A MARKET IN NAIROBI:
An Exploration of the Circle Through the Lens
of the African Vernacular

Sibie Ohumay

Thesis submitted to the faculty of the
Virginia Polytechnic Institute and State
University in partial fulfillment of the
requirements for the degree of:

Master of Architecture in Architecture

Howard S. Gartner, Committee Chair

Ellen B. Braaten

Kay F. Edge

Paola A. Zellner Bassett

MAY 5, 2014 | BLACKSBURG, VIRGINIA

Keywords: Market, Nairobi, Park, Concrete, Circle, Clay, Mandala
A MARKET IN NAIROBI:
An Exploration of the Circle
Through the Lens of the African Vernacular

SIBIE OHUMAY

ABSTRACT

This is an exploration of the circle through the lens of the African vernacular. The geometric circle is inherently rule based and requires only objective, geometric manipulation. The archetypal circle is subjective, an interpretation based on given characteristics of roundness. The archetypal circle is where abstraction and exploration occur. The plan of traditional African vernacular architecture is a circle, and as such, was the starting point. Rational manipulations of the geometric circle made the building. The mandala studies were subjective manipulations of the archetypal circle made to explore and develop the architecture. This became a Market in Nairobi.
To my family, for always showing me the positive side with support and encouragement.

To Scott, Ellen, Kay, and Paula for pushing me toward my full potential and the potential of this thesis.

To my studio friends, for the laughs and late night conversations.

To Hans, for the clay frame design and critiques throughout the year.

To all my Undergraduate and Graduate Professors.

Thank you to all the people who influenced me throughout this process.
Chapter I: ABOUT KENYA
   Greater Nairobi Site Plan
   Nairobi Central Site Plan

Chapter II: UHURU PARK
   Site Plan

Chapter III: THE FORM
   Torus-Cone Form
   Torus-Cone Geometry (Interior Elevation)
   Torus-Cone Geometry (Elevation)
   Torus-Cone Construction
   Clay Frame Exploration

Chapter IV: CIRCLE EXPLORATIONS
   Sketch Mandala Series
   Clay Process Images
   Clay Mandala Series
   Experiments
   Ornament & Pattern
   The Plan
   Diagramming the Plan
   Bowl Diagram Series
   Clay Model Discoveries

Chapter V: A MARKET IN NAIROBI
   Plan
   Site Elevation
   Longitudinal Section A
   Section B
   Section C
   Exterior Perspective
   Conical Stair Perspective
   Interior Perspective

BIBLIOGRAPHY
To understand the context of what a market in Nairobi would be, you must understand that Swahili, the national language, is a lingua franca. The Arabs, Persians, and East Africans needed a means of communication when trading so the formation of Swahili is a combination of Arabic and African Bantu dialects. In its nature, Swahili is a language of trade and commerce.

Kenya is a relatively new country. It was a British colony until December 12, 1963 when they gained their independence. Exactly one year later, they became a Republic commemorated on Jamhuri Day, (which means republic in Swahili).

Nairobi is the capital city of Kenya and has a diverse population including expatriates from Italy, US, England, Ireland and other European countries; refugees from Somalia, Ethiopia, and Sudan; transplanted Indians who were sent by the British to work on the railroad in the late 19th century; Chinese who are currently working to improve Kenya’s infrastructure, and more. Christianity is the majority religion however a large population is Muslim, not to mention all the tribes and languages spoken in Kenya. Needless to say, Kenya has a diverse population.
The most used means of public transportation is either matatu, a 12 passenger van gutted out to fit 16 seats, or a boda boda, a motorcycle taxi. Tourists are told to watch their belongings when stepping into the city of "Nai-Robbery" as the tour guides share anecdotes of people who have gotten their watches, earrings, and purses snatched from them. Even when you want a cool breeze from the hot, stagnant air in a matatu, make sure you don’t have your cell phone in your hand or it may disappear through the smallest crack in the window. The city is always alive with impromptu speeches coming from small speakers, people coming and going to and from their villages, vendors haggling prices, and everything in between. Nairobi City Center is the heart of Kenya. A market in Nairobi focuses on the true heart of Kenya, the people.
The market is situated based on three major monuments erected throughout Kenyan history. The 1st is the Mausoleum of Jomo Kenyatta, the first president of Kenya, 2nd is the Nyayo Monument, built during the reign of the 2nd president, Daniel arap Moi, and the Monuments commemorating the 25th and 50th anniversaries of Kenya’s independence. Three entries are directed toward these monuments to pay homage to the history of the Kenyan people and the country’s growth.
Chapter II

U H U R U | P A R K
The site is Uhuru Park, which is separated from the density of the city by Uhuru Highway. This highway is where the roads from the regions of Kenya funnel into the city. Uhuru Park is a place where people often go to relax or take their family on the weekend. This site has no allegiance or territory. It is common ground for all Kenyans.

There are many things that have caused national unrest including political allegiances, corruption, and tribal conflict. Commerce, as proven by the Swahili language, allows people to come to a common ground where allegiances are no longer significant. The building becomes a permanent place for the Maasai Market, an artisan market that is held by hundreds of vendors around the city in parking lots and other temporary spaces. This building will be able to house these artisans in a permanent location while still maintaining its temporality.
Chapter III

THE | FORM
The ideas for this building are based on influences of African vernacular starting with the circle to create a form for the building. The result is a torus-cone form where a person can experience the circle both in plan and section.
TORUS-CONE GEOMETRY: (UNFOLDED) ELEVATION | 17
The construction method is based on Paulo Soleri's apses at Cosanti. The form-work is placed to hold the dirt and form the openings. A mound is made with the soil on site for the underside of the form-work so the natural color of the local aggregate and soil become the colors of the concrete. Then the concrete mix is layered on the dirt mound, then spread on the top to create the curve of the torus vault. The holes left by the form-ties become the holders for the rods used by the artisans during market hours and all materials and labor used for construction are local.
Chapter IV

CIRCLE | EXPLORATIONS
The clay disks were created to explore the manda- la. This method also pushes the pattern and orna- mental aspect of the African vernacular and gains a tactile sensibility of the form. The artisans craft and ornament stylized figures, masks, and oth- er curios, a practice of making that was essen- tial to integrate into the building. Clay was the best medium for exploring this craft aesthetic.
CIRCLE | EXPLORATIONS
CLAY BOWL SERIES: DIAGRAMMING THE PLAN IN THREE DIMENSIONS
Chapter IV

A MARKET IN NAIROBI
The torus form holds the market. Ideally, the circle dictates no hierarchy upon entry maintaining equality for the artisans. Lines on the floor and surface of the torus create a visual rhythm and pattern. Holes in the wall allow light to enter the space and also serve as holders for rods so the artisans can set up their own stalls and shelves. The rods are placed on the centerline of the torus floor creating a rhythmic partition when the market is not in use and opening up the space when the rods are in use during the market hours.

Can the building just be a market? What is it when the market isn’t there? The conical center of the space addresses this issue. As a place for the people, this building serves as a gathering space to view the creativity of others whether it is for the market or performances.
The details and considerations of this building all relate back to the African vernacular in order to create a space that is crafted by local hands and belongs to the Kenyan people.
BIBLIOGRAPHY


