

Structure, Space and Skin: On the Autonomy of Enclosure

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... much architecture still separates the skin from the structure, rejecting the fundamental relationship that connects structure, space and light. Livio Vacchini (1)

Contemporary architecture has been influenced by the churning of transdisciplinary tendencies that affects all realms of twentieth century knowledge and practice. A philosopher who collapses boundaries between scholarly learned philosophical discourse and the minor, popular experience of form in his writing is Slavoj Žižek. Writing in a chapter about ideology, he focuses on an idea of form that is analogous to a kind of candy that has a thin-skinned sphere of substance, usually chocolate, enclosing an air pocket, rattling inside of which is a kernel consisting of a plastic toy: the kinder egg. Žižek writes,

"... a commodity is a mysterious entity full of theological caprices, a particular object satisfying a particular need, but at the same time a promise of "something more", of an unfathomable enjoyment whose true location is fantasy (...) the plastic toy is the result of a risky strategy actually to materialize render visible, this mysterious excess... (2)

Architecture is too immovable, and too unwieldy to liquidate, to be classed wholly as a commodity. However, building today involves piecing together mass produced items: 'off-the-shelf' components for building wall assemblies. The domains of innovation tend to be in areas that privilege pre-manufactured

wall components. David Leatherbarrow and Mohsen Mostavi describe the process at length,

In a time when almost all of the elements used in the building process are pre-made in a factory or workshop, architectural construction has become a process of assembly. No longer does site labour involve the cutting, joining, and finishing of "raw materials"; instead it entails the installation of components that have been preformed and pre-fabricated somewhere other than the building site. Construction these days tends to be largely a dry not a wet process, the elements of which are not only precise and exact but meant for specific assembly procedures.

These techniques intend the construction of a system, an integrated unity that is characterized by (1) the functional interdependence of parts, (2) internal intentionality, and (3) independence from territorial obligations. The functioning of a glazing system, for example, depends on these conditions: first, on the interdependence of its mechanism of operation - fasteners, sealants, sheets of glazing, etc.; second, compatible performance standards for each of the parts; and, third, the relative autonomy of the ensemble, which allows it to be used in different locations. (3)

Contemporary architecture, composed as it is of assembled components, contains elements that are while technological building products, appear to behave like simple commodities - following rapidly changing trends, reflecting tastes that mutate in patterns of industrially dictated and marketed planned obsolescence.

The surface or cladding of contemporary architecture is most affected by this commodity fetishistic,

consumerist tendency of contemporary western civilization. Some of the most successful buildings are spectacular in terms of their envelope, while containing sometimes quite ordinary mass-produced slices of horizontal space inside. Since the advent of the curtain wall technologies, the notion of the architectural elevation as an expression or expressive development of the plan, has been supplanted in some practices by a concept of enclosure as wrapping the building envelope. This has combined with the capacity of architectural design software to conceive of built volume as swathed, enfolded or draped in angular or undulating surfaces. Another influential notion has the idea of ground folding up around, even through the built volume, so that the 'MGP' or 'manipulated ground plane' give access to several levels along an incline. Architectural critics have noted with humour that since much architectural design takes place with the designer staring at a glowing three-dimensional diagramme floating on a black screen, buildings under design are likened to spaceships.

Zizek goes on to locate the notion of the sugary-coated void in the tradition of spaces for dining – in the specific rooms for eating desserts, empty or fluffy confections in the rituals of hospitality. One could expand, speculatively, this notion from the dining hall to the scale built form, even to urban form of an entire city. Roland Barthes placed great emphasis on the Japanese notion of voids in cuisine, remarking on dishes which are

“reduced to a tiny clump of emptiness, a collection of perforations, here the foodstuff joins the dream of a paradox: that of a purely interstitial object all the more provocative in that this emptiness is produced order to provide nourishment (occasionally the foodstuff is constructed in a ball, like a wad of air) (4)

A project that fascinated architects in the seventies was the cemetery at Modena by Italian architect, Aldo Rossi. In this case it was the drawings that elicited the fascination, since the project was constructed in a casual, perhaps even indifferent manner. The built form was a simple cubic husk, a storage structure marked by a regular grid of openings. In its lack of architectural development from

the compelling architectural drawings it seemed like an inflated miniature. Yet the notion of architecture as an empty gridded shell may provide the key to fascination exerted by Rossi cemetery. Architectural writers have commented on the emotions it aroused, identifying the 'melancholy and nostalgic' (5) nature of Rossi's interest in an 'autonomous' architecture. Marco de Michelis, in a paper presented at a symposium at the Canadian Centre for Architecture, offered the opinion that the architecture Rossi most wished to emulate was the ordinary, simple nineteenth century vernacular, the plain urban housing stock of the Italian city. (6)

While his classicist tendencies have since been rejected, much contemporary architecture could be seen as following on this enigmatic Rossi cemetery: a consistent, undifferentiated skin enclosing a hollow, emptied volume. While there may be floors and an architectural programme, there is a fundamental sense of disconnection between the architectural crust and its conception, and the architecture's interior concepts.

The Prada flagship store in Tokyo appears to follow this pattern. Like the recent Seattle library designed by OMA, the diamond-patterned motif of its cladding appears to be based on an arbitrary diagonal pattern that seems to derive from Bruno Taut's celebrated *Glass Pavilion* of 1911, itself inspired by Scheerbarth's famous manifesto on glass of 1914, *Glasarchitektur*.

Architects Jacques Herzog and Pierre de Meuron count among the students of Rossi, albeit nothing if not skeptical and transformative in their reception of his architectural approach, what Leatherbarrow and Mostavi perceptively described as 'Rossi's attempt to construct an anonymous architecture' as an 'intellectual approach' (7). Herzog and de Meuron's fascination with the elaborate glass skin has marked the architecture of the turn of this century. Herzog has described his interest in glass as an enigmatic, variable meta-material,

Ideally glass is something when it protects and shields and at the same time glass should be nothing when you want to avoid barriers around a space. We have always been attracted by this ambivalence between something and nothing, by this floating identity of materials and space. (8)

The Prada store in Tokyo is remarkable for the lustrous quality of luxury expressed in its cladding. The diamond pattern resembles a series of multiple windshields of some glossy extraterrestrial spacecraft. As an urban building in the commercial morass of the Tokyo shopping street, it would seem to have no predominant views to frame, and the pattern of trapezoids outline as much the views of the interior, as a series of glamorous shop windows, as they provide an array of exterior visual settings. A richness of conception of the glass modules allowed differentiation of the curvature of the panes, some inflected inwards, others protruberant. The detailing of the openings engages with the trapezoidal geometries; rather than reverting to rectilinear doorways, the entries are in the angled idiom. The building structure exploits the structural capacities of triangulation, and frees the interior, which contains pods of space in a parallel vocabulary of form. As would be expected in a purpose-designed high-end store, the building functions as pure spectacle for luxury consumption. Here the entire experience would seem to attain unadulterated commodity fetish.

The reference to the glass used in the design of vehicles and automotive assembly is pertinent to the use of curved, randomly shaped, sensuous glass in the interior design work of Frank Gehry. His office made use of technique for molding glass developed by a company ancillary to car manufacturing, C-tek. Their method of constructing large molds to obtain complex curvatures in formed glass was developed on the basis of technologies in glass manufacturing for automotive and entertainment design as method of obtaining large-scale complex curves. The firm started producing the slumped, contoured glass, utilizing the latest laser scanning, digital measuring and CAD/CAM technology to provide precise dimensional control throughout the design, development and tooling process, providing the glass for Gehry's glass "draperies" - large slumped glass panels decorating the Conde Nast dining room in New York City.

Perhaps the predominance of arbitrary- or at least arbitrary-looking skin and a rationalized surface in contemporary architecture can be explained in part by current technological developments. Still there are numerous significant examples of architectural achievements where opacity and sculptural modeling appear to impart memorable character in enigmatic manner. Luigi Moretti's iconic office and housing edifice in Milan is firstly a forceful

architectural composition, its wedge-shaped tower thrusting like a prow over the building's base. Still the articulation of the walls, with horizontal linear gashes demarcating glazed openings, set deep in shadow, refine the unusual architectonics of form.

The planar curtain wall articulations developed in the commercial architecture of Mies van der Rohe made use of carefully modulated walls of steel and glass to create the signature of corporate architecture of the twentieth century. The Miesian curtain wall strove for an authoritative, axiomatic quality iconic of the corporate headquarter. It is interesting to compare this aristocratic approach with the contemporary lattice net structural glass envelope of the Seattle Public Library, a building financed by the civic vote for a public bond. In this building, a large volume of some 34,000 square metres is clad exclusively in a uniform transparent glass wall. No opacity seems to have been deemed warranted in this public building. Instead, the use of the diagonal chassis and diamond pane is described in functional terms, appropriate to seismic conditions, circumstances of building wall assembly, and minimization of the quantity of structural steel needed. (9) The library web site contains detailed information on the sustainable technologies used in the building, while leaving unanswered an obvious question, considering that the glass curtain wall is one of the most costly of claddings: was there any study of the savings of using a less expensive enclosure than a curtain wall? The vast undifferentiated expanses of the diamond motif are nevertheless a reminder of the ease with which contemporary architects can copy and extend vast surfaces using computer drawing software. While the aim may have been to create a simple glowing alien form, and while the vast space cathedral-like interiors are impressive, its proportions seem too easily classed as crude. An absence of intimacy seems odd for a public library, and scalelessness does not seem to be necessarily more desirable than the search for a quality of human scale in the elevation. The project is far from empty inside - there was an innovative research of programme - yet there is a sense of hollowness to the form.

Swiss architect Peter Zumthor has experimented with the perfected glass skin in the Contemporary Art Museum, the Kunsthaus, in Bregenz. Here glass is used to transmit light, but not to allow vision. The glass skin is conceived as an array of plate-like

scales. Zumthor composed the scales in a complex manner that required sliding component layers into position. While the quality of light in general, and of construction in particular, is exquisite, many of the contemporary art installations in the Kunsthau use 'black box' conditions that effectively cancel out the architect's effort. (10) The siting concept of the building also raises some questions. The building is effectively a cube of identical elevations, but the entry is from a well-proportioned street-side internal square, leaving the building 'faceless' or 'backing' onto the major lakeside avenue of Bregenz. One wonders if some attempt to recognize the civic position of the building could not have been incorporated into the envelope, rather than the deliberately 'un-responsive minimalist' approach. The aim appears to be the presentation of a simple glowing cube of light. Inside there is a regular set of floors, but perhaps the 'idealtyp' of this building would be a single unitary interior, a plain, open void.

One of the most celebrated and appreciated architectural works of the 1990s is a public bath built in the mountains of Switzerland, high in the tiny town of Vals. In this building, the valley itself is so dramatically steep, and thus of such formal significance that it constitutes the first void, at the scale of the landscape. The principal elevation of the bath perches on a steep slope, facing out to the softly grassed slopes of the mountain across the void. The placement of deliberate openings in the principal elevation by the architect, Peter Zumthor, attests to an exquisite consideration of the fundamentals of the site. In contrast, here opacity and the powerful density and severe detailing of local stone has demonstrated powerfully the relevance of the 'solid' at the small, intimate scale of the body, in the cosseted design. The meditated quality of the openings and their position facing across the void of valley to the wall of mountain, dramatically frame the facing grassed, velvety hillside, dotted by small, beautiful examples of traditional vernacular wood architecture.

A recent and compelling work of architecture, the *Ferriera* in Locarno by Ticino architect, Livio Vacchini, expresses the building as a cubic shell encased in a steel grid. An ordinary office building takes on a mysterious character due to the dark crisp surface of steel set off of and masking the glass curtain wall. The elevation appears to be a metaphysical conceit, transforming the impression of the build-

ing from the commonplace to the ineffable. It is a structural exoskeleton, a trilith, that is, a wall opened to allow light to enter. Vacchini traces the black metal structural reference to the underside of the steel canopy of the National Gallery in Berlin, one of the great architectural achievements of Mies van der Rohe. While Vacchini makes no reference to Rossi's melancholy cube at Modena, one cannot but view *La Ferriera* as a secular iteration of the theme, revved up to the sophisticated level of design and construction that marks Swiss and Ticinese building. Something in its suave iconic presence discloses the contemporary fascination with the autonomous building skin.

Lately the rather paradoxical phenomenon of the fascination with 'formlessness' in relation to the quest for relevant architectural and urban form has become a dominant issue for designers. Buildings have been built which look like blobs, angular space ships, or simple planes on which arbitrary patterns of windows are scattered, in this quest for new, interesting, fashionable, and perhaps even meaningful contemporary building. Georges Bataille's definition of architecture describes built form as the 'official face' of society:

Architecture is the expression of the true nature of societies, as physiognomy is the expression of the nature of individuals. However, this comparison is applicable, to the physiognomy of officials...Only society's ideal nature - that of authoritative command and prohibition - expresses itself in actual architectural constructions. Thus great monuments rise up like dams...(11)

While Bataille may have meant this assertion as radical at the time, this attitude - recognizing exclusively what is known as 'major' architecture - has been replaced in contemporary thinking. Research and publications, starting perhaps with the early twentieth century Italian urbanist, Gustavo Giovannoni, as identified by present day architectural theorists, for example, Françoise Choay, acknowledge the significance both of major and 'minor' architecture, and perhaps the line has become blurred over the course of the twentieth century, with the predominance of architecture assembled from mass produced components using software programmes for drawing. In that sense one could predict all twenty-first century architecture as

coming to be classed, or rather 'declassified' - as informal, or formless. Whether official, that is to say major, or minor, architecture could be broken down into the void, to be articulated as programme, an abstraction, and enclosure, a much more concrete phenomenon. Nevertheless, some buildings are able to satisfy the elusive criteria, commodity and delight, in a more agreeable way.

The questions that are raised in focusing on architecture's system of enclosure are subject of the book, *Surface Architecture* by David Leatherbarrow and Mohsen Mostavi. The authors ask, "How can cladding thus transform itself, how can it be both general and particular, suitable for the economies of construction, repetition, and the claims of representation, identity?" and go on to note the paradox in the uneven success of architectural and urban intentions,

...But should the repetitive nature of mass production always result in a nameless or anonymous architecture? Anonymity is a complex issue. (...) ...How can we judge recent instances of repetitive construction sterile and alienating when we judge historical examples to be familiar and recognizable: Both result from typification and this from abstraction. When is anonymity alienating and estranging, and when, to the contrary is it reciprocating and community defining? (12)

The conundrum of the assembled, rationalized, industrialized autonomous architectural skin lies in its distance from issues of specificity and meaning in the design of the entire building, that is, the architecture as a whole and unified entity for a particular place. These are the kinds of questions that designers can ask themselves in their efforts to make pertinent the process whereby tantalizing shapes surround the social space of architecture, and resist the temptation to create 'ill-fitting skins' - tasteful empty calories of capricious computer generated enclosure. With a refocus on the synthesis of form and space, designers can still arrive at a contemporary skin that will enfold, swathe, drape, and somehow shape a rational humanist logic to successfully clad the architectural volume.

LIST OF ILLUSTRATIONS

Aldo Rossi, Cemetery at Modena, 197 (photo Marie-Paule Macdonald)

Livio Vacchini, *La Ferriara*, Locarno, 2003 (photo Marie-Paule Macdonald)

Herzon and de Meuron, Prada store, Tokyo, 2004

OMA Seattle Public Library, 2004

Peter Zumthor, Kunsthhaus Bregenz, Austria 1997 (photo Marie-Paule Macdonald)

Peter Zumthor, Les Thermes, Vals, Switzerland, 1994 (photo Marie-Paule Macdonald)

NOTES

1. Livio Vacchini, Interview, *Casabella* 724 luglio-agosto 2004, p 35

2. Slavoj Zizek, Appendix The Puppet and the Dwarf p 145-6. Zizek echoes Karl Marx, who wrote, 'A commodity appears, at first sight, a very trivial thing, and easily understood. Its analysis shows that it is, in reality, a very queer thing, abounding in metaphysical subtleties and theological niceties.' Section 4. The Fetishism of Commodities and the Secret thereof, *Capital* London: Swan Sonnenschein & Co., Ltd. 1908. p 41

3. David Leatherbarrow and Mohsen Mostavi *Surface Architecture* MIT Press 2002 postscript p 215

4. Roland Barthes, 'The Interstice', *Empire of Signs*, New York: Hill and Wang 1982 p 24

5. David Leatherbarrow, Mohsen Mostavi, *Surface Architecture* Cambridge: Mass.: MIT Press 2002 p 209

6. Marco de Michelis, presentation, Canadian Centre for Architecture, January 2004

7. David Leatherbarrow, *ibid.*, p 210

8. Jacques Herzog, Interview, *The Japan Architect* no 35 1999 p 118

9. Barbara Lamprecht, 'The Nice and the Good, Library, Seattle USA', *Architectural Review* August 2004. p 52

10. The exhibition in August 2004 by artist Jenny Holzer used glowing signs requiring a darkened interior.

11. Georges Bataille, 'Documents', republished in *October* 60 spring 1992, p 27

12. David Leatherbarrow, Mohsen Mostavi *Surface Architecture* Cambridge, Mass.: MIT Press 2002. p 22

