

DESIGN EDUCATION TRAILER II

THEME: Enjoying First Year Design Education: Ability and Motivation

“CREATING COSTUME FOR MADONNA WITH MATERIALIZATION METHODOLOGIES”

Asis.Prof.Dr. Aysen Celen Ozturk

*Eskisehir Osmangazi University
Architectural Department, Bademlik Kampusu
26030, Eskisehir / Turkey
acozturk@ogu.edu.tr*

Abstract

This paper discusses how an innovative design methodology that encourages designers' involvement with properties and fabrication processes of common materials creates new understandings of tactility and of materiality in general. This discussion is based on an examination of students work at an experimental design course, with the first year of students in 2006-2008, namely the Materials in Design Process. This course focused on the relationships between materials, ideas, and design. It involved experimenting in innovative use of traditional and new materials and exploring the alternative materialization technologies for architectural design.

In this paper we discuss materialization methodologies with implication of the design problem "Creating Costume for Madonna". Madonna is merely an image of that problem. We aim to create a costume with this image.

Materialization is a mode of revealing. We experimented with different design problems and technologies of revealing the essence of those materials, reinventing their uses and recreating composite materials. We call these methodologies of (re)creating composite materials—as suggested before—as the methodologies of materialization. We call the technologies that reinvent certain properties of materials for new uses as the making technologies.

Before describing these results, I will give a brief discussion about “making” in architecture and within this refer to a discussion of techne and technology, of consciousness and design, and of immaterialized versus materialized things in design.

The research was based on the certainty of what I had studied and tested during other teaching experiences, i.e. geometry, as well as material, is the foundation of statics and the conviction that this rule can be a foundation of design. Recontextualising and taking materials to new – not chance but necessary – levels has become a method.

Architecture has a multi-layered relationship with clothing, tailoring, and fashion. From a clear parallel between three-dimensional, often complicated structures or constructions. Traditionally, architecture is considered to be one part math and one part art. Of the different disciplines within math, geometry is considered an essential tool of architecture. This is the aspect of architecture that is now being used by fashion designers.

There are considerable overlaps between fashion and architecture in terms of technique and material. Fashion designers and architects share much of the same vocabulary and similar techniques of construction: pinning, darting, folding, wrapping, draping. Fashion designers have always been able to achieve complex, often architectonic garments using fabric. Today, many architects are looking to fashion and techniques of tailoring as they attempt to achieve more and more complex forms using hard materials.

Keywords: Materialization, fashion and architecture, designer, costume, techne.

Introduction

Today, adherence to the truth of a material is no longer an absolute for design. New technologies and design methodologies are being used to customize, extend, and modify the physical properties of materials, and to invent new ones endowed with the power of change. The new, mutable character of materials, as expressive as it is functional, has generated new forms as well as more experimental approaches toward design.

The discipline of design demands a reciprocal relationship that can move from idea to materiality as well as in the opposite direction moving materiality to idea. Today, adherence to the truth of a material is no longer an absolute for design.

Traditionally, architecture is considered to be one part math and one part art. Of the different disciplines within math, geometry is considered an essential tool of architecture. This is the aspect of architecture that is now being used by fashion designers.

Urban fashions, as mobile shelters, can extend the spatial framework of the cityscape far beyond its boundaries, transcending architecture's limitations of being bound to a fixed place. Because fashion frequently corresponds to the type of architecture that it is intended to be worn in, it transforms the figures moving through the cityscape into walking signifiers of it. Throughout history, urban populations have used clothing to signify their relationship to the built environment as they struggled to define the territory around them. The cut of ecclesiastical vestments and nun's habits reflected the arches and transepts of sacral architecture, while the sartorial styling of a concierge's uniform was inextricably linked to the formal classicism of a grand hotel. Skateboarder clothing brings to mind the sweeping ramps, heady curves and colourful graffiti of the performance arena, while the deconstructed tailoring of Comme des Garçons is a favourite of the architects who pioneer deconstructivist buildings.

I proposed that my students take a step back from the artificial to the natural to better understand the artificial, in open dispute with those who believe that new ideas and research only come via the discovery of new materials. There is nothing new, only different physical aggregations. We will take the liberty of extending that to beauty.

One of the transformations that have taken place in the world of architecture after the 1990s is this: We are abandoning the ideology of the form and advancing towards establishing the

ideology of the process (Tanyeli, 2008). Now that the designer has lost his former absolute sovereignty over the final form, what can he do? That is, he can begin by designing the architectural production process rather than the final form. He can create a choreography of the practices that depicts which practices will be merged together according to which 'scenario'. He doesn't draw a final shape but a road map. This is what happens at the experiment at our course; though perhaps it would be better to say what happens in the different phases of the series of prototypes, as it is in different stages. If you should ask "What use is it?" I would say it is useful for experimentation. It helps us question how wide a series of possibilities we can create today in the context of planning, calculating and implementing. However, there is no guarantee that we will be able to use this series of possibilities in the future. All the same, we will keep trying. Because what creates the future is the experiment itself, it is the practice of experimentation and not particularly the specific result of that definite experiment(Tanyeli, 2008).

1. Techne and Technology

We started our design course—i.e., the Innovative Materials in Architecture, the Department of Architecture at the Osmangazi University in Eskisehir, Turkey—by questioning the concept of design and of technology and their relations with materials in particular. With the help of the concept of "techne," we started to investigate the physical, mechanical and chemical ways of understanding and revealing the essence of the things and materials—that is, materialization technologies. We continued this investigation with the methodologies of designing these materials for particular purposes, namely for creating surfaces. We approached these technologies and methodologies not as the means to create something from nothing. Rather we took them as the ways to re-create by revealing the hidden nature of the things and materials. This understanding implies that we are part of nature rather than above or outside nature.

Martin Heidegger is the philosopher who has responded most profoundly to the cultural impact of technology. According to him, techne refers not only to the activities and skills of the craftsman. It means also the arts of the mind and the fine arts. In this sense, "techne belongs to bringing-forth, to poiesis; it is something poetic" (Heidegger 1992: 318). In other words, techne is revealing the essence of the things but not making or manufacturing that. Meanwhile, technology appears as "a mode of revealing". In the realm of bringing-forth or revealing the essence of material, end and means as well as instrumentality are important. Here "instrumentality is the fundamental characteristic of technology" (Heidegger 1992).

Furthermore, technology evolves. So today we can talk about "traditional" and "modern" technology. Yet, on one hand, the most basic characteristic of technology as a mode or way of revealing still keeps its nature. On the other hand, the evolution of technology does not happen by itself. That is, it is not self-evolutionary. Within Marxian sense, the evolution of technology happens with the help of the determined, conscious and active individuals within various historical contexts. Thus, the history of technology is not the registration of products or instruments that support human survival. Rather it is the proof of the productivity of human intelligence and the variety of life styles in different historical contexts (Basalla 1996).

2. Materialization Technologies and Design

We have already suggested that technology is a mode of revealing the essence of the materials. With the use of tools in human history, a new kind of relationship between human and other species and things has emerged. Virtually, everything has been within reach of the human who has been capable of using tools. Humans have gained new power relations within nature. By using the tools, humans can change and transform the mechanical, physical, and chemical characteristics of things. Rather than their state in nature, things become materials only after they gain new functions and meanings through these ways—or namely materialization technologies. The materials provide humans with opportunities for using things for their own purposes.



Figure 1. The corn unit has potential to reveal its essence.



Figure 2. If this corn is exposed to heat it will reveal its essence.

Employing the materialization technologies also evolves with design ideas. Humans define and design such ideas according to their needs and desires. Whereas the design processes “materialize” things, we can call such processes also as “materialization of substance.” In this sense of design, material stands out as an illusion that enables us to wonder and explore between the possibilities and the realities of the things. Consequently, the material that is designed within respect to the notion of techne (re)shape the relationships between the body and the world. As you seen the Figure 1,2 the raw material(corn unit) is transformed into materialized things.

3. In The First Year Design Course: *Materials in Design Process (The Department of Architecture, First Year, 2007-2008 Spring Term).*

In our design course, we asked students to make prototypes of custome that stand out of composite materials. For studies in our design course, we suggested students to use common materials that are easy to find in daily life. We favored such materials for their performative qualities that are important in materialization technologies. These are materials such as plexiglass, polymer films, rubber, sponge, glass, electric cable, different sized wire-netting, hammered glass, string, wooden bar, acetate, silicon etc.

The research was based on the certainty of what I had studied and tested during other teaching experiences, i.e. geometry, as well as material, is the foundation of statics and the conviction that this rule can be a foundation of design. Recontextualising and taking materials to new – not chance but necessary – levels has become a method.

I proposed that my students take a step back from the artificial to the natural to better understand the artificial, in open dispute with those who believe that new ideas and research only come via the discovery of new materials. There is nothing new, only different physical aggregations. We will take the liberty of extending that to beauty.

We experimented with different methods and technologies of revealing the essence of those materials, reinventing their uses and recreating composite materials. We call these methodologies of (re)creating composite materials—as suggested before—as the methodologies of materialization. We call the technologies that reinvent certain properties of materials for new uses as the making technologies (see Diagram 1).

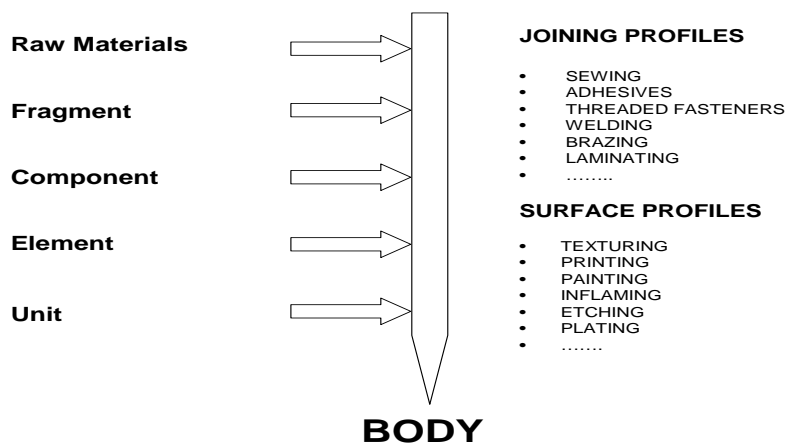


Diagram1: Methodologies of Materialization and Making Technologies.

Through these methodologies and technologies, the strange and humble neutrality of these materials act as flexible media. They go through various stages of mutation and fabrication, which increase their use, capacity, and performance in composing new materials. In addition, we recognized that sensory components—such as light, texture, and optical properties—appear as by products and also materials on these designed surfaces. Below we detail how these methodologies and technologies created various surfaces of composite materials.

In this paper we focused on the relationship with the architecture and the fashion. In the making technologies, we aim to use the techniques and terminologies of folding, pleating, wrapping and weaving by designing process. There are considerable overlaps between fashion and architecture in terms of technique and material.

Radical exchanges are taking place between architecture and fashion today. No longer regarded as mere structures for living, working or wearing, both garments and buildings have become metaphors for urban life.

As you seen the figure 3 and 4, fashion designers as like the Bradley Quinn and Husseyin Caglayan uses volume to reinterpret traditional proportions . By using the same design techniques an architect would have for a building, they transforms garments into complex three-dimensional shapes.



Figure 3. The custom is designed by Husseyin Caglayan.

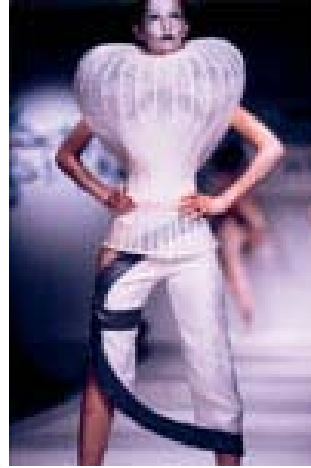


Figure 4. The custom is designed by Bradley Quinn.

Especially Bradley Quinn traces the structures and spatial boundaries that are the common guidelines of fashion designers and architects and succeeds in pinpointing the similarities and differences these creative fields have gone through in the last century.

In this spring term 2007-2008, our design problem is “Creating Costume For Madonna With Materialization Methodologies”. Madonna is merely an image of that problem. We aim to create a costume with this image. In order to understand the relation between material and design, we prefer to create costume design.

Student Works:

In this work, the student used a methodology that does not change the characteristics of the materials—sheet of papers—but brings them together by juxtapositions in order to reinvent a new composite surface. Our purpose is to transform a 2-dimensional material into a 3-dimensional one.

Ozlem’s work tried to achieve an organic form in line with its inner ordering principles, framed by the use of curvilinear metal stick elements.



Figure 5. The paper is transformed a 2-dimensional material into a 3-dimensional one.



Figure 6. The metal construction is enfolded by the paper.

In recent years, the boundaries between architecture and fashion have become increasingly blurred. Both architecture and fashion are based on the human body and on ideas of space, volume, and movement. Each functions as shelter or wrapping for the body—a mediating layer between the body and the environment—and can express personal, political, and cultural identity.

Through these methodologies and technologies, the strange and humble neutrality of these materials act as flexible media. They go through various stages of mutation and fabrication, which increase their use, capacity, and performance in composing new materials. In addition, we recognized that sensory components—such as light, texture, and optical properties—appear as by products and also materials on these customs.

Radical exchanges are taking place between architecture and fashion today. No longer regarded as mere structures for living, working or wearing, both garments and buildings have become metaphors for urban life. The organization of space has always been the essence of both fashion and architecture; fashion's architecturality unfolds in its containment of space, while architecture continues to be fashioned by its relationship to the human form.



Figure 7. She examines the metal-clad and structure.



Figure 8. Metals play a central role in most design problem.

The result of the liberation of the female form was the reclamation of skin sensibility or tactility and this period was marked by the introduction of new and unprecedented levels of tactility in clothing.

They examined how pliable metals, membrane structures, and lightweight plastics and glass borrowed from building design crop up in the creation of Couture garments.

CONCLUSION

Today, research and development in residential technology is largely limited to energy efficiency and cost management, which are sponsored by government agencies, or to improved construction practices, mandated by insurance companies. Accomplishments, for the most part, are measured in incremental improvements in existing methods and materials, not the kind of innovation that requires observation then imagination. Architecture schools, for their part, have preferred giving form to theory rather than probing the possibilities and limitations of either new or existing methods and materials. We suggests that students are rediscovering the relationship between design and material. Acknowledging that architects are not materials scientists but designers.

In our design studio we are borrowing the techniques of pleating, stapling, cutting and draping from traditional tailoring to design buildings that are flexible, interactive, inflatable and even portable. At that time students focused on how the characteristics of materials are perceived through the human senses in response to the theory that virtual reality and simulation actually reduce the information we absorb by eliminating that which comes from material tactility, smell, and sound.

The discipline of design demands a reciprocal relationship that can move from idea to materiality as well as in the opposite direction moving materiality to idea. I believe that to blame such a wide spectrum of problems on a material alone is indefensible, and say that instead of being a question of good or bad materials, it should be a question of good or bad design.

The time frame assigned to architectural production has been continually compressed, and the distance between design and fabrication is narrowing. At the same time, we are losing direct contact in both social interaction and the material fabrication process. We have come to rely on various software programs, which assist us yet discourage critical awareness, as they are designed to solve problems easily and quickly; in so doing, however, they leave no room for discursive and speculative thinking. This loos of contact is reflected in our increased use of remote control and simulation techniques for exploring virtual reality.

REFERENCES

1. Ashby, M. and K. Johnson, K. (2002) *Materials and Design: The Art and Science of Material Selection in Product Design*, Oxford: Butterworth-Heinemann.
2. Basalla, G. (1996) *Teknolojinin Evrimi*, translated by Cem Soydemir, Ankara: TUBITAK Yayınları.
3. Frampton, K. (1996) "Introduction: Reflections on the Scope of the Tectonic", In *Studies in Tectonic Culture: The Poetics of Construction in Nineteenth and Twentieth Century Architecture*, John Cava (ed.). Cambridge, Mass., and London: MIT Press, pp 1-28.
4. Heidegger, M. (1992) "The Question Concerning Technology", In *Basic Writings: Ten Key Essays*, David F. Krell (ed.). New York: HarperSanFrancisco Publ.
5. Kim, R.S., (2006) "A study on the definition of the term "Tectonics" in Architecture", *Architectural Research Vol 8, No 2*, pp17-26.
6. Mori, T.; (2002) *Immaterial/Ultramaterial: Architecture, Design, Materials*, New York: George Braziller Inc., pp. 41-49.
7. Semper, G. , (1989). *The Four Elements of Architecture and Other Writings*. Trans. Harry F. Mallgrave and Wolfgang Herrmann Cambridge.
8. Semper, G. (2004) *Style in the Technical and Tectonic Arts; or, Practical Aesthetics*. Trans. Harry F. Mallgrave (Santa Monica,).
9. Pallasmaa, J. (2001) "Surface, Touch and Time", In *The Brick*, Hanni Sippo (ed.). Helsinki: Alvar Aalto Foundation, pp 13-29.
10. Patterson, T. L. (1994) *Frank Lloyd Wright and the Meaning of Materials*, New York: Van Nostrand Reinhold.
11. Tanyeli, U. (2008) "The Context Of This Experiment: Designing The Process Instead Of The Final Form", *Fibrous Room, Evolving Structural Logic Workshop*, Istanbul.
12. Virilio, P. (2005) "Art as far as the eye can see", *Domus 886*, November.
13. Zumthor, P. (2006) *Thinking Architecture*, Birkhauser - Publishers for Architecture, second expanded edition, pp.22-25.
14. B. Hodge, P. Mears, S. Sidlauskas 2006, *Skin + Bones: Parallel Practices in Fashion and Architecture*, Thames & Hudson.
15. B. Quinn (2003), *The Fashion of Architecture*, Berg Publishers.

16. C. Evans, S. Menkes,
T. Polhemus, B. Quinn (2005), Hussein Chalayan, NAI Publishers,.
17. G. Beylerian, A. Dent, B. Quinn(ed)(2007), "Ultra Materials (How materials innovation is changing the world), Thames&Hudson.
18. <http://www.dexigner.com/fashion/news-g6627.html>
19. http://www.egothemag.com/archives/2006/04/fashion_and_arc.htm
20. <http://www.thecampuschronicle.com/communique/spotlight/070518.cfm>
21. [www.aiany.org/calendar/...](http://www.aiany.org/calendar/) (983)