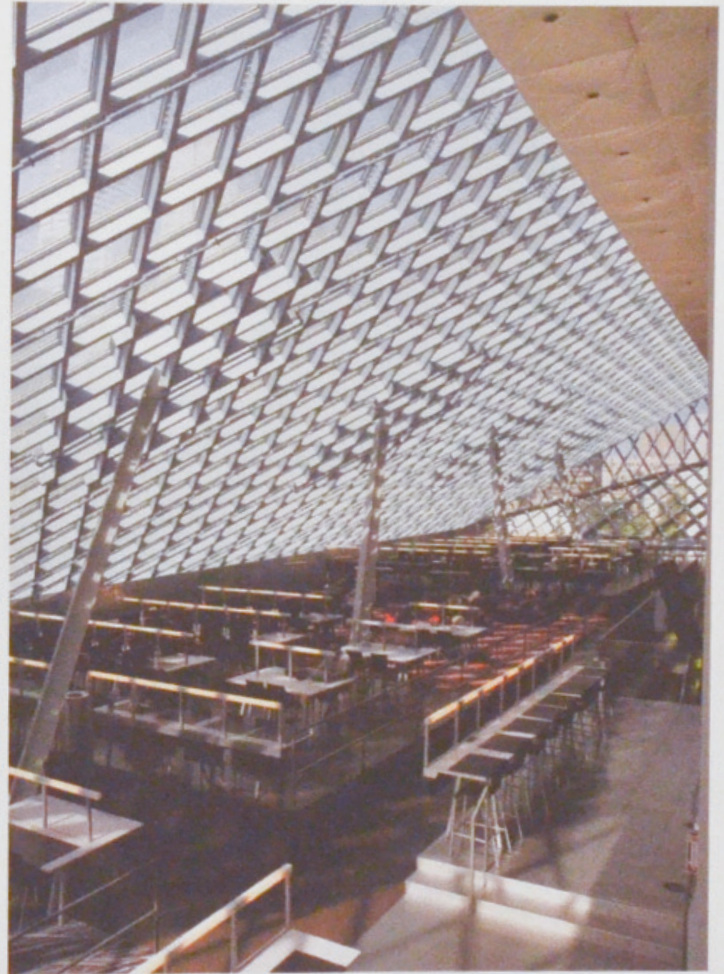
Of the thinkers that have confronted contemporary culture and the construction industry with some measure of simultaneous directness and irreverence, Rem Koolhaas stands out. In the context of the various tendencies outlined here, his utter lack of care towards the detail can be construed as a polemical stance. In his earlier work, such as the Kunsthall, the prosaic use of industry details in brutal juxtapositions, intersections, and banal connections almost leads one to believe that it could be the result of carelessness, incompetence, or lack of sophistication. Yet as his work has developed, Koolhaas's emphatic refusal to get sucked down into the preciousness of details stands out for its consistency, and more importantly for the emphasis placed on conceptual strategies – almost as if the noise rendered by the detail could hinder the clarity of his arguments. More recently, his denial of the detail in the junction between the columns and the skin of the Seattle Library is one such example, where added I-beams unceremoniously thicken the zone of the diagrid skin without any sense of decorum (ill. p. 45). Instead, the superposition of I-beams can be said to underline the



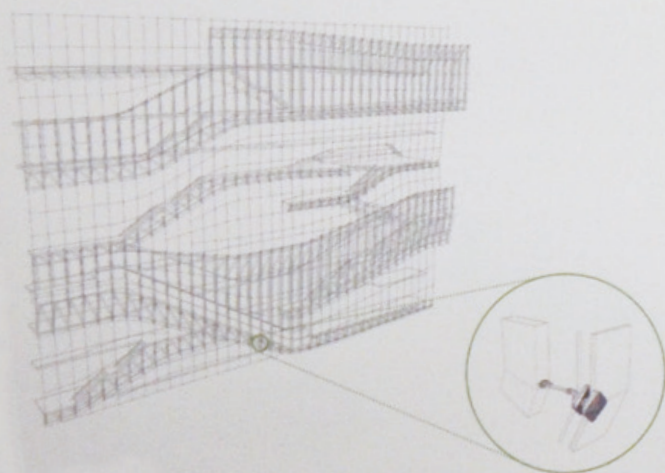


simultaneous figurative and configurative importance (cf. pp. 48-61, 62-65) of the diagonals within the building's structure and skin, making any emphasis of the junction a kind of diversion (ill.). Maybe most importantly, Koolhaas's contribution comes in the way in which his cultural preoccupations with hybrid programs and urbanism have led him to formal experiments that foreground difficult architectural reconciliations. In this sense, his work evades the classical possibilities of establishing an easy relationship between the part and the whole. The detail, in turn – even if not a precursor of his design process – is then implicated in his preoccupations and made to take on a cultural significance as it mediates between industry conventions and architectural mutations.

Given the complexities required by hybrid programs and typologies that characterize today's architectural patronage, one of the currents that challenge architects is the formal preoccupation with synthesis in general, as each tradition attempts to overcome classical organicism on the one hand, and collage techniques that tend to produce fragmentation, blunt juxtaposition, and simultaneity on the other. It is perhaps in this area of "difficult synthesis" where the detail is put to its ultimate test, where systems fall apart, where technologies overlap, where geometries intertwine, and where easy solutions no longer suffice. Not all architects are predisposed to taking on these types of problems, but those that do are not guaranteed an easy success either. Consider Steven Holl's Whitney Water Purification Plant, and his audacious attempt at fusing the main barrel vault with a tangent stair – mirroring him in the geometric predicament of reconciling the relationship between a single and a double curvature, the surfaces that contain the stair and the main vault of the building (ill. p. 46). Suffice it to say that if the act of drawing through the geometry could have shown the problem of conjoining these two volumes to be of sufficient difficulty, then the building process only confirms the crisis as the sheet metal shingles refuse to abide by the mandates of compound curvatures. If Holl does not succeed in organically reconciling the two volumes, he also erodes the volumes sufficiently such that their legibility as distinct entities is compromised; maybe most problematically, the resultant form serves to undermine the self-consciousness that is so much part of the critical culture of the architectural enterprise,



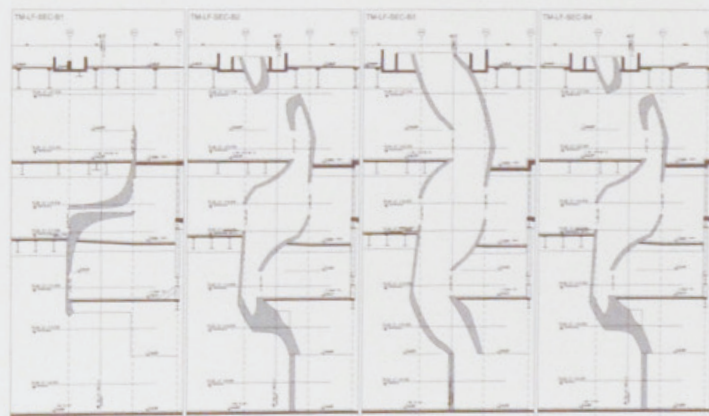




and tragically obscures the difference between willfulness and oversight. Preston Scott Cohen has taken on a similar problem in his torqued circulatory promenade in the Tel Aviv Museum of Art, named the Lightfall (ills. p. 47). His calibrated focus is on geometry as the building block of the atrium ensures him that the rigors of the ruled surfaces will embrace the adjoining ramps with deliberate resolution; in turn, his use of concrete – a liquid medium producing a monolithic *poché* – conceals the geometric gaps between the inner surface of the atrium and the edge of the ramps on the opposing sides, offering him, as it were, a tolerance for error that remains unperceived. Such a move also absolves him of further integration of the complexities that come with layered systems, hybrid construction techniques, and essentially the dependence on detail. Through this sleight of hand, he is able to achieve formal continuity and spatial singularity in a circulatory system that is, in fact, fragmented, parceled, and aggregated. In the same trajectory, SHoP addresses a similar formal problem in their slab for the Fashion Institute of Technology in New York (ill.). The staircases that ascend and bind the various vertical commons are pushed to the outer skin of the building, exposing the vertical promenade to the city. The staircases are displaced in accordance with adjoining rooms, views to the city, and lateral programs, creating distortions in the skin that register the impressions of its adjoining program. The skin takes on the burden, not only of indexing and accommodating programmatic necessities, but also the technical mandates of the building, including the structural, environmental, and weatherproofing logics. Most importantly, unable to hide any of these contingencies, the skin is forced to mediate between the performative aspects of its mandate and the building's larger responsibility towards the city and the identity of the institution, holding in suspension the relationship between its singularity of expression and the various fragments contained within. Equally important, it is precisely because of the exposure that the glazing system renders, that the larger thematic imperative of an architectural agenda is led to supersede any functional or performative dictates. Adopting material and tectonic devices as the medium of addressing complexity and contradiction, the strategy acknowledges a problematic that persists despite the ongoing evolution of forms, idioms, and spatial regimes in architecture.



In the context of the agency of material detailing, the idea of the difficult synthesis exposes the necessities of discursive narratives and strategic choices within the broader panorama of architectural practices. The foregrounding of details and construction logics can be viewed as much to expand and innovate in expository ways as the selection of certain media that help to silence, undermine, and conceal the instrumentality of material use. Both strategies ultimately uphold the deep-seated bias of architecture's tacit allegiance to materio-linguistic practices. The acknowledgement of this condition can be seen as a source of liberation, but also poses significant challenges. On the one hand, it demands of the architect a re-acquaintance with the techniques of the medium – something that has been lost with the advent of specialization – on the other it requires a more nuanced level of critical faculties, ensuring that the architect can distinguish between the potentialities offered by material speculations and the redundancies of material fetishization. The denial of the material playing field, whether out of innocence or ideological stubbornness, is ultimately a self-defeating and tacit abdication of power and critique in those areas over which we have the greatest political dominion – foreclosing the possibility of the determination of specification, the seizure of architectural opportunities, and the innovation of practice by way of its tectonic underpinnings.



## Notes

1. Of the many canonic arguments the Greek Temple has served to illustrate, the question of its joinery, connections, and details is, in many ways, the most salient. They tell a story about architecture that remains until today rich as a problematic and controversial in terms of principles: namely, the disjunctive relationship between the facts of material construction and their desired effects. Consider, if you will, the triglyphs and the idea that they somehow materialize the end grain of wooden beams as they rest on the architrave. If the fiction that wooden members somehow reappear in a different life in the form of stone is not conceptually fantastic enough, then imagine the crisis that is unleashed once the triglyphs migrate from the side of the temple to its front, under the pediment. What does it mean, operating within the paradigm of signification, when the ends of beams run perpendicular to the grain of the temple's structure? Is this a mistake, or is its adoption so systematic that it is absolved of such a characterization? Alternatively, are we allowed to interpret this as an act of irony in a historical moment when the temple is seen as sacred? Is it a conceit of ornamentation, or are all the triglyphs already enforcing the regime of ornament? Or consider this: had the triglyphs been flushed out with the face of the architrave – submerged into invisibility – would we have access to this vast repository of interpretations or the ethic that is associated with them? One may be prone to say "no," but then one would precisely be missing the rhetorical impetus behind much of modern architecture, minimalism, and a range of work whose motivations get richer with silence. Conversely, it would also miss the nuance that even the most technical of architectural requirements can rarely, if ever, determine a singular outcome, overcoming any possibility of structural, functional, or formal determinism.

2. "Intricity," exhibition of the Institute of Contemporary Art, University of Pennsylvania, USA, September 3–November 7, 2003.