

10.1

Design Discourse

10.1 INTRODUCTION

The challenge in this thesis was to design a multifunctional centre for temporary workers. This centre had to have integrity, include a bus terminal, host a multitude of functions, without the result looking like a flow diagram. The end product aims at an end product that is simple and elegant, imbuing trust in both the user and passer-by.

A Rationalist approach was considered in materializing the initial concept, as a result of the unconventional, and in a way groundbreaking, nature of the project. Rationalism provides a philosophy by which the design process can be conducted. As a way of working, it too has the possibility to produce an aesthetic. Rationalism imposes the most severe rules, and yet lyricism remains possible.

The building illustrates a sensibility that is inspired by cubist and constructivist protocols, infused with light modernism. Due to the programme of the building, it is essentially a utilitarian architecture, with the focus on "use", and functionality. This turned out to portray a no-frills architecture, very much linear and cubist. There have been no literal attempts to apply metaphors of nature or culture in a free-form rational dialogue, nor is there the literal exercise of more expressive architecture, as is popular at the moment. Instead, it is based on a series of careful principles, inevitably styleless, with a concept bizarre enough to come close to building realism.

Maybe a place of work needs to be pragmatic in nature?

This discourse aims at relating the architecture of this thesis project with work, the act of making, and inevitably the time involved in both these activities. It also elaborates on the decisions taken in terms of form, space and order.

10.2 WORK

Hannah Arendt, in *The Human Condition*, divides human activities into three basic activities: labour, work and action. With "work" she refers to the activity of *homo faber* (man, the maker) who creates artifacts with his hands. When speaking of labour, she refers to the activity of *animal laborans* (man, the labouring animal), who, driven by the needs of the body, only does what is needed to survive.

Arendt goes on to illustrate how the Industrial Revolution, by replacing workmanship with labour, has resulted in modern creations becoming products of labour, only to be consumed, instead of products of work, which are there to be used. According to her the artist is the only "worker left in a laboring society"

(Arendt 1958 : 8).

"Work, and its product, the human artifact, bestows a measure of permanence and durability upon the futility of mortal life, and the fleeting nature of human time." (Arendt 1958 : 8)

"Work" is therefore the act of making something, distinguishing our ancestors as *Homo* from primates. The burden of labour, however, is something we have tried to get rid of, and industrialization, and automation, in a way, has started to do just that. The result of this turn of events, as is currently the case in South Africa, is a society of labourers without labour.

Work requires energy. The amount of energy involved in the making of an artifact should be evident in the detailing when the end product materializes.

A proposal is made that to alleviate the toil and trouble of labour, *workmanship* should be reintroduced in the built environment. "Workmanship" is a degree of skill in performing a task or in the finish of a product made.

In response to this theoretical approach, the question is asked: how do one ensure the use of quality finishes and workmanship in the construction of an architectural artifact? The position taken here was to design the building using clean, clear and precise lines. The argument is that it takes more skill and time to create an absolutely level plane than an undulating one. In the construction of the building it will thus be extremely important to maintain level and straight surfaces, thereby "forcing" clean finishes, resulting in an honest architecture with integrity.

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"Since the articulation of a form depends to a degree on how its surfaces are defined and meet at corners, how corner conditions are resolved is important to a form's definition and clarity." (Ching, F.D.K 1996 : 96)

The very linear and angular design provides the opportunity for the quality of workmanship in the finishing of surfaces and corners, to be subjected to extreme challenges. How detail elements feature, such as in the walkway ballustrades, depends on the articulation of surfaces through flush corners.

For the assembly, an "additive" method was adopted, together with material honesty and clearly expressed structures.

Perhaps it is appropriate that a building, promoting and symbolizing work and workmanship, should be "strong", flexing its structural muscles.

10.3 MAKE

If architecture is the art or craft of building, then it might be said to be a dying profession. It is finding itself further and further removed from its traditional home in building. Buildings today are translations of bubble diagrams and stress analysis, compiled by computer programs, and renovated almost as soon as they have been finished.

Architecture has become temporary and "cheap", displaying a lack of time and technique.

This problem is not only confined to architecture. Let's compare a masterpiece by Leonardo da Vinci to a painting by Jackson Pollock. In the *Madonna of the Rocks* (begun 1483) by Da Vinci, the time, craft, technique and workmanship involved in the making is evident in the end product. The painting demands respect, and allures the viewer to search for deeper meaning in the painting. Light has been used in the painting to create atmosphere, and the artwork is loaded with symbolism. Although Da Vinci's personal spiritual input in the painting is evident, it doesn't dominate. The piece is therefore accessible for interpretation by the general public, and does not only function as decoration.

On the other hand, in the painting *Lucifer* (1947) by Jackson Pollock, it is quite clear that no time was wasted in creating the artwork. Although the "action painting" technique is creative, and certainly unusual, it doesn't take much craftsmanship to master it. The end result is a highly personal product, which could only be fully understood by the creator, or people present during the paint process. It is therefore not accessible for interpretation by the general public, and would in some instances only function as an aesthetic element, compelling the viewer for a short time.



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The same comparison can be made between contemporary architecture (or "decoration" for all that matters), based on quick assembly and modular systems, and traditional architecture which included workmanship, and quality of construction.

"Can we, in the absence of a viable skilled workforce on site, still talk of a building being "crafted"? In the traditional sense, perhaps not, since most building operations in industrialized countries now consist of assembling preformed parts and fragmented systems." (Louw 2002:19)

During evolution it was not only the size of our brains that distinguished us from the primates, but also the use of our hands to manipulate and make artifacts. Every man-made artifact does not exist solely as a result of production, but is also coherent with the process of making. The maker, and the object created, is tied together by an intimate relationship which does not disappear at the conclusion of the production process.

But in architecture, it is not only time and workmanship during the physical construction of a building that matters. It starts with the initial concept, then goes onto two-dimensional format through drawing, before it finds concrete form in materials and the methods of building. This process draws energy from the creator whose desire it is to see an idea physically realized, and to see himself reflected by the object.

"In every instance of making where the concern for formal integrity is at stake, we must recognize and operate within a relationship of total inseparability governing material, the tools employed in its transformation, and the labour spent in the process". (Zambonini 1988:8)

Thus, it is not only the physical construction process which have caused the built environment to be in the state it is in at the moment. It starts out with the initial conceptual "making" of the building, the

actual time taken in drawing the building. Perhaps computer programs are to blame for making it easy for architects to use standardized details and components. Architects have become lazy. The same care should be taken in the conceptual making of the building, as during the actual creation. In the design profession today, however, the construction drawings basically marks the limit of the designer's responsibility in the process of making.

Industrialization has promoted the idea of standardized building design solutions. Standardization has however not brought significant quality - only higher profit, and the accompanied processes result in limited choice when it comes to components. This is why only in specifying the customized use and transformation of materials by hand that architects have a chance at contributing to building quality.

In this design custom elements form the infill for the structure in the form of manually manufactured dry -walling and sliding screens. Again the idea of labour intensive techniques, and creating as many jobs as possible fall in with this line of thought, resulting in a building that does not suffer from the brick -a-brac aesthetic of the "ready-made".

Although unconventional, and in a way seemingly impractical, the labour intensive techniques, such as the brick screen system, is in direct response to the theory of workmanship. It requires the involvement of the creator in the making of the building.

Maybe we need to be nostalgic again for the simple era of the master builder.

Man can only know what he makes himself.

10.2 Leonardo da Vinci. *Madonna of the Rocks*. Begun 1483. Oil on panel.

10.3 Jackson Pollock at work in his studio, 1950.

10.4 Jackson Pollock. *Lucifer*. 1947. Oil, enamel, and aluminum paint on canvas.

10.4 TIME

Speed and information has become synonymous with the architectural trade, and hardly anyone makes anything anymore. While architects deal in information, and don't actually "make" anything either, the architect's entire purpose and meaning depends on fabrication/building. The vast majority of what passes for architecture today is merely building. Building processes have become significantly quicker, but the speed and volume of information surrounding architectural projects have multiplied, slowing the implementation of projects down. Architects need to work with and manipulate materials, not information.

After Modernism's attempt to recreate the world from scratch, we have rediscovered in recent decades that roots in the past are vital. On the other hand, the sense of being part of our times remains equally important if one is to feel fully alive. A balance will have to be maintained between these two aspects.

To prevent the "coldness" of technology, craft, and the time associated with it, should be just as important as science, especially in giving soul to technology. A project has to grow, to mature and take its time, to attain a more "permanent" character.

Perhaps the concept of "total design" best profiles this idea of permanence. Total design suggests the interaction between the building as architecture, and as exhibition, between permanence, and architecture's own impermanence.

Speed frequently undermines what we hold precious, and what it is intended to overcome: time. Today's world, with its emphasis on efficiency, change and speed, does not really create the necessary conditions for making architecture.

As a response to time, the building's skin is literally a filter that blurs the seam

between the fast and harsh exterior constituting of roads, and the deliberately "slow" interior space, that remains still within the fast flows of traffic and capital surrounding it. Once you step into the implied boundaries of this skin, time is decelerated, implied by tranquil spaces creating a habitable atmosphere in a normally uninhabitable space.

It is ironic that the building's skin and linear arrangements of elements is anything but slow. The skin creates an optical illusion of speed, gained by the "slippage effect" as a result of lines with differential shades of darkness, as well as sliding windows and screens.

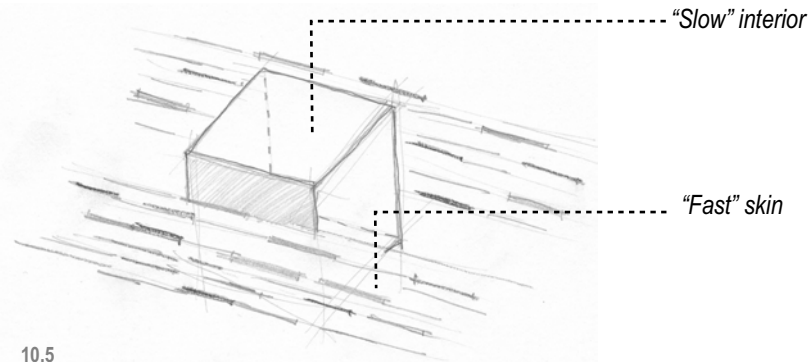
The materials specified are an important theme regarding time.

With respect to maintenance, an object is never totally finished; it requires

adjustment in time, through use, and it should be worn in order for it to reveal the inner qualities of its material components. The timber used in the building will require maintenance, but it is through this process that it acquires character, as a result of manipulation by hand.

The stainless steel specified also contributes to this argument by oxidizing to a certain point over time, leaving a matt gray finish, with a unique character.

More time would inevitably be involved in the making and construction of this architectural artifact due to custom detailing and manual manufacturing, adding to an image of permanence. Finally, when dealing with time, architecture does not move at speed, architecture is slow.



10.5 **FORM**

The current polemic between the use of orthogonal forms in the generation of prismatic architecture, and the use of more complex geometries to generate seamless flowing forms, has reached a point of stasis, which can be summed up in the terms known as "the box versus the blob".

Many designers of "blobs", seem to be unable to derive sufficient inspiration from human life, and are therefore looking towards indeterminacy, fractal geometry etc. They seem to find special relevance in mathematical, rather than environmental, sociological, humanistic or programmatic concepts. These forms rarely convince as portraying qualities of architecture, instead, they seem too often to be a substitute for quality.

Simpler forms, in today's architectural discourse, are too often equated with a minimal approach to the concept of architectural experience. This project demonstrates that simple forms not only have their own experiential pleasures, and that not all architectural experience is necessarily visual. Sensuality can also be defined in terms that are disciplined, restrained, and calculated, rather than, as is so often the case, the opposite.

The formal theme, which dominates in the project, is the need to express resistance to gravity and transcend earthbound forces. This aspect is clear in the way in which the overhead structure spans immense distances (30m and 18m respectively between columns), and the seemingly weightlessness of the overhead shading net louvre system "floating" over the complex. The building's skin, consisting of mass brick lintel screens, seemingly suspended in space, seems to escape gravity: the vertical support structure has been hidden from the outside.

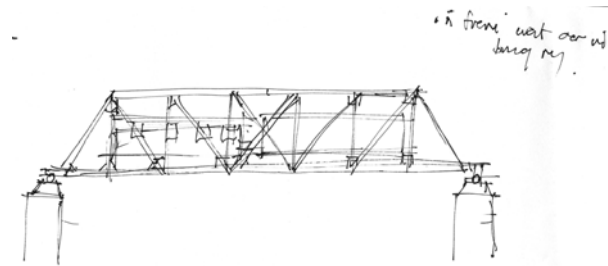
The building is characterized by parallel linear elements finding form in rectangular solids. This is a direct response to the shape of the site, as well as east-west arrangements to regulate sunlight as efficiently as possible.

A linear form can be used to express progression or movement (Ching 1979:76). The main part of the project forms a linear island between two dynamic parallel road servitudes. In this context, where the movement of people and especially vehicles form the immediate environment, linear elements have been used to complement this image of progression through space. On the eastern façade, for instance, the repetition of elements contributes to linear growth in the line of travel for the shuttle buses.

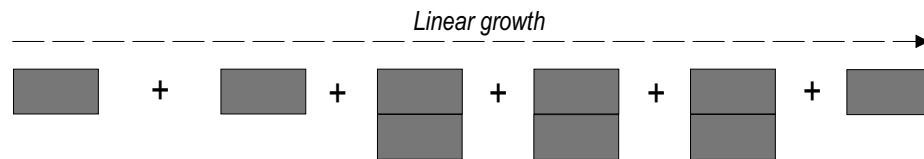
The sliding floor-to-ceiling openings and wall-panels create a sense of movement and the effect of slippage. On a metaphysical level this, together with the linear arrangements, invokes a subtle analogy with the idea of a train crossing a bridge, and the shape of passing coaches, to introduce a romantic aspect traditionally associated with stations.



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10.5 Internal-external relationship through the building's skin.

10.6 Illusion of movement on the building's skin created using different toned strips.

10.7 "Box" versus "Blob".

10.8 Analogy made with a train crossing a bridge.

10.9 Repetition of elements resulting in linear growth.

10.6 **SPACE**

The building aims at creating space that somehow gives our world back to us in a form that is strong and enigmatic enough to withstand the withering questions of economics, function or even explanation to which any cultural production is currently subjected. This aspect battles against the “temporary” architecture surrounding the development. The building is therefore imbued with *gravitas*.

The multi-functional use of building components to create space can be seen as the overriding factor in the technical design approach. The approach was simple: when something was used/constructed, what else could it be used for? This aspect reduces redundancy, giving integrity to every element.

The clearest example of an application of this approach is the brick screen system. It not only serves to filter and diffuse sunlight, but also plays a structural role as bracing, while acting as visual screens to define spaces.

The overnight accommodation units not only serve as habitable spaces, but also contribute to passive security, while defining the overhead plane (or ceiling) for the bus terminal. Furthermore, in filtering sunlight, collaboration with the louvre system ensures maximum penetration of sunlight during winter, and minimal direct sunlight in summer.

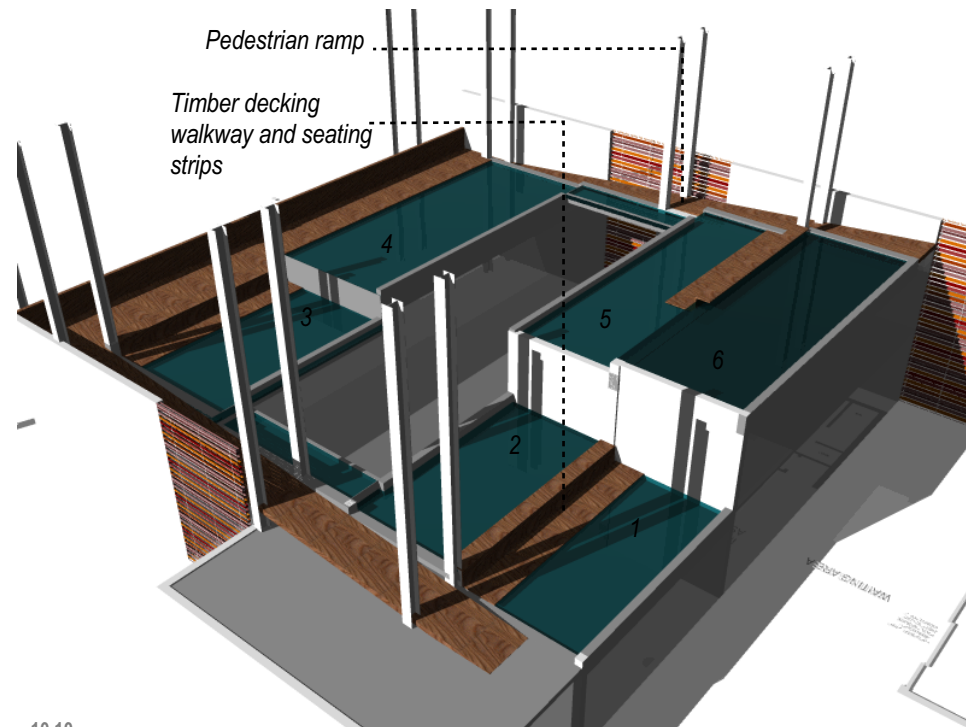
In terms of space, the feasibility of accessible roofscapes lies in the theory that while a roof has to be constructed, it might have more than just the function of blocking the elements. With this in mind, the roofs of office blocks one and two, were made accessible, and to ensure usability of this as an exterior social space, it had to serve not only as a visual element from above, but also as a pleasant space to relax by.

The use of water ponds was based on the downstream directional flow of water, thus following the contours of the 1:12 sloped pedestrian walkway linking the two storeys.

The roofs form six ponds at different levels, each provided with an overflow to the next, and made accessible with timber decking strips for seating/walking. To maintain the clean line promoted by the walkway bordering this space, the use of balustrades were avoided to emphasize the parallel horizontal planes formed by the ponds. The water, 170mm deep, serves as an implied protective barrier.

Multi-functionality is also evident in the roof, a concrete construction to ensure sufficient stiffness between the steel trusses, and to maximize thermal massing, of the overnight accommodation units. By allowing access, the concrete slab obtains another function, now being used as an exterior social space for the occupants, and a utilitarian space for washing/drying of clothes.

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Light, and the effect of it has been extensively explored to define spaces.

"Place changes with the movement of people, space changes with the movement of the sun." - (Von Meiss 1991 : 134)

Horizontal filters for sunlight, on the vertical planes as brick screens, horizontally as louvres and overhead structures, forms the exterior boundaries. These filters cast shadow strips of varying degree and angle across the whole development, enhancing the feeling of movement when traversing these spaces.

Unlike conventional architecture, therefore, the skin, and consequently the appearance of the building, is constantly transformed, minute-by-minute, as sunlight and seasons change.

The thin spaces between each horizontal brick lintel allow the background - the bus terminal on one side and the shuttle road on the other, for example - to be seen as part of the "picture plane" of the screen in the foreground.

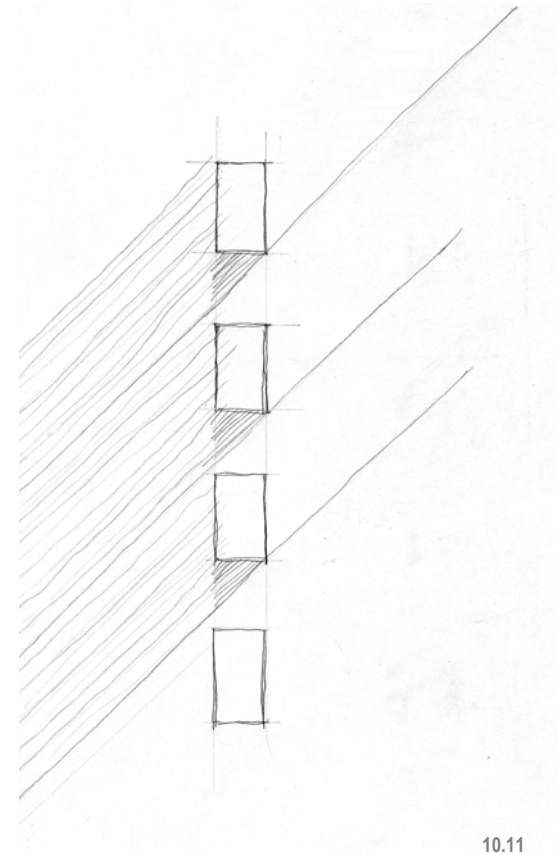
When entering the bus terminal, the overhead plane forms "veils" of different intensities, layered over each other, casting shadows of varying density and gradually increasing the sense of enclosure.

An interesting approach was taken on the walls of the warehouse, using translucent polycarbonate sheeting as wall cladding, allowing the creation of special light effects. This is unconventional, for thermal and security reasons. The solution was to apply a layer of brick screens on the outside, filtering the sunlight, as well as providing a protective barrier. But it is at night that this feature fully comes to its right by emanating horizontal strips of light, illuminating the adjacent spaces such as the bus terminal.

The focus on the establishment of external social space is quite clear. The goal was to filter out the natural elements to create a mixed sense of being "protected", while being outside. The vertical planes of all the interior volumes open into these exterior spaces, making full use of its location in a pleasant microclimate.

The exterior volume covering the three office blocks was designed to enhance a feeling of solidity, permanence and calm. An understated palette of natural materials, muted tones and a continuity of materials and finishes emphasize this. The blue tones in the different coloured bricks, in collaboration with the roof ponds and planting, provides a feeling of tranquility, in contrast with the warmth of timber, used to soften exposed steel.

The crossover between the public and semi-public spaces is gradual and implied, rather than forced, the entrance being an example of this. The complex, with its 24-hour activity, allows for passive surveillance and improved security. Many of the spaces are semi-private, the more private spaces being secured by means of card-operated sliding doors.



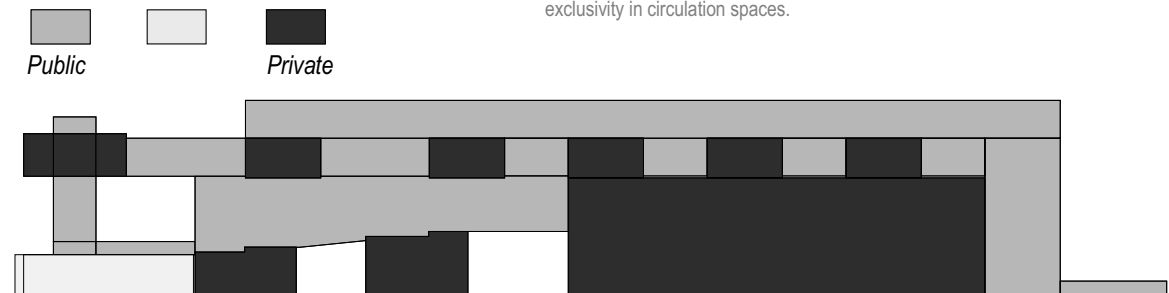
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10.10 Conceptual perspective of office roofscape with overhead structure taken off.

10.11 Diffusion of light by screens.

10.12 Diagrammatic section indicating degrees of exclusivity in circulation spaces.



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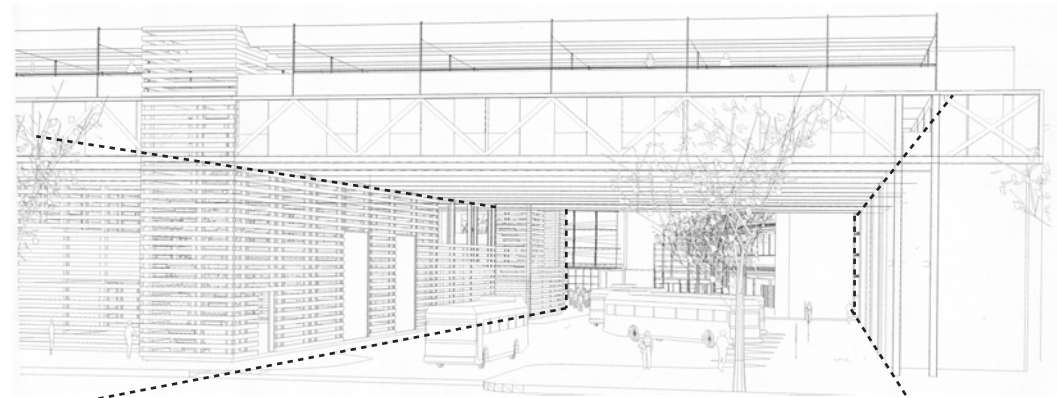
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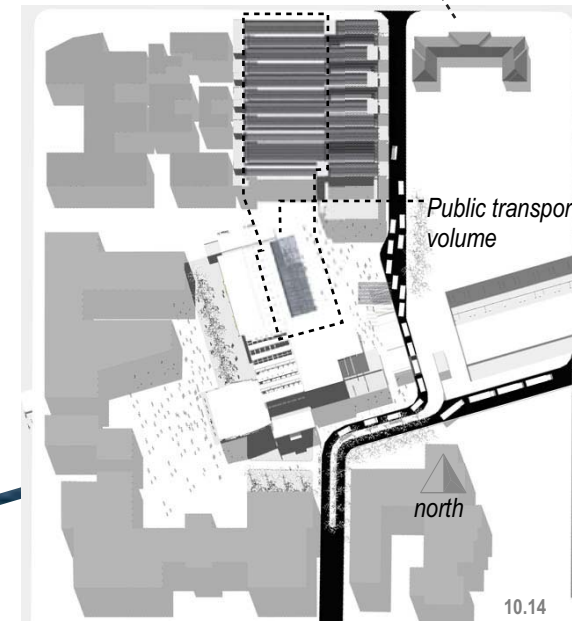
The building responds to the Gautrain Station spatially by ensuring that the traditional expanse of space associated with public transport facilities are to be carried through. The result is one large volume starting at the arrival platform of the station and terminating in Schoeman Street. The close spacing of repetitive elements can produce a barely perceptible optical flicker. Here the repetition of the overhead structure optically forms a ceiling, defining an overhead plane for this large volume.

The adjacent historic Hatfield Primary school building was respected through a recess of the northern line on ground floor to meet up with the north façade of the conserved building. The northernmost accommodation strip forms an implied ceiling for this streetscape, seemingly trying to "touch" and protect the old building by means of a cantilevered overhang.

This canopy, formed by the overhead structure, not only controls direct sunlight to the warehouse, but also creates an interesting urban streetscape, working together with the existing lane of trees to form an enclosed space for pedestrians. A concrete bench aligns this wall to form a resting place for pedestrians.



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10.13 Approach to Bus Terminal and Gautrain Station area from Schoeman street. Note the overhead plane forming a ceiling.

10.14 Main public transportation volume.

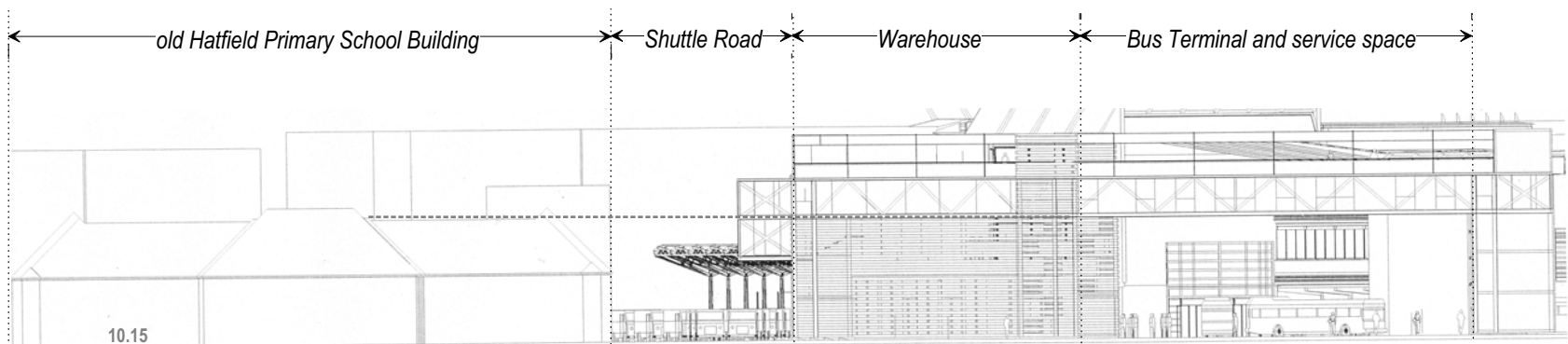
10.15 Relationship to other buildings on north elevation.

ORDER

10.16 Regulating lines on southern façade.

10.17 Regulating lines on northern façade.

10.18 Regulating lines and rhythm on eastern façade.



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10.7 ORDER

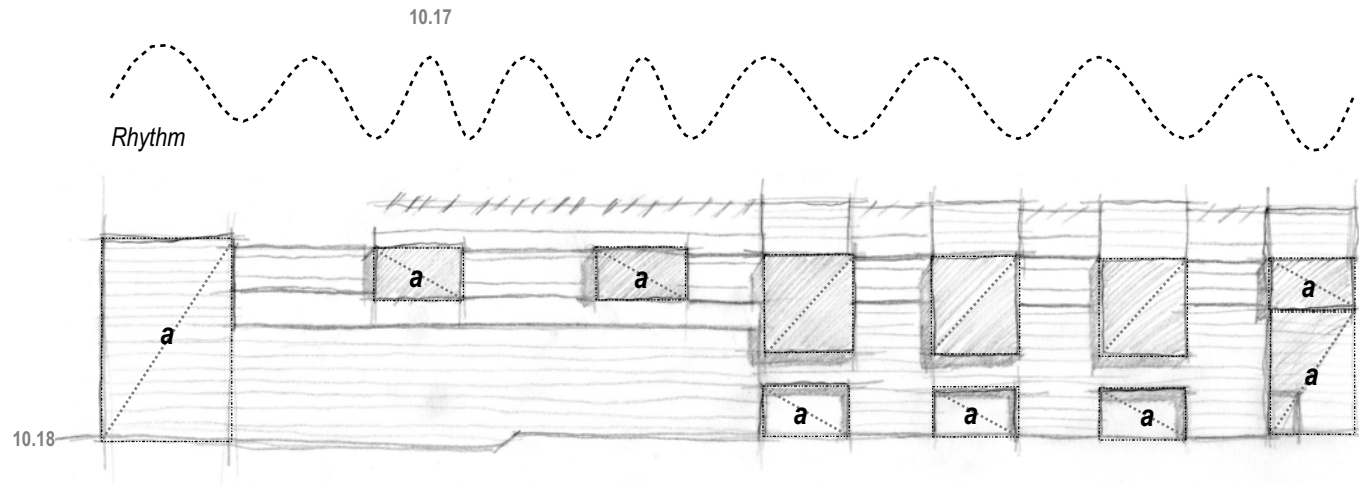
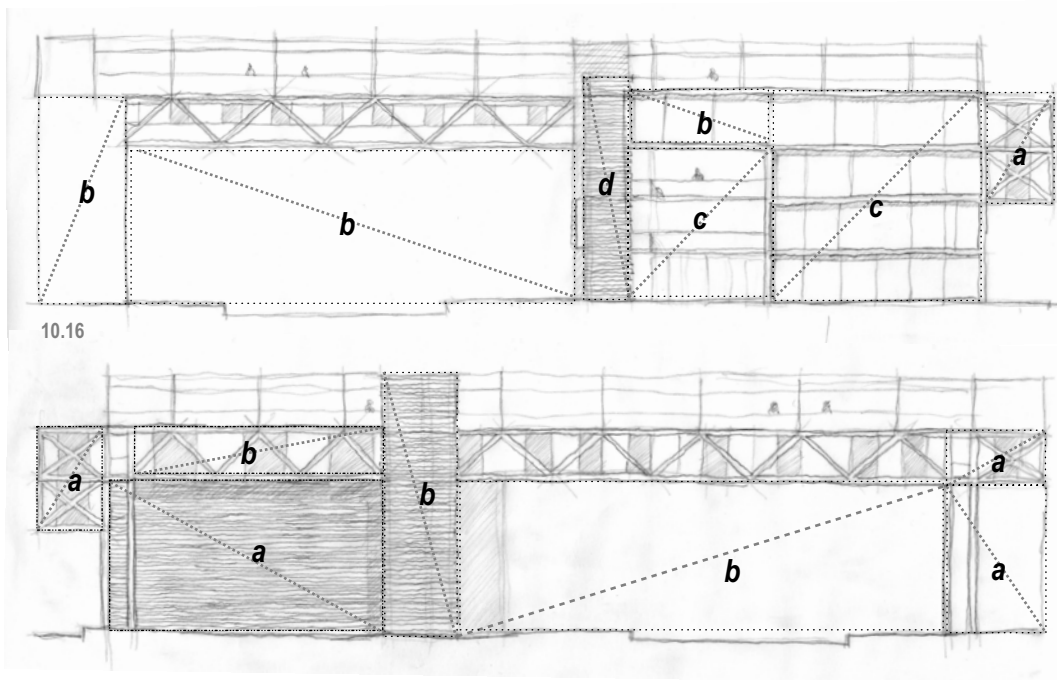
The study of a building's elevation is in part autonomous of constructional rationality. Formal elevation studies in terms of ordering and proportions of elements seem to have disappeared in contemporary architecture. Without attempting a neo-Classicist revival, the façades have been designed to display a degree of order. The generator behind the ordering, as opposed to established ordering systems such as the Modulor by Le Corbusier, was the building's reaction to the sun.

If the diagonals of two rectangles are either parallel or perpendicular to each other, they indicate that the two rectangles have similar proportions. These diagonals, as well as the lines aligning elements with one another, are called regulating lines. (Ching, 1996 : 304) . Le Corbusier, in *Towards a New Architecture*, stated the following:

“A regulating line is an assurance against capriciousness, it is a means of verification which can ratify all work created in a fervour... It confers on the work the quality of rhythm. The regulating line brings in this tangible form of mathematics which give reassuring perception of order. The choice of a regulating line fixes the fundamental geometry of the work... It is a means to an end, it is not a recipe.”

As can be seen in the accompanying façade studies, regulating lines are used to analyze the façade; to such an extent that each façade comprise a very limited amount of differently proportioned rectangles, indicating a level of order.

A certain rhythm, determined by solar penetration, has evolved on the eastern façade through the repetition of elements.



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The brick screen system has been used to attain "uniformity" on façade, battling to generate an elegant appearance while having to accommodate a multitude of functions. On the other hand, alternatively shaded stripes are used to achieve texture.

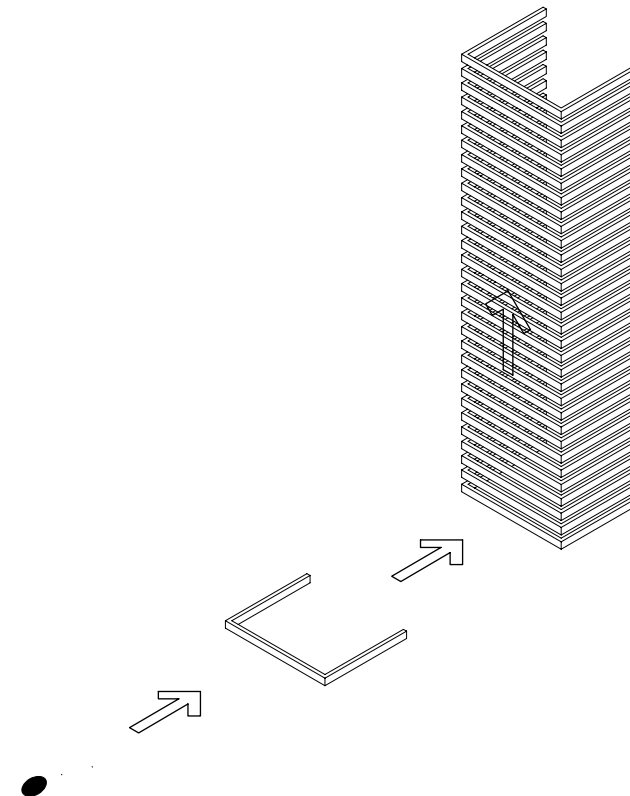
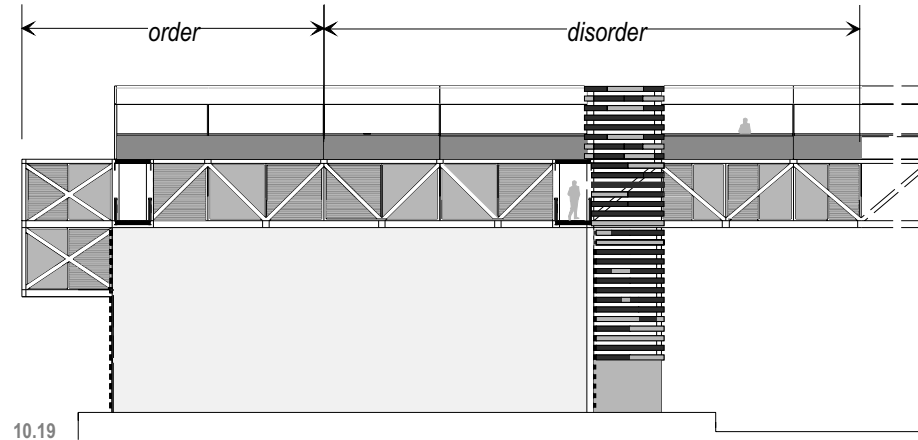
The breaking of order has however also been used to relieve the building of too much formality through the use of sliding screens and its implication on façade.

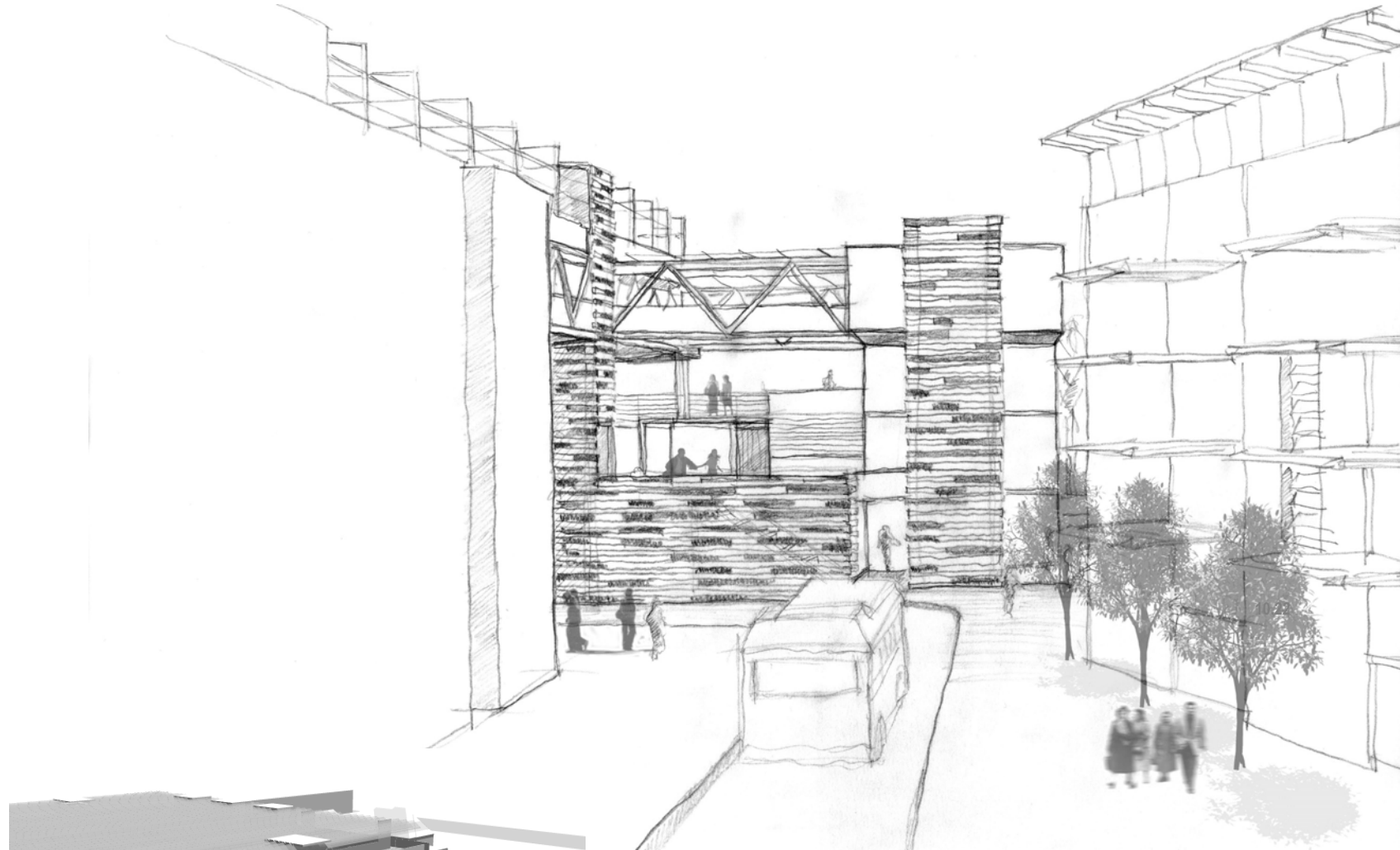
The approach to the building, and how the passer-by experiences the building, played a decisive role in the ordering of elements. These approaches were carefully designed to ensure legibility, on the one hand, and curiosity on behalf of the observer, on the other.

For a point or node on plan to be emphasized, it needs to be projected in space. All major vertical transportation structures (stairs/lift) were seen as nodes, and have been treated similarly to enhance legibility when moving through the development. Here, hierarchy was introduced as another ordering element to increase this legibility. By allowing these structures to step out of the building grid, their importance in the overall scheme is announced.

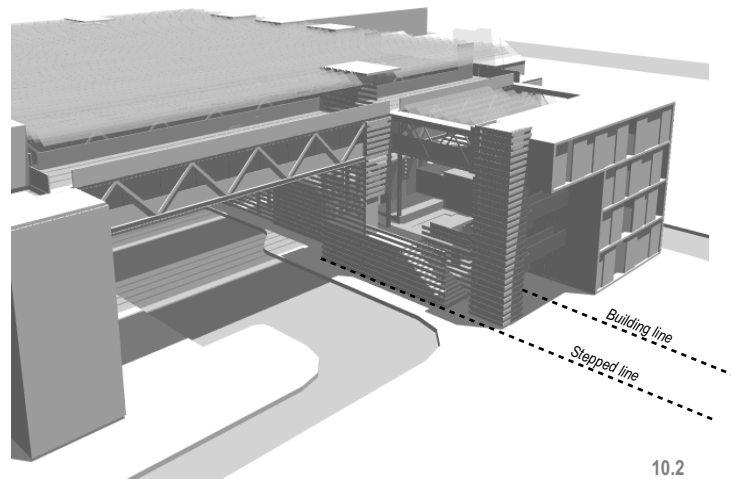
The lift shaft forms a vertical datum line, handled like a tower, extending above the building to proclaim its nodal identity. It not only serves as a functional element linking all levels, but also forms a visual reference point, visible from many locations.

At the main entrance, the openness, with pleasant interaction between the different levels, complimented by quality finishes, creates an airy, inviting ambience.





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10.19 Breaking of order on façade due to sliding screens.

10.20 Transformation of a node on plan to a legible vertical element in space.

10.21 Entrance emphasized by stepping out of building line.

10.22 Western approach from School Lane. Note the legibility evident in the use of vertical transportation structures as focal points.

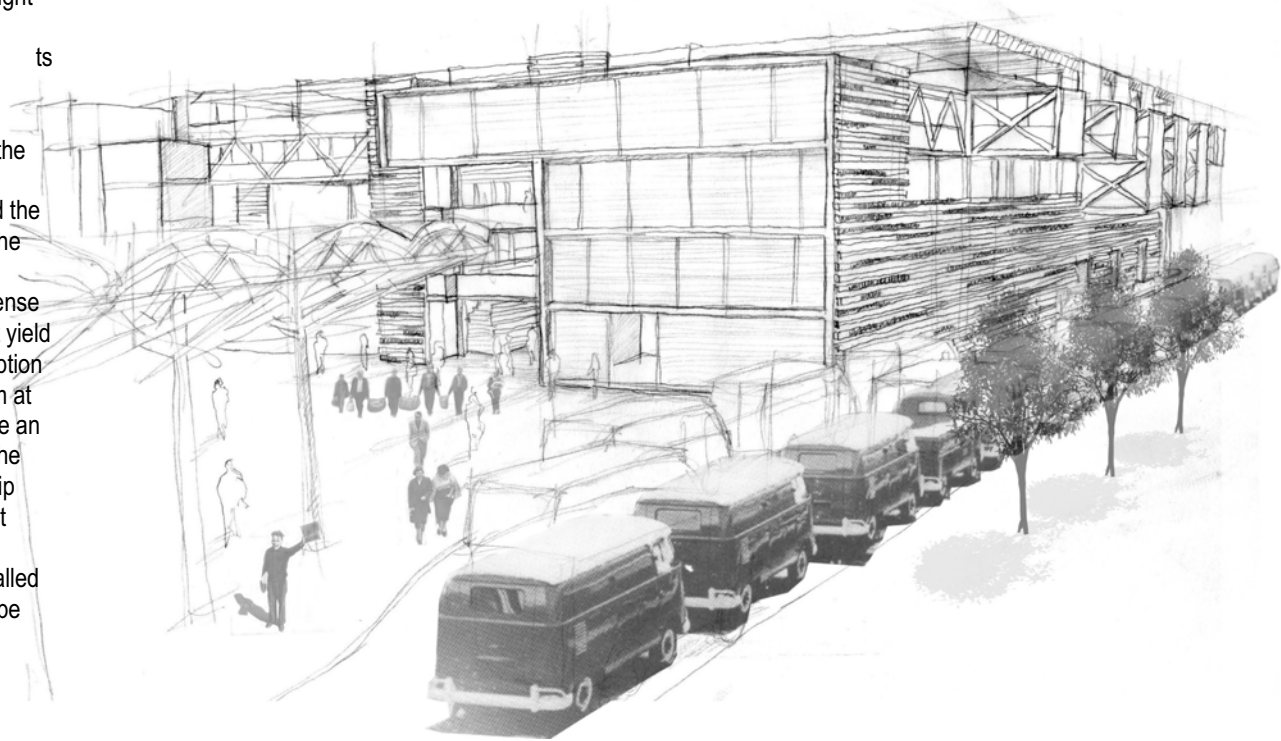
The French philosopher, Montaigne, examined a complicated relationship between Poppaea, a courtesan in Roman times, and her many admirers. Poppaea hid her beauty behind a mask to make her more precious to her lovers. This technique was used in response to the brief, requiring the building to be a showroom for work. Immediately a connotation can be made with the surrounding motorcar showrooms with their glamorous curtain walls and light aluminum frames used to enhance the transparency of the façade to make its contents as visible as possible.

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The approach in this project however was the opposite. By making the façades partially translucent, using translucent polycarbonate sheeting and the brick screen system, only glimpses of the interior are visible.

Thus, the building achieves intense attraction precisely because it does not yield itself completely to instant visual absorption by the viewer. While other buildings aim at an absolute transparency that constitute an objective part of view emanating from the viewer, this design sets up a relationship between the viewer and the viewed that requires attentiveness.

In some way it could even be called interactive, requiring two presences to be fully experienced.



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CONCLUSION

Time, and the manipulation of materials by hand, through workmanship, needs to form part of the making process in order to produce architecture with integrity.

I take Dr. Hentie Louw's stance on this matter in his lecture on *Architecture & craft: a working relationship?*:

"I have done so on the philosophical premise that quality in the man-made environment to a large extent depends on what is called *workmanship*, a concept related to but less "aesthetically charged" than craft." (Louw, H. 2002 :20)



10.23 The hidden fascinates.

10.24 Southwestern approach from shuttle road. Note the progression indicated by the tones of the brick screens as well as the staggering of the cantilevering overnight units. The southern façade of the main computer rooms also contribute to this idea of movement through the "slippage" effect as a result of irregular intervals between sliding screens.

10.25 Southern approach from the arrival platform of the Gautrain station towards entrance of Job Centre. Note the continuation of public transportation space from the station to the bus terminal space.