

APPENDIX A: URBAN HISTORY

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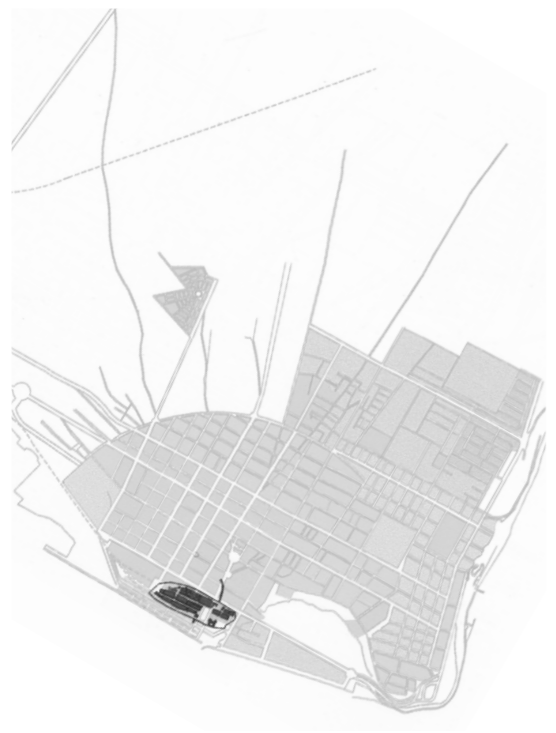


Figure 10.1: Fort & trading settlement on an island swamp - 1876

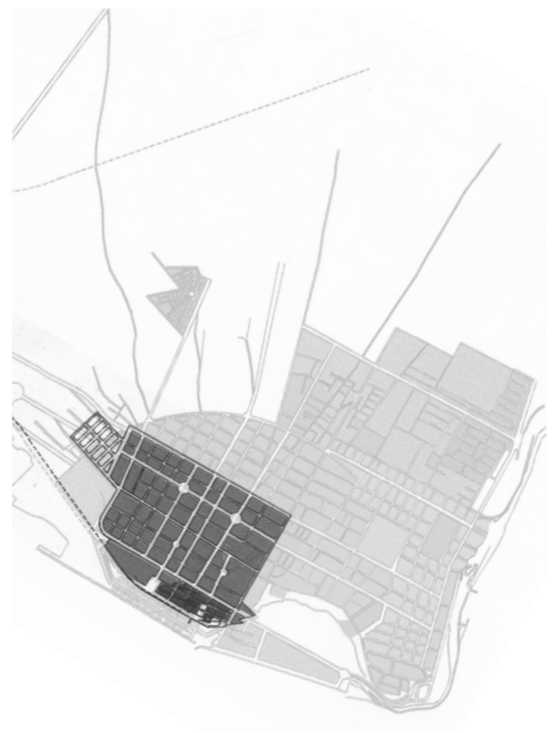


Figure 10.2: First phase of swamp reclamation & layout of formal street grid -1887

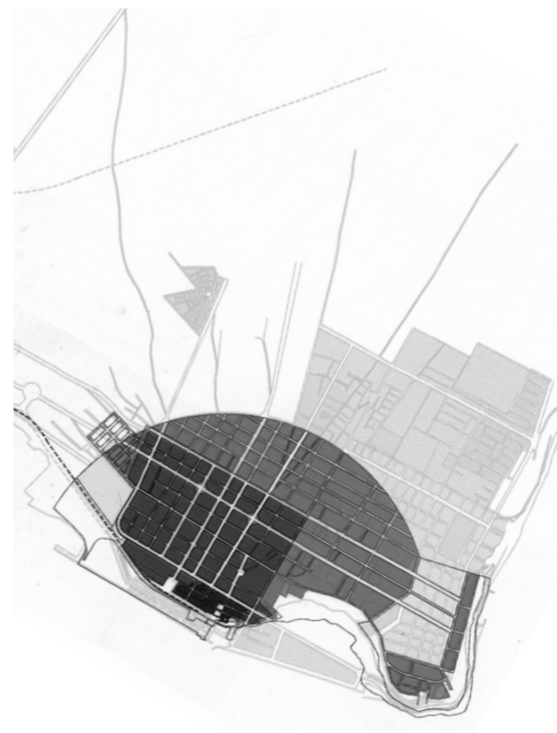


Figure 10.3: Circular demarcation of city limits & extension of street grid -1900

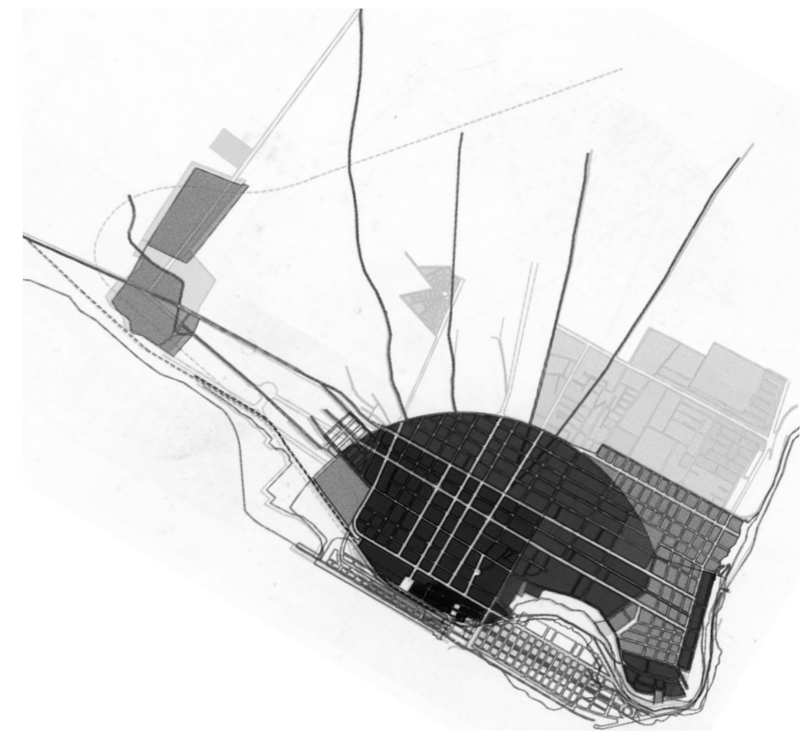


Figure 10.4: Second phase of swamp reclamation & extension - 1915

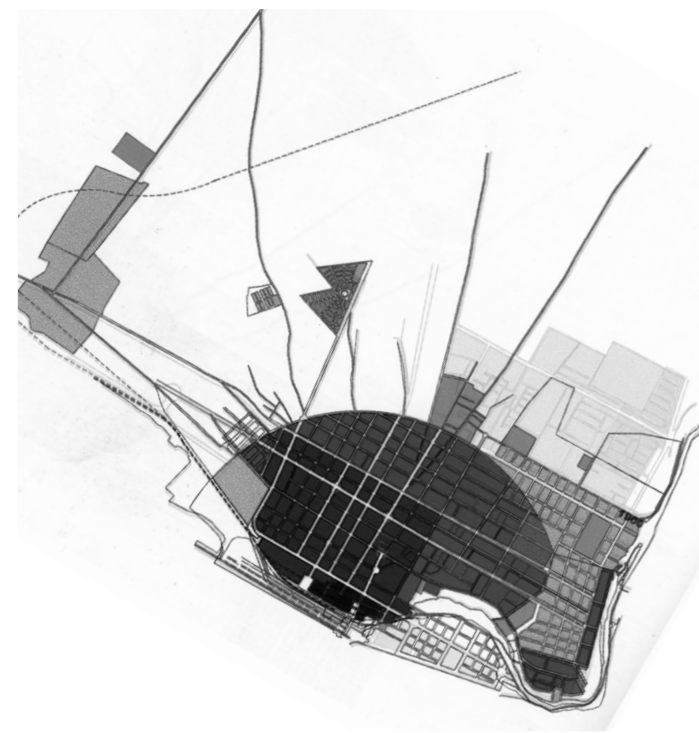


Figure 10.5: Organic extension. consolidation of erf plots in second phase swamp reclamation - 1940

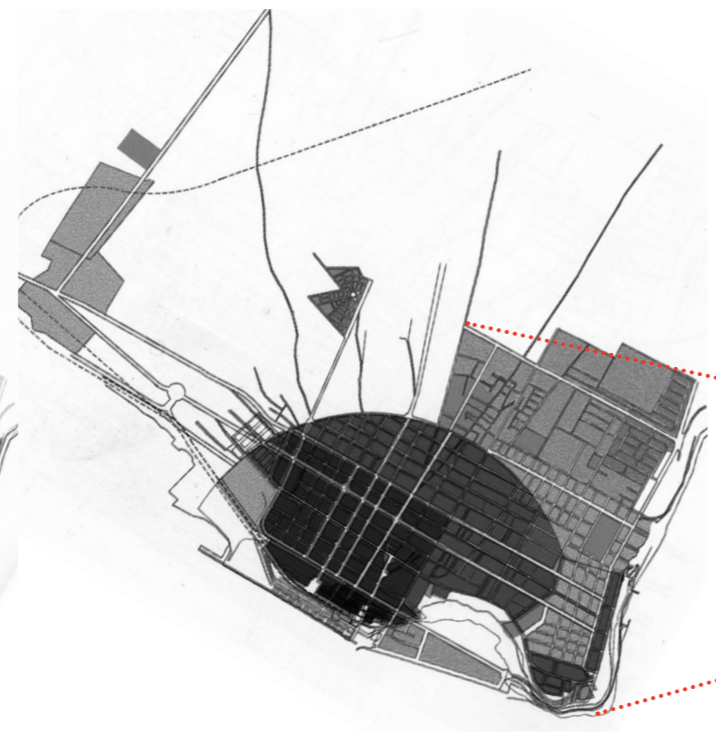


Figure 10.6: Extension of the city to the north - 1955



Figure 10.7: 1969 Map

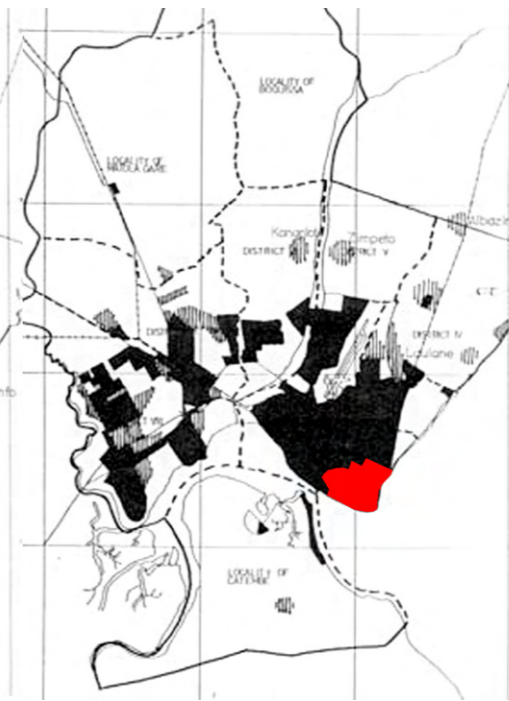


Figure 10.8: 1979 Map

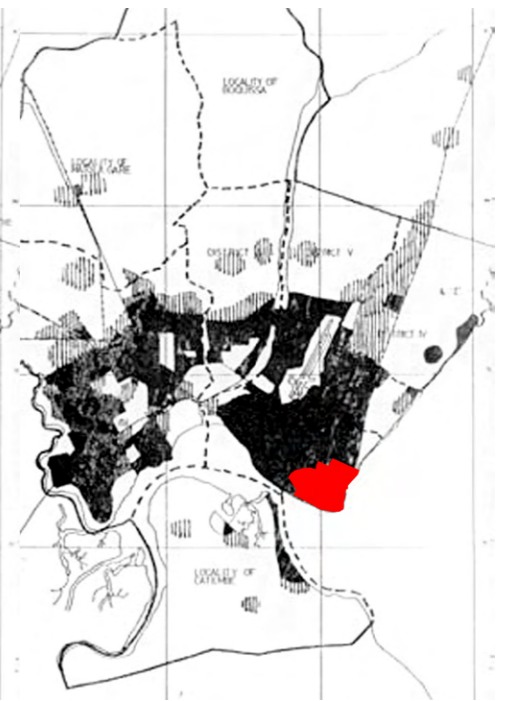


Figure 10.9: 1989 Map

Post independence there is an influx of people from rural areas and resultantly an expansion of the informal peripheral areas of greater Maputo.

Background to Historical Development of Maputo

The city was previously known by two names; Lorenzo Marques, under the era of colonialism and mercantile trade of the Portuguese; and Xilunguine – the place of strangers - by local indigenous Ronga people of the same era (Jenkins, 2009: 1). The region has a long history of oceanic trade. Sofala, dating back to 700AD, laid some 600km north of present day Maputo and formed a main trade link between Southern Africa and the Arabian region for most of the period prior to the colonization of East Africa by Europe in the 16th century (Newitt, 1995: 4). Smaller scale intercontinental trade activities in present day Maputo can, however, be traced back as far as the 9th century (Jenkins, 2009: 1). From the 16th century till the 19th century the Portuguese and the Dutch sought to inhabit the region along the Espírito Santo Estuary of Delagoa Bay (present day Maputo Bay) as a means to control maritime trade and subsequently to establish connections to the mainland to allow trade and influence with local inhabitants of the region (Lage and Mabana, 2009: 1).

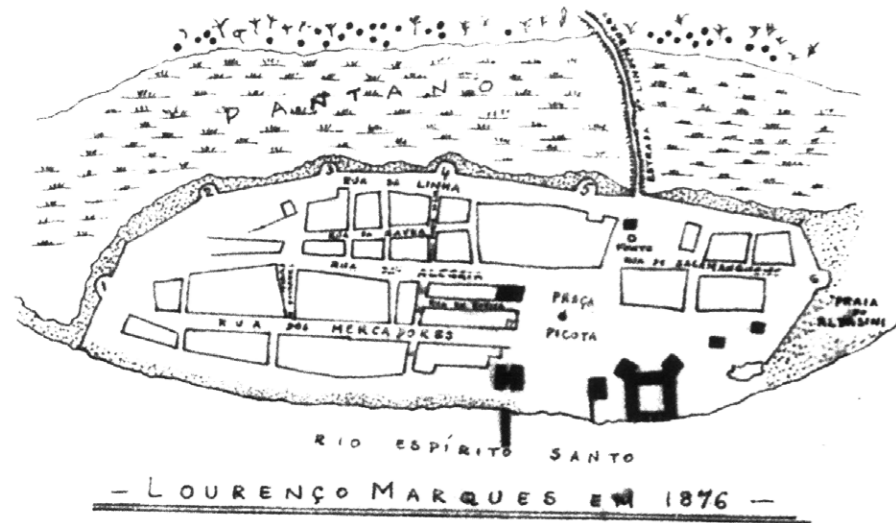


Figure 10.11: 1876 Plan of the early settlement of Lourenço Marques showing island separated from the mainland by marshland.

1) Trading post on the Island (early 19th Century)

The Portuguese established the permanent settlement in Lorenzo Marques in the 19th century initially on a small island north of the Espírito Santo Estuary (Lage and Mabana, 2009: 1). This island, seen in Figure 10.11, together with areas of reclaimed land between the island and the mainland form the historic heart of present day Maputo. Space was informally arranged around a central open square adjacent to the main fort; the square provided lines of sight from the fort to the ocean (Jenkins, 2009: 2).



Figure 10.10: View of early settlement across the marshland from the mainland



Figure 10.12.1: Position of coastline and island 1876

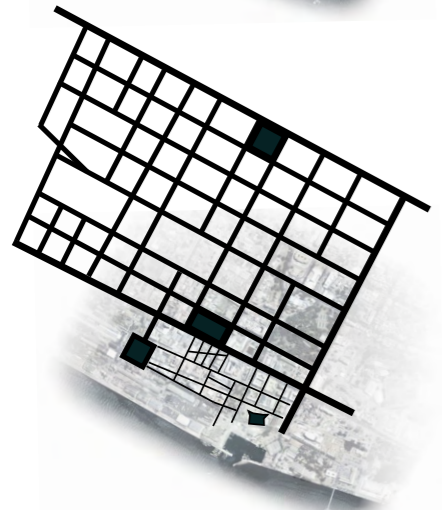


Figure 10.12.2: Diagrammatic grid layered over the 1887 Plan for the expansion of Lourenço Marques onto the mainland

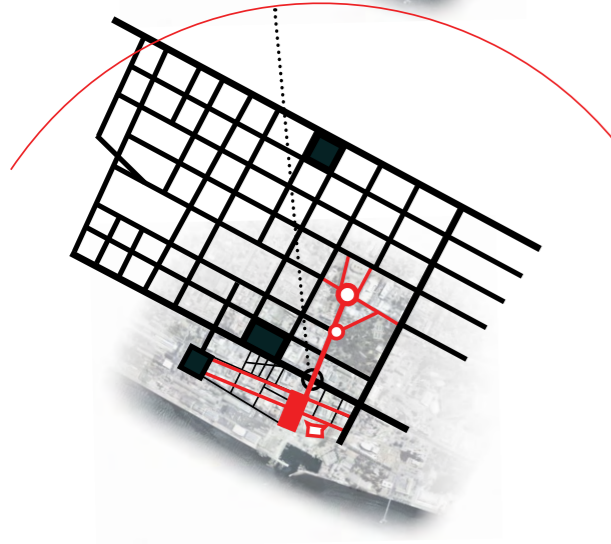


Figure 10.12.3: Diagram showing the introduction of the city hall axis, known today as Avenida Samora Machel

2) The beginnings of a town (Late 19th Century)

Following the discovery of Gold in Lydenburg, and later in Johannesburg, a rail link between Lourenço Marques and the Transvaal was initiated in 1877; the line to Johannesburg was completed in 1894 (Zezeza, 1997: 403).

Towards the end of the 19th Century there was increasing pressure on Portugal to demonstrate their control over their African colonies. Furthermore the 1890 financial crisis in Portugal made urgent the need to secure a profit in these colonies (Newitt, 1995: 362). In addition to colonial tariffs such as land tax and labour agreements with South Africa, the establishment of a reliable rail service secured the economic viability of Lourenço Marques. In this time 3 Major urban expansions/developments led by the Portuguese Ministry of public works stand out:

- Land Reclamations to incorporate the island into the mainland
- The development of the 1887 plan (Figure 10.12.2) in which a formal orthogonal road grid is drawn over the mainland. Wide avenues are seen to intersect from the north and terminate in a hierarchy of open plazas within the fine (once informal) grain. The orientation of the axis of this grid is aligned with the railway station and expanded industrial section of the port and not with the central square at the fort.
- A 2km wide semi-circular radius was established as the city's boundary. This final phase was completed in 1900.



Figure 10.13: Figure-Ground map of Lourenço Marques - 1903



Figure 10.14: Figure-Ground map of Lourenço Marques - 1940

Early 20th Century Developments

In a paper on the history of the urban form of Maputo, Paul Jenkins (2009: 8) describes three characteristics pertaining to the formal urban spatial plan of the city in the beginning of the 20th century:

- 1) The plan does not respond or adapt to the topography of the region;
 - i. Roads retain their strict orthogonal geometry despite steep gradients and varied landform.
 - ii. The coastline is displaced with progressive land-reclamations.

- 2) The social and cultural values established in the informal arrangement of space around central public – event – space is overshadowed and dominated by a rational orthogonal grid, described by Jenkins as the ‘Realpolitik and subservient state-oriented economy of the colony’.

- 3) The plan is described as visionary and not wholly realistic: **...there is little evidence for any analysis of the actual situation or trends of urban development as the basis for future planning.** (Jenkins, 2009: 8)

Furthermore, Jenkins (2009: 8) demonstrates, with a comparison between the city plans of 1903 and 1940 (Figures 10.13 & 10.14), that formal urban development was largely confined to infrastructural development and densification within the framework and 2km radius boundary discussed. With the exception of the land to the north east of the city (near the present day Polana) as well as industrial developments to the west, little formal expansion outside of this boundary occurred.

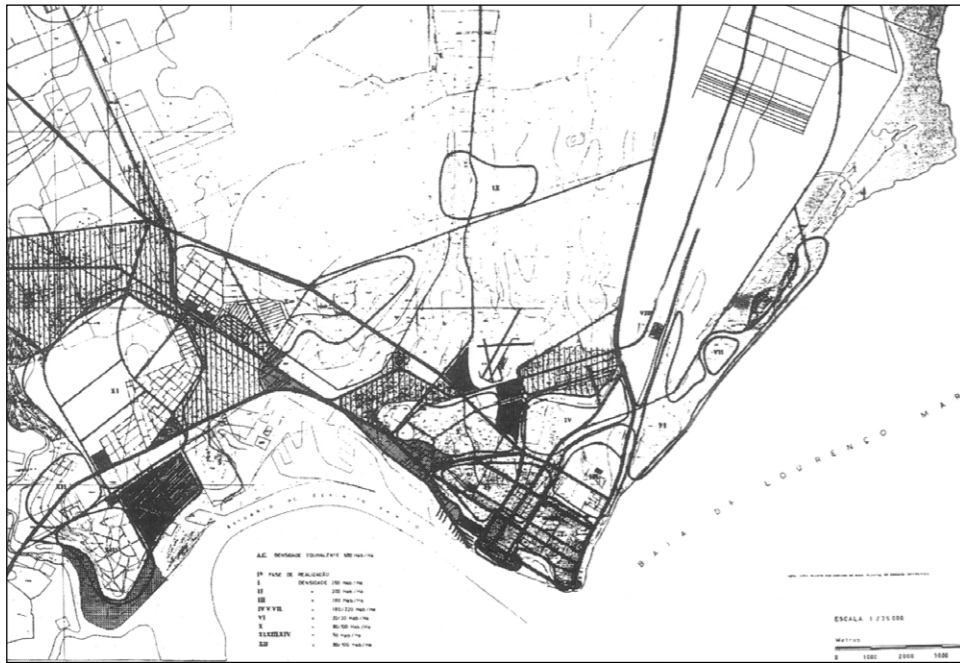


Figure 10.15: Municipal map: Zoning and network plan -1953

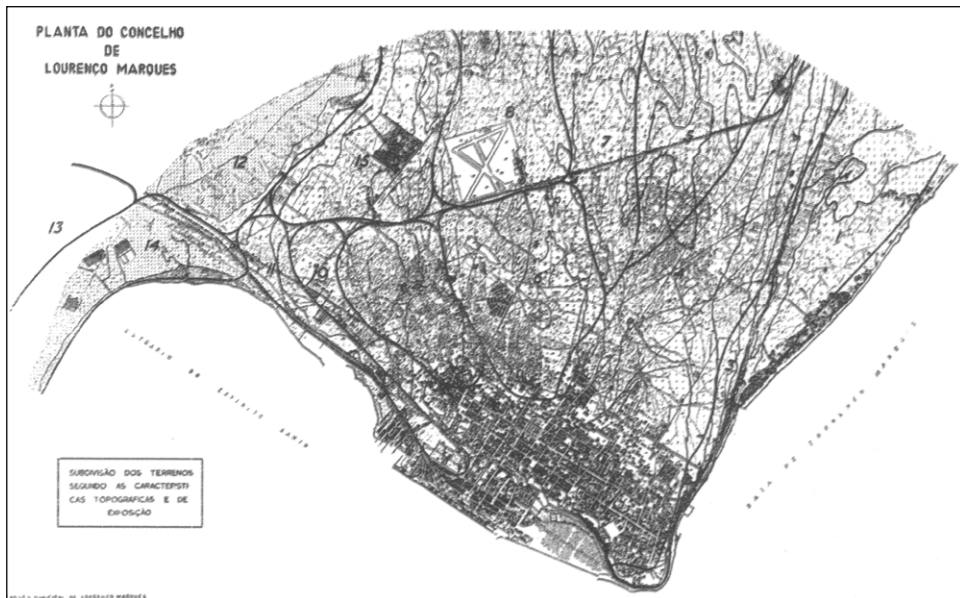


Figure 10.16: Municipal map: Actual network and land occupation -1953

The Often overlooked “Reed City” development

The above historical description of the early development of Lorenzo Marques is delivered as an overview of the towns growth. It does, however, overlook the development of the areas peripheral to Lorenzo Marques; occupied by local inhabitants of the region. By prohibiting land ownership local inhabitants were restricted to renting within areas peripheral to the city: ... **the dominant African population was forced to occupy liminal spaces – physically at the margins of this city ... The ‘rentier’ basis for the colonial economy, based on taxation of transport and trade as well as migrant labour to South Africa (contracted from 1928) is thus expressed in the encirclement of the city to the northwest (informal housing for indigenes) and southwest (where the all important port and railway continued to expand into the bay).** (Jenkins, 2009: 9). Figures 10.15 & 10.16 show both the planned city network as well as the actual city network of 1953; in comparison of these 2 plans the degree to which liminal zones are excluded from the city planning of the first half of the 20th century is made evident.

Addressing the wider metropolitan zone

In the early 1960s a local urban planning office was established by the city council. The issues addressed by this office included wider city scale development of transport networks, land use and infrastructure and, of significance, the inclusion of the neighbouring town of Matola within the city planning strategies of Lorenzo Marques. Part of this plan involved the expansion of port facilities all the way to Matola owing to the massive growth of its industrial sector. The period from 1960 to 1970 marked an increased growth of the economy of Lorenzo Marques, and resultantly a large densification (in height) of the formal city. At the same time Frelimo was formed in 1962 as a movement fighting for the independence of Mozambique from Portugal.



Figure 10.17: View towards the city centre from the 'Reed City', showing more established informal housing areas to the right and more recent areas to the left.

In 1974, following the Carnation Revolution, in which Portugal turned from a dictatorship state to a democratic state, Mozambique achieved independence. Subsequently there was an exodus of many Portuguese citizens from the country, Frelimo took over the rule of Mozambique, Lorenzo Marques was renamed Maputo and a brief period of peace followed. Shortly after in 1975 a 17 year long civil war broke out leaving Mozambique one of the most impoverished countries in the world by its end in 1992 (Newitt, 1995: 554). While construction work during this period slowed dramatically in the inner (formal) city, it is important to note that urban growth and restructuring continued and in fact dominated in the informal (edge) areas of the city with a large influx of formerly marginalized citizens from the rural surrounds moving to the city.

Maputo, like many African cities, is a place of contrasts and dualism. The political climate of the 70's and 80's profoundly effected the socioeconomic climate of Maputo, this socioeconomic climate - specifically the dominance of the informal economy during and after the civil war - had a profound and marked influence on the spatial and occupational development of the city. The dominance of the informal economy, coupled with the near collapse of the formal economy, additionally couple with the mass exodus of the city by the Portuguese in the mid 70's can be seen to have created the platform for the establishment of many informal economic activities in the heart of the Cement City. It was estimated in 2000 that 50% of the Maputo workforce was employed in the informal sector of the economy (Jenkins, 2000: 213). The result is that Maputo is often considered to be a place where extremes exist side by side; Helgesson discusses the humanly tactile nature of this coexistence:

In Maputo: a truckload of people singing at the top of their voices. A patch of pavement transformed into a miniature smithy. This has been constant in the socialist and capitalist phases of Mozambican history... The Chaotic visibility of Maputo makes it painful but also humanly accessible... (Helgesson, 2008: 268).

APPENDIX B: THEORY: HISTORIC REVIEW

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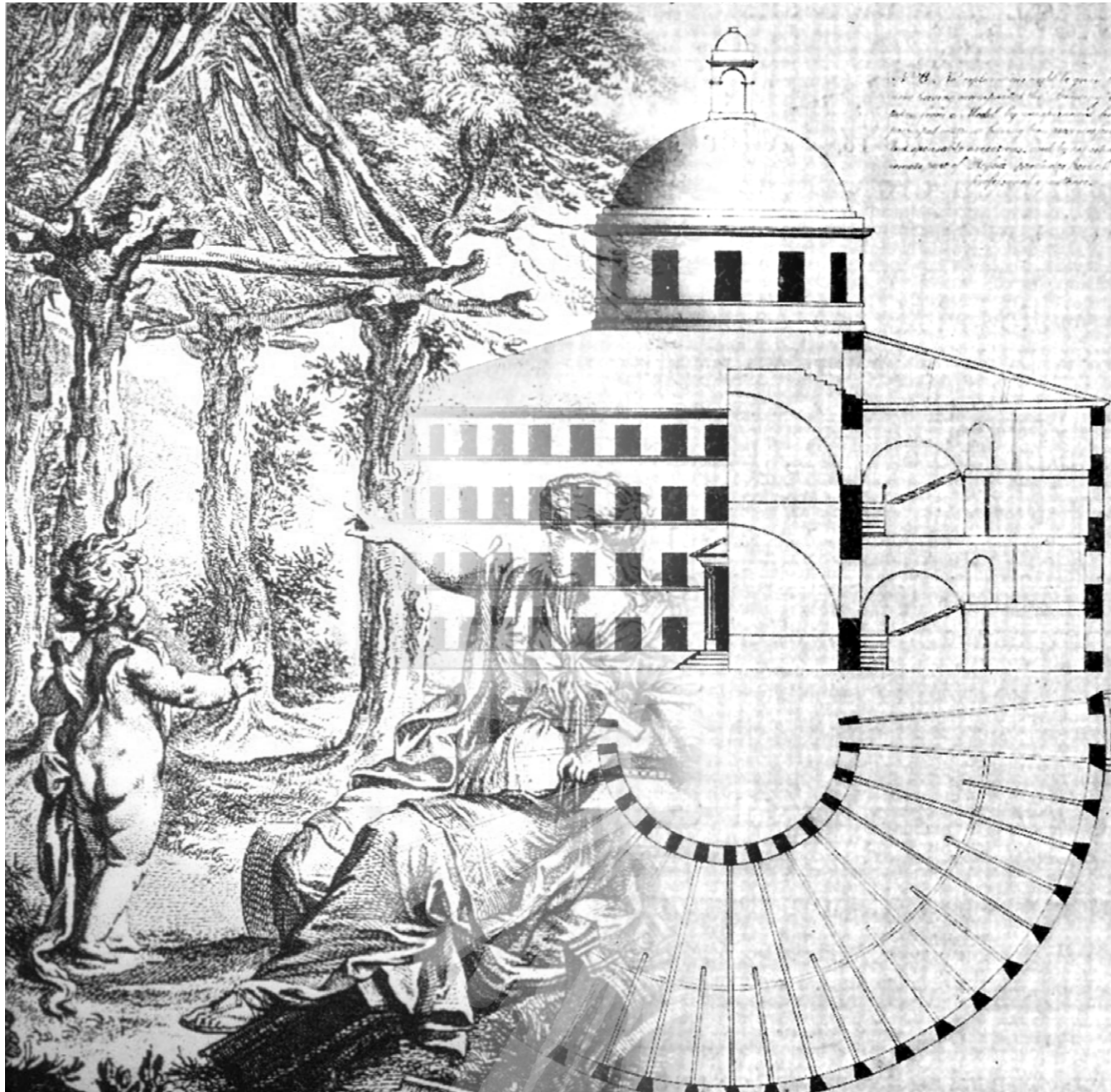


Figure 11.1: Charles Eisen's engraving of the Vitruvian primitive hut overlaid on Jeremy Bentham design of the Panopticon

The Rational

The Age of Enlightenment brought with it ideas of progress and utopia, coupled closely with the idea of utopian man whose mind is liberated and whose consciousness manifests from his ability to think and reason rationally. In his Essay, The Third Typology, architectural historian, Anthony Vidler, considers two typologies in architecture that embody this evolving mindset of the enlightenment period namely, the primitive hut - conceptually discussed under Laugier - and the Panopticon - under the discussions of Foucault (Vidler, 1976: 260).

The Primitive Hut:

Within the context of the Rationalist mindset of the 18th century, Laugier sought to position the core concepts of architecture within a reduction of form to embody purely functional and reduced structural order: Laugier proposed that a natural basis for design was to be found in the model of the primitive hut. (Vidler, 1976: 260).

The Panopticon - Human power:

The Commercial revolution (16th century – 18th century) followed by the Industrial Revolution (18th Century – 19th Century) were both paralleled in time and partially in ideology with the Age of Enlightenment (Cheney, 2010: 19). Following on the progressions of the Industrial Revolution there was a growing interest in late 19th Century and early 20th Century European philosophy with the development of utopian social models, human control over it, and a race for the domination of global markets and resources (Vidler, 1976: 206). Within this context Foucault illustrates how this domination enslaves society by comparing it with Bentham's Panopticon and its typological ideals of functionalism, rationality and control that embody much of the thought of the modern period (Mason, 2002: 14).



Figure 11.2: Fountain, 1917,
Marcel Duchamp, 1964 Replica

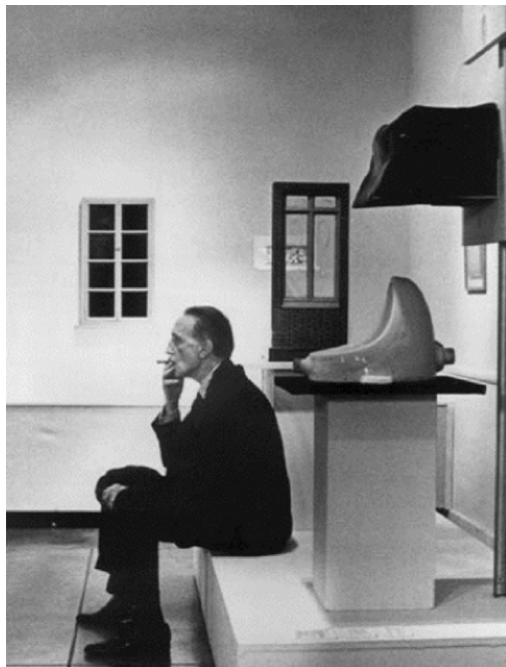


Figure 11.3: Photograph of artist
Marcel Duchamp sitting and
smoking in front of his artwork:
Fountain

In this comparison we can trace, through typological analogy, the progressive shifts after the Enlightenment of the social, political, economic and technological systems in the Western World. In these shifts reductionism and the rational perverted into utopian control, surveillance and normalisation; the primitive hut effectively morphed into the Panopticon. According to Kleiner and Mamiya (2005: 1033) it is the often violent form that this control assumed that can be seen (with the advantage of hindsight) as the cause for its own eventual undoing.

The Counter Rational

Following the events of the Second World War, the mid-20th Century witnessed a mass reaction against the rationally ordered and controlled (Rowe 1975: 268). These reactions can be considered in part as an extension of a Post-Structural thinking; where there is an effort to undo the pre-determined as an aspiration towards the affirmative cause of re-definition (Derrida, 2004). Stated in specific reference to the individual there is a move toward a recognition of each individual's subjective perceptions; this in an effort to undo the fixed notions of the aspiration towards 'Utopian Man'; in part to re-establish identities. It is from this that an idea of the individual establishing identity through difference is found (Kim and Mc Cann, 2003: 253).

Architectural practice

In line with the above concepts the relationship between the user and the designer in the built environment is brought into question in the mid-20th Century: the user's perceptions and interactions are seen to drive the design. Whereas previously there was the tendency to create architectural form from an outside, objectified and normalised point of view (Fleishman, 2009: 13), the architect's role now shifted to one of facilitator of the design process. The user moved from a position of submissiveness to one of assertiveness.



Figure 11.4: Interior photograph of Maison de Verre, designed by Pierre Chareau and Bernard Bijvoet, 1931. An example of mechanical flexibility.



Figure 11.5: Nakagin Capsule Tower, designed by Kisho Kurokawa, 1972. An example of a combination of mechanical flexibility and modular flexibility.

Architectural practice (continued)

Jonathan Hill parallels these ideas with Barthe's, Death of the Author (1967) and describes an analogical death of the designer (Hill, 2003: 68). From this background Hill differentiates between three types of users, namely; the passive user, the active user and the creative user (2003: 9-27). Important to note here is that the so called 'death of the designer' is not an end in itself, it is considered as a result of a new type of user; namely the creative user; and in this light suggests the birth of a new type of designer - the type of designer who concerns themselves with temporality, uncertainty and resultantly plurality.

Time and 'changefulness' in architecture

An existing space may outlive its original purpose and the raison d'être which determines its forms, functions, and structures; it may thus in a sense become vacant, and susceptible of being diverted, re-appropriated and put to a use quite different from its initial one. (Lefebvre, 1991: 167)

In order for the user to find expression in relation to a building they need to take perceptual possession of it. The interpretation is that this is best achieved by allowing an engagement with and the realisation of one's own influence on a built work (Dirsuweit, 2009: 3).

Within the latter half of the 20th Century the concept of flexibility, which has at the core of its considerations 'time and uncertainty' (Hill, 2003: 30), is introduced and widely explored within Post-Modern architectural theory. Flexibility was seen as a solution to address uncertainty while still retaining formalistic order and can be considered within 2 categories:

1 Mechanical Flexibility

Buildings as final products that can mechanically change to accommodate a variety of preconceived uses – within this category of flexibility a portion of the building fulfils multiple functions (Hill, 2003: 358); usually elements in the building can move or rotate to allow for this. The user in this instance becomes Hill's 'active user' as they actively change aspects of the building to suit their desired function; and

2 Modular Flexibility

Buildings as products that are easily changeable in future through an additive or subtractive process. This suggests either that the parts and fixtures can easily be replaced by new and different parts and fixtures. This type of flexibility usually makes use of modular, demountable design (Hill, 2003: 358).



Figure 11.6 : Eames House, Charles and Ray Eames, 1952. An example of modular flexibility.

Reaction

In Lessons for students in Architecture, Herman Hertzberger discusses these concepts of flexibility in relation to functionalism. His criticism of the first form of flexibility (as categorized above) is that it can be seen as an extension of functionalism, which seeks to isolate several solutions to a problem and maintain control of function in time over the user. His criticism of the second form of flexibility is the vagueness at its core. It produces a solution that can cater for all problems, but not necessarily the best solution for an isolated set of problems; this neutrality can often have the opposite effect than intended and lead to a stagnation of use. (Hertzberger, 2001: 246)

With these descriptions of flexibility and their various criticisms in mind, three notions are considered as standing out. The first is the idea that for something to be adaptable in use it has to retain and exemplify a modular simplicity (Hill 2003: 39). The second idea is that varied and differentiated use can often be hindered by mass uniformity (Hertzberger, 2001: 147), and the third is that 'variance' in the use of architecture results primarily from the temporal action of human beings. Hertzberger describes this concept as polyvalency and it is this that becomes the starting point in the establishment of a normative stance in architectural theory in chapter 2.