# Deconstructing Materiality

*Harderials, Softerials, Minderials, and ~~the Transformation of Architecture~~*

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**ABSTRACT**

This paper presents a deconstructionist close reading of the conventional discourses about materiality by forwarding a triadic framework of *harderials, softerials* and *minderials*. The discourse draws from the Derridan notion of *différance* in articulating the fundamental difficulty in understanding materiality. Taking the discourse about materiality into the digital realm, a critical discussion of *softerials* and their implication to architecture are presented. Questions about a possible *material-envy* and *materiality-complex* in architectural profession are also raised. Different binary strategies by which softerials are relegated by architects to a secondary status of "media" are exposed.

**KEYWORDS:** materiality, philosophy, deconstruction, critique, Second Life

*You say to brick, 'What do you want, brick?' And brick says to you, 'I like an arch.*
*(Kahn, 2003).*

~~One of the fundamental assumptions about~~ architecture is that it belongs *only* to the physical and material world. I will question that assumption as did K. Michael Hays twenty years ago: "That architecture is deeply and inescapably enmeshed in the material world may, on the first reflection, hardly seem a contentious proposition. And yet questions concerning the precise nature of the reciprocal influences between architectural form and material life—matter and its irreducible heterogeneity in relation to individual subjects—bring opposing theories of architecture and its interpretation into forceful play" (Hays, 1988, 4-5). New, alternative and seemingly minor developments such as *Second Life*® and other massively multiuser online worlds (MMOWs) point to the advent of a new era of digital materiality that calls into question the privileged status of physical materiality and conventional notions of architecture.

Once we probe it closely, materiality will be revealed as a questionable, ambiguous concept that has served as architecture's primary source of legitimacy, legacy, and meaning. We will interrogate some of these notions to reveal its privileged position in the discipline. Any notion of digital materiality—our current subject matter—must also, by implication deal with the fundamental questions of materiality.

Please note that the famous deconstructionist technique of *sous rature*, or "under erasure" has been extensively used in the current close-reading to ~~communicate~~ the im~~possibility~~ of fixed or certain meaning. Meaning is ~~undecidable~~.

## Mother of All Things

Conventional wisdom maintains that that which is ~~not~~ physical is ~~not~~ material. A little probing of the word and the concept behind it reveals that the "matter" is not so simple or clear. Material is ~~that which *matters*~~. The word *material* comes to English language via Latin *materialis* from Indo-European *māter*, which means *mother* or *that from which things originate*. A material has to have an existence in order for it to *be* (later on we will consider the Heideggerian view of materiality). Material is that which ~~matters~~. The question of "what matters" goes to the question of relevance, resistance, power, and impact. Therefore, a material does not have to be physical to be of consequence.

The notions of "resistance" and "difference" are fundamental to the understanding of the notion of materiality. A material is that which exists not necessarily (or apparently) only in the physical realm (what I call, harderial), but also in the mental realm (minderial: all ideas are made up of minderials). Ex-

tending this line of thought to the digital world, we could postulate the notion of digital materiality or *softeriality*. Before I go any further, allow me to dwell a little on deconstruction, an approach that I would like to use to reveal some aporia in the conventional notions of materiality in architecture.

## Deconstruction Isn't Passé

Jacques Derrida's strategies and activism in questioning, revealing and "shaking" the foundations of textual discourses has been quite valuable despite (or because of) its controversial stance. Deconstruction has attained a good measure ~~of notoriety~~ in architectural circles in the eighties and early nineties. Unfortunately, we have not seen much deconstruction lately. As such scholars as Michael Benedikt (Benedikt, 1991) and Mark Wigly (Wigly, 1993) pointed out, deconstruction has much to offer the world of architecture. My earlier "close readings" of software interfaces and programs go a step beyond the buildings and deconstruct digital constructs (Senagala, 2004, 2007).

Deconstruction's greatest contribution has been to reveal the latent and suppressed agenda in the absolutist valorizations. The formula by which ~~philosophers, theorists and~~ architects usually make their case goes something like this: first, select a pair of binary oppositions (physical and digital); second, glorify, admire, and purify the physical; abhor, minimize, belittle, and look down on the digital; third, establish a routine to accentuate this polarity through corroboration, suppression, and exercising institutional authority of some kind.

So what does this have to do with materiality? Everything, I submit! When something is privileged, there must be ~~an artful enforcement of~~ a structural framework that is founded upon binary oppositions, valorizations, and networks of semantic chains that extend from architectural monograph to monograph, text to text and studio to studio across the continents, and resist probes into the hidden assumptions and subtexts or glossed-over ambiguities.

What matters? In arguments for harderiality, a privileging of all things physical takes precedence. The digital then takes the subservient or instrumental or secondary role. The physical becomes the destination while the digital becomes, at best, a vehicle, a medium, a "mere tool" to achieve the physical. In reality, it may well be that the programmer who writes the program with which the architects design and build is creating more "value" than the architect herself. This value may be reflected in the higher salaries or higher social standing or greater influence in the society, which are the bottom lines. In case of MMOWs, the value of the software and softerial environments—as measured by market capitalization, capital movement, number of users, intellectual property generated, and other metrics—might far outweigh the value of the harderial architecture in whose creation the software might play a role. What matters? My intention is not to put softeriality on a pedestal. Rather, I am simply deconstructing the conventional valorizations about harderiality and suppression of softeriality. Elsewhere, I had written about the far reaching impact of software systems on architectural design and discipline (Senagala, 2004, 2007).

## Materiality with a *Différance*

Materiality is ~~fundamentally existential~~. The moment we invoke being, we invoke nothingness. And we owe Jean-Paul Sartre an intellectual debt of gratitude for his profound discussion of *Being and Nothingness* (Sartre, 1956). Inherent in being is non-being, which is not its opposite, but its potentiality, a fundamental, *différance* to borrow a Derridan notion. That which *is* is recognized by its *différance*. That which matters persists in various ways through *resistance* and *différance*. Things exist ~~only in relationship to other things~~. Other things exist ~~only in relationship to more things~~. It would be a futile abstraction to think of identity of things-in-and-of-themselves, pure, isolated, and unconnected. The meaning of a thing is indefinitely deferred to and drawn from the meaning of other things, which further defer meaning to more things in a fluctuating and expanding network of unstable relationships. Things attain identity through difference, not an essence that is somehow intrinsic. Essence is a *difference*. In other words, the essence of a thing is ~~never~~ "present" in a thing. It is a fundamental *aporia* that lies in any argument that there is an essential materiality inherently "present" in a thing. Later on we will see how this understanding applies equally well to harderials, softerials and minderials.

## Heideggerials

*That which gives things their constancy and pith but is also at the same time the source of their particular mode of sensuous pressure—colored, resonant, hard, massive—is the matter in things. In this analysis of the thing as matter (*hyle*), form (*morphē*) is already composited. What is constant in a thing, its consistency, lies in the fact that matter stands together with a form. The thing is formed matter (Heidegger, 1993).*

Can something be "formed" and yet be without matter? Can there be matter without form? Has anyone ever witnessed matter without form and form without matter? Put differently, can there be matter that can be understood through frameworks— a priori or a posteriori— other than geometric form? That which exists is a thing in the sense that Martin Heidegger has said "on the whole the word 'thing' here designates whatever is not simply nothing" (Heidegger, 1993). By this definition, softerials and minderials also qualify as materials from which things originate. If a thing, as Heidegger defines it, is not an abstraction but a concrete experience, then what is material or matter in distinction to thing? Is materiality an abstraction, and hence a matter of textual discourse? Is there matter that truly mat-

ters and matter that does not matter? These questions need to be merely posed to comprehend the ambiguities surrounding physical or any other form of materiality.

## Softeriality

Broadly speaking, softeriality would refer to a different kind of matter from which "things originate" differently. Softerials are a new breed of (digital) materials out of which a new world is being produced, not just in architecture, but in virtually all fields. Although it is difficult or impossible to precisely define the notion of softeriality, we can sense the intense penumbra of concepts that surround it. Elizabeth Grosz's observations echo the impact of softeriality thus: "The space, time, logic and materiality of computerization threaten to disrupt and re-figure the very nature of information and communication, as well as the nature of space, time, community, and identity" (Grosz, 2001). Softerials are not just geometric beings, albeit they could be manifested in geometric form. The world today is animated by softerials. More than 98% of United States' financial transaction system is in the softerial form (which means less than 2% is made up of physical material), moving at the speed of light. Softerials are time-based. Softeriality is rooted, for most part, in computational intelligence. They are transmissible, translatable, and interactive. *Second Life*® is an interesting example (www.Secondlife.com) of a softerial world complete with its own functioning dual economy (internal and external) as well as an evolving social structure.

Of immediate interest to the architectural community are a subspecies of softerials that have a geometric manifestation. Let us look into B-REP Solids as a case. In simple terms, a BREP solid is defined as a volume completely bounded by planar surfaces with specific topological structure. Many of the pop-ular CAD programs use BREP solid modeling. BREP Solids are interesting softerials. These softerials have a sense of mysteri-ous interiority that they maintain at all times while presenting an exteriority of flat surfaces and sharply defined edge condi-tion. Their definition arises out of edge and corner conditions while leaving most parts of the surface to be uniform and am-biguous. Other than the geometric or gravitational centers of the faces, the rest of the surface remains anonymous unless

specifically engaged or interacted with. If subjected to sec-tional cuts, the solids "heal" and "conceal" along the cuts and maintain the differentiation between inside and outside. His-torically, BREP solids sprang from the concerns about limita-tions of CSG (constructive solid geometry). While CSG is based on the primacy of primitives as a way to build more complex geometric entities, BREP solids are based on connections be-tween a set of surface elements. What matters in BREP solids is the edge condition or the "periphery," not the center, in a curious inversion of a harderial convention where the center is privileged over periphery. The kind of manipulations, play, geometric negotiation, and materiality of BREP solids is unique and different from any known harderials. The edginess of BREP solids gives them a specific flavor that no other harderial can come close to. BREP solids do not necessarily need to refer to a harderial space. They may refer to economic space or politi-cal space or any number of other spaces that were discussed by Henri Lefebvre (Lefebvre, 1991), and those that are unfold-ing in softerial worlds such as *Second Life*.

This example should suffice to understand that the nature of softeriality differs from harderiality but is not opposed to it. The same could be said of Polynomial Surfaces (Splines) and Blobs (Isomorphic Polysurfaces), which offer different material possibilities in their own right.

## Material-envy or Materiality Complex

In architectural circles there is a definite unease about any-thing digital. It is often least understood, feared, shunned, quarantined within harderial-dominated curricula, and de-bated extra-vigorously than anything else. This stance is ironic, when we consider the fact that the entire profession of architecture is founded upon the notion of "knowledge" and not physical things! As Greg Lynn pointed out some time ago, "architecture is a profession concerned with the production of virtual descriptions as opposed to real buildings" (Lynn, 1999). So, there lies certain hypocrisy. Many architects value physical things and yet that physicality is outside the realm of their professional ken! It is that separation, that distance, that impossibility of possession, which holds the tantalizing seduc-tion and pleasure of materiality. So, it is ironic for a profession
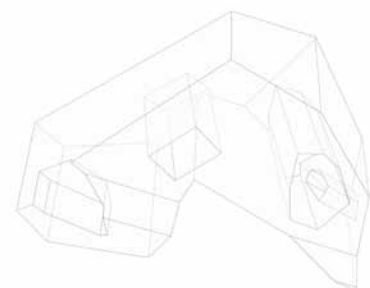


*Figure 1: Kimbell Art Museum by Louis I. Kahn. Photo by HKCB. CC 3.0 License. Figure 2: "Arlberg," a Second Life® environment by Amalthea Blanc. Figure 3: A BREP solid*

whose primary legitimacy is based on "virtual descriptions" to be shunning the value of softeriality. Does this harderial-envy represent a sort of a Freudian dynamic of desiring a thing that cannot be controlled, cannot be had, or that which is a downright legal taboo? Is the limitation of the professional framework to virtual descriptions of drawings and drawing-like digital databases resulting in a sense of inadequacy, impotence, and, perhaps repression of the virtual and, consequently, a repression of softeriality?

## When Medium is Xtra Large: Medium is the Material

One way harderials maintain the privileged status is by relegating softerials to the status of "media." Conventional wisdom states that a design work begins with the formation of an idea in the small but complex neural network of the conditioned human brain. The idea would then grow in a medium of drawings, databases, models, etc., and finally become the built work, often its largest manifestation. That is the conventional belief. The separation between medium and the end product used to be clearer when physical buildings (steel, brick, stone, concrete, etceteras) were the only anticipated result. The day architects stopped using the heuristic process of building directly on site with bricks and mortar, the day architects started resorting to drawings and other media before the buildings were built, the materiality of the end product ceased to be the primary factor that affected the spatiality and tectonic of the building. Like a mind that is shaped by the experiences of the past, the materiality of a medium is manifest in any building. Today, we find ourselves in many situations where the differences between medium and product simply cease to exist. Where does a medium end and a building begin? How does the notion of difference play into the discourse about (digital) materiality? What matters? Once the difference between medium and building vanishes, medium becomes the material out of which buildings are made. Medium is the material. This medium is so large now, larger in scope, impact, dynamism, participation, and potential that it ceases to be a medium.

## ~~In~~conclusions: Gymnasts within a Prison Yard?

When it comes to what matters, the discipline of architecture still privileges harderiality over softeriality. It may be a marginalizing game. Manfredo Tafuri's analogy was brilliant: "how ineffectual are the brilliant gymnastics carried out in the yard of the model prison, in which architects are left free to move about on temporary reprieve" (Tafuri, 1980). Within a limited framework of formal possibilities, architects construct an elaborate system of gymnastics. Architects' notion of value is rooted in the notions of well-crafted buildings and a vague metaphysic of experience of harderial space. The notion of craft, detail and tactility are valorized within a prison that re-

mains distant from what matters and to whom it matters.

The recent wave of digital fabrication presents a strange conundrum. Is it ~~an unwitting demonstration of privileging "physical" materiality of harderiality over softeriality~~? Or is it a move past the polarization of harderiality versus softeriality by making the digital subservient to the production of the physical? Architecture, as a discipline, seems to be dogged by a love for binary oppositions while other design disciplines seem to be more willing to not fall into this binary trap of absolutisms.

What difference does softeriality make to the world of architecture? How does it transform not just our conception of materiality, but also the scope and the manner in which we practice, teach, and build works of architecture in harderials and softerials alike? Are softerials just media? Are harderials always the end products? What happens when the medium itself gains more value (by most measures), has more impact than the end product? Does the end product then become a by-product, an aside of little—albeit boutique—consequence? Should this emerging inversion be reflected in the academic and professional bodies, curricula, and licensure? Could we finally ask without resorting to a harderial reality, "What does a softerial want to be?"

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