Chapter 2: Theoretical Background

This chapter deals with an approach to finding an appropriate architecture for a location in the heart of old Maputo, aiming to identify the strengths and weaknesses of these theories, and concluding with a normative position that draws from the strengths of these theories and proposes solutions to the weaknesses.

It is likely that the normative position will affect the physical- and in-tangible- character of the intervention, as well as the type of built fabric and construction methods used.

Context

For urban infrastructural projects, prefabricated elements and industrialised construction allow for faster construction times and a lower defect rate. In this contextual design inquiry for the upgrade and expansion of the Maputo Central Market, The scale of the existing street markets surrounding market, suggest an intervention large enough to require the use of, or the partial use of industrial mass production in it's construction. An appropriate, industrial architecture should therefore be investigated.

This should have a higher tolerance for construction imprecision, need less high-end or expensive construction equipment, have lower maintenance levels, a lower life-cycle cost, and be related to the a labour intensive construction industry. It should be easier to insert into the existing, working urban informal market. This could perhaps be termed a 'Loose-fit', imprecise solution that allows for the highly informal use it is likely to experience in the Maputo Baixa.

Previous Industrial Architecture

When evaluating the appropriateness of an industrial mass produced architecture, it becomes necciciary to evaluate existing architectural movements which react to industrial production. There have been several of these movements, including the Constructivist, Futurist, Functionalist, Modernist, and High-Tech movements, among others (Curl, 1999: 428). The predominant of these movements (to which the others are closely related) is Modernism.

Modernism

French architect Charles-Èduard Jenneret / Le Corbusier (1887-1965) said that the house was a 'machine for living in' (Davies, 1988). Modernists such Le Corbusier often idealised industrialist principles of mass production and modular design. Modernist architects generally value the principles of function, a rational design approach, and honest expression of materials and structure; using modern and industrial materials, as well as mass-produced components. Buildings and their components where often modularly ordered, which allows for standardization and regularity of component dimensions. One of the better known examples this is Le Corbusier's "Le Modulor" (1948), based on the proportions of what Le Corbusier saw to be the average human male body (Curl, 1999: 429).

The "German Pavilion" [Barcelona Pavilion] at the 1929 World Fair in Barcelona, designed by Ludwig Mies van der Rohe (1886-1969), is one of the "...most admired [modernist] paradigms of the late 1920s" (Curl, 1999). Industrial materials are expressed tectonically in a regular rational structure to support a simple flat roof, and used to create open planar spaces. Mies van der Rohe, commenting on the building, stated that the "...increased complexity of our requirements demands flexibility. For this purpose skeleton construction is the most suitable system. It makes possible rationalized building methods and allows the interior to be freely divided... by means of movable walls." (Frampton, 1980: 164). This being said, Mies van der Rohe also designed a chair specifically for this space, showing the modernist tendency to design and program spaces in extreme detail. This design of specific items for a space goes against the idea of loose-fit flexibility.

Illus. 6: The German Pavillion, Barcelona, 1929

Illus. 7: Furniture designed for the German Pavillion by Mies van der Rohe

Criticisms of Industrial Architecture

James Stevens Curl, in his definition of Modernist Architecture, comments that it was often idealized, intended to be used in its 'purest' form, not corrupted by reality, and not intended to be used by "...untidy humanity" (Curl, 1999: 428). A certain coldness and inhumanity, perhaps a lack of consideration of the user, and user comfort, as well as the changing requirements of the user, is often cited as a criticism of industrial and modernist architecture. The 'machine' aesthetic and designs of Mies van der Rohe, including that of the 'German Pavilion' and 'Farnsworth house', often required an extreme precision that is difficult to achieve in a low-tech construction environment (Glaeser, L. (s.a.)).

Critical Regionalism

According to architectural theorist, Alexander Tzonis, Critical Regionalism was a reaction to the "...state of stagnation and disrepute..." that modernism had brought architecture into (2003: 10). A general lack of relation of buildings to their contexts became a major concern in the late 1970, at the height of 'High-Tech' architecture. Critical Regionalists seek to avoid placelessness and disconnection of buildings from their local contexts, and encourage engagement with issues of identity, and the use of contextual identity and characteristics as major design generators. The design of an architectural intervention in the context of the Maputo Baixa should therefore take the issues outlined in the previous Chapter, as well as more detailed analyses into consideration, in the hope that the contextual inappropriateness common in Modernist industrial buildings can be avoided.

The Critical Regionalist approach advocates a building that gives "...the feeling of a world being there... which does not require a translator... to be understood, but also requires no effort to be totally possessed" (Lefaivre and Tzonis, 2003: 18). It promotes perceived personal ownership and familiarity of the user with their built environment, focusing on the human tactile, intangible experience, and considers its unique property of place.

It would be appropriate to apply Critical Regionalist principles relating to the continuation of contextual characteristics, to counteract the placelessness and inhumane character of hard-line, Modernist buildings.

A Critical Regionalist approach would also allow for the significant intangible characteristics of heritage to come into play, through the availability- and contextual use- of construction materials, and for changes and flux of building use under different conditions.

It is perhaps the fluxing use of the space that is perhaps, the biggest factor against an industrial , imposed built unit.

Building for Flux

According to doctor of architecture Stephen Kendall, the main problem with a large proportion of buildings built in the last century, is "...a misguided attitude that sees the built environment as a rigid artefact made up of finished, single-use buildings ... An approach more congruent with the principles of sustainable development and good architecture is to view the built environment as an artefact that is never finished" (1999: 2). Often buildings designed following modernist functionalist principles, err in being over programmed, being designed to meet the user's specific technical requirements rather than customising general requirements to suit the user. Optimising buildings to meet specific exclusive programs, and this makes them difficult to use as conditions, requirements, and uses change.

Ype Cuperus, states that the idea of 'Open Building' "...identifies the conflict between the inertia of the building ... and a consumer demand in constant state of flux. It suggests distinguishing different levels of decision making, in order to decouple [sic.] building parts with different life cycles, controlled by different parties, proposes the construction of a base, which various different users, and progressions of users, are able to change and customize to suite their particular requirements." (2001: 1). According to John Habraken we should try to make provisions for "...unforeseen..." use of a building (1972).

Open Building encourages the user to take ownership of, and appropriate parts of a building. It advocates a system where defined spaces are allocated to various parties and individuals who then become responsible for the care and development of these spaces (Cuperous, 2001: 2). For the proposed market complex, it would therefore be appropriate to use industrial processes to create a basic structure or component that can be allocated to vendors and groups of vendors who are allowed to make modifications to suit their specific requirements.

Normative Position

Theoretical Guides

The main issues which form the basis of the normative position and serve as design guidelines for this thesis, these are:

1. Addressing regional character. This could be viewed as a means of off-setting the anonymity and placelessness of Modernist type industrialized architecture (Davies, 1988). Through a sensitive consideration of the local climate, contextual fabric (built and unbuilt), materiality, and usage patterns, the new fabric could be integrated into the Maputo Baixa.
2. Considering the fluxing use of space in that specific context, and facilitating that through providing a base which can be customized to suit the needs of various users. This user programing may prevent the prescriptiveness often associated with modernist architecture

This thesis however, places a large emphasis on findings based on precedent, discussed in Chapter Four.