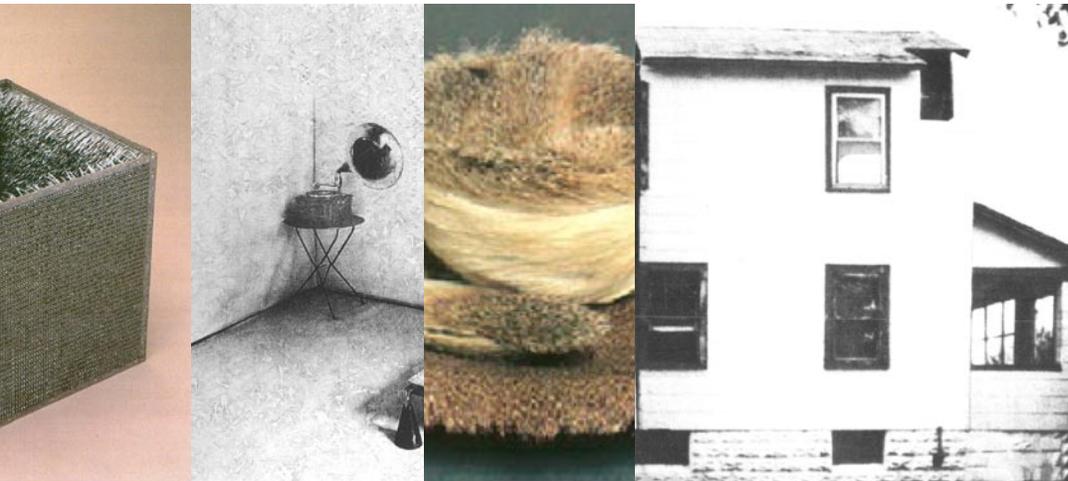


Untimely Fabrications

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Abstract

The value of material in architectural practice is determined not by its character but by functional performance and economy. In early modernist thought, part of this motivation was to liberate construction from the 'burden' of aesthetic speculations and return it simply to the concerns of building. Any artistic agenda became embedded in the economic and productive processes of the project. Authenticity emerged out of the need to focus on the essentials and reject the superfluous. However, this demand for truth in materials has long since been compromised by the climatic requirements of building enclosure. Most contemporary practice in architecture is derived from principles of cladding where the 'essential nature' of a complex building requires concealment. The communication of the building is expressed in the refinement of the layers that make up the surface. This shift from the emphasis on making and the idea of 'material' in architecture, to one of perception and 'materiality,' has an important corporeal dimension that parallels the material aesthetic practices developed in art and sculpture in the 1960s. In this sense, Fabrication carries an 'untimely' dimension. This paper proposes to look at the work of a broad range

of architects, both well-known and not so well-known, in light of these artistic-based approaches to materiality. Digital fabrication opens a new chapter on this debate and it remains to be seen how this economically useful approach to construction changes, once architects investigate the visual characteristics of materials and methods of fabrication.

Introduction

Before the outbreak of World War I, Marcel Duchamp, together with the artists Leger and Brancusi, attended an aeronautical exhibition. Duchamp, after silently walking around the propellers that were on display suddenly declared to Brancusi: *'Painting is finished! Who can do better than this propeller?'* (De Francia 1983). This declaration on painting, though somewhat premature, nevertheless predicted a predilection for the precise fabricated objects of the machine age that would transform art and architecture. Duchamp's insight anticipated the profound effect that the discipline and lucidity of the new machine aesthetic was to have on the collective imagination and the way art and architecture mediate between our own material existence and our need to locate ourselves in the world.

Architecture still retains this uneasy fascination with the artifacts of industrial fabrication and their visual stimulus. The *'mecanomorphie'* notion of man as a machine was developed in the work of Duchamp, and other artists such as Picabia, in the early part of the 20th century. The implied elimination of the human subject in this culture of industrial fabrication, has been a source of anxiety for many. For artists such as Leger, however, the exaltation of industrial methods of fabrication also had the potential to repudiate traditional aesthetic concepts and obliterate the more *'pretentious'* ambitions of artistic creation.

The empirical aspects of architectural practice focus naturally on technical competence. The scope of design is justified as a result of practical considerations with little concession made to the arbitrariness of the artistic impulse. The value of material in this practice is often determined not by its character, but by functional performance and economy. Engineering technology uncovered the functional equivalents of material – ceramics, alloys, crystalline structures, and sophisticated

hybrids of all three – and developed them with great ingenuity for specific functions. However, this same practice contributed to the dominance of *'characterless materials'* in current production – particleboard, concrete, plastic. The development of digital fabrication techniques holds a similarly ambivalent position in its relationship to materials and the creation of architecture. Its fate is perhaps linked with our capacity to understand the role of materiality in architecture.

In architecture, materials have always played a secondary role to issues of form, with respect to questions of meaning. In early modernist thought in particular, part of this motivation was to liberate construction from the *'burden'* of aesthetic speculations and return building simply to the concerns of building. In the 1920s, the work of Hannes Meyer, for instance, put geometry, materials and industrial production in service of political, rather than aesthetic, content. The architect's role is a managerial one, where any artistic agenda becomes embedded in the economic and productive processes of the project. Authenticity emerges out of the need to focus on essentials and reject the superfluous. Meyer's COOP interior 1926 (Fig. 1) is a kind of declaration of these principles. The elimination of all that is dispensable becomes an act of negation that leads to refinement and beauty. New materials are invoked as part of a compositional strategy that substitutes industrial fabrication for traditional handiwork.

In this scenario, materials are utilized rhetorically through the conscious elimination of all mythical or transcendent meaning in a form analogous to propaganda (Hays 1992). We enter an environment created with objects *'untouched'* by human personality. As such, these fabrications infiltrate our lives with the new concrete effects of an industrial image, landscape, and social field where no distinction can be made between content and its expression. Nevertheless, these materials retain an emotive component, though the early modern functionalist demand for truth in materials has long since been compromised by the climatic requirements of building enclosure. Even though architects, such as Tadeo Ando, still strive to create timeless structures of tectonic transparency and material truthfulness, most contemporary practice is derived from principles of cladding where the *'essential'*

nature of a complex building requires concealment. The communication of the building is expressed in the refinement of the layers that make up the surface. This new sensibility for materiality, prevalent in architecture, runs counter to the old demands for integrity that forced materials into a subordinate relationship to the functional expression of the building. This shift from the emphasis on making and the idea of *'material'* in architecture, to one of perception and *'materiality'* (or *'theatrical value'*) has an important corporeal dimension that parallels material aesthetic practices developed in contemporary art and sculpture in the 1960s. Examples of the work of Frank Gehry, Herzog and DeMeuron, Brookes Stacey Randall, and others, demonstrate strategies of pure external form to contexts where the capacity of architecture to convey meaning has been radically destabilized. Fabrication, in this sense, is seen as *'untimely.'* This is why the concept of corporeality is critical to this notion of materiality and requires elaboration. Digital fabrication opens a new chapter on this debate, and the success of this economically useful approach to industrial materials depends on how architects investigate their visual characteristics and methods of fabrication. This paper argues how materiality and significance can complement each other in multiple interpretations, comparable to contemporary art. Techniques of digital fabrication can liberate this consciousness or remain indifferent to the consequences. If architecture fails to recognize its own materiality and simply aligns itself with the conditions of economy, efficiency, and ambition, it fails to mediate between our own material existence and the need to encounter ourselves in the world.

Material and space

In architecture, as in art, form and material are inextricably intertwined and the significance of material as a bearer of meaning is sometimes difficult to highlight. Traditional architectural discourse, with its emphasis on symbol, geometry, proportion, and decorations confirms the Platonic precepts of form and, by implication, the secondary and inferior role of material. Materiality, however, evokes feelings, and can trigger connotations and habits. It can invoke an involuntary capacity to trigger memory and simultaneously intensify the sense of the present moment, and convey a sense of *'Presence'*. Every language, even a visual language, is, of course, a mediation of experience. The

experience of architecture has a temporal dimension, which stems from an ability to recognize and use the optical, tactile, acoustic, olfactory, and, not least of all, the constructive possibilities of the materials in question. *'Presence'* in this context is understood as direct unmediated experience.

The surrealist Merle Meret Oppenheim's 1936 Object (*Luncheon in Fur*) (Fig. 2), through a dramatic act of defamiliarization, illustrates the intimate material dependency between space and object. The sharply tactile effect on the senses suggests spaces can only be understood in terms of the walls and furniture defining them – that the experience of space is conditioned by material.

Matter engages experience in architecture through myriad states of material. The scope of this experience extends from immersion in the dark, chthonic opacity of the earth in depths of caves and interiors of Roman ruins, such as the Baths of Mercury at Baia (the profound effect that weathering and erosion can have in the reading of material). A more contemporary evocation can be found at Ronchamp (whose thick battered walls form a reliquary for the rubble of the previous building). Northern traditions draw on the sylvan enclosures of wood-based architecture. Plant Architecture's *'Conversation Piece'*, for instance, is conceived as a porch or a dining pavilion in the forest, creating a room literally for a conversation amidst a busy ID exposition (Fig. 3). The small palette of familiar materials – wood, fabric, plaster, and lights – counterpoint the bewildering variety of a trade show exposition with an island of calm, balance, and simplicity. In moments of stillness one detects also an intense olfactory sense of wood.

The architects propose an architecture of individual memory, linked indisputably to the materiality of things, that asserts the need for slowing down, and recognition of the basic matter of everyday life located in individual bodies. More recent speculations have brought even the most ephemeral of *'natural'* material experiences into an architectural framework. The cloud like vapor of Diller and Scofidio's *'Blur'* building, constructed as part of Expo.02, a Swiss version of a world fair, allowed visitors to experience *'fog'* as a system of enclosure. These natural or organically based materials – stone, clay, and wood – carry a range of associations but retain no monopoly on effect.

Tadao Ando recruits the calibrated passage of light and shadow as a tectonic material across the undulations of a cast concrete wall. In Ando's 'archais-tic' vision, structure is the architecture. He imagines concrete as a soft organic material, like wood, that looks and feels like silk. Yet this effect requires exacting pouring/fabrication standards to maintain the color across the building, as well as the use of Finnish plywood forms finished with a smooth phenolic resin. In a slightly different vein, Brooke Stacey Randall's project for Woking Art Gallery recruits the variable natural temperature cycle to modulate a spectrum of hues that emanate from the thermochromic skin of the building (Fig. 4).

Materiality and experience

In *The Body in Pain: The Making and Unmaking of the World* (1985), Elaine Scarry proposes that the act of making necessarily involves not only the projection of our living bodies into the world, but that they are transformed in the process. Since the cultural artifacts produced are themselves a material index of human cognizance, they have the power to reciprocally act on the human body and reconstitute our perception of it. This suggests that architecture be conceived as an act of sensate consciousness – the notion that it is possible to be affected on a physical level by something with which we have no physical contact. The curious thing in this scenario is that material character is not read but sensed, that we can be seduced against our will through mere appearance. The pure aesthetic of materials assumes that we will not handle or touch them, yet it is at a very physical level that the synaesthetic character, or atmosphere produced, moves us. The atmospheric effect of material is deep and can operate on an unconscious level. Perhaps this is why as Scarry proposes, objects which enter our daily life can modify our mental pattern of living in a more concrete manner than literary culture.

We experience material through perception, through working with it, and in a third way that can be described as medial. Our perceptual relationship involves the pure form of a material's appearance, its materiality. In the working relationship, we are involved with the material as raw matter. When we grapple with material, intend something with it, seek to form and change it, a working relationship develops, and certain

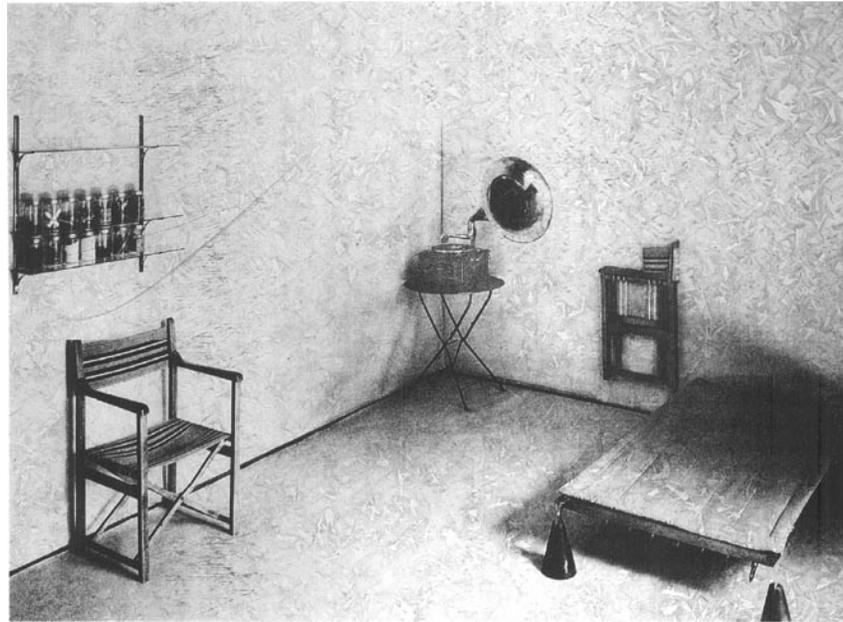


Figure 1. Hannes Meyer, COOP Interior 1926



Figure 2. Merle Meret Oppenheim, Object
(Luncheon in Fur) 1936



Figure 3. Plant Architecture, 'Conversation Piece'
Toronto ID Exhibition 2003

qualities become manifest: we discern its elasticity, solubility, brittleness, etc. But we can also be inside the material, walk on it, sit on it, rest on it, and eat on it. This relationship is dominant in early childhood, before the working relationship and distanced perception have developed (Bohme 1995). As children, we are born materialists; our first dreams are of organic substance. The fact that we exist as bodies among other bodies and live physically within different media is the basis of our direct experience of materials. We experience softness or hardness, wetness, dryness, coolness, and warmth on, or better, in our own bodies. Aristotle designated this special perception as the actual touching (Haphe) (Bohme 1995). It is this complex mode of perceptual experience that perhaps explains Scarry's proposition and sets up a link between materiality and skin that acts as a point of convergence of the animate and the artificial, the organic and the fabricated.

This mode of perception brings a dimension of sensing to the reading of a material, without the necessity of touching its exterior: As Aristotle points out, our flesh is simultaneously the medium and the organ of this sensing, which conveys an aspect of depth to this mode of perception. Thus we experience and recognize firmness, softness, warmth, and coolness in our experience of ourselves. The sensing of materials is in this way a sensing of oneself. Though developed in childhood, our lives lived among others ensure that this mode of perception is never lost. The more this aspect of material experience is ignored, however, the more it simply lingers as background memory.

Contemporary Material Aesthetic Practice I

The role of materiality, then, is to help shape the atmospheres in which we live, and it is this aspect that differentiates it from material, which is more closely associated with the processes of making. Materiality becomes pure outward form. Wood, glass, steel, and marble as elements of architecture and design no longer designate materials in themselves, but qualities of appearance, a 'theatrical value,' or the conscious creation of atmosphere, by means of materials (Bohme 1995).



Figure 4. Brookes Stacey Randall, Proposal
for Woking Art Gallery 2003

This stress on material aesthetics bears direct comparison with two contemporary artistic practices that emerged in the 1960s. They will be discussed in reverse chronological order. The first is marked by the demonstrative use of poor materials and relates to the *'arte povera'* movement. The second area of discussion preceded this response and was characterized by a visual austerity and progressive invention described as Minimalism. These developments in turn owe something to the use of *'papier collés'* by the Cubists and the concept of the *'ready made'* by Marcel Duchamp, earlier in the century. The low prestige of materials as products in works of art and their subsequent appearance in architecture owe their aesthetic impact to acts of defamiliarization as developed by Duchamp.

Developments in the late 60s extended this idea of material and the commonplace to art. Robert Smithson, for instance, was drawn to the idea of entropy in materials. Rust was of greater interest than the superficial purity of steel that the Minimalists extolled. He excavated hidden sediments in the quarries of the Appalachians, and documented like an anthropologist, the waste products of the processes of civilization. These investigations have been described as journeys into the aesthetic unconscious, a means to uncover the rifts and contradictions that lay deeper than the *'miracles of technology'* which fascinated the Minimalists (Ursprung 1995).

The work, together with that of Matta-Clark, marks a shift from a formal to a content-driven approach to materials. Smithson found his materials on the peripheries of major population centers or in the remote deserts of America. Sewers that spewed their foul smelling brew into the Passaic River were mythically re-conceived as ejaculations of gigantic subterranean organisms. Smithson meticulously recorded the effects of force and material on a wooden house with a bulldozer, covering it with earth until the wooden beams of the roof caved in under the weight. In one instance, he poured a barrel of red glue down a slag heap, which spread to form a slimy viscous *'art work'* several square meters in area, an image that recalls Frank Gehry's reference to a molten Fender guitar in the Seattle Electric Music Project (Fig. 5).

The work of Gordon Matta-Clark also resonates with some of Gehry's early work with its provocative sense of dislocation and estrangement that at the same time intensifies the sense of materiality and the experience of place. Matta-Clark's *'5 degree tilt'*, was a deliberate vertical incision and partial undermining of an abandoned house that activated *"the house with a brilliant wedge of sunlight that spilled into every room"* (CCA 2004) (Fig. 6) This activation destabilized a whole series of material conventions and associations of domesticity.

In a similar way, Gehry's interest in inconspicuous, cheap materials such as corrugated metal, plywood, and various synthetics becomes intensified by an aura of the unfinished, the severed, and the makeshift in his own house addition built in the late 1970s. The intrinsic qualities of cardboard chairs or the use of chain link fencing, asphalt, metal siding, and particleboard allowed Gehry to structure form and space in a more kinaesthetic engagement with sensuous surface. In a project such as the Chiat Day offices in Toronto, Gehry relied on the material emotive qualities of Joseph Beuys, incorporating rolls of felt into the meeting room light fixture, and a bathtub installation in the entrance that incorporated a lead fish.

Gehry's use of digital fabrication techniques in later work, however, allows us to re-examine the idea of a human signature on material that emerged in Romantic thought. Writers such as John Ruskin insisted on the presence of artisan's handiwork in a building as essential to its very being. They added character; perhaps a dimension of pathos to the work. This notion finds an interesting resonance with another aspect of Gehry's work. Like Ruskin's gothic carver, Gehry's design process is a constant response to *'material'* rather than the rigid imposition of a preconceived idea. He values the direct tactility of the physical model and the spontaneous energy of the freehand gesture as a means of registering the expressive intentions of the design. The Walt Disney Concert Hall in Los Angeles, although heavily dependent on digital curved surface computer modeling software, was developed from a gestural investigation in sketch and model form. Once the sculpted form of the design was finalized, a closely corresponding digital model was assembled, which accurately described the



Figure 5. Robert Smithson, *Glue Pour*, Vancouver, British Columbia, 1969

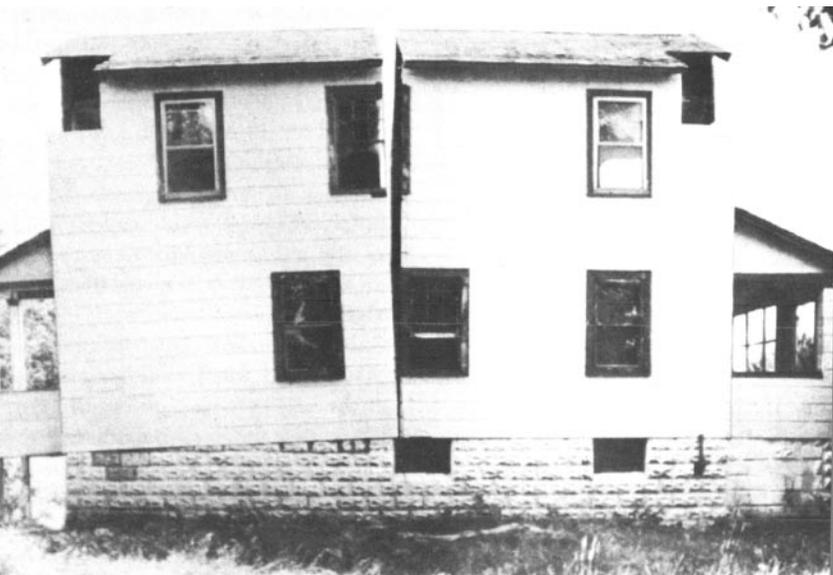


Figure 6. Gordon Matta Clark, *'Splitting' Engelwood*, New Jersey, 1973

form in terms of mathematically designed curves and surfaces. This ability of 3D digital models and CAD/CAM construction techniques to register accurately the gestural intentions of the architect has profound intellectual implications for design and the conception of architectural practice. The architect, like his mediaeval forbears, becomes far more directly involved in issues of fabrication and construction, and the interactive relationship between practitioner and material. This technology also has significant implications in the economy and assembly of buildings

William Mitchell, in a discussion of the technical innovations developed by Gehry's practice, argues that developments in computer aided manufacturing and assembly techniques now make the production of buildings derived from non-Euclidean geometries increasingly competitive. Functionalism's legacy of simple regular construction elements endures because of economy and ease of fabrication, compared to more complex geometries identified with organic architecture. However, the economies of building that favored the aesthetic of rationalism and the elegant minimalist aesthetic inspired by Mies van der Rohe will now compete with new 3D digital and prototyping technologies, as well as CAD/CAM fabrication that can facilitate different orientations in architecture (Fig. 7).

According to Mitchell, the new digitally controlled CAD/CAM machinery allows for mass-customization, which is an advantage in the fabrication of construction components, "since buildings are mostly one-off rather than mass-market products, and it is often difficult to get sufficiently long production runs to achieve major economies of scale" (Mitchell 2001). Because of these innovations, steel frames can be formed economically into complex shapes. This technique was used recently in the Walt Disney Concert Hall in Los Angeles. Computer controlled multi-axis milling machines extend the idea of cutting two-dimensional sheets to three-dimensional solids. This technology, as Mitchell points out, "is extensively used in the automobile industry for full-scale prototyping of metal parts. In architecture, it has the potential to reinvigorate the tradition of non-planar cut stonework, substituting high-speed, precise mechanical action for the chisels of masons." Mitchell further argues that "on-site assembly of CAD/CAM fabricated elements is more complex than simple standardized pieces,

but the use of 3D CAD model becomes a source/aid that can drive laser positioning devices and other electronic construction aids" (Mitchell 2001). The continuing construction of Gaudi's Sagrada Familia in Barcelona utilizes this technology, which was also used to shape the cut-limestone exterior of Gehry's American Center (1988-94) in Paris.

Mitchell assumes that the digital era strategies and techniques developed by Gehry's office will become mainstream to the point that "simplicity and regularity hardly matter anymore ... [and that if] designers want to emphasize these qualities, they must now do so on other grounds" (Mitchell 2001). The argument, though persuasive, remains debatable, but does touch on the question of what grounds other than economy we would consider an alternative proposition to rationalism (Figure 6). Part of the answer might lie in the habitual modes of perception within which human beings operate, more or less unconsciously. The complex spatial devices that characterize the 'new naturalism' recall a mode of perception described by the psychologist J. J. Gibson as 'topological' (Gibson 1976). This way of experiencing space differs from the dominant Cartesian schema by which we construct our world, and may relate to a more kinesthetic sense of engagement in the world.

Once our bodies are comfortably *habituated* in a Cartesian environment, our perception tends to close out the larger world of nature. Gehry's experiments exert a complex dialectic between formal Cartesian geometries and topographies of chance that assert collusion with nature and wilderness. The constant perceptual shifts in the architecture displace any notion of a habitual, centering schema. Through this sense of estrangement, it is easier to discover sensual qualities of chosen constructional methods in an unbiased way. An interest in symbolic value or method of construction recedes behind interest in formal qualities of material that condition the space. Gehry's gestural, process-driven speculations of 1970s are complemented in the approaches of other practices, such as Herzog and de Meuron and others who similarly treat insulating material, asphalt board, as means of visual design for facades and interiors. However, the formal response is more closely derived from the material aesthetic practices of Minimalism.

Contemporary Material Aesthetic Practice II

Donald Judd, Robert Morris, and Frank Stella, launching their attack on Abstract Expressionism in the early 1960s, brought the argument of contemporary material in much the same manner as Hannes Meyer had done in the 1920s. In many ways, the work embodied the modernists' canonization of glass, steel, and concrete and was intended to overcome the 'artiness' prevalent in sculpture. In their view, industrial materials served purely economical purposes, and consequently were not burdened with anthropomorphic, illusionistic, or decorative functions. The work strove to eliminate any trace of individual handicraft, or provide any insight into the psyche of the author: In short, they erased content in the interest of direct material experience of the object. Industrially manufactured products such as plastic, plexiglass, aluminum, sheet metal, and particleboard were to replace outdated, overworked materials such as oils in painting and wood in sculpture.

This approach was a solution to the deadlock placed on art since Clement Greenberg's demand for flatness in modern art. Material was literal rather than illusionistic, it could be taken at face value, it did not pretend to be anything else (Ursprung 1995). The minimalists questioned the separation of art from non-art and rational needs. Donald Judd's interest in new media available to art led to the incessant search for the latest materials and processes – glass, special kinds of metal alloys, and synthetic color palettes (Fig. 8).

Judd's principal interests lay in color values, structure, weight transparency, and finish, even with the grain of wood and layering of particleboard. Robert Smithson observed that this combination of highly idiosyncratic color finishes together with industrial materials gave the work an *uncanny materiality*. Moreover, the appropriate siting of these precisely fabricated objects, either singly or in repetitive series, demanded stringent criteria from the quality of the surrounding architecture. The author emerges as a *Materialist Moralist* who, with the controlled smoothness of Minimalist objects and their relationship to their surroundings, attempted to insure a place of semantic emptiness.



Figure 7. Frank Gehry, Final Model for EMP Project, 2000



Figure 8. Donald Judd, Untitled. 1966, Galvanized iron and painted aluminum Untitled. 1966, Painted Steel

Eva Hesse, on the other hand, with her rolls of fiberglass impregnated cloth, sculptures of latex, cord, papier-mache, and rubber; utilized a similar language to Judd's, yet was critical of the idealistic perfection and authoritarian bearing of his sculptures. A haptic reading is more apparent with her works, which convey their sense of brittleness, fragility, translucence, and lightness (Ursprung 1995). The artistic effect makes an entirely different formal register of expressions and associations possible. Hesse succeeded in transcending the Minimalists' ban on content and exploring the expressive qualities of the materials in a way that brought an uncanny corporeality to the work.

As mentioned previously, the ascetic tendency of Herzog and de Meuron's work can be more closely compared to the earlier artistic movement of Minimalism. It expresses itself in a similar manner: a kind of neutrality achieved through the elimination of details, using elementary geometries and an obsession with materials. They share an approach common among a growing number of practices intent on creating an architecture (either transparent or monolithic) of radical reduction, intended conversely to convey a particularly powerful impression. Indeed, Minimalism has been described as a narrative practice based on an aura of what is omitted, a *speechlessness* that penetrates the depth of a situation which celebrates suspense (Savi and Montaner 1996). Yet in many cases, buildings that on the surface appear simple and spare in fact open up a subtle, sensual multivalence. It is worth describing two examples (namely Herzog and De Meuron's Signal Tower and Brook Stacey Randall's Water Tower) in greater detail in order to illustrate this point.

The object like character of Herzog and De-Meuron's Central Signal Tower, wrapped enigmatically like some oversize copper conductor; links the building spatially to the other solitary buildings that characterize this disparate urban area today (Fig. 9). The prismatic impact of its scale occupies this anonymous peripheral zone in a relationship that approaches the aesthetics of the sublime. There is no easy assurance that the human *subject* remains in a landscape typically conceived as alienating and overwhelming.

The Signal Tower is located within sight of the recently completed Signal Box 4. Due to site restrictions, the building is trapezoidal in plan and stepped in section. *"The copper strips cover the steps in the facade so that it becomes difficult to read the building's shape. It evokes something more organic and vulnerable, like a head or brain, rather than a piece of technical equipment"* (a+u 2002). Like Eva Hesse's haptic installations, the architect's observations suggest that in issues of materiality, the human body is never forgotten, though it may appear as absent and fleeting as in any recollection of the past.

Similarly, Brookes Stacey Randall's Thames Valley Water Tower; on the other hand, embodies a modernist narrative of mythic proportions; it is brilliant and elegant on one level, but with an ambivalent subtext (Fig. 11). The Water Tower project shares more than a passing kinship with the fertility tradition of the English Maypole joining earth and sky. Located on a peripheral site in the city, the phallic presence is nevertheless no less assertive than its more prominent cousin, the Post Office Tower in central London. Improved technologies allow the project to utilize the transparency and extreme smoothness of glass in a superior way.

Built for the Thames Valley Water Board to regulate the build-up in water pressure, the project translates the ground swelling force of these subterranean currents through its vertical shaft. The build-up in pressure is celebrated in an ejaculatory dissemination of a blue liquid which spills out into, and is contained by, a prophylactic glass sheath. Such metaphorical analogies of human relationships with the materiality of machines have a long modernist tradition, as mentioned earlier. The Water Tower shares all the characteristics of a meta-machine such as Marcel Duchamp's *'The Bride Stripped Bare by Her Bachelors, (Large Glass)'* 1915–23 (Fig. 12). In Duchamp's project, the cloud like form of the virginal bride hovers between two panes of glass in the upper picture, forever separated from the bachelors below. The bachelors operate a machine running on *'love gasoline'*; that grinds out an imaginary seminal fluid that fails to reach the bride because of the prophylactic bar between the panes of glass. Human relationships are caught in a modernist purgatory, where desire is activated and condemned to endless mechanical repetition.

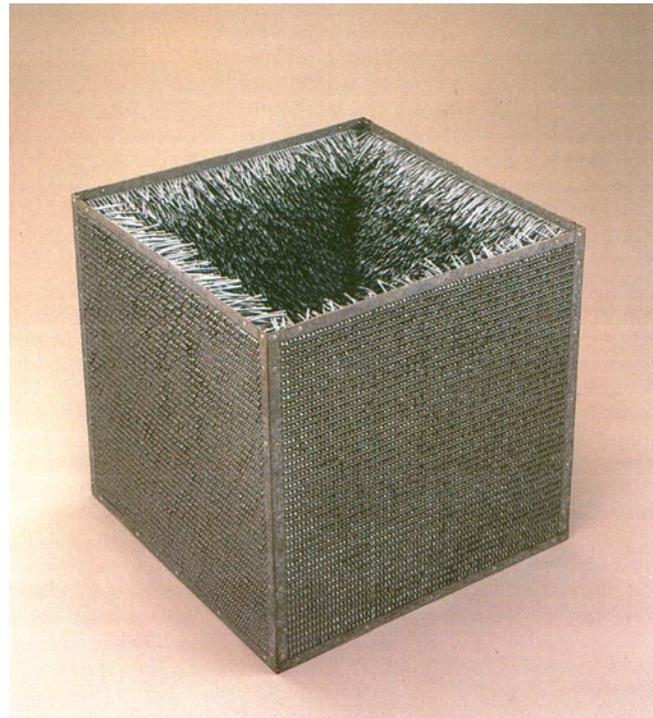


Figure 9. Eva Hesse *Accession II* 1969, Galvanized steel and rubber tubing



Figure 10. Herzog and De Meuron, *Central Signal Tower* 1999



Figure 11. Brookes Stacey Randall,
Thames Valley Water Tower 1999

Despite the tendency to minimalism and abstraction, an anthropomorphic echo emanates from both these works. It becomes clear in these examples how effect and significance complement each other, giving rise to the multiplicity of impressions and interpretations one finds in contemporary art. Materiality responds to the instrumental circumstances of these projects without withdrawing from them. As such, these projects touch on a qualitative threshold that Theodor Adorno has identified in modern art, where “*meaning inheres even in the disavowal of meaning*” (Adorno 1984).

Conclusion

This paper argues how issues of materiality contribute to a broader sense of corporeal embodiment in contemporary work and speculates on the significance of this approach in a time of rapid societal transformation and change. Digital media appears simply to have contributed to the deluge of images under which the human imagination is seemingly colonized and anaesthetized. It seems that our senses require even stronger stimuli to respond. The response has been not only in super cool transparency and smoothness of glazed buildings (Herzog and De Meuron), but also equally in the gestural, tactile measures of sculptural volumes appearing in recent years (Gehry). At times when the semantic dimension of architecture is unable to communicate, the language of materials assumes a kind of directorship derived from its content driven narratives, or its formal characteristics. In the case of Minimalism, we encounter an architecture that appears to refer to nothing outside itself and makes no appeal to the intellect so that our perceptual faculties favor direct sensory experience of material, space, and light. Meaning has not disappeared, but its inscription in time and space needs to be uncovered patiently, just on the surface. In issues of architectural production, materiality questions the emphasis on value and economy at the expense of an understanding of effect. Yet we cannot claim any phenomenological *innocence* by merely advocating this priority of materiality as a vehicle for the discussion of aesthetic problems.

In retrospect, the purity of the industrial materials favored by the Minimalists appears delusive. The formal language of the early functionalists has long since been inverted into a department of power, defining the beautiful and the acceptable in terms of a monotonous

bureaucratic norm. On the other hand, ignorance or dismissal of materiality as mere effects is not an option. Architecture can activate body, space, and temporality, matter and imagination, presence and absence, in a complex relationship with its beholder. But if it simply aligns itself with the conditions of economy, efficiency, and ambition, it fails to mediate between our own material existence and a need to locate our place in the world. The developments in digital fabrication are ultimately dependent on producing work that can engage the question of materiality as part of this unspoken mandate, for this relationship is as fragile as any eco-system. It is perhaps less a call for empiricism and more a matter of discernment and taste. To take material seriously, technically and poetically will make a powerful case that architecture matters and can produce genuine effects that people will appreciate and solicit as a matter of course.

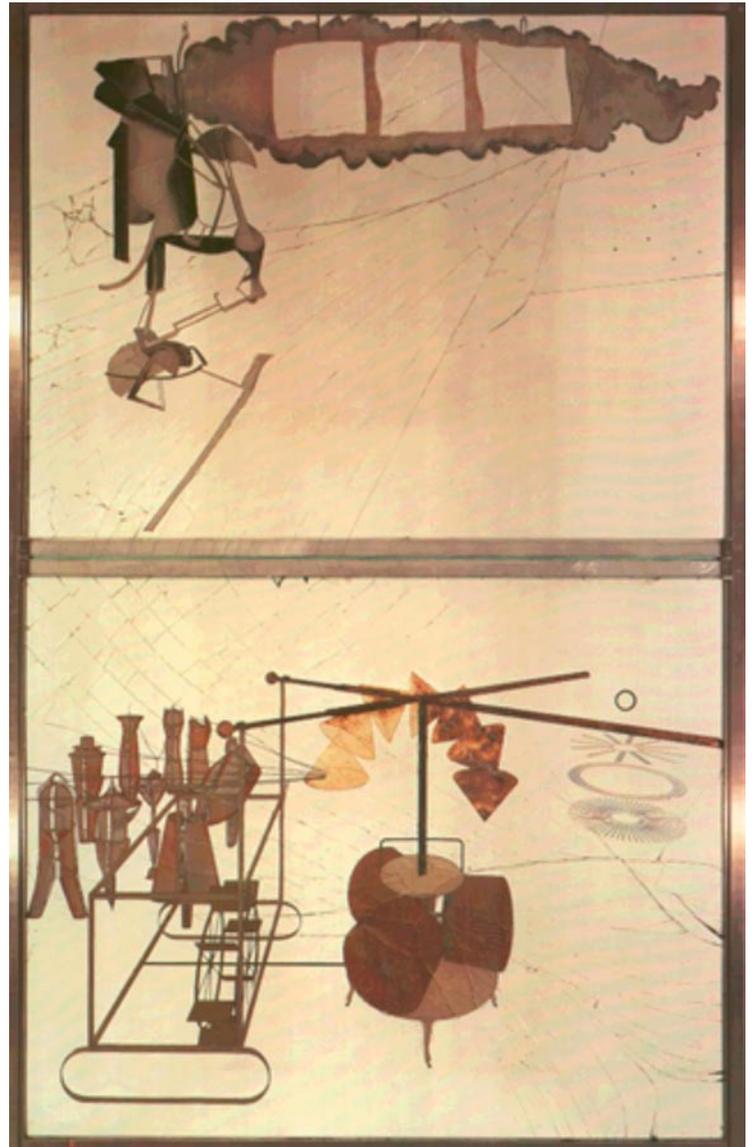


Figure 12. Marcel Duchamp, *The Bride Stripped Bare by Her Bachelors* 1915-23

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Concurrent with painting is a practice of writing on art architecture and culture. He has exhibited a diverse output of paintings, drawings and architectural designs in Britain, the United States, Italy, and Canada. In the last eight years, the focus has been on producing a body of drawing, painting, and installation work. Since 1998, painting subjects dealing with figurative representation and architectonic frameworks has developed into work broadly defined as conditional abstraction, drawn from an interest in narrative, materiality, and memory.