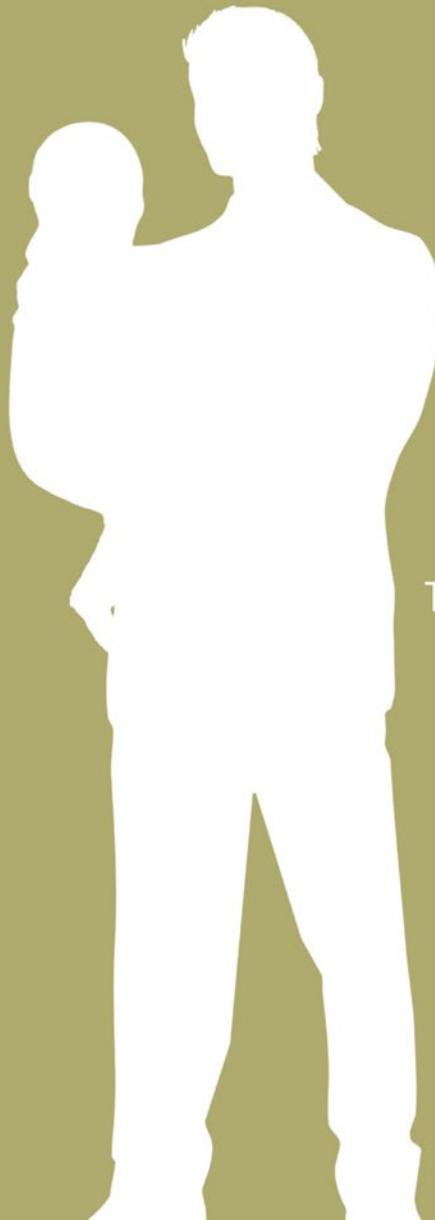




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## THEORETICAL INVESTIGATION

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# 4 Theory Investigation

## 4.1 Introduction

“Does God judge us by appearances? I suspect he does.”

-W. H. Auden

Architecture appears to the world in the form of images: as our visual perceptions of the built environment, as the “after image” in our minds and as flashes of memory. An after image is defined as the lingering image that is left on the retina after looking at an object or the memory of such an object) The visual element of architecture is indisputable; architecture occupies a human world, a world which it defines and structures. This attribute of building, that is has the capacity, and the necessity to appear, is the one of the greatest powers of architecture. However, no image or appearance can truly be real, without an observant world, in whose perception it must ‘seem’ to exist. If buildings are to embody meaning in the societies which erect it, then its appearance, and therefore its existence must be guaranteed through its relationship with the public realm. (UN Studios, 2007. 370)

Therefore, what is the role of appearance and, with regard to being? Is it merely secondary? Can appearance be a primary effect and device rather than a secondary result? To what extent is appearance reserved to the world of the visual, of the sensual realm of perception, representation, and if so how may it move beyond the perception of the visual only?

Secondly, what defines the appearance of architecture, namely, its surfaces? How should these external membranes be treated, and regarded within the composition of a building, taking into account surfaces significant others; Structure, Interior, Space and Form?



Figure 4.1: Mies van der Rohe`s Farnsworth house



Figure 4.2: Mies van der Rohe`s Farnsworth house



Figure 4.3: Mies van der Rohe`s Farnsworth house



## 4.2 Historic Context



Figure 4.4: Hans Hollein's Abteiberg Museum

Through architectural history the idea of surface has been formed by two theories: That of Leon Battista Alberti and Gottfried Semper.

"Alberti's search for the authority of surface placed the origins of architecture as being constructed 'naked' and later dressed with ornament. Surface is seen as a resultant condition, one in which surface as an upper outer layer is able to be scraped back thereby revealing the true, inner architectural surface. Under this assumption surface is seen to have thickness that covers and masks".(Taylor, 2003. 32)

"For Semper architecture began with the placing of textile element followed by a solid supporting structure." In the case of the wall, Semper took this motive back to its origin as a hanging textile, a colorful weave providing vertical enclosure. In the case of the Assyrians, "Hanging carpets remained the true walls; they were the visible boundaries of a room. The often solid walls behind them were necessary for reasons that had nothing to do with the creation of space; they were needed for protection, for supporting a load, for their permanence." (Taylor, 2003. 35)

This is paradoxical to Alberti's conceptions. "Semper suggests that architecture turns out to be nothing more than texture. So irrespective of whether the argument concerns clothing or cladding, true or artificial surfaces, the discussion is primarily about 'texture' - a surface characteristic."



Figure 4.5: Michael Graves' Portland Public Service Building

"Semper also noted that the woven surface was first conceived as a method to separate inner life from outer life.", separating public from private. This puts surface as an abstract entity, the first depiction of surface as a non physical concept. (Taylor, 2003. 35)

By accepting these postulations of Semper, one can trace the development of architectural surface in to modernism. Modernism where surface was lost through spatial extension as well as the development of the free facade system that lead to the separation of structure and facade (surface).

It can be argued that Mies van der Rohe might be

Figure 4.6: Charles Willard Moore's Piazza d'Italia





the most prominent example of the development of architectural surface theory in the modern era. Mies treated the wall as an element which is hung free from all load bearing requirements save its own weight, similar to the textile theories of Semper. He used elements usually associated with tectonic performance, the roof and floors as elements used to dress the building and define space. A prime example of Mies's work and the influence of that on surface is the Farnsworth House completed in 1951 as a weekend retreat.



Figure 4.7: Kas Oosterhuis surface explorations

Postmodernism developed as a reactionary force to the accepted `rules` of modernism. Postmodernism in architecture is defined by Stern (1977:275) as having three main areas of definition.

Contextualism: As stated by Stern, the realization that the individual design object should be considered as part of a larger whole. Postmodernism recognizes that buildings, landscapes and objects that refer and defer to their context gain strength over a-contextual designs.

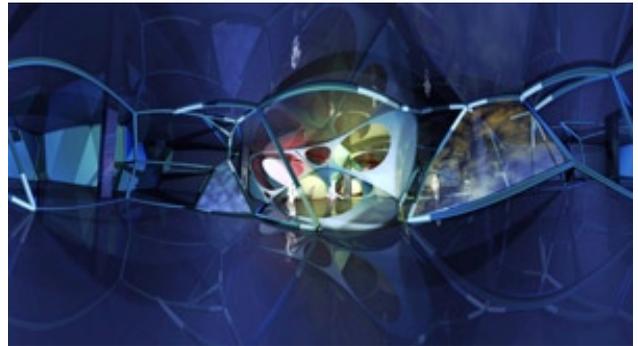


Figure 4.8: Kas Oosterhuis surface explorations

Allusionism: Stern here refers to the extensive quotation from past architectural styles. This practise is not to be confused with mere eclecticism, allusionism proposes that there is a lot to be learned from past styles in various disciplines.

Ornamentalism: Ornamentalism and Allusionism are often partners in post-modern design. However the decoration of surface need not be rooted in historical reference or context, rather it is employed as a tool to gauge human size against buildings.

During post modernism, architectural surface underwent a transformation, from being lost through spatial extension to a load bearing element that is decorated and ornamented superficially with unusually colored, patterned and textured surfaces.

Prime examples of this style of architectural surface include; Hans Hollein's Abteiberg Museum in figure 4.4 (1972-1982), Michael Graves' Portland Public Service Building in figure 4.5 (1980), Charles Willard Moore's Piazza d'Italia in figure 4.6 (1978).

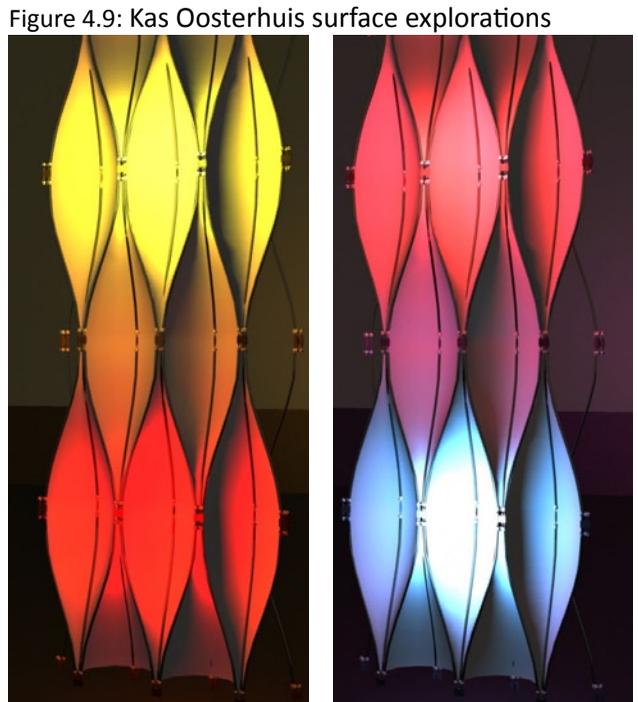


Figure 4.9: Kas Oosterhuis surface explorations



Contemporary architectural surface theory has developed new strands of investigation. Most of these new areas of surface investigation are driven by technological advancement the development of graphic, mathematical, architectural software and powerful computer hardware.

“As a rule technical innovations are nothing other than sophisticated variants of the game of concealing and revealing. However extreme they might be from a technical point of view they always follow the same principle of putting something to service. Thus the most intelligent facades, the most translucent veils and most interactive media facades are not fundamentally different from a classical façade. These filters, dividing de facto two sides from each other while simultaneously connecting them somehow on representational level – half showing their own constructedness and half what lies behind it.”

(Frei, 2003: 44-47)

The question posed here as set out by Hans Frei, is; has architectural surface evolved from the classical concepts of surface, or has new technology merely become yet another representational tool in aid of re-presenting what has gone before? Does technology possess the needed methodology and substance to provide us with new constructs of surface?

Some of the leading contemporary researchers include Deleuze with his investigations of architectural surface and folding and Kas Oosterhuis with his research in to hyper surfaces (living) interactional surfaces).

#### 4.3 Surface in the public realm

For a definition of public and private realms I turn the philosopher Hannah Arendt, in her publication *The Human Condition*, she postulates that there a two main human activities; Work and Labour which take place in two distinct environments: “Labour is the activity which corresponds to the biological process of the human body ... The human condition of labour is life itself. Work is the activity which corresponds to the unnaturalness of human existence ... work provides an “artificial” world of things ...” (Arendt, 1958: 199)

The public realm, in contrast to the private, is a place in which humans appear. As Arendt states, labour a natural condition of human existence takes place in the private realms. Work takes place in public the “space of appearance”, architecture a product of unnatural work has a dual role in the public environment, firstly as a product it serves to stabilise the public realm and secondly it provides the space of appearance required by men to `work`.

Taken together, Arendt’s writings lead us to a conception of the role of architecture as an entity which, while it provides permanence and stability for the public realm, serves a greater value as a physical appearance within and of this realm.

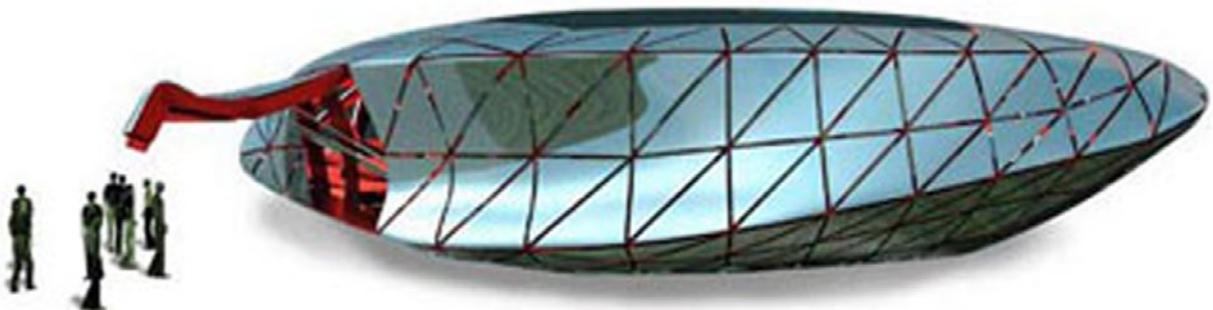


Figure 4.10: Kas Oosterhuis surface explorations

## 4.4 Surface Appearance

If we accept Arendt's theories, then we may apply this analogy to the building. In so doing, the façade (the external surface) becomes more than mere cladding, its role is far greater than that of protective envelope. Rather, it is the structure, the services, the interior spaces which serve the façade; all else exists so as to permit the surface to fulfil its role, and to appear. This analogy can be taken one step further: if architecture is at the service of certain functions (clients, institutions, users), and these functions are constantly in need of appearance to assert their being in the public realm, then architecture's highest aim must be to provide them with this public appearance for the human affairs which will transpire within the privacy of the physical container.

Surface appearance can be interpreted and investigated greater physical and tectonic depth. Surface appearance can be linked to the 'after image' as described by UN Studios, linked to this conception is the use of surface as camouflage, a surface that responds to and becomes part of its contextual reference frame work. Secondly, a surface that serves the purpose of creating identity and branding.

## 4.5 Exploring surface

The exploration, testing and evolution of architectural surface as 'Deep Surface' can be seen in chapter 6, design development. As discussed previously the aim of this study is to develop a deep surface in the context of a new research facility. This development will be done at the hand of numerous performance criteria, the 'Deep Surface' criteria as set out below. Environmental performance criteria, including ventilation, daylighting and energy efficiency. Structural requirements as set out in chapter 7, technical investigation. Functional performance criteria including spatial, views and interaction. The final performance criteria that are essential in the development of 'Deep Surface' is contextual, the surface needs to respond to its contextual requirements in an appropriate manner.

The study will aim to use the historic development of architectural surface as describe in section 4.2 as



Figure 4.11: International student ( Mustav Hamdy) surface exploration

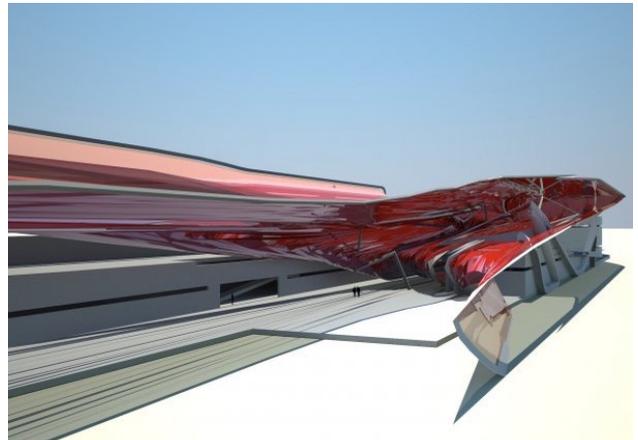
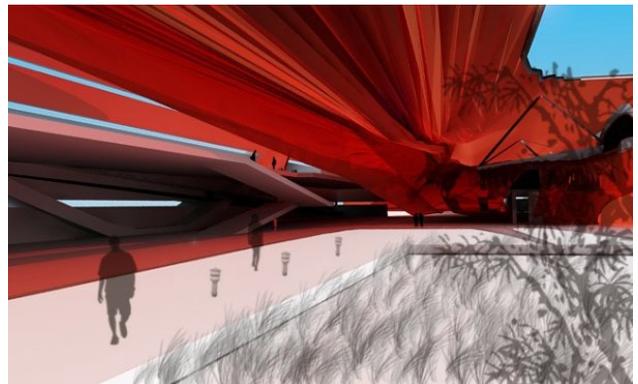


Figure 4.12: International student ( Mustav Hamdy) surface exploration

Figure 4.13: International student ( Mustav Hamdy) surface exploration



well as drawing from contemporary research as seen in figures 4.11-13, by Mustav Hamdy an architectural student from Israel. Taken together all of the above mentioned performance criteria and the study of past and contemporary theory should lead to the development of surface as a `Deep` construct.

## 4.6 Deep Surface

Architectural surfaces are and should not be considered as mere membranes restricted to applications of function and form. Surfaces serve a much greater role, that of medium through which architecture and people are able to appear in our world.

The question then is how to design surfaces in direct response to this human need for appearance; and how to create them as representational masks, carrying the memory of the collective public realm. Both Hannah Arendt and Gottfried Semper offer insights towards this question.

Modern building technology, coupled with the infinite possibilities of today's computerized design vehicles offers an incredible array of choices to the architect. However, our society, though extremely superficial in so many regards, seems to reduce perception to the fleeting glance, to the instantaneous image.

The challenge is now to realize a project through which these questions of surface and appearance can be explored; and in which the appearance of a building can be exploited to the highest possible degree as a deep element( in opposition to Semper's theories of surface) that is served by its significant others include services, structure and interior space and as a true embodiment of human intention (per Arendt).