Theory

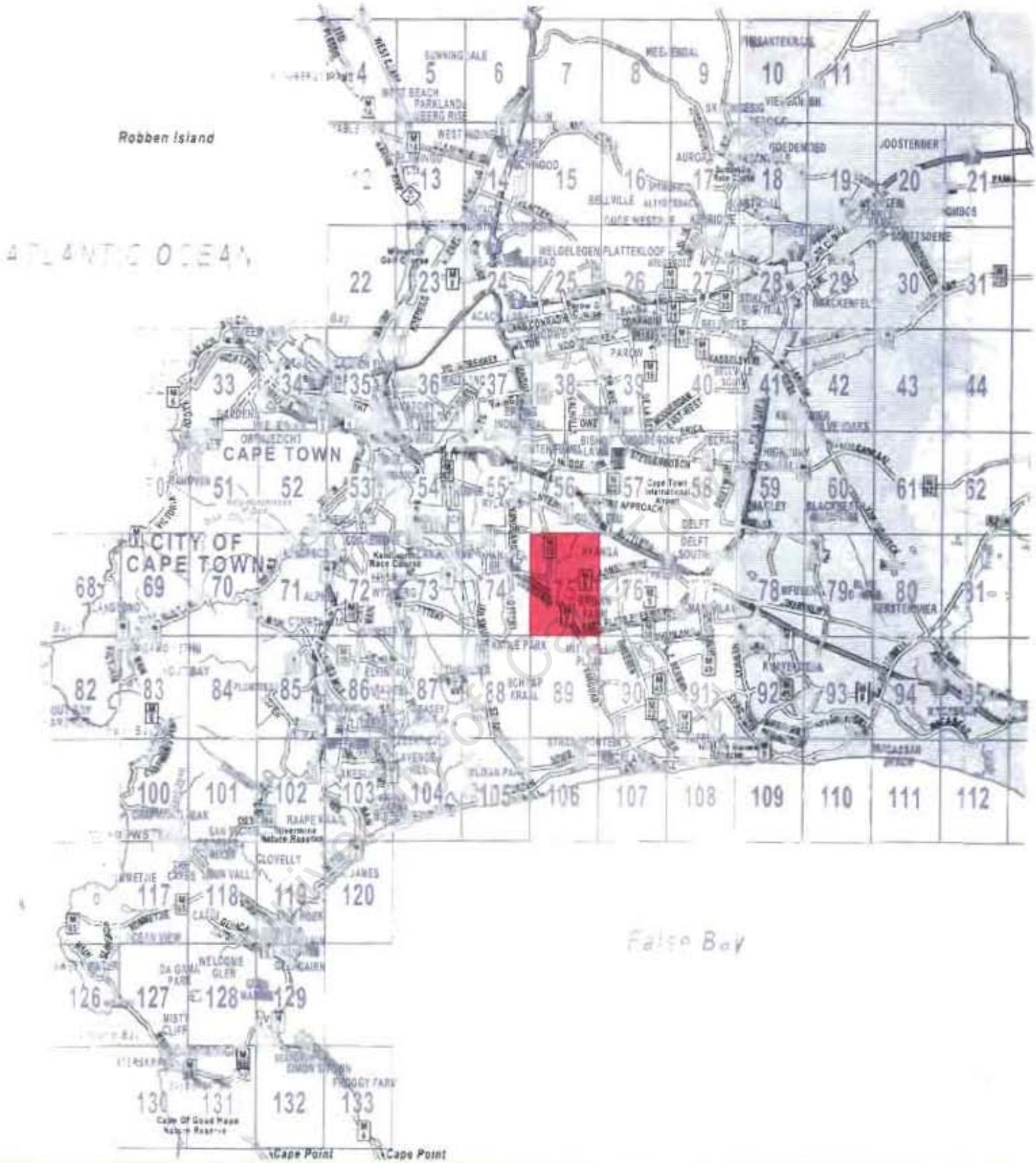
SOCIALLYRESPONSIBLEHOUSINGINSOUTHAFRICA

praXis

SOCIALLYRESPONSIBLEHOUSINGINSOUTHAFRICA

My initial interest in undertaking a research project in Cape Town, was locked by my outsider's gaze into vibrant urban images of townships and informal settlements. It was nurtured by a free South Africa's much publicized need for decent housing, and my projection of involvement with design efforts to develop viable housing options for the great number of beautiful people living in lovely, crowded, fire-prone shack communities. I had been nurturing a conviction for the possibility of utilizing waste-stream resources -'trash'- in an evocative, ecological production of architecture - an interest spawned through the concept of *industrial ecology*, and my background in the biological sciences. A coinciding potential seemed ripe.

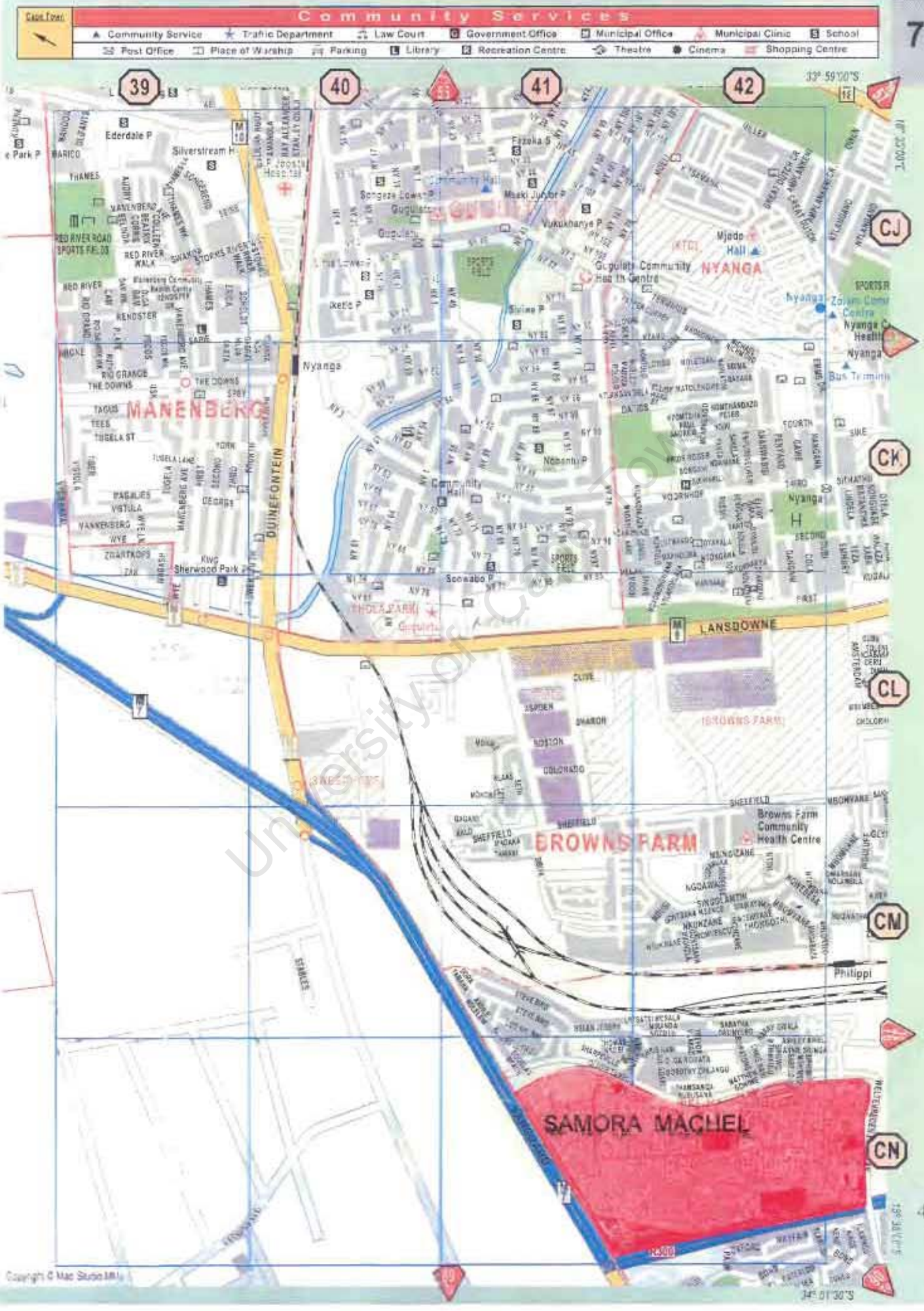
It has been said that necessity is the mother of invention. Nowhere is this perhaps more true than in South Africa. The informal settlements of South Africa are a marvel of ingenuity and creativity where the processes of invention are continually fueled by necessity's perpetual dance through the mazes of adversity; mazes, which are strewn with the fallout of a consumer society - created and driven by market forces. One of the most prevalent creations of the township is the 'shack.' In a condition where neither the state nor the private sector can provide appropriate housing in sufficient quantity, these dwellings are the people's solution to the immediate need for shelter. Many of the material resources used in the construction of shacks come from the waste stream of the country's consumer market. Formally, and materially shacks bear little resemblance to traditional South African dwellings. The two types are similar however, in that their material value exists primarily through their social and individual utility and their location. A traditional dwelling has little economic value as a commodity because it is constructed with free building materials available in the natural environment.[1] The shack's use of free waste materials and relatively inexpensive used materials similarly confounds the capitalist system's commodification of the dwelling. Ironically, a dwelling with little to no market value can restrict entry into a capitalist society. Home ownership is one of the passes required in order to access credit - which is needed to become a 'card-holding' member of the consumer society, with all its benefits and demands.[2] There are however, numerous examples from the informal settlements and townships where goods of significant economic value are created from free resources. Folk artwork and craftwork from South African Townships is recognized all over the world and has significant market value. Scale replicas of Harley Davidsons are made from scrap wire and oil tins, plastic sheeting, and plastic bags. Telephone wire is used as a substitute for reeds to weave intricate baskets in


Robben Island
ATLANTIC OCEAN
CAPE TOWN
CITY OF CAPE TOWN
False Bay
Cape Point
Cape Point

traditional patterns. Canned food labels are used in colorful paper mache bowls. Coke can lunch boxes, airplanes, lamps, and countless other objects of utility, whimsy, and beauty are artfully constructed. These items hold economic value not in raw material or even through their utility, but because of the human labor, ingenuity, and creativity used in their production. They could be called pure 'value-added' goods. Shacks however, have not attained this level of craft, or monetary value, though they often exhibit considerable ingenuity and resourcefulness. *Is it not possible to use the model of township art, together with the utility of the shack to create dwellings with significant market value?*

After five months living in Cape Town, and an ambivalent reception to this idea, I had doubts about its validity. Conversations with colleagues suggested that a significant cultural conflict exists within the ideal of using recycled or salvaged building materials for the design and construction of affordable housing. The reuse of materials, scavenging, salvaging, and recycling are activities that occur out of economic necessity for many people, and not out of some philosophical ideal of sustainability or ecological responsibility. I was well aware of this, and have personal recollections of trips to the dump with my father where we would scavenge discarded bicycle parts so that we could piece together bicycles for myself, and my four siblings. My father was a high-school English teacher - not a lucrative profession in rural NY State. In order to provide us with bicycles - admittedly not essential items - we foraged in the local dump. In a squatter camp, to build a house using such a mode of production is a common necessity. The informal settlements, squatter camps, and favellas found on city edges throughout the world are built in this way. Old sandals or shoe soles are used as hinges; corrugated steel is scavenged and reused over and over for walls and roofs. Newspapers are smeared with the leftovers of the morning porridge and pasted to the corrugated steel day after day - creating a thick layer of insulation (which also has a high level of water resistance). Colorful labels from tin cans are used as wallpapering. To build a house with materials that are garbage from an affluent society, even if it involves sophisticated degrees of ingenuity and creativity can nonetheless be seen as a reinforcement of the condition of poverty. This was the opinion of some academics with whom I discussed my interest. (What would Sam Mockbee say about this? This issue needs more research within the context of Cape Town and other urban areas) Martin Pawley, writes about "the global impact of consumer imagery" in his book, *Garbage Housing*. The global housing industry operates everywhere under highly restrictive pressures issuing from the ubiquitous propaganda of consumption. Although many architects are all too aware of these pressures they have so far been unwilling or unable to change popular demand. Mortgage loan institutions, building codes, and the construction industry

are all complicit in the "self-defeating images of high consumption suburban living…a media-projected suburban dreamland." "Housing has become conceptually monolithic…and…tends to be treated like a key resource, like iron or coal, instead of as a function of the confluence of a wide range of other resources, *most if not all of which are amenable to substitution*…if buildings around the world were built from earth and straw for thousands of years, and now out of steel and concrete, then why not other materials?… In terms which are not wholly metaphorical the directors of housing policy today are like Eskimos who deny that it is possible to build dwellings out of snow and insist instead on importing costly materials from more temperate lands…in order to fulfill the imagery of the desirable western, modern housing product.[3] According to Pawley, homelessness is not a condition of technical or economic incapacity, but of distorted consumption demands.[4] The validity of these observations can be verified simply by looking around, talking with people, and sitting in front of the television for more than a few minutes. The insidiousness of seductuve suburban imagery is shocking. One colleague mentioned to me his observations of western suburban facades, replicated in miniature on numerous houses in local townships. Some of them were direct copies from houses seen in American soap operas. Say no more. It is not surprising then, that I have been warned that it would be insulting to even suggest building a 'garbage' house for people with limited economic means, when they can see clearly that the houses of the wealthy are built with new materials, and much 'flourish'. Such opinions threw my project into crisis, though I had yet to propose it to anyone not in academia. What of my architectural paradigm that valued ecological responsibility, reuse, innovation, diversity, economy, and efficiency … human needs vs. desires? I began searching for other modes, beyond the use of scavenged materials, to fulfill this paradigm – other ways to produce a quality home at a lower cost – a task and inquiry that architects have been engaged in for time immemorial. It seemed to require a commercially viable building system, or a model that might participate fully in the existing building culture in a way that was conceivably reproducible en masse in both process and technology, and thus be self-perpetuating. In many historical instances the challenge to provide more for less has been perceived exclusively as a technological problem, which excludes the cultural and social realities and conditions that surround the creation of a building. Experimental models that require a change in the existing building culture tend to be less successful than those located in time and place. An additional challenge for me, was to spend a larger proportion of the building budget on labor and less in materials in order to put more money into the pockets of the workers and less money into a CEO's pocket. (This ideal assumes that a significant proportion of the cost of industrial building products ends up in the hands of the company owners?) According to Slate: "A problem (with affordable housing projects) is the frequent use of capital-




OLIVER TAMBO DRIVE


to explore the possible ways in
which different materials can be
used
corrugated steel for formwork
SOUTH AFRICA
corrugated steel
for formwork
CONCERNING THE IDEA OF
DEVELOPING A BUILDING SYSTEM
for Residential Structures in SA

intensive rather than labor-intensive schemes for housing construction. This is usually a misguided approach, since unemployment and poor housing usually go hand in hand."[5] This is an important concern for housing projects in Cape Town, with it's high rate of unemployment, and has also been commented on by Paul Andrew. "Whilst land, financial and technical resources must continue to be made available, efforts should be made to increase the earning capacity of the people concerned since fundamental housing problems are problems of poverty rather than lack of shelter." [6] In addition to an increase in earning potential it would also be helpful to have building systems that provide affordable housing options, without sacrificing quality or utility. Finally, any prospective design model must embody a cultural image of home, and be flexible enough to accommodate the individual image of home for each client if the model is to become socially viable.

In this discussion of housing within a contemporary context of modernity we should look at an early Modernist social housing program - That of Frankfurt under Ernst May in the 1920's. At the time it was an unrivaled program - 15,000 dwellings built - providing housing for almost 1/10th of the entire population of Germany.[7] This was a rationalist, programmatic solution to housing need, which necessitated the industrialization of housing. In terms of quality and quantity of dwelling it was a hugely successful program. Much of this housing is still in high demand today. The program failed to challenge the modes of production however, and thereby reinforced the capitalist system of existing ownership. It achieved little empowerment of the working class or poor because it relied on industrial production through corporate ownership for the production of rental housing, which remained the property of the developers. In terms of ownership, the goal of the current government of South Africa, to provide land and a home to as many people as possible through a subsidy program that provides those in need with a 15,000 rand loan and title to their plot, is a step towards reducing the capitalist disparity in land ownership. (Incidentally it also affords tremendous opportunity for collaboration with architecture schools.) This South African program is based on a program of formalizing existing communities of squatters. It is a concept that has gained acceptance around the world. The work of Jaime Lerner, in Curitiba is an exceptional example.[8] Squatter settlements around the world reflect people's tremendous labor capacity and will to create places for themselves. To take this from them would be an error in any social housing program. According to one ideological norm of the Frankfurt school, a fundamental condition of human nature is the need to meaningfully create. In the capitalist state, what is often taken from us is the right to meaningful labor. The commodification of labor combined with service-based economies severs a direct connection between meaningful invention and livelihood. According to Walter Benjamin,

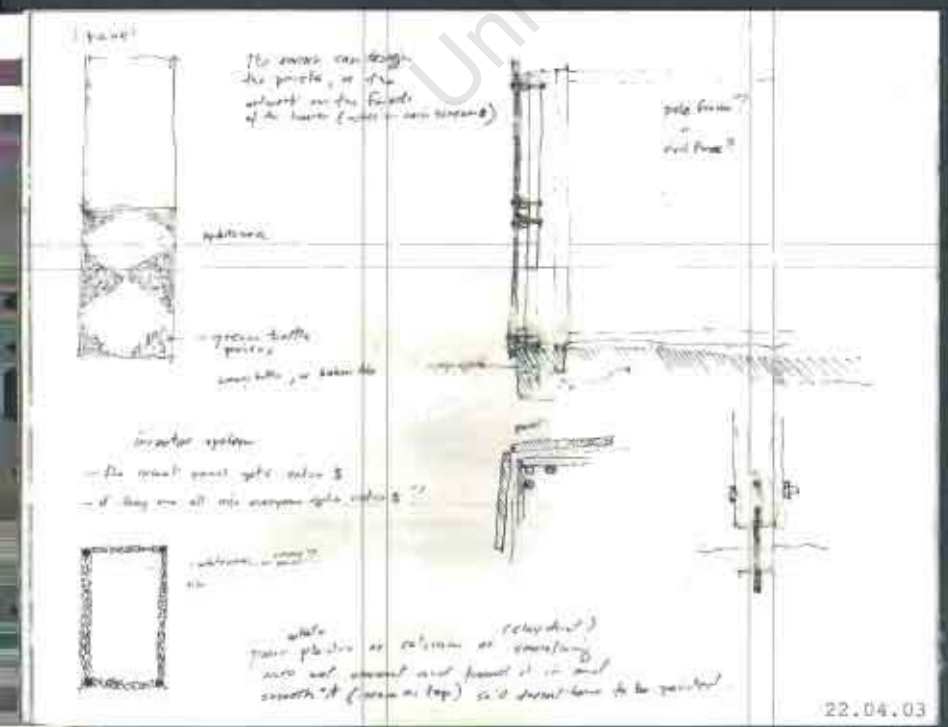
this condition also affects the invention itself - the work of art. "That which withers in the age of mechanical reproduction is the aura of the work of art. This is a symptomatic process whose significance points beyond the realm of art. One might generalize by saying: the technique of reproduction detaches the reproduced object from the domain of tradition. By making many copies it substitutes a plurality of copies for a unique existence."[9]

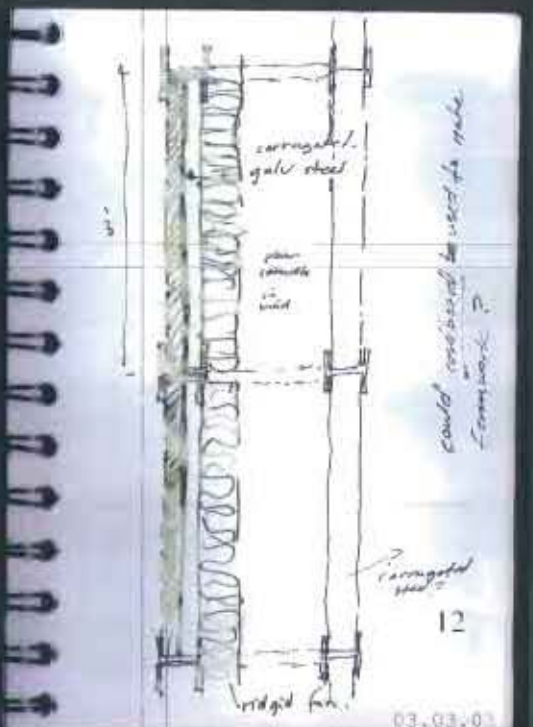
All of these ideas and contradictions where circulating as I gathered information and attempted to formulate what I hoped would be a multivalent, context specific, socially benevolent project, critical of an existing economic modernity. I worked for some time on the development of component-based design systems that might have broad potential in Cape Town, until, with the help of much critique, I finally arrived at the realization that a unique architectural production for my specific clients and related group of actors, might have greater meaning and authenticity. The focus of the project finally emerged as a recording of, and reflection on, the thoughtful production of the Mayinje House.

ENDNOTES

1. Annita Larsson, *From Outdoor to Indoor Living: The Transition from Traditional to Modern Low-Cost Housing in Botswana* (Lund: Wallin & Dalholm Boktr. AB, 1988), 20.
2. Martin Pawley, *Garbage Housing* (Chichester: The Architectural Press, 1975), 47.
3. Martin Pawley, 51.
4. Martin Pawley, 50.
5. Floyd O. Slate, "Higher Education in Low-Cost Housing," in *Low-Cost Housing Technology: An East-West Perspective*, eds. I.J. Goodman, R.P. Pama, E.G. Tabujara, R. Razani, and F.J. Burian (New York: Pergamon Press, 1979), 292.
6. Paul Andrew and Derek Japha, *Low Income Housing Alternatives for the Western Cape* (Cape Town: David Philip, 1978), 2.
7. Hilde Heynen, *Architecture and Modernity*: A Critique (Cambridge: MIT Press, 1999), 43.
8. Bill McKibben, Hope, Human and Wild (Saint Paul: Hungry Mind Press, 1995), 90.
9. Walter Benjamin, *Illuminations: Essays and Reflections*, (1968; New York: Schocken, 1969), 221.

south african craftworks





INTRODUCTION TO THE ESSAYS

Because this project has never assumed a linear organization, the organization of the essays is in no way chronological, nor do individual essays exclusively represent specific stages or facets of the project - rather, they incorporate the initial ideas, experiences and understandings discovered throughout the process, as well as reflections in the aft.

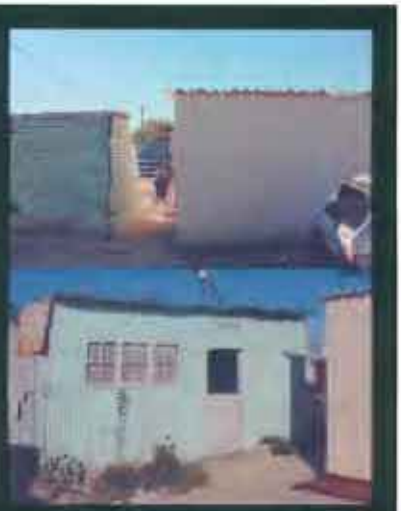
The research process ... is not a clear-cut sequence of procedures following a neat pattern, but a messy interaction between the conceptual and empirical world, deduction and induction occurring at the same time.[1]

I have discovered in my effort to display this project, that the many modes of hierarchical organization which I imposed on the material, resulted in an artificial representation of it. As a result I have attempted to coax the material into organizing itself in the most authentic manner possible. These essays are the result. In reference to a similar mode of organization, Theodor Adorno's texts are composed rather than logically and systematically constructed - a consistency with his ideas on allegory and montage. The 'contradictions and ambivalences' occurring in his writing can therefore be viewed as intentional aspects of their composition. Adorno is wary of the confining and authoritarian potential in thought – a sentiment that underlies his interest in 'constellations' of thought, which create space for multivalent, or heterogeneous levels of meaning.[2] Poetry could be considered one form that uses this mode of communication. I am sympathetic with this manner of communicating, and with Adorno's reasoning. The notion of 'constellations' of thought is reflected in the nature of the design system that spawned the Mayinje House. ➡DESIGN SYSTEM DIAGRAM Many of these essays develop a theoretical framework in the same manner as critical theorists - through engagement with various ideas from different times and places. In each essay I locate my position by anchoring the ideas along contemporary outposts of thinking and experience. The framework is filled and layered with specific experiences and reflections from the Mayinje project, creating a breathing work.

The essays are presented along one track, filling the left-hand pages,(the odd numbered pages.) Another track containing the material collected from the project - photos, notes, tables, mappings, etc., runs along the right pages, (the even numbered pages.) A third track is represented by each spread as a whole, where, at moments, theory and praxis (left and right) come together. There are also references (➡like the one above), which serve as connective tissue, revealing other associations. The movie, chronologically organized, represents another perspective. Although any presentation is a simplification - an image of the actual, these layers of representation aim to reinforce the complex nature of the design and production of the Mayinje House.

ENDNOTES

1. Richard Fellows and Anita Liu, *Research Methods for Construction* (Oxford: Blackwell, 2003), 57, quoted from Frank Bechhofer, *Current Approaches to Empirical Research: Some Central Ideas* (London: Routledge, 1974), 73.
2. Hilde Heynen, *Architecture and Modernity*: A Critique (Cambridge: MIT Press, 1999), 179.



he site - hazel's property

20.05.03

hazel's existing RDP house (single-wall concrete block construction, no ceiling insulation) + 2 shacks

The Mayinje project is concerned with the creation of knowledge through action, in order to contribute to architectural design-education, praxis, and policy. Both the knowledge created and the practical actions themselves are intended to contribute to greater social equity, diversity, and ecologically sustainable culture. This goal was previously enumerated in the thesis proposal as the following more specific aspirations:

1. The role of the student as *activist* – through the action of building a unique home for the Mayinje family; to contribute to social equity; to comment on both the misdirection of energy spent in architectural education and the waste of energy and resources involved in industrial production; and to provide a critique of capitalist consumer culture.
2. The role of the university student as creator of knowledge (researcher) – through located praxis; to create and share a piece of architectural knowledge that may become part of a growing body of knowledge produced by the school of architecture.
3. The application of ideals of *Industrial Ecology* for architectural innovation – to demonstrate the potential of ecological thinking in creating a viable relationship between capitalist industrial production and a student directed production of innovative architecture, through an *action-research* case study that is subject to life-world contingencies.

In order to meaningfully position the ideas guiding this project, I have done a cursory reading of western philosophy, attempting along the way to pick out the modes of thought which resonate with my own experience and which seem to have currency in a contemporary dialogue. A reliance on western thinking has limitations within an African context, however because of the overwhelming academic tradition based in this perspective, and my own indoctrination in said, it represents a legitimate framework for this research if understood through the limitations and currencies of western dialogue. As with my materials research - through leads, conversation, networking and tracking, I have attempted to ferret out those theories that are instrumental to the development of this project. Undoubtedly I have missed some useful pieces, however I trust that a critique of the work will reveal such gaps and allow them to be addressed if not now, then in future projects. I am essentially interested in the provocation of discussion and in the catalysis of action, critique and inquiry, and less concerned with assembling a homogenous retrospective or a unified and seamless position. Modernity is characterized by contradiction and rupture, and this work does not claim to be without those characteristics.

The Mayinje project is fundamentally based along lines of instrumental thinking. In other words, there are goals, or ends driving the means. In general the theorists that I have engaged with view their own thinking as instrumental to life-world change as well. The ideal that theory serves praxis is a commonality. One facet of instrumentalism is the view that theories cannot essentially be true or false, but should be regarded as tools. This view arrives from instrumental reason, one of the principal legacies of the enlightenment. It is somewhat difficult to closely associate instrumentalism with subjectivist thought, because the former is generally attributed to scientific theories, and the latter to epistemology, ontology, and ethics. I am using a somewhat broader view of instrumentalism however, in that I am not only dealing with scientific theories, but also with social theories and ethics - which embody elements of subjectivity. My position is that theory in general has limited validity if it cannot be tested or used as a tool within life-world praxis. Theory simply as rhetoric is, in my opinion, a bourgeois luxury. Therefore, the majority of the ideas that I engage with are characterized by their potential for practical application and life-world engagement.

Valkenberg Walk Observatory 021 448
ATLANTIC PLASTIC RECYCLING
(See Our Display Advert on this page)

ATLANTIC RECYCLING

All Waste Paper & Metals
(Copper, Brass, Etc.) Recyclers,
Best Prices Paid, Daily
Collections All Areas.

1 Refinery Rd
Paarden Eiland 021 511 35
Facsimile 021 511 33

BEACONVALE RECYCLERS

COLLECT A CARTRIDGES
Collect All Empty Ink & Laser
Cartridges
New Market Junction
Facsimile 021 461

COLLECT-A-CAN (PTY) LTD
Steel & Aluminium Can Recycling
& Collecting

11 Fisher Ave Epping Ind 1 ..... 021 534
Facsimile 021 534

Diam Plastics CC: Tedric St Stikland 021

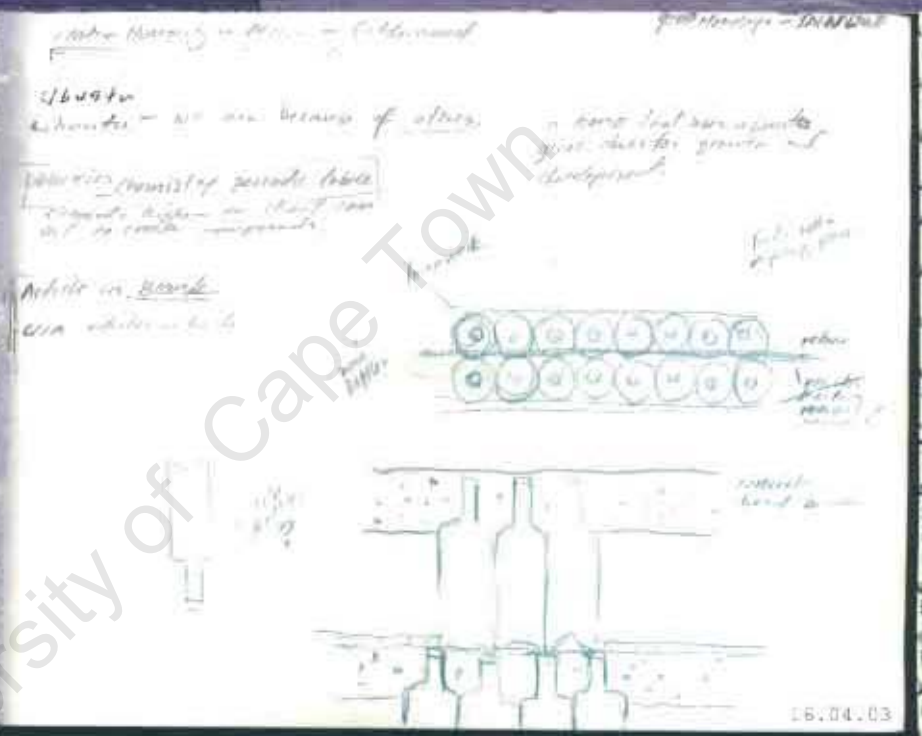
DUMPIT WASTE RECYCLING

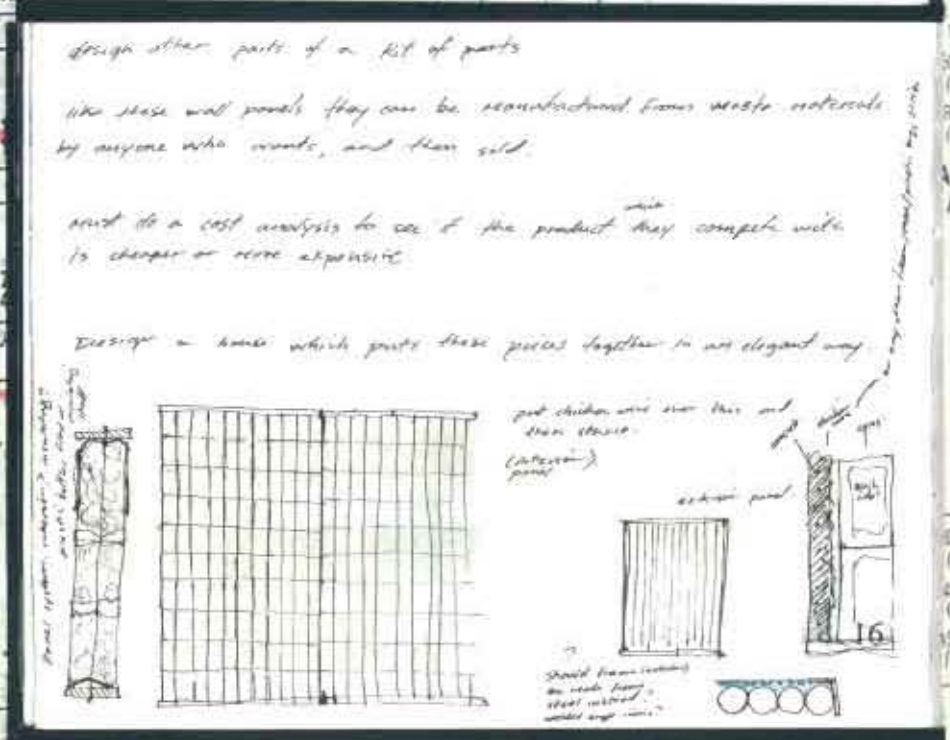
Procurers of: Metals - Ferrous & Non
Ferrous, Paper - K4, Computer Paper,
Newspaper, Etc. Plastics (LD & HD),
Bottles & Cardboard

TEL: 021 949 6634
TEL: 021 949 6667
CELL: 083 982 3428

16/12 Hof St Bellville

Econo Recycling CC: Brinks Bldg 5 Heath
Circle Blackheath 021
Express Waste CC: Johnson Rd Athlone 021 63





The differing concepts of modernity presented in Hilde Heynen's *Architecture and Modernity* serve as a useful datum for this discussion. I have referenced her book throughout, in light of its prominent place in contemporary architectural discourse. Heynen traces the successive historical meanings of the term *modern*, identifying three faces of modernism, the *present*, the *new*, and the *transient*. More perceptively, she distinguishes two separate polarities within Modernity, which are of particular interest. They are, the *programmatic* vs. the *transient*, and the *pastoral* vs. the *counterpastoral*.

Programmatic modernity - is characteristic of the position taken by Jürgen Habermas, in which modernity is viewed as an "incomplete project." This view holds on to the optimism and hope issuing from the enlightenment, and maintains the potential for emancipation and cultural progress in modernity. It is a view that relies on a faith in the potential of humankind to continually create better conditions of existence. According to Heynen, this view "places great emphasis on the idea of the *present* giving form to the future, that is, on the programmatic side of modernity."[1]

Transient modernity - stresses the most recent face of modernity, the transient or momentary. This view is fundamental in Charles Baudelaire's thinking. With transient modernity tradition is contradicted and modernity constantly destroys itself through crises of values thereby becoming fashion. According to Heynen, the eventual conclusion of this concept of modernity is the paradoxical postmodern condition.[2]

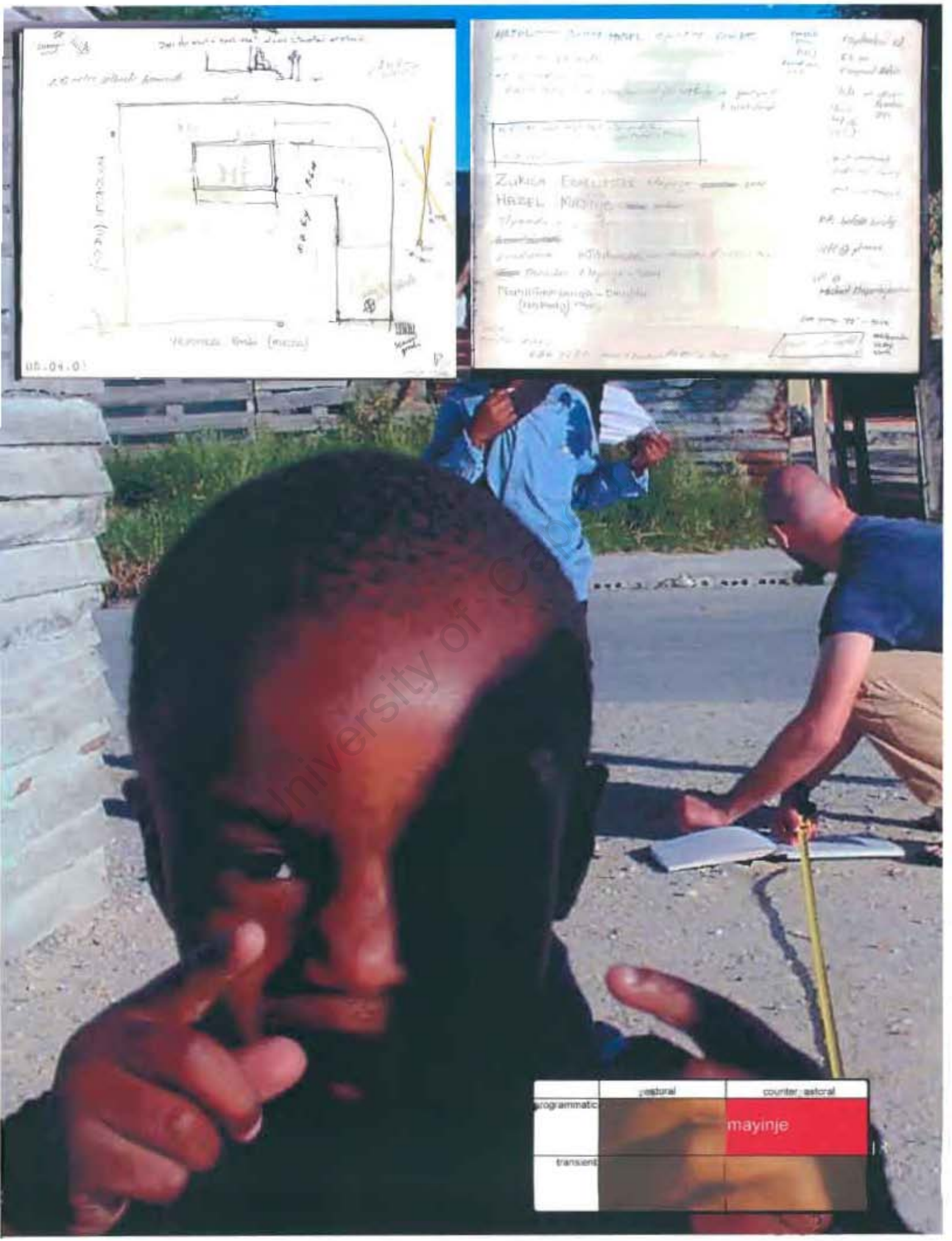
Pastoral modernity - maintains the ideal of a concerted struggle for progress resulting in a utopian condition. It denies the inherent contradictions and ruptures that exist between a manifest, global - economic modernity, and an ideal, aesthetic – cultural modernity. Pastoral modernity could be represented by Le Corbusier's idealistic faith in the unity between technological progress, aesthetic fruitfulness, and social emancipation.[3]

Counterpastoral modernity - on the other hand, sees a fundamental schism between economic and cultural modernity. It argues that there are irreconcilable motives or trajectories that cannot be bridged, with a resulting collapse of an integrated life experience. A *counterpastoral* view sites contemporary economic disparities and loss of cultural relevance as fallout of the destructive conflict with economic modernity.[4]

If we were to imagine a simple matrix with *programmatic*, and *transient* on the x-axis, and *pastoral* and *counterpastoral* on the y-axis, then the Mayinje project could be positioned in the quadrant where the *programmatic* and *counterpastoral* intersect, while biasing the programmatic. There are many instances of thinking throughout western philosophy which take this position, and which, together provide a constellation that orients the Mayinje project.

SHACK DWELLING

In undertaking this architectural project, which involves building a house for the Mayinje family, it is difficult to avoid the question of dwelling. The term *dwelling* is most often associated with Martin Heidegger. In "Building, Dwelling, Thinking," (1954.) Heidegger conceives of building as a condition of dwelling. Dwelling is given as the foundation, and only in true dwelling can an act of building be performed. Dwelling, as a way of being, has to do with a notion of stability or rooted-ness that enables the preservation of, and ability to care for, cultivate, and nurture a connection with *the fourfold* - heaven, earth, the spiritual, and the mortal. Dwelling, however, can only occur in a space that is given definition or bounded – a place. Heidegger uses the Greek concept of boundary. For the Greeks boundary was not "that at which something stops, but ... that from which something begins its presencing."[5] How does this relate specifically to the Mayinje house? To understand requires some brief background on South Africa, informal settlements, and modernity. Though a *transient* concept of modernity can be described as engendering a condition of homlessness[6] – a forgetting of how to dwell, there are particular


pastoral
counter-pastoral
programmatic
mayinje
transient

aspects of ancient African dwelling traditions that are continued in modern shack settlements and which seem to contradict this claim of homelessness, even within a contemporary urban experience of modernity. The informal shack settlements of South Africa are a paradox of transience and dwelling. A superficial observation of informal settlements might suggest a transient quality; with the ad-hoc organic organization of these sites and the use of relatively lightweight, impermanent materials, they have the quality of temporary refugee camps. However, if we consider Heidegger's notion of dwelling, alongside a nomadic, semi-nomadic, or agricultural African dwelling tradition, then we may see something altogether different in this modern condition. Many traditional African residential typologies are not characterized by permanence and immovability as they are in Europe. Rather, the African type often utilizes renewal and flexibility. Traditional rural African dwellings are commonly built and rebuilt, and sometimes moved, dependant on seasons and an availability of resources. This mode of building has in no way however negated the ability to dwell, on the contrary it is a response to true dwelling. A nomadic or semi-nomadic existence is one that is intimately tied to the landscape and to temporal climatic conditions. In order to nurture the fourfold, a traditional groups movements - based on the availability of resources - is obligatory. A permanently sited habitation makes no sense in such conditions. However, in each newly occupied site, the boundary holds fundamental significance. The typology of the circular *kraal* - the fenced in, inwardly focused compound formed of similarly inward facing, circular family units, creates a boundary from which the group begins its presencing. So, how does this relate to shack settlements? Shack settlements in Africa and around the world are a response to an economic-nomadism created by the industrialization and urbanization of a world economic market. It is accepted knowledge that industrialization has sparked a shifting of the world population from a majority rural existence to a majority urban existence. Shack settlements are one result of this shift. Industrial agricultural production, the privatization of land, war, famine, population increases, and many other factors are daily forcing emigrations to urban centers around the world. Economic shifts cause oscillations in job availability in different cities, resulting in population migrations from city to city. The phenomenon of the shack settlement is a result of resource-driven mass migrations to urban centers. Such migrations foment an insufficiency of affordable housing. The counterpastoral and programmatic nature of shack settlements is rooted in their direct defiance of bureaucratic capitalist land ownership, realized in communal acts of dwelling. In such acts, those in need thoughtfully occupy available sites, often through highly coordinated and planned invasions. Such claiming of territory is a first act of dwelling. By claiming a site through occupation, groups and individuals are effectively establishing a boundary from which their group may begin a presencing of community. These intentional settlements are modern, urban *kraals*. If dwelling is fundamental to a meaningful social existence as human beings, then this act of digging in, planting seed and defining place, defies the hegemony of the existing capitalist economic modernity thus helping to reinforce a cultural modernity. The Mayinje House is a third reaffirmation of the initial act of dwelling taken by the people of Samora Machel – the community where it was built. Initially established as an informal squatter settlement, Samora Machel was recognized, and formalized (legitimized) by the City of Cape Town in 1998, at which time Hazel Mayinje was granted title to her plot of land. She was loaned a 15,000 rand subsidy to build a 3m x 5m 'RDP' concrete-block house in addition to her shack. The city has also installed electricity, running water, sewage connections and paved streets. What started as an empowered resistance to the status quo through an act of dwelling, became legally recognized and supported. In Samora Machel's historical act of dwelling rests the community's contemporary ability to build.

Given this living history - communal memory, how should we build in Samora Machel ? How do we reinforce dwelling?

the **shack** - a component based building system
with pre-made wall sections
The wood planks used for wall construction are
often salvaged from shipping pallets
- or they are discards from lumber mills.
Wall panels can be purchased on the street in
many shack settlements.
the production of these components represents
part of the large informal economy that exists in
and around informal settlements.

Guguletu shack
R. 180 / pre-made wall
R. 720 / 4 walls, no roof
R. 1,500 / complete shack
approximate size 2m x 2m
(4 walls, roof, concrete floor slab,
1 window, 1 door)
ikhaya - xosa word for home
indlu - xosa word for house

Theodor Adorno has also claimed the impossibility of dwelling within the context of modernity. For him, the impossibility of dwelling relates to ethics.

The fundamental injustice of the social system, which we all participate in whether we want to or not, produces so profound a sense of discomfort that it is impossible for us to feel at home in a world of this sort. Adorno perceives this underlying reality in the actual forms that dwellings take. The traditional homes of the bourgeoisie are no longer able to conceal their hypocrisy: the security that they offer the privileged cannot be thought of separately from the oppression that is necessary to maintain these privileges…No amount of 'design' can change this…Worst of all, however, is the situation of those who do not have any choice – homeless people, foreigners, and refugees. For them even the illusion of dwelling is impossible to maintain.[7]

Nowhere is this more obvious than in South Africa, where countless security measures, fences, guards, and a spatial legacy of apartheid continue to exist in a myopic effort to conceal and fortify economic disparities. As an outsider these conditions were immediate and glaring first impressions on my arrival to Cape Town. From all appearance, such monolithic fortification would seem unchangeable by any design. Such spatial production is of course the outcome of multifarious forces beyond the control of architects and designers. Interestingly, even in the townships and informal settlements, individual perceptions of the need for security, and protection are common; window bars and fences are often installed if possible. Hazel Mayinje herself was very concerned in this respect, which influenced the design of her house. However, the broader question is whether or not design can contribute to changing those circumstances that promote this form of spatial isolationism – an economically engendered apartheid. Interestingly, after commenting that it cannot, Heynen also states that, "In order to genuinely take on the challenge of *critical* architecture, the critical content cannot purely and simply act as a noncommittal commentary that only concerns the packaging of the building... As Diane Ghirardo points out, we should not be blind to the fact that the notion of architecture as art and the associating of its critical character with its artistic content has often only served as an ideological mask for the complicity that exists between some highbrow architecture of the postmodern or deconstructivist variety and the vulgar commercial concerns of property developers."[8] "In every built work of architecture, social interests are also at stake. A critical treatment of social reality therefore inevitably operates at various levels simultaneously and cannot be reduced to the packaging aspects of a building. Questions such as; who is building and for whom?, what is its impact on the public domain?, and "Who will profit from this development?, are, and will continue to be relevant in this connection. Those questions also can be mimetically incorporated in the design, (and into the building process) …giving more weight to its critical aspirations."[9] Thus, like a true modernist she leaves unresolved contradictions in her position. Taken together, the idea of rewriting modernity clearly accepts modernity as an ongoing project - a *programmatic* view of modernity, which throughout her book she clearly supports. So she agrees that changing modernity is possible, but she also comments that no amount of design can help change economic inequality. She no doubt believes in the social responsibility of architecture however, because she references Ghirardo, saying that if architecture is to be critical of the status quo, it must pay attention to issues of power. In sum, her dialogue is rather ambiguous. One interpretation is that she is calling for an architecture that is critical of *economic modernity*, yet she is not convinced of the architect's ability to actually change anything. This would support the *counterpastoral* definition of modernity, which she seems to favor throughout her book. In this thinking I differ greatly. Heynen's de-emphasis on humanitarian values, or ethics seems to underlie this *counterpastoral* pessimism. She writes: "In order to rewrite modernity … it is not sufficient to

appeal to humanitarian values...the worn-out appeal to 'human values' has proved incapable of averting the worst atrocities."[10] While a *counterpastoral* position concedes no resolution in the conflicts between a cultural and an economic modernity, if we overlay a *programmatic* view of modernity then the possibility for change (through action) exists. It is quite probable that there is no resolution between the existing cultural vs. economic modernity, however who is to say that the existing modern economic model cannot change. In light of the existing economic and political climates around the world this is no doubt a Herculean task; even Habermas seems to see little hope.[11] However, there remains no other possibility if we are to hold onto the project of modernity. We cannot deny, whether we like it or not, that modernity is an entrenched aspect of reality for most of us Is it true that no amount of 'design' can change the economic hegemony? How can we know if we do not attempt to create change through design action ? It is in activism that ethics theory can be of value. Heynen seems to have taken a position of ethical relativism - that different groups have different notions of right and wrong, or differing value systems, or, more likely, she is speaking from an anti-humanist position. It would be useful here to define 'humanitarian values' and humanism both. Since the nineteenth century humanism has come to designate a non-religious or anti-religious world-view, based on the belief in human ability for self-cultivation, and in the general progress of humankind. In contemporary French philosophy, humans are autonomous, self-determining beings, and an individual's actions have a real impact on society and the course of history. Anti-humanism (Lévi-Strauss, Lacan, Althusser, Foucault) points to the decisive influences of social, economic, and psychological structures in defining human action. It views self-determination as an illusion.[12] Tafuri and Cacciari also reveal anti-humanist perspectives in their writings. They see modernity as, an "increasingly totalitarian, closed system within which concrete political and cultural practice appears to have no genuine impact on the course of historical development. Their theory displays a kind of materialism based on the primacy of the economic infrastructure – capitalism – which is viewed as the decisive factor in every area of social and cultural life."[13] Heynen does not herself define humanitarian values, but an accepted definition might be - those values which advocate equal rights and just conditions of existence for all human beings. She sites Lyotard in questioning "whether the concept of humanism is not in fact the ideal camouflage for the actual inhumanity of the system."[14] Here, she is again alluding to 'Auschwitz' and its historical destruction of modernity's promise of a new humanity. It is a well-taken sentiment. However if we are not to abandon the project of modernity, is it possible to reject humanism or humanitarian values? With what do we replace them? Marx's faith in the rationality of a 'system' to create emancipation, if given the opportunity for evolution, has proven fallible. We certainly cannot rely on the free machinations of a capitalist system that is characterized by barely accountable corporations, or, on the legislation of governments run by those individuals who are most deeply invested in the status quo. An anti-humanist perspective leaves no possibility for a human struggle for social change. I agree that humanism, and humanitarian values are not sufficient in themselves however the acceptance of an ethical relativism provides just as much potential for an 'Auschwitz' as it does to create acceptance and tolerance, and an anti-humanist theory is a hopeless one. If there is any point in engagement with ideas at all, it must be for the improvement of the human condition. The mere act of discussion suggests a belief in the human ability to influence, or to create change. Any act, be it speech, writing, or building, is an engagement with the life-world, and implies the notion of an ability to occupy that world. To occupy is to create a favorable condition in which occupation becomes possible, it implies change, or manipulation. To be human is to create - to manipulate the world in our favor. Therefore we have no choice but to rely on humanism, together with humanitarian values if we are to change the trajectory of modernism. How do ethics relate to humanitarian values? Ethics, relates to the Greek word *ethos*, habit, custom. Normative ethics specifically is the theory of, or rational inquiry into the standards of right and wrong, good and bad in respect to character

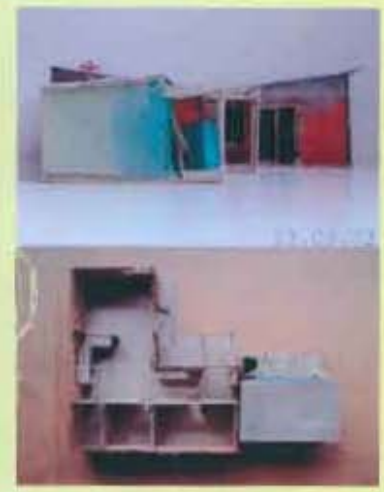
CONTACTS/MATERIALS SPREADSHEET

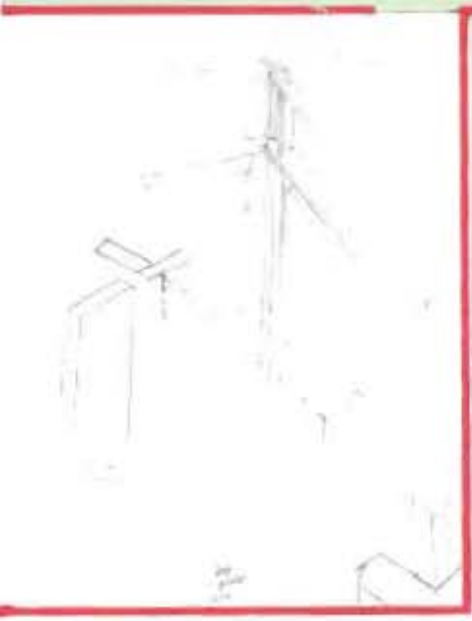
Contact Person	Company Name	Phone #	Fax	Product	Size/Quantity	Price (Rand)	Notes	Location
[illegible]	SA Solar Products	[illegible]		Solar hot water heater	150L (3 people)	5,800	installed - includes storage tank with plastic lining	
[illegible]	SA Solar Products	[illegible]		Solar hot water heater	200L (4 people) [illegible]	6,900	—	
[illegible]	[illegible] S.A.	[illegible]		Solar hot water heater	200L [illegible]	7,200	installation excluded, add 2,100	
[illegible]	[illegible] S.A.	[illegible]		Solar hot water heater	200L [illegible]	6900	add 1,100 installation	
[illegible]	Solar [illegible]	[illegible]		Solar hot water heater	[illegible]	13,900	all included [illegible]	
		[illegible]						
	Solar Direct	[illegible]						
	Sol Energy	[illegible]						
	[illegible]	[illegible]						
	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	
				[illegible]	[illegible]	[illegible]	[illegible]	
	Penny Pinchers	[illegible]	[illegible]	[illegible]	[illegible]	34.2	vat inc.	
				flashing aluminium	[illegible]	[illegible]	vat inc.	
				flashing aluminium	[illegible]	[illegible]	vat inc.	
	[illegible] Timber Co	[illegible]		planed pine	[illegible]	[illegible]	vat inc.	
				planed pine	[illegible]	[illegible]	vat inc.	
				planed pine	[illegible]	[illegible]	vat inc.	
				planed pine	[illegible]	[illegible]	vat inc.	
				framing timber [illegible]	[illegible]			
	Penny Pinchers			framing timber [illegible]	[illegible]	[illegible]	vat inc.	
	Penny Pinchers			framing timber [illegible]	[illegible]	[illegible]	vat inc.	
	Penny Pinchers			framing timber [illegible]	[illegible]	[illegible]	vat inc.	
				framing timber [illegible]	[illegible]	[illegible]	vat inc.	
	Penny Pinchers			framing timber [illegible]	[illegible]	77	approximated price	
					[illegible]	[illegible]		
	Penny Pinchers			[illegible]	[illegible]	[illegible]	vat inc.	
	Penny Pinchers			[illegible]	[illegible]	[illegible]	vat inc.	
	Penny Pinchers			[illegible]	[illegible]	[illegible]	vat inc.	
	Penny Pinchers			[illegible]	[illegible]	[illegible]	vat inc.	
	Penny Pinchers			[illegible]	[illegible]	[illegible]	vat inc.	
	Penny Pinchers			joist hanger	[illegible]	[illegible]	vat inc.	
	Penny Pinchers			[illegible]	[illegible]	[illegible]	vat inc.	
	Penny Pinchers			[illegible]	[illegible]	[illegible]	vat inc.	
	Penny Pinchers			[illegible]	[illegible]	[illegible]	vat inc.	
	Penny Pinchers			white portland cement	50 kg	[illegible]	vat inc.	
				[illegible]	[illegible]	[illegible]	vat inc.	
	Penny Pinchers			[illegible]	[illegible]	[illegible]	vat inc.	
	Penny Pinchers			[illegible]	[illegible]	[illegible]	vat inc.	
	Penny Pinchers			brown oxide	[illegible]	[illegible]	vat inc.	
	Penny Pinchers			black oxide	[illegible]	[illegible]	vat inc.	
	Penny Pinchers			red oxide	[illegible]	[illegible]	vat inc.	
	Penny Pinchers			yellow oxide	[illegible]	[illegible]	vat inc.	
	Penny Pinchers			green oxide	[illegible]	[illegible]	vat inc.	
[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]		polystyrene [illegible]		free	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	free		
[illegible]	[illegible]	[illegible]		aluminium soda cans	[illegible]	free	[illegible]	
[illegible]	[illegible]	[illegible]		aluminium soda cans [illegible]	[illegible]	[illegible]		[illegible] Claremont
	[illegible]	[illegible]		neoprene [illegible]	[illegible]	free	[illegible]	
	[illegible]	[illegible]		neoprene scraps		free		
[illegible]	[illegible]	[illegible]		neoprene scraps	[illegible]	free		
[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	free	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]		cardboard carpet tubes	[illegible]	free	[illegible]	Claremont
	[illegible]			used bricks		[illegible]		Philippi
[illegible]	[illegible]	[illegible]	[illegible]	new bricks		[illegible]	[illegible]	Philippi

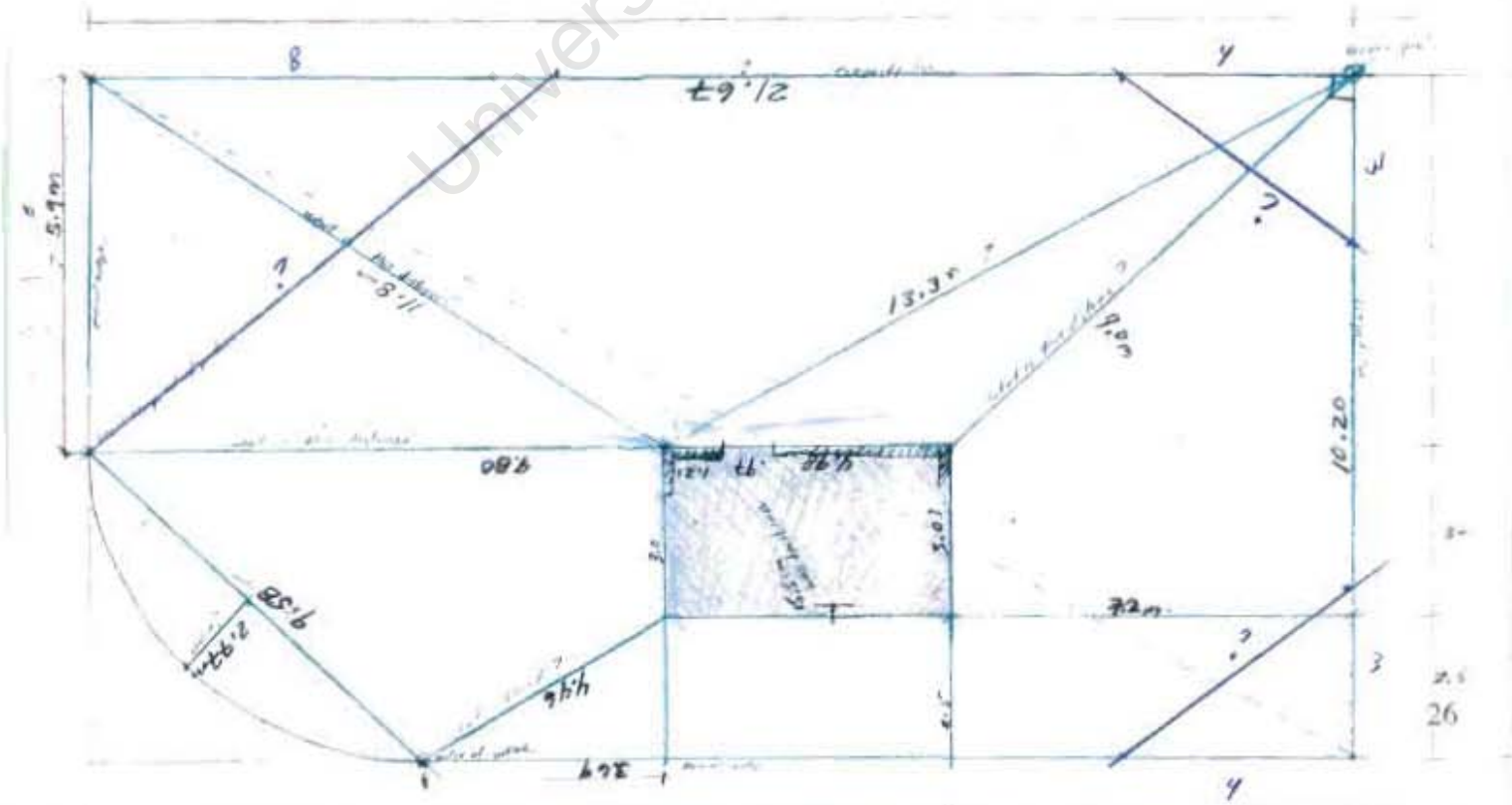
and conduct, which *ought to be* accepted by a class of individuals – in this case, mankind at large.[15] Social or religious ethics are the same as normative ethics except that they rely on spiritual traditions rather than rational inquiry as their basis. Both types claim a general validity. Humanitarian values are those ethical standards of conduct relating to our behavior towards each other as fellow human beings. It is through ethics therefore that we can provide a basis for the critical aspect of direct, non-violent, humanitarian actions, which promote the rights and abilities for all people to have a viable existence, for all people to truly dwell. My own personal tradition of religious ethics is based on a Christian value system, specifically mystical Roman Catholic, influenced by liberation theology, and Quaker non-violent, direct activism. I have also studied eastern, and Native American spirituality. Whether normative, social, or religious ethics are called on in order to define a human value system is irrelevant however. What is critical is that these modes of inquiry be employed in finding a general validity in a base of conduct between human beings. What is social dwelling, civilized dwelling, or ecological dwelling? They all require one to be a good neighbor, that is, to consider one's neighbor as one's self… to treat others as you would have them treat you… This is a rational, normative code echoed throughout ethics. It has great history as a backbone for policies of action. Within a rational modernity, such a normative code is needed. Although it is insufficient to appeal to human compassion for others, and for other living things, the existence of human compassion and suffering, the capacity for human empathy, and moral-ethical codes of conduct cannot be discounted as powerful life-world forces. Through direct, non-violent, creative social action they can be used as fuel for a critique and resistance to an oppressive status quo. If human empathy is combined with an economic logic as has been done by the global environmental movement, and also with mutually beneficial symbioses between groups, then there is great potential for change. Continuing in this vein, I reject the idea of the general destruction of values as a central consequence of modernity and the metropolis (as per Baudelaire and Benjamin.)[16] It is not to say that modernity has not broken down formerly cohesive, traditional social or cultural value systems, it has surely put them in question at the very least. However, with the leveraging of the individual as the fundamental unit within modernity, the individual also has the ability – and responsibility to maintain and cultivate values, which can provide bases for diverse coexistence within a broad, contemporary global community. It could be argued that prior to urbanity the cultural or social groups that maintained cohesive value systems were comprised of relatively small numbers of individuals whom, in bounded groups might have different value system from another group or clan separated by geography. The Metropolis represents a concentration or geographic reduction of territory in which previously autonomous and separate groups now coexist – though sometimes as fractured societies. Such groups have every potential to maintain, or reconstitute sovereign, autonomous value systems. There is evidence that this in fact occurs, and that shared values also exist whether a geographic or intentional community is formed or not. The global environmental movement represents one such community of individuals held together loosely, but powerfully by a shared value system. There are countless other examples, including even the ubiquitous global Internet communities. Conflict among value systems in the context of modernity is unavoidable, and perhaps this is one of the essential cruxes of contemporary modernity. Are the major disparities between value-systems however, not directly entwined with the power relations manifested through a lopsided distribution of capital? If they are, then with greater economic equality, such conflicting values might be minimized? ➡Manipulating Economic Modernity.

Alongside a humanist foundation, my advocacy of student-based social action is also functionally based in the recognition of an energy potential existing in student labors - energy that can be directed in productive service to a rewriting of the project of modernity. (➡Negligent Capitalists.)



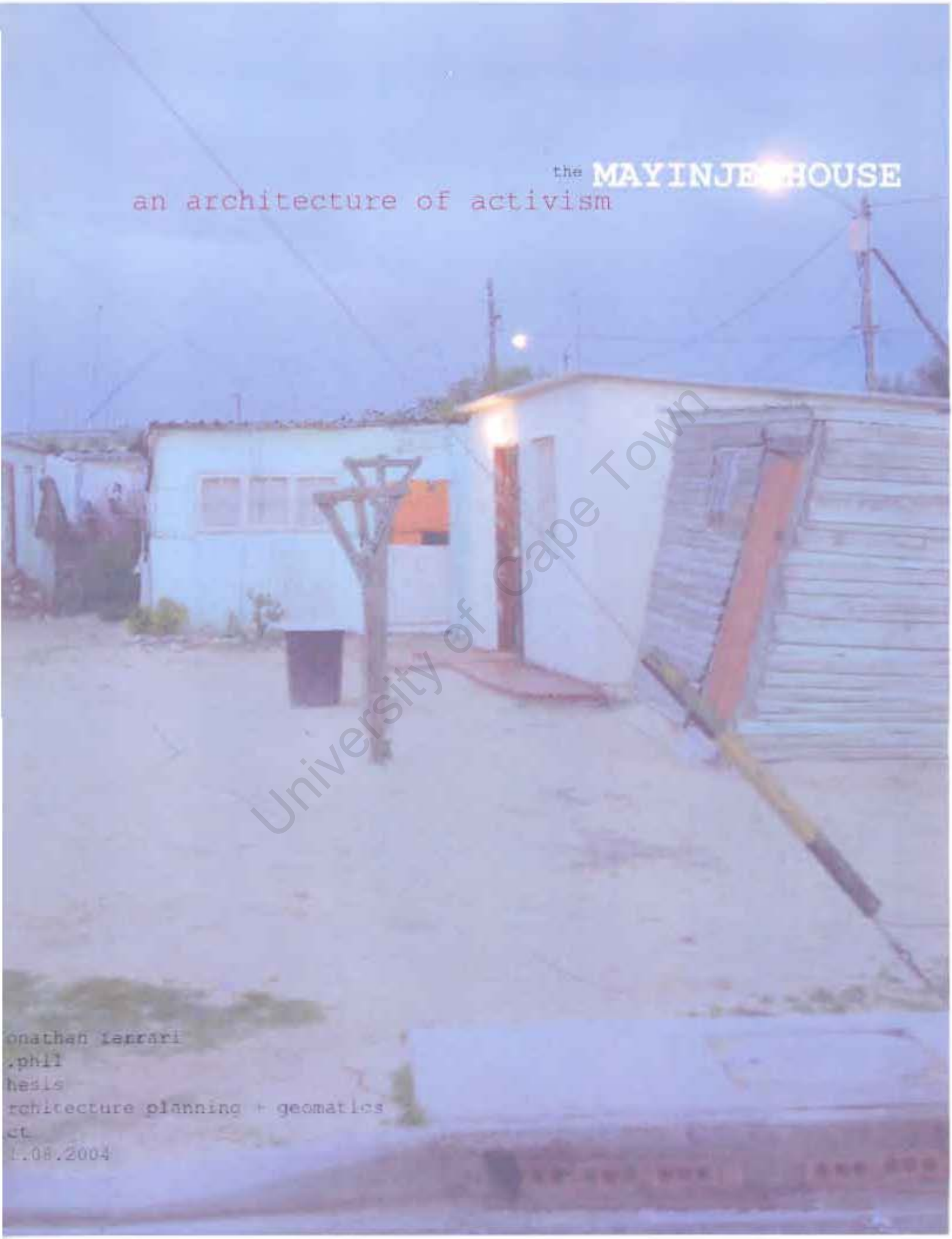







the MAYINJE HOUSE

an architecture of activism



onathan ferrari
.phil
hesis
rchitecture planning + geomatics
ct
1.08.2004

Jean-François Lyotard made the statement: "We inhabit the megalopolis only to the extent that we declare it uninhabitable. Otherwise we are just lodged there."[17] My reading of this statement is that we can only inhabit (dwell in) modernity if we critique it (declare it uninhabitable), engage with it, and above all, take action through its life contexts. There are numerous examples of artists, architects, environmental designers, and many others, who have done, and are doing just this through their own diverse voices. "...people like Loos who belong to a 'school of resistance' ... their resistance is not rooted in a nostalgic longing for coherence and harmony; on the contrary, it is based on a lucid and disillusioned grasp of the reality of nihilism."[18] – and a humanist, active resistance to it.

ENDNOTES

1. Hilde Heynen, *Architecture and Modernity*: A Critique (Cambridge: MIT Press, 1999), 11-12.
2. Hilde Heynen, 12.
3. Hilde Heynen, 13.
4. Hilde Heynen, 13.
5. Martin Heidegger, "Building, Dwelling, Thinking," in *Poetry Language, Though* (New York: Harper Colophon, 1971),154.
6. Hilde Heynen, 14. (see Peter Berger, Brigitte Berger and Hansfreid Kellner in their book *The Homeless Mind*, and also Heidegger in "Building, Dwelling, Thinking.")
7. Hilde Heynen, 17.
8. Hilde Heynen, 199-200. (from Diane Ghirardo, introduction to Ghirardo, ed., *Out of Site: A Social Criticism of Architecture* (Seattle: Bay Press, 1991), 9-17.
9. Hilde Heynen, 200.
10. Hilde Heynen, 221.
11. Jürgen Habermas, "Modernity-An Incomplete Project," in *The Anti Aesthetic: Essays on Postmodern Culture*, ed. Hal Foster (Seattle: Bay Press, 1983), 3-15, see p. 15: "If I am not mistaken, the chances for this today are not very good."
12. Thomas Mautner, ed., *The Penguin Dictionary of Philosophy* (Rosebank: Penguin, 2000), 256.
13. Hilde Heynen, 144-145.
14. Hilde Heynen, 221.
15. Thomas Mautner, ed., 180.
16. Hilde Heynen, 139.
17. Jean-François Lyotard, "Domus and the Megalopolis." In Lyotard, *The Inhuman reflections on Time* (Cambridge: Polity Press, 1988), p.200; translated from "Domus et la mégalopole," in *L'inhumain. Causeries sur le temps* (Paris: Galilée, 1988), p. 212: "On n'habite la mégapole qu'autant qu'on la désigne inhabitable. Sinon, on y est seulement domicilié."
18. Hilde Heynen, 141-142.

RESEARCH METHOD

In practice, architectural and planning design situations are so variable and idiosyncratic that they cannot be understood in a definitive sense; further, a great deal of design methodology is an attempt to explore and explain design definitively. The outcome has been a general inapplicability of these methods in practice.[1]
Gordon Best

The Mayinje House project is a critical mapping of an endemic experiment in building. This intentional mapping is intended to allow for an informed reflection and evaluation of the located, life-world efficability of the process. It does not intend to evaluate the potential of this process for direct application in other cases - rather it hopes to understand the specific relationships guiding its development within a unique context. It is hoped, however, that lessons learned may provide insight for other cases.

On what levels can this building production processes be mapped?
How can its non-linear processes be represented?

The speed of change and multitude of transactions in contemporary society creates situations of ephemerality within the space of the city, and makes understandings of relationship, community, and systems difficult. However, records of events and exchanges between people may help us to understand human flows, relationships, and processes.

How should events of transaction be recorded, mapped and presented ?
Can the context of speed and change be represented?
What media forms are most critical?
Can ecological models, which focus on the dynamic of relationships as an entity, be useful ?

This project draws on 'critical action research' as defined by Greenwood and Levin[2], and Kemmis and McTaggart[3]. Critical action research assumes a reflexive/dialectical view of the relationships between subject-object and individual-social. It views practice as socially, historically, and discursively constituted by human agency and social action. It attempts to overcome the partiality of the major social theories (structuralism, systems theory, action theory, etc.), by recognizing the distinction between theoretical systems functioning and real life-world processes, and by realizing that each may bring relevant resources to understanding and explaining modern society. Thus, 'critical action research' constitutes a critical theory of praxis.

15.08.03
I went and visited with Hazel and Zukisa today.
I picked up Hazel and drove with her to her house.
We discussed the model that I made.
Hazel didn't want the front door next to the street drain because people dump garbage and food waste down it and it smells.
They kept referring to the front door as the door on the courtyard side, and the back door as being on the street side.
Zukisa thought the bathroom should be near the bedrooms.
He liked the butterfly roof to catch rainwater. He thought it was more interesting than a gable roof, and a smarter idea.
He also liked the idea of a trellised partition on the courtyard side.
I discovered that the water comes from the Southeast corner of the property, and not the Northwest side where the tap is currently located.
Zukisa has a good spatial sensibility and can understand plans and elevations. At one point he drew on the elevation of an interior partition wall that he thought should have a door and a service window with a counter between the kitchen and dining room.
He also asked what the game was of this work I was doing - Architecture - I told him, he seems quite interested in it.
This process of working with the client is also providing Zukisa with a view of other options in life. My relationship with him is an outcome that I had not foreseen as a benefit of this project.

Some quotes from Kemmis and McTaggart:

Critical action research expresses a commitment to bringing together broad social analyses: the self-reflective collective self-study of practice, the way language is used, organization and power in a local situation, and action to improve things. Critical action research is strongly represented in the literatures of educational action research, and emerges from dissatisfaction with classroom action research, which typically does not take a broad view of the role of the relationship between education and social change. Critical action research has a strong commitment to participation as well as to the social analyses in the critical social science tradition that reveal the disempowerment and injustice created in industrialized societies. In recent times it has attempted also to take account of disadvantage attributable to gender and ethnicity as well as to social class, its initial point of reference.[4]

Participatory action research (not always by that name) frequently emerges in situations where people want to make changes thoughtfully – that is, after critical reflection. It emerges when people want to think 'realistically' about where they are now, how things came to be that way, and, from these starting points, how, in practice, things might be changed.[5]

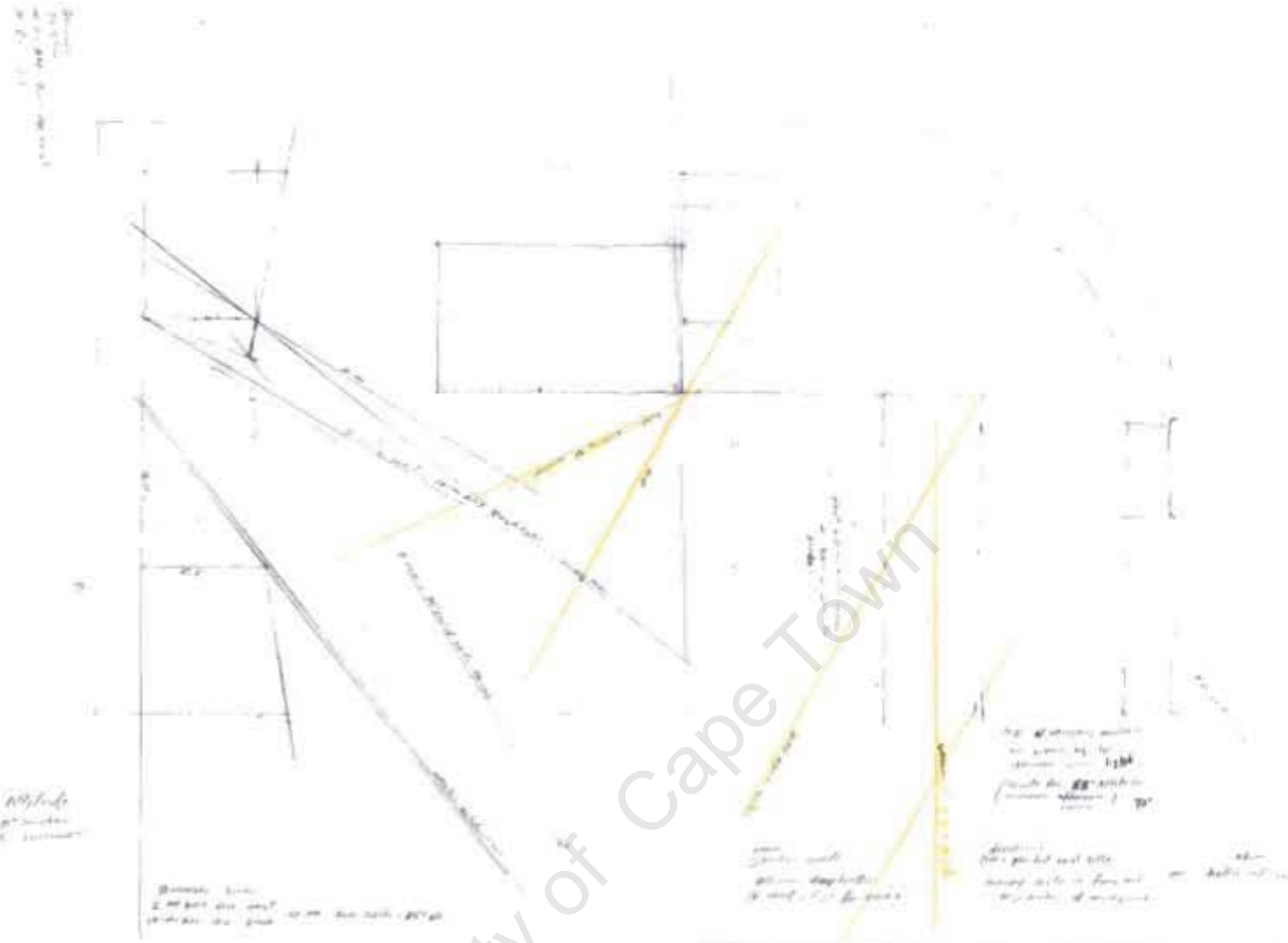
Taking a 'realistic' perspective on changing social practices in a setting usually means that participants have to take a multifaceted view of practice – not seeing it in a narrow way.[6]

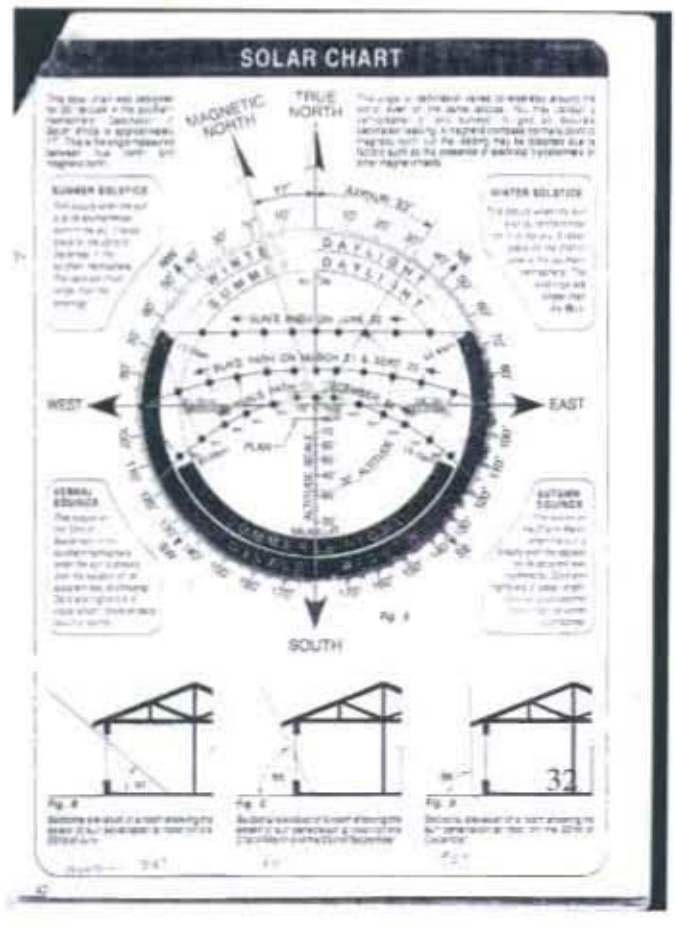
Spaces of production are shaped by varieties of conditions – or forces which can be mapped. A site, can be defined in a virtual limitless variety of terms, including:

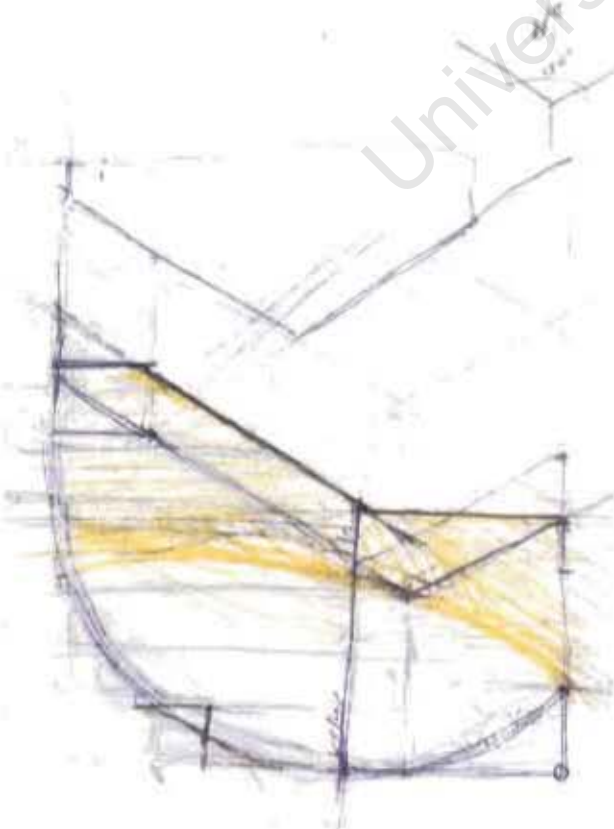
Land use laws
Physical geography
Site Dimensions
Sociological conditions
Ecological conditions
Allocation of resources in relation to the site
Land values in the area
Traffic patterns
The client's daily habits
Local and broader economic conditions
Gang territories
Historical memory
etc.

As designers it is improbable to even consider controlling all the conditions that influence production. But we can attempt to understand the conditions in order to create an environment conducive to meaningful design and creation. *My interest is to understand a select few of the actors present in the production of the Mayinje House.*

What are the prominent actors or forces operationalizing this architectural production process - a process that involves experimental construction techniques and non-conventional human and material resources ?
How are the actors related?
How are decisions made?







For the purposes of this research I have limited my investigation to human/social-cultural, and climatic/environmental actors involved. These actors include both *invested agents*, (those who have a stake in the project), and *agency neutral actors* (such as the climate)

ACTORS - stake in project

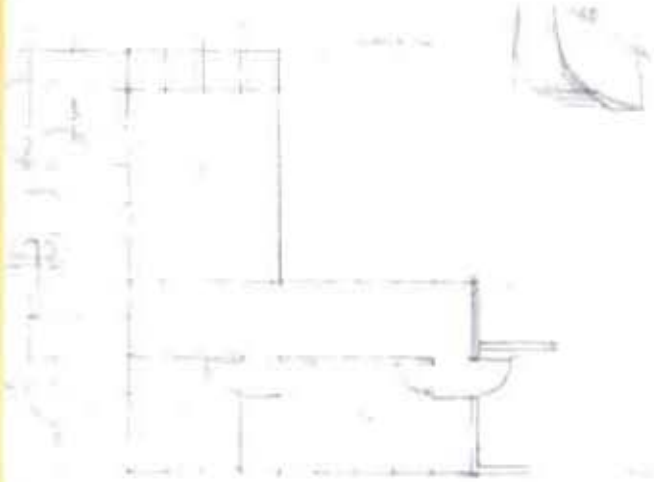
Jonathan Ferrari(researcher)- professional/academic interest
Iain Low(advisor)- academic interest
UCT(institutional framework)- knowledge, economic renumeration
colleagues- agency neutral
Beatrice+Louis Rabkin(clients)- satisfying personal commitments
Hazel and Zukisa Mayinje(clients)- material renumeration
Samora Machel(community)- economic renumeration
Tony and Antonio(strollers/builders)- economic renumeration
local builders- economic renumeration
Alex Van Der Sluys(ISIPANIconst.)- professional/humanitarian interest
ROTARY- humanitarian interest
Pete Sweeneey(Panasonic)- waste disposal/cost reduction
Alison+Mosha(OASIS)-economic renumeration, humanitarian interest
literature(written voices)- agency neutral
local climate(environmental context)- agency neutral
the budget(economic resources)-agency neutral
global economy(economic context)- agency neutral
local economy(economic context)- to capture some of the budget
the material resources(material context)- agency neutral
transportation resources(energy context)-agency neutral
Cape Town(the immediate environment)-agency neutral
public culture(broader social context)-cultural production

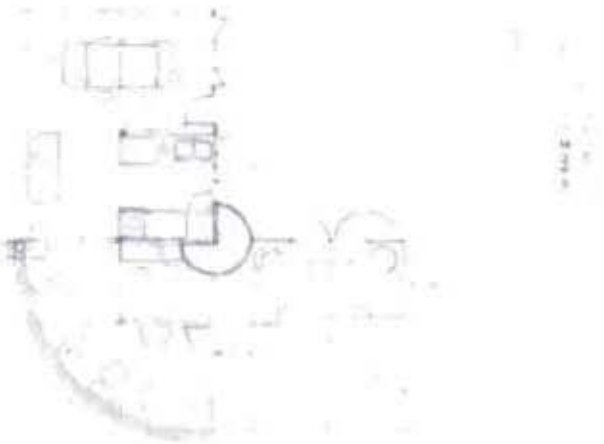
➡**Communicative Action**

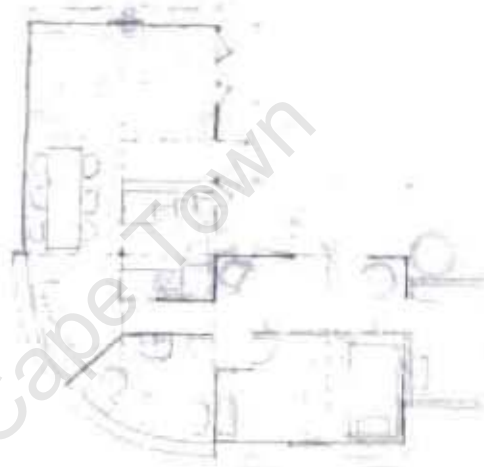
Although critical action research does not specifically outline an approach, it is generally thought to utilize a self-reflective spiral of actions. These include:

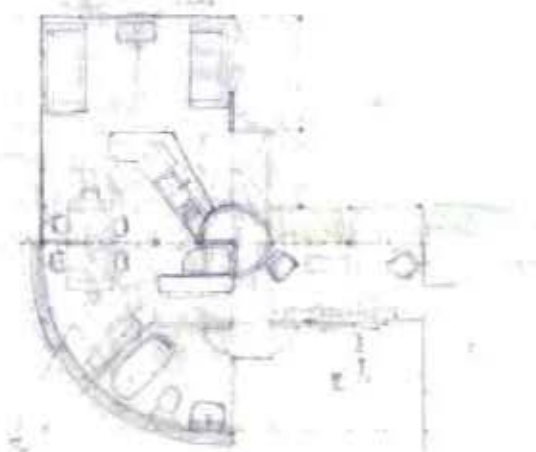
- Planning a change
- Acting and observing the process and consequences of the change
- Reflecting on these processes and consequences and then,
- Replanning
- Acting and observing
- Reflecting, and so on(Stephen Kemmis and Robin McTaggart, 595.)

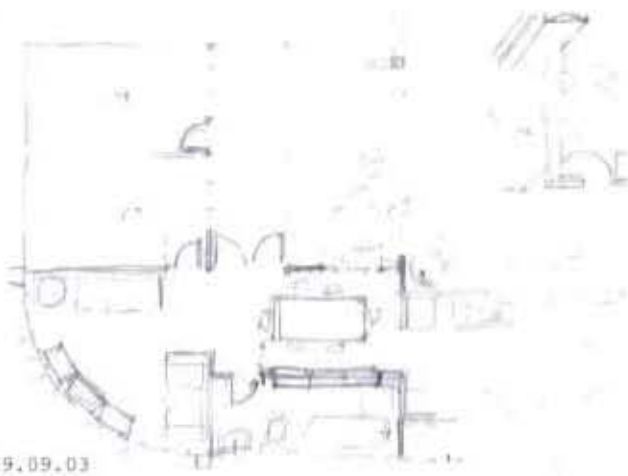
The Mayinje House project involves only the first steps of an action research cycle - planning - acting - reflecting. The documents produced through this project provide for the continuation of the research cycles.

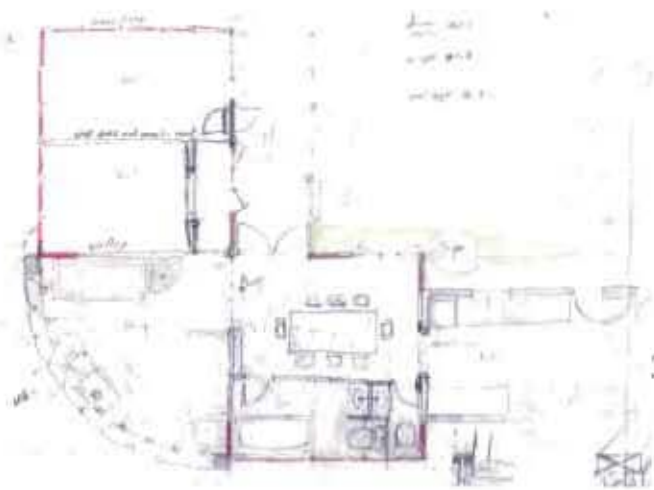












19.09.03

RESEARCH APPROACH

☐ BACKGROUND

Literature: A review of literature relating to this project was completed.

Field: Popular residential construction as well as shack construction methods were researched in and around Cape Town. (This was a general review of the common house-construction methods - providing a basic understanding of most common building technologies utilized in this region. It was not meant as a systematic or comprehensive analysis. The results of this investigation are presented only in relation to the design and construction techniques of the Mayinje house.)

☐ DESIGN PROPOSAL

Based on the research, a design and production process was proposed.

➡**Design + Production Process**

☐ LOCATE + OPERATIONALIZE

The design and construction process was implemented.

☐ PROCESS DOCUMENTATION/OBSERVATION

The design and construction process was documented, with a focus on the involved Actors. These actors were identified and mapped with the intent to reveal existing relationships.

A set of documentation strategies were developed and utilized in order to reflect on the actors involved in the design process. The documentation included: record keeping of design development, video and photography of the construction process, records of quantitative data for analysis and mapping, journal keeping and narrative note taking.

☐ POST-PROJECT RESPONSES

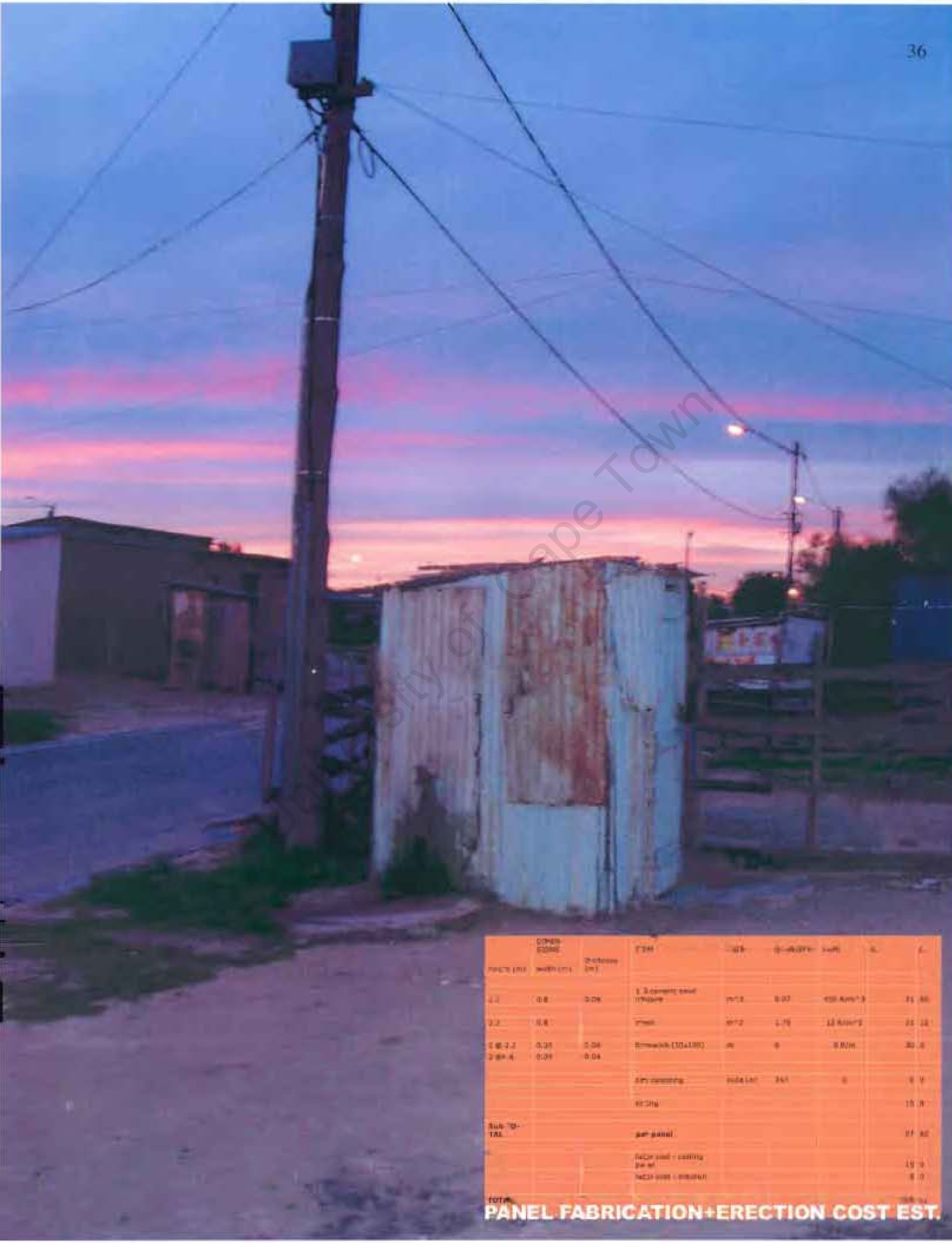
Un-solicited responses to the project from the community, the involved actors, and others, were recorded with video and notes.

☐ REFLECTION

The project was reflected on and those reflections have been incorporated into the thesis document.

☐ EVALUATION

The outcomes of the project are open to evaluation based on the original goals and aspirations. (This includes a qualitative evaluation of the project as well as a quantitative evaluation of the economic viability of the production of the Mayinje house.)



height (m)	OTHER SIZING width (m)	thickness (m)	ITEM	unit	quantity	rate	R	c
2.2	0.8	0.06	1:3 cement sand mixture	m^3	0.07	450 R/m^3	31	50
2.2	0.8		mesh	m^2	1.76	12 R/m^2	21	12
2 @ 2.2 2 @ 0.8	0.05 0.05	0.04 0.04	timberwork (50x100)	m	6	5 R/m	30	0
			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
			fixing				15	0
Sub-TO-TAL			per panel				[illegible]	[illegible]
			labour cost - casting per m				[illegible]	[illegible]
			labour cost - erection				[illegible]	[illegible]
TOTAL							[illegible]	[illegible]

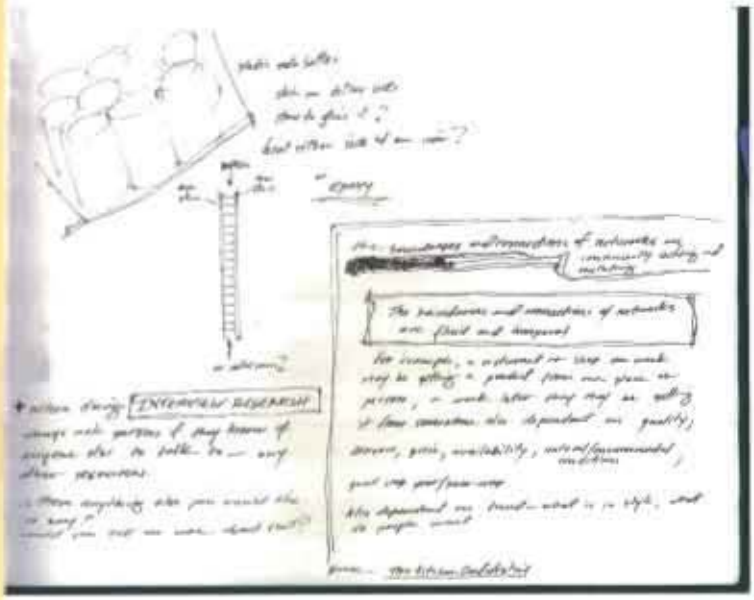
PANEL FABRICATION+ERECTION COST EST.

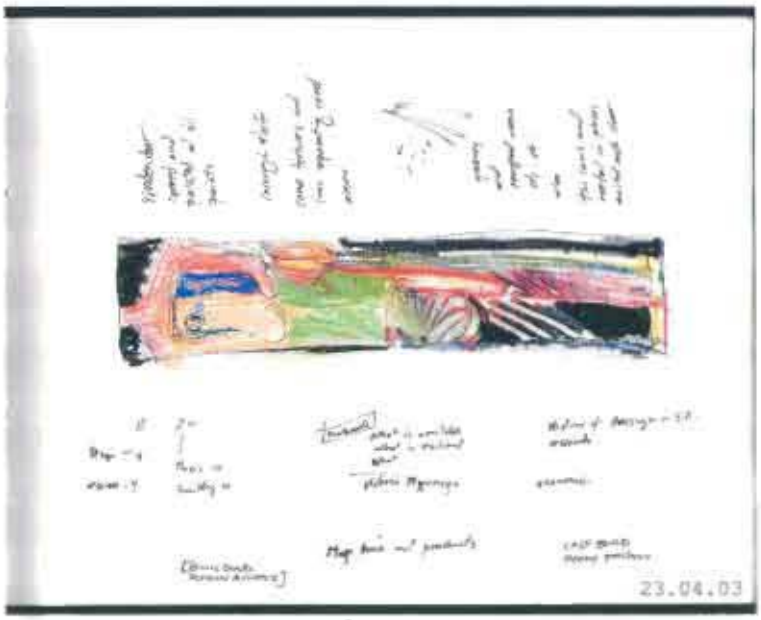
□ DOCUMENTATION

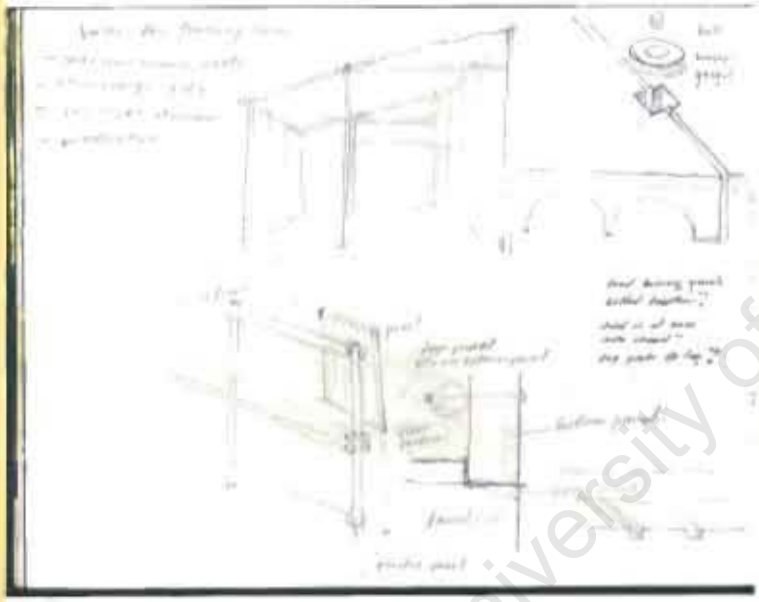
As part of the critical action research methodology, project documentation has been made available to the academic institutions, (UCT, and U.Oregon) and to the Mayinje family, the craftsmen, Oasis recycling, Rotary and other interest parties - as educational resources and/or memory records. The results have been presented in two media; a video presentation of the design and construction process, and this photo/text thesis document. Together they are intended to illuminate the selected facets of this individual creation process. The video is directed towards both the general public and academia, while the written document is directed primarily to an academic audience.

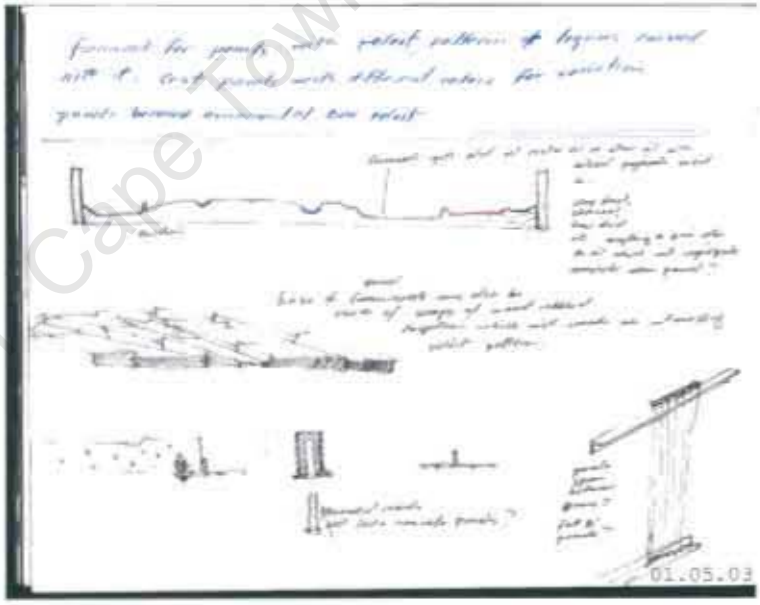
ENDNOTES

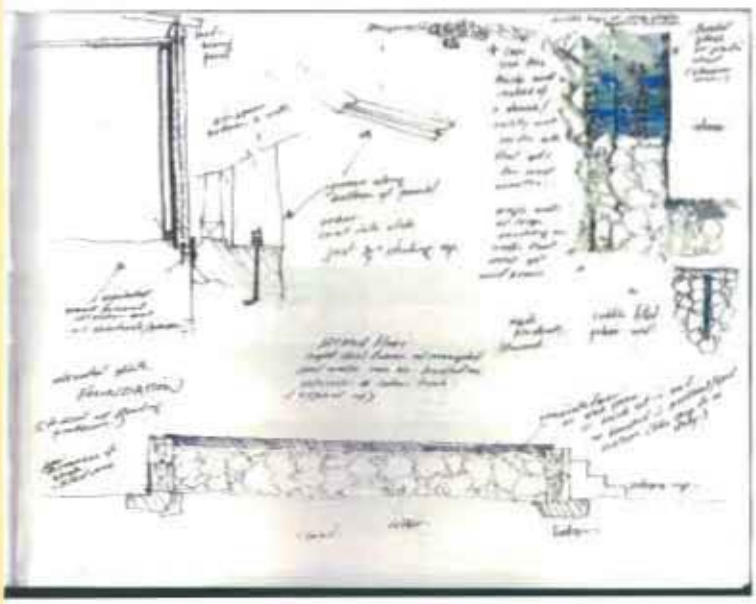
1. Gordon Best, "Methods and Intention in Architectural Design," in *Design Methods in Architecture*, eds. Geoffrey Broadbent, and Anthony Ward (London: Lund Humphries, 1969), 147.
2. David J. Greenwood and Morten Levin, "Reconstructing the Relationships Between Universities and Society Through Action Research," in *Handbook of Qualitative Research*, eds. Norman K. Denzin, and Yvonna S. Lincoln (London: Sage, 2000), 88.
3. Stephen Kemmis and Robin McTaggart, "Participatory Action Research," in *Handbook of Qualitative Research*, eds. Norman K. Denzin, and Yvonna S. Lincoln (London: Sage, 2000), 568-9.
4. Stephen Kemmis and Robin McTaggart, 568.
5. Stephen Kemmis and Robin McTaggart, 573.
6. Stephen Kemmis and Robin McTaggart, 573.

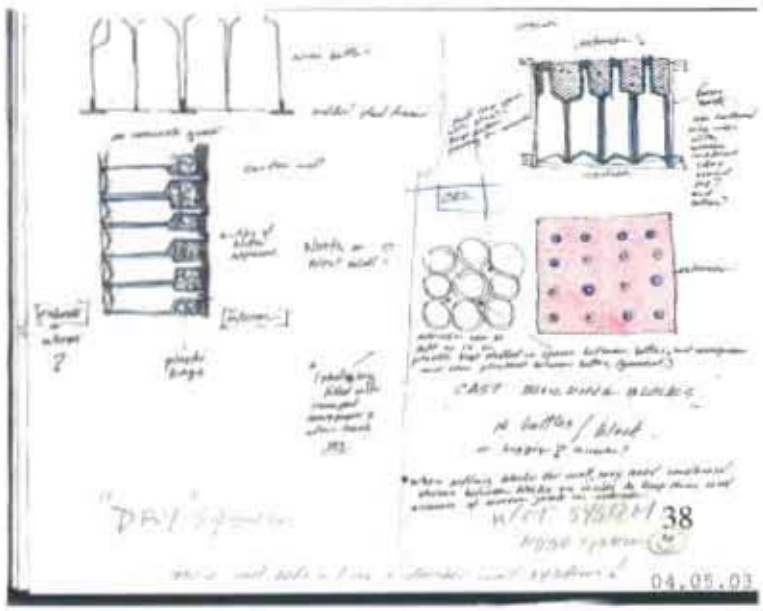




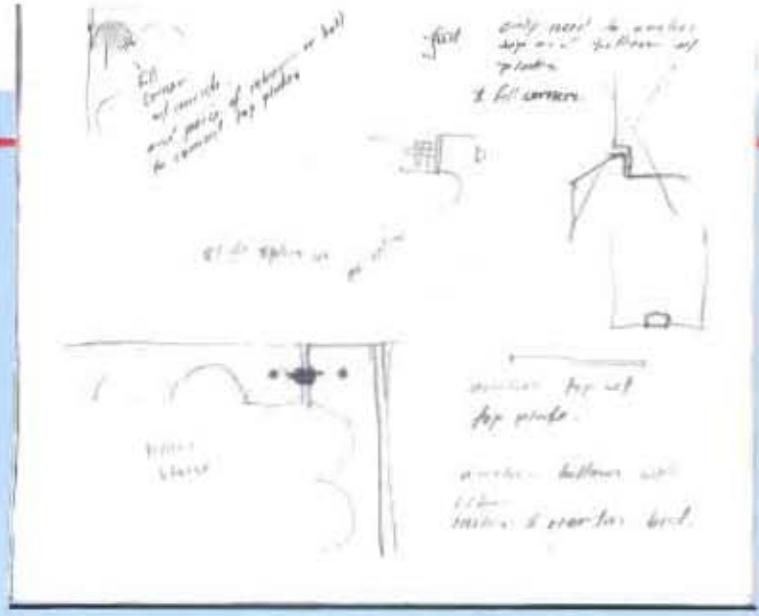


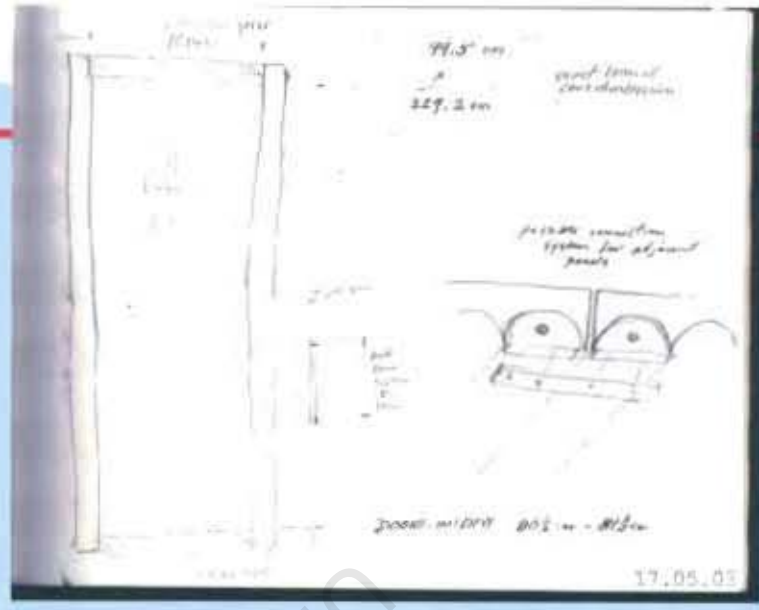


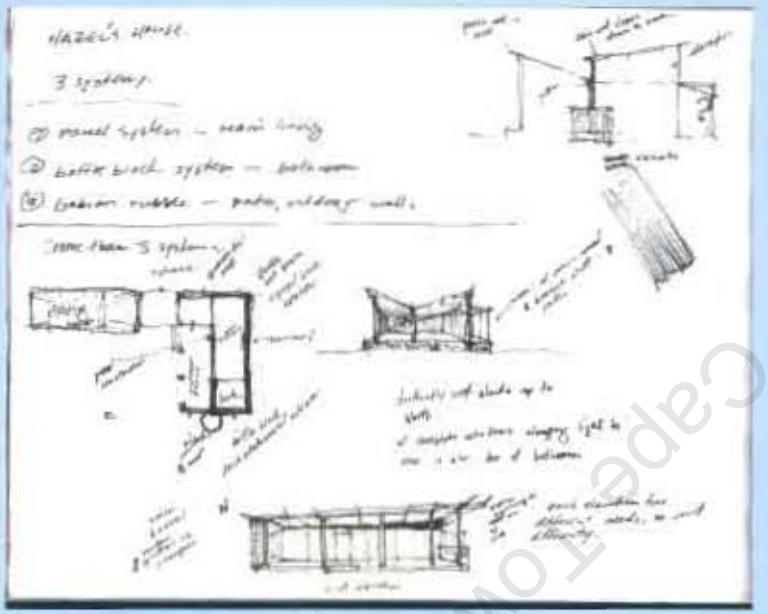


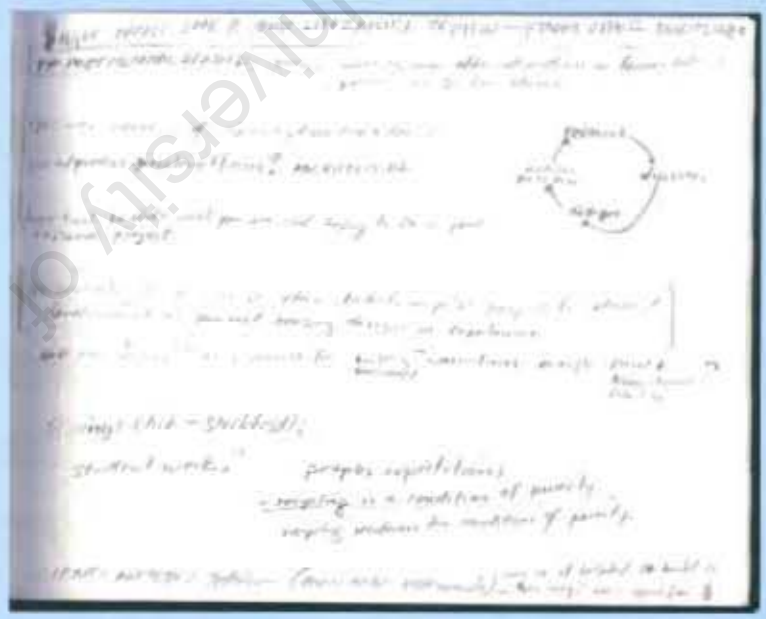


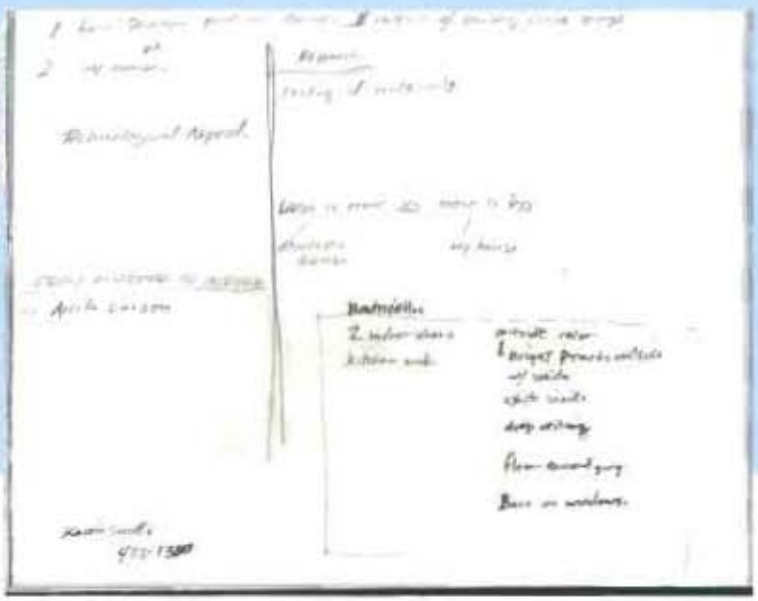
Reflections on the production aspects of this project have been significantly informed by Jürgen Habermas's *Theory of Communicative Action*. Habermas bases his theory of communicative action on the normative characteristics of language in the life-world, or, speech.[1] He writes: "If we assume that the human species maintains itself through the socially coordinated activities of its members and that this coordination is established through communication - and in certain spheres of life, through communication aimed at reaching agreement - then the reproduction of the species *also* requires satisfying the conditions of a rationality inherent in communicative action."[2] Then we could also say that human societies (groups) maintain themselves through communication. Therefore, if dwelling - nurturing the fourfold, is a fundamental aspect of maintaining a society, then dwelling is also maintained through communication - and if building is possible only in a condition of dwelling then building is also dependent on communication. This is no surprise. McCarthy further explains Habermas's instrumentalist theory with these words: "In the atomistic perspective of much of modern thought, the subject stands over against a world of objects to which it has two basic relations: representation and action. Accordingly, the type of rationality associated with this model is the "cognitive-instrumental" rationality of a subject capable of gaining knowledge about a contingent environment and putting it to effective use in intelligently adapting to and manipulating that environment. By stressing the fact that the goal-directed actions of different individuals are socially coordinated, Habermas shifts our attention to the broader context of individual purposive actions, to the structures of social interaction in which teleological actions are located."[3] The utility of Habermas's thinking becomes immediately apparent for an architectural project, which requires an ultimate orchestration of 'individual purposive actions.' What are individual purposive actions and how do they relate to language? Habermas explains: "The communicative model of action does not equate action with communication. Language is a means of communication which serves mutual understanding, whereas actors (agents), in coming to an understanding with one another so as to coordinate their actions, pursue their particular aims…Concepts of *social action* are distinguished by how they specify this coordination among the goal-directed actions of different participants - as the interlacing of egocentric calculations of utility, as a socially integrating consensus about norms and values instilled through cultural tradition and socialization, or as reaching understanding in the sense of a cooperative process of interpretation…"[4] Because the Mayinje project utilizes a concept of *social action*, we must ask these questions:

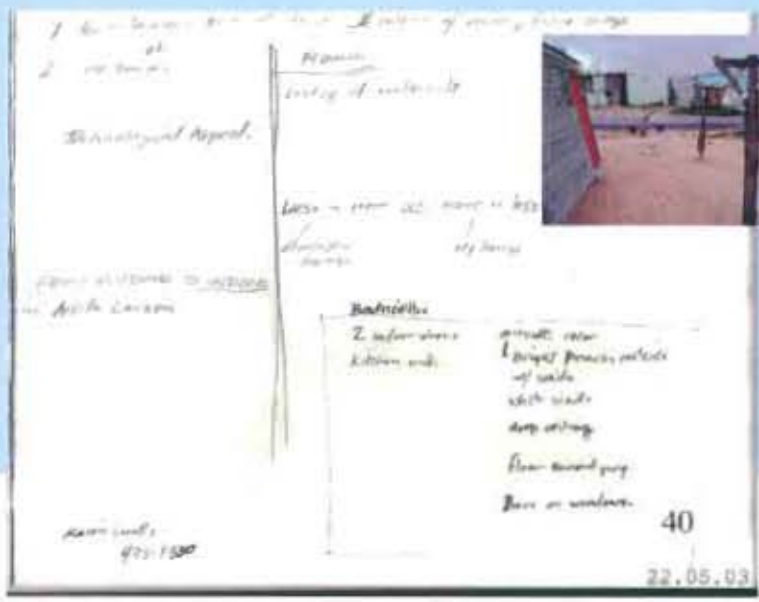












How does this project specify coordination among the actions of the different participants?
What interlacing of egocentric calculations of utility occurs?
What is the consensus of norms and values (instilled through cultural tradition and socialization) that integrates this group of actors?
What understandings were reached through cooperative processes of interpretation?

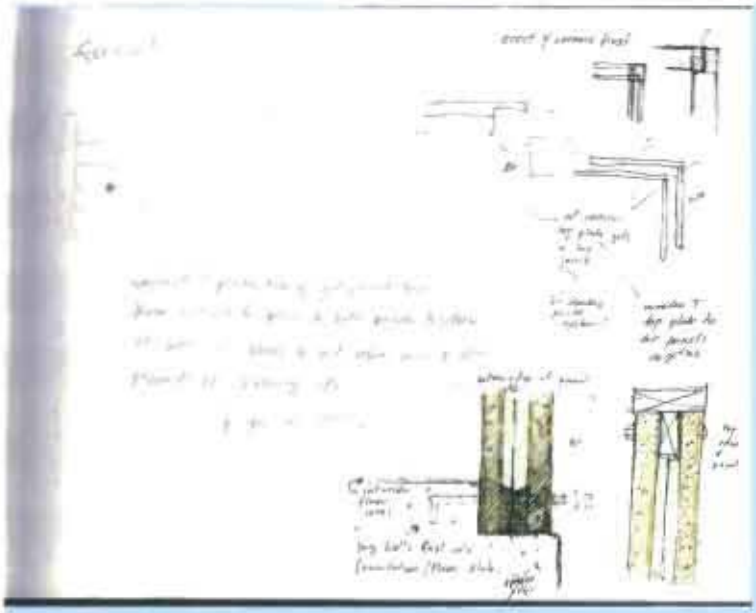
➡communicative action contracts

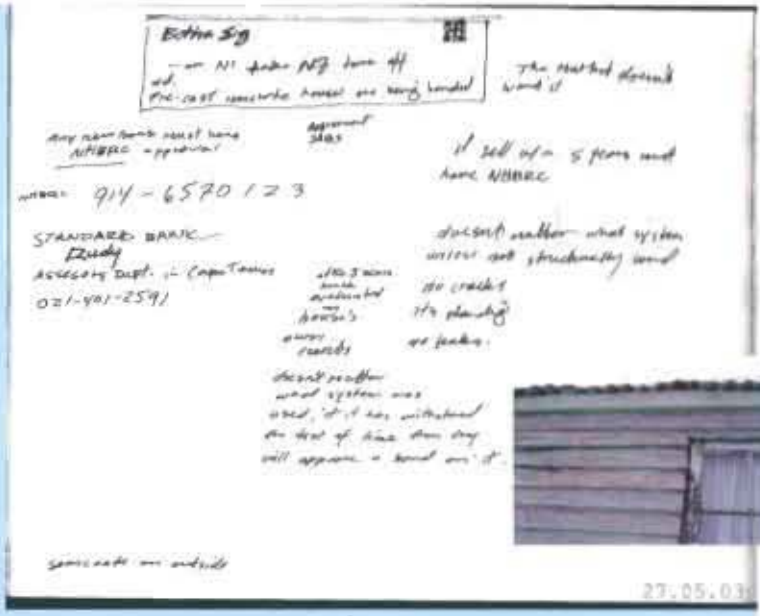
Habermas continues: "The interpretive accomplishments on which cooperative processes [of situation definition] are based represent the mechanism for coordinating action; communicative action is not exhausted by the act of reaching understanding..."[5]

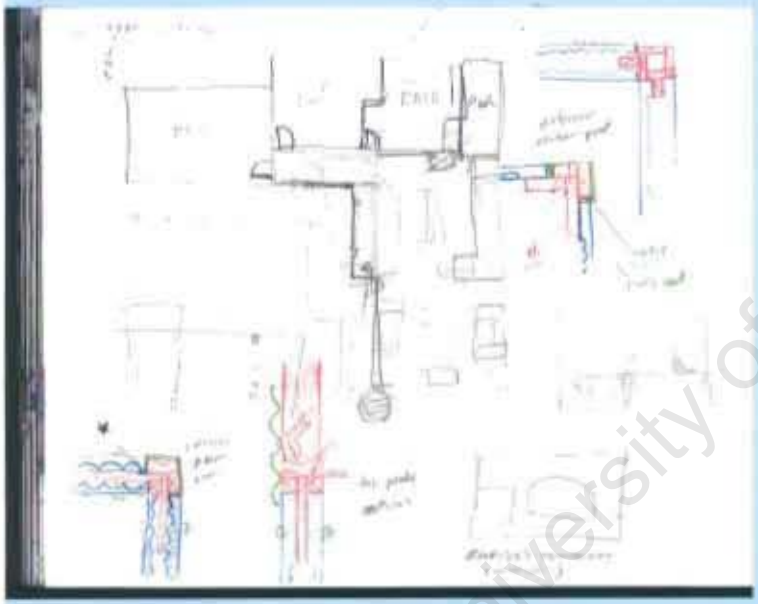
What *interpretive accomplishments* were reached? (action *coordination mechanisms*)

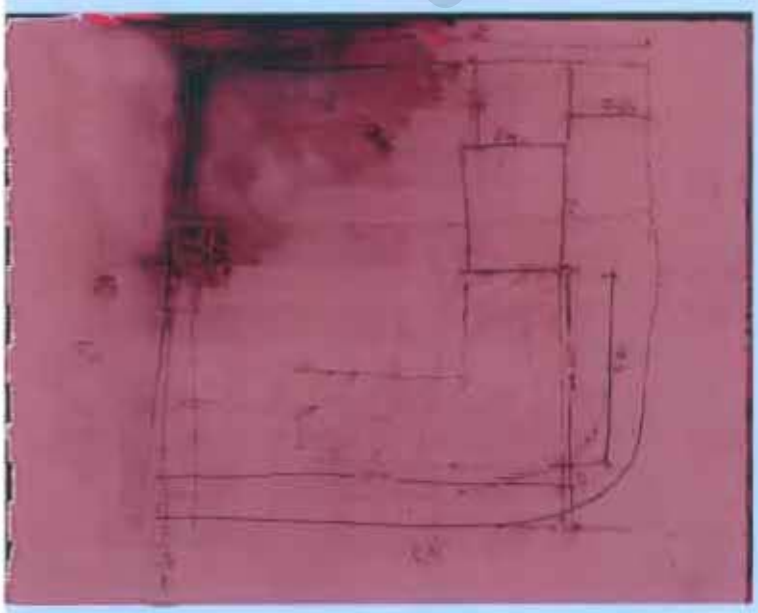
➡design+production process:action criteria

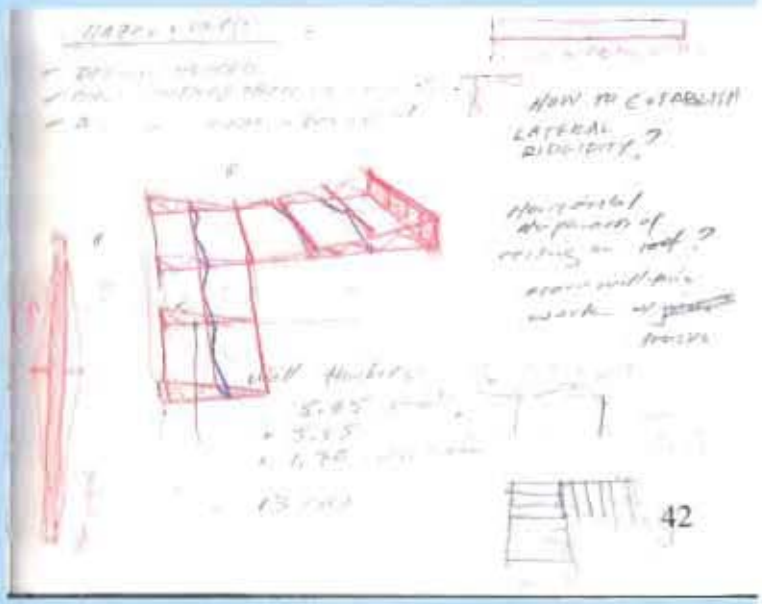
The experience of achieving mutual understanding in communication free from coercion is fundamental in Habermas's idea of rationality. Habermas's theory has special resonance therefore within the context of the new South Africa, because it implies the avoidance of the use of physical force or coercion in the establishment of social relationships. South Africa's Truth and Reconciliation process directly affirms such a theory, and has been one of the significant bases on which the new society has been able to re-imagine itself in harmonious existence. With communicative action, in order to reach understanding, each actor is required to communicate an authentic expressions of their own subjective experience, to reveal a means - ends motivation, or to claim that their position is a correct action in the given context (value based.) These are all legitimate modes of taking a position in reaching agreement.[6] There exists a "reflexive medium" for dealing with problematic validity claims however, it is - the mode of *argument*. If we subject a problematic claim to the logical rigor provided by argument, then conceptually, a single, inter-subjective conclusion should emerge.[7] According to McCarthy, the reliance on a sociocultural matrix of individual action orientations requires Habermas to address the cultural and historical variability of life-world structures, or diverse worldview experiences. The question that arises is how can his theory claim universal significance, or a normative foundation given these conditions? Habermas addresses these questions through a comparison of "mythical and modern ways of understanding the world,"[8] and also argues that the case for relativism is by no means conclusive. With communicative action, social actors and agents possess the same interpretive capacities as do researchers, a researcher is just another social actor. All participants therefore assume a subjective position and therefore cannot claim an objective interpretation except through reflection. This ability for reflection is inherent to any of the actors or participants.[9] A researcher can therefore gain understanding only through reflexive interpretation with an awareness of empirical factors that condition the research project. Empirical factors include power relations, economic











systems, envircnmental forces, etc.) It is apparent that Habermas is keenly interested in research that combines such internalist and externalist perspectives.[10] Habermas's theory is developed in two volumes representing almost a thousand pages of text. For my purposes it is not necessary to attempt to summarize all the support he mounts in defense of his theory. My engagement is one of utility, of testing the usefulness of this theory. Habermas himself recognizes that the validity of his theory of communicative action can only be determined by the "empirical fruitfulness of research programs based on it."[11] My perspective in reference to this project is unique. As one of the actors or participants, I occupy an internalist perspective, but also, through my role as a researcher, and as an outsider to South Africa and the culture(s) of the specific situation, I maintain an externalist perspective. I have attempted to record as much internalist perspective as possible throughout the project, and to incorporate and highlight those perspectives that are not my own into the two mediums of presentation. Zukisa Mayinje's internal perspective is well documented in the movie document especially. I gave him the camera often, asking him to record whatever parts of the project he wanted to. At other times he simply asked for it and recorded whatever he wanted to. Although both internalist and externalist perspectives have been represented, there is a mode of hierarchical organization in this project which was unavoidable. However, it rests in the subordinate position that we all take as agents, in relation to the building production itself. The production became a construct that took on a life of its own, at which point we all provided service, or the means for its realization. Though, conversely it would not have existed without the support(at times all-consuming), of the agents involved.

There are several diagrams in Habermas's book that are useful in dissecting the action directed relationships of this project.

➡types of action ➡alternative typology of action

Types of Action

Action Orientation / Action Situation	Oriented to Success (success- the appearance in the world of a desired state)	Oriented to Reaching Understanding (not to individual success. Individual goals are pursued under the condition of harmony or a common, negotiated definition of the situation.)
Nonsocial	Instrumental action (efficiency in situation)	———
Social	Strategic action (influencing rational opponent)	Communicative action

An Alternative Typology of Action

Degree of Rationality of Action / Coordination	Low	High
Through interest positions	De facto customary action	Strategic action
Through normative agreement	Conventional action based on agreement	Postconventional action based on agreement

ANDRE

01.09.03

04.09.03

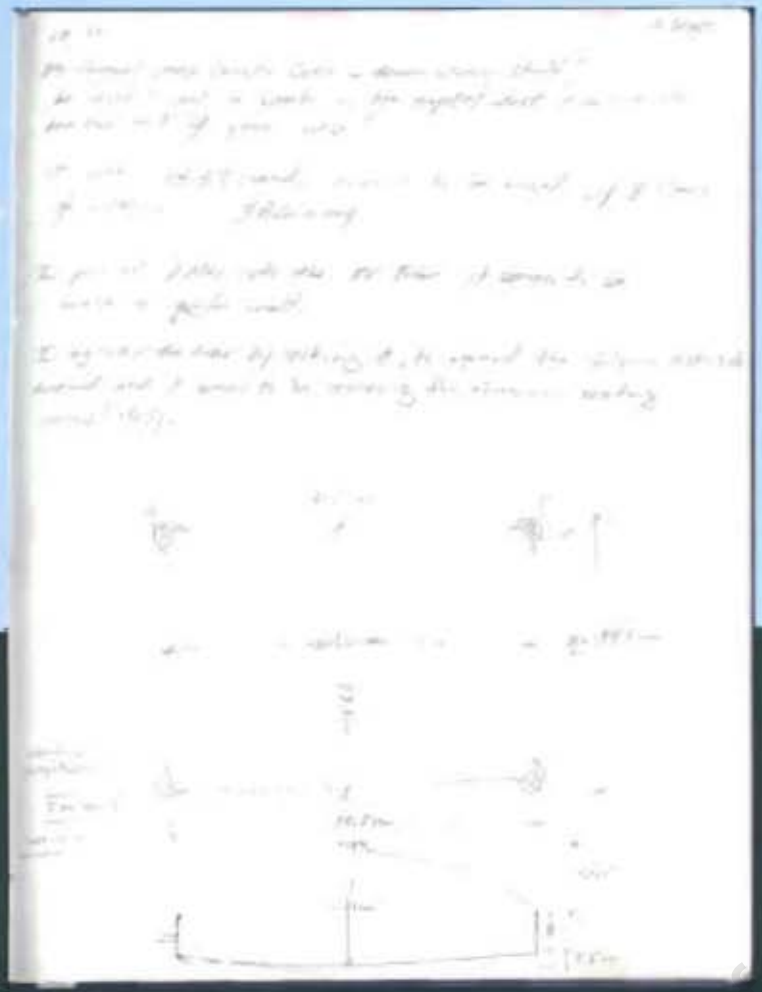
Human beings capacity for freedom is dependent, in Habermas's account, on cumulative learning in theoretical and practical activity. Through such learning, knowledge is generated that makes possible the technical mastery of the natural and social world and the organization and alteration of social relations; that is, the expansion of the sphere of 'sensuous human activity' or praxis. Habermas analyzes praxis as a complex existing of two key parts - work (or instrumental action, purposive rational action) and interaction (or communicative interaction). He also refers sometimes to a third type of action - strategic action - which is both instrumental (means-end oriented) and bound to a context of interaction.[12]

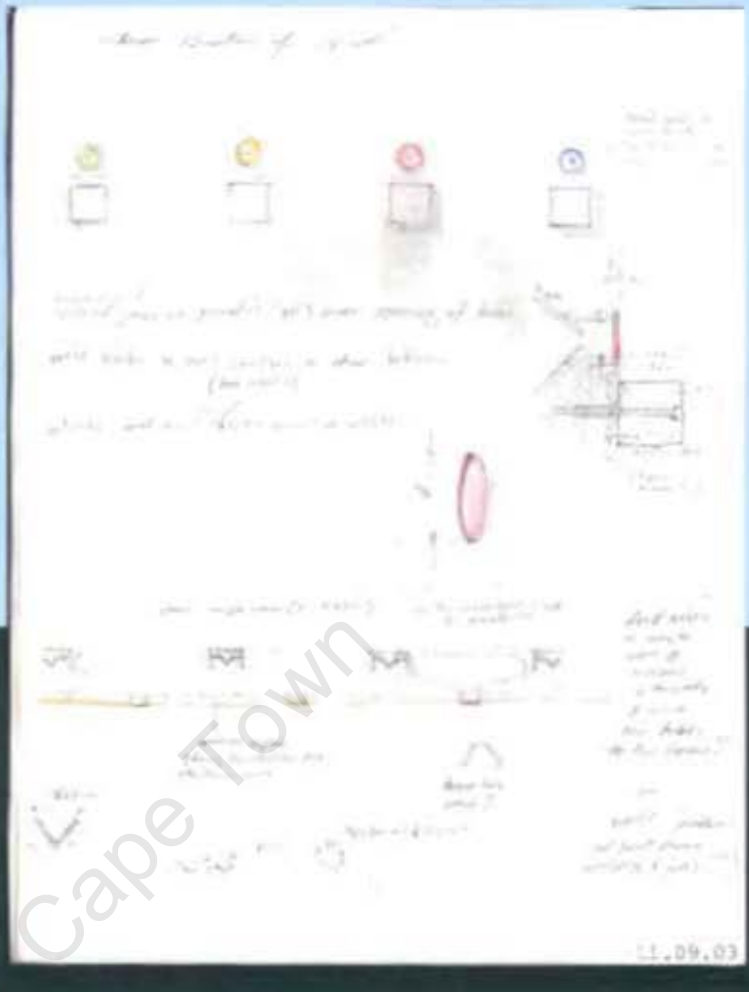
COMMUNICATIVE ACTION CONTRACTS

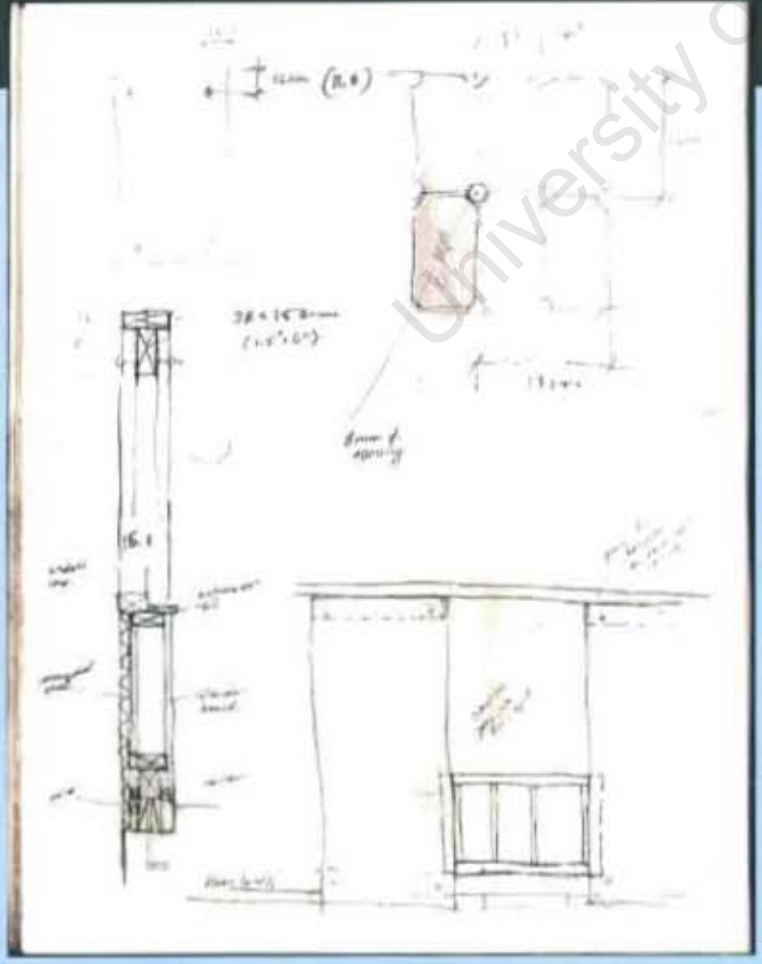
The production of the Mayinje House was held together around a group of *communicative action contracts.*

AGENTS	COMMUNICATIVE ACTION CONTRACTS
Rotary-Ferrari	**Rotary** agrees to provide grant funding for academic research in another country.
	Ferrari agrees to use funding for architectural research in South Africa.
Low(UCT)-Ferrari	**Low** agrees to provide contacts and guidance for a critical architectural project.
	Ferrari agrees to elaborate the project through the Mphil program.
Rabkin-Ferrari	**Rabkin** agrees to provide the budget for the Mayinje House production.
	Ferrari agrees to design and manage the production of the Mayinje House.
Mayinje-Ferrari	**Mayinje** agrees to provide the site, and give design opportunity and experimental license.
	Ferrari agrees to deliver a desirable house, or, 'more' house for the budget.
Ferrari-Builders	**Ferrari** agrees to pay standard labor wages and to provide a learning-opportunity to local workers.
	Builders agree to provide labor, skills, and knowledge on a day-by-day basis.

The term *contract* here, does not denote a bureaucratic, legal construct, but a verbal understanding or agreement. With communicative action, purposeful actions are undertaken with the intent of reaching a collective, or joint understanding - with the intent of fulfilling the contract.[13] Each contract represents a mutually beneficial agreement based on individual motives. For example: My motive for establishing a contract with Hazel Mayinje was that our understanding would allow me to test design ideas that hold interest for me, and which have the potential for advancing my professional situation. Her motive, presumably, is that those design ideas have the potential to give her more square footage for the limited budget, and a more climatically comfortable and desirable/valuable house. In this case the contracts established a de-facto goal. Once the goal was established, then *strategic actions* were employed to attain it. In this case, the production of the Mayinje House was the goal emerging from the group of agreements. What is the nature of the Mayinje House? In order to fulfill all the contracts, it was required to be a home for the Mayinje family and a critical piece of architecture that employed innovative building strategies in order to maximize the creation potential of a limited budget, while providing skills training and economic benefit to the community in which it is located.







So how does communicative action relate to design in this case?

Each individual design decision is a strategic action, fundamental to the attainment of the goal. Each design decision must be evaluated with respect to its potential to contribute to the goal. The goal therefore defines the *action criteria*. (➡**design+production process: action criteria**) For example; if the goal is the production of the Mayinje House, and one characteristic of the production is that it must maximize the potential of the budget, then one of the action criterion must be - material/ component cost. The use of television tubes in a wall system should therefore be evaluated in terms of economic feasibility/cost. The TV system will also be evaluated in terms of other criteria. The dynamic interaction of the combined group of established criteria allows for a qualitative/quantitatively informed evaluation, and a subsequent design decision. Through this process, those agents who are directly invested in a particular design aspect, make that design decision collectively .

ENDNOTES

1. Thomas McCarthy, introduction to *The Theory of Communicative Action, Volume 1: Reason and the Rationalization of Society*, Jürgen Habermas (Boston: Beacon Press, 1984), ix.
2. Jürgen Habermas, *The Theory of Communicative Action, Volume 1: Reason and the Rationalization of Society* (Boston: Beacon Press, 1984) 1:397.
3. Thomas McCarthy, vol.1: ix.
4. Jürgen Habermas, vol.1: 101
5. Jürgen Habermas, vol.1: 01
6. Thomas McCarthy, vol. 1: x.
7. Thomas McCarthy, vol. 1: xi
8. Thomas McCarthy, vol.1: xii.
9. Thomas McCarthy, vol.1: xv.
10. Jürgen Habermas, vol.1: 66-67
11. Thomas McCarthy, vol.1: xii.
12. David Held, *Introduction to Critical Theory: Horkheimer to Habermas*, (Berkeley: University of California Press, 1980) 254.
13. Jürgen Habermas, vol.1: 286

structure, gesture, skin and space all work together -

Kansai airport - Renzo Piano

Rigid diaphragm

cape town rubber company 414 - 4720

[flashing between roof and curved wall]

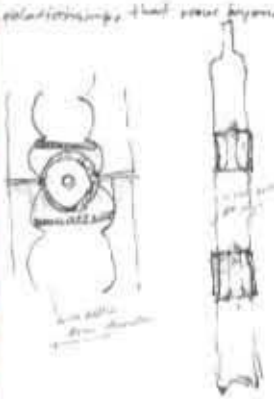
*SANDTEX (rubber diving suits) = Neoprene

foam rubber plastics 581 - 3844

both dynamics

by junction

relationships that occur beyond the block -



SPIRAL-DYNAMICS

consideration of values & ideas -

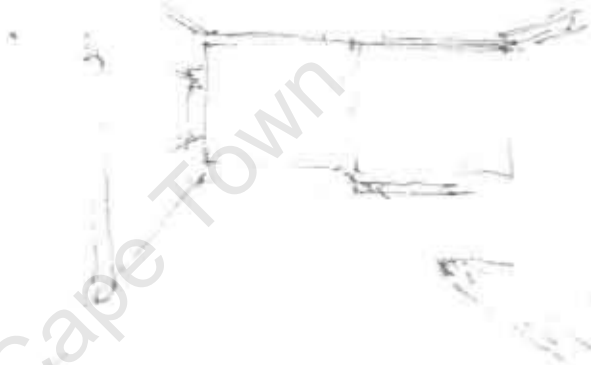
yellow turquoise PIAGET

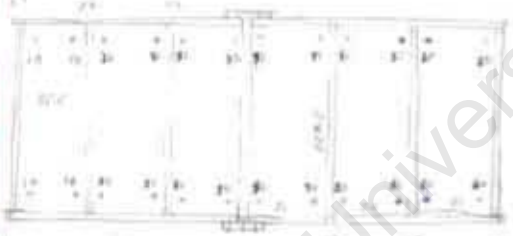
! phenomenology !

Architecture is about psychological dimensions of human experience in order to accomplish encounter with the world, and need to pay attention to this.

foundation (including labour & drainage)

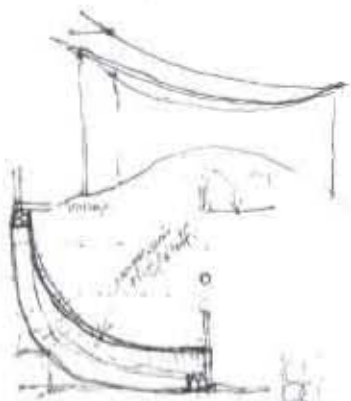
5-6 one roof





double glass

12 panels of 4 each



48

16.09.03

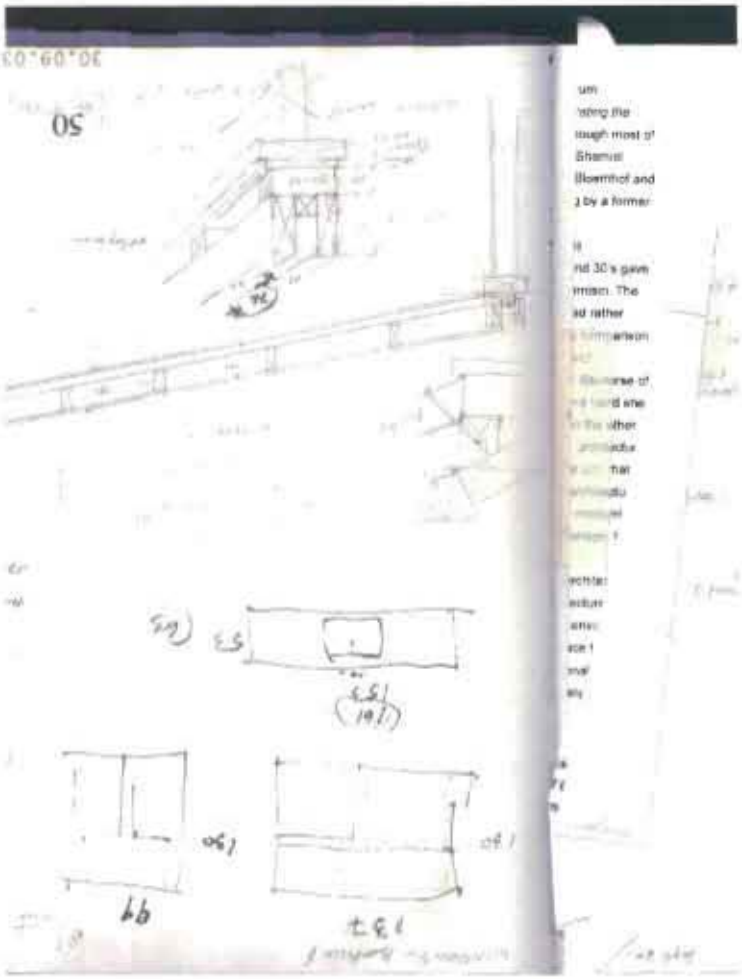
DESIGN + PRODUCTION PROCESS

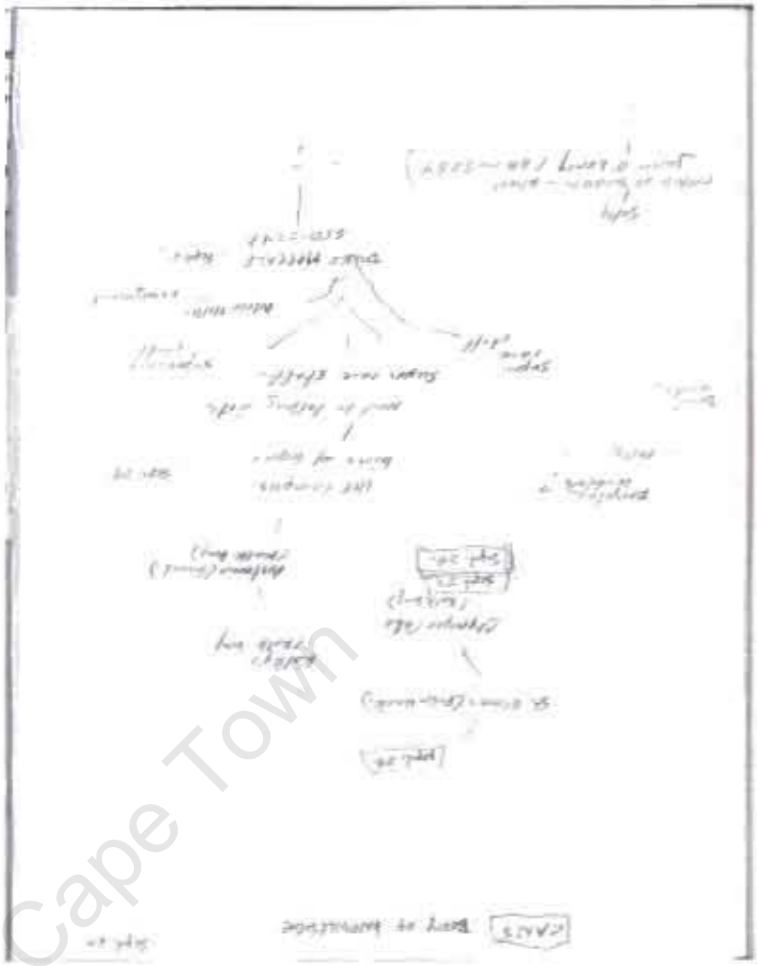
What are the processes that bring actors together in a productive mode?
What are the material, social, and intellectual influences?
What are the theoretical, practical, and experiential concerns?

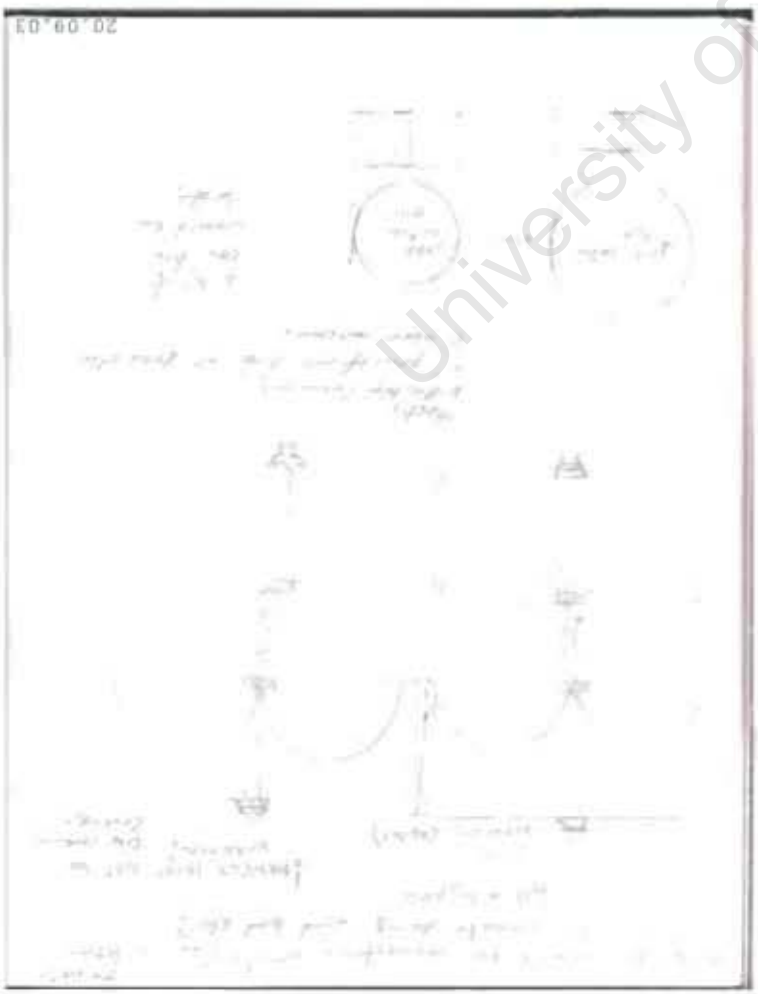
The starting point of this particular design + construction process is inherently *material-cultural* and only subsequently tectonic. By this I mean that it is the interactions between human social networks and their associated material resources that initiates the design process. The 'seeds' of creation are therefore not property of the architect, but of the temporally located actors/agents present in a specific place and culture. If, as architects we are to attempt to design spaces that blur the distinction between object - subject, text - context, or organism - ecosystem, then we must develop design and construction processes which break down these dualities and generate dialogues and dialectical relationships.
This design method employs Lefebvre's theory of *space* as an ongoing production of social and economic forces. As stated - A building is contained within, and created through a unique and temporally located building sub-culture. In other words, the "event" of creation, or the space of production of a building, catalyzes an ephemeral community that exists for that brief period of creative genesis. The nature, or character of that community or sub-culture defines greatly the work, or the space it produces. The ethos (values), rituals, language, structure, and contradictions of that culture will be embodied in the work the culture produces. If a house is both a work of such a production as well as a produced space, then is it not possible to influence an extant, contemporary mode of production through action research applied within that same modality of production?

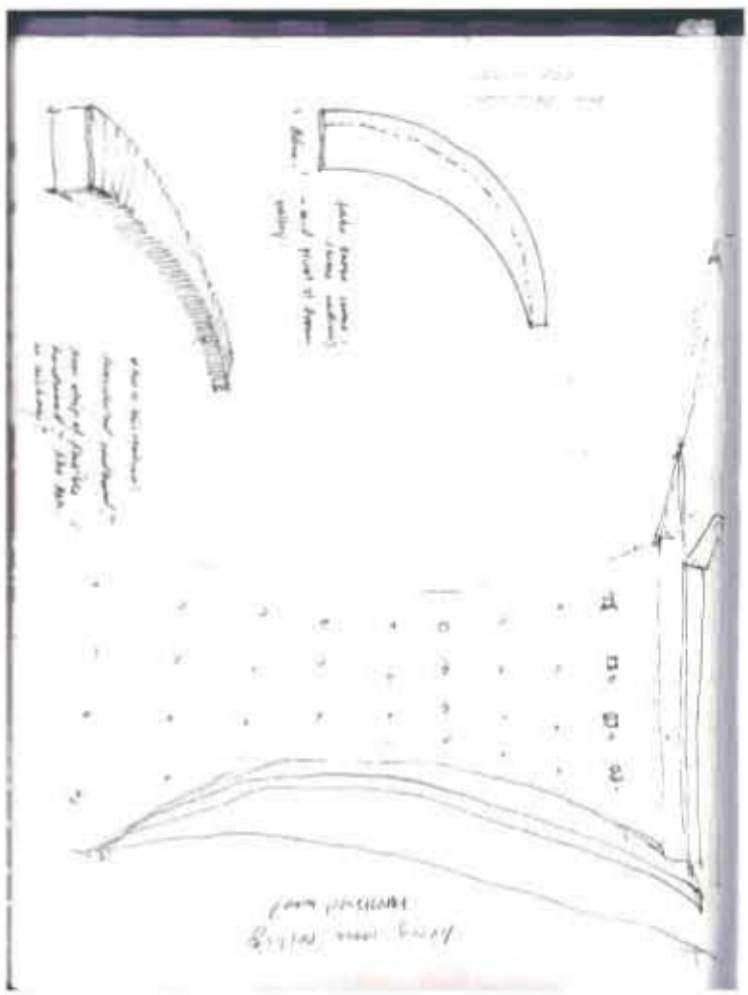
Actors - for the purposes of this investigation, an actor can be defined as a force - human, material, or conceptual, which exerts an influence on the production of the architectural object and architectural space.
Agent - human actor/person (➡**Research Method: actors**)

The following design sequence (not including construction) proceeded in loops that were layered over each other and compounded chronologically, creating a sort of vortex with chronological time as the weft. The components are loosely sequential and iterative. Each resource discovery requires a subsequent cycling. Not all the steps are necessarily part of each cycle depending on the nature of the information or resource introduced. Design choices are revaluated each time based on the new information. This was a conventional architectural design process in the sense that the design was developed fully before any construction proceeded.









(note: the following outline does not depict the relational design process, it merely describes the components of the process in order to provide a foundation for understanding the design method. (See also the **➡Design-System Diagram**, which is a conceptual reduction of design relationships and interactions.)

SOURCES

I began with the assumption that any person or text might have knowledge beneficial to this project. Also, if each person and text exists within numerous and diverse networks, then networking is a critical tool for the exploration of possible material, conceptual, and human resources. With this in mind I began a resource investigation that made use of all the references sources that I was aware of. My hope was to locate and catalogue as many free and inexpensive resources as I could.

My initial reference sources included:

- the Yellow Pages (of the Cape Town telephone directory)
- newspapers
- the computer Internet (World Wide Web)
- social networks (Rotary, friends, academic colleagues, acquaintances)
- literature (books, journals, published precedents, parallel case-studies)
- life-world observations (local building examples, and other)

RESOURCE INVENTORY

I utilized the perspective that any material has potential construction utility. I also maintained that any interested person, corporation, or idea is a valuable resource.

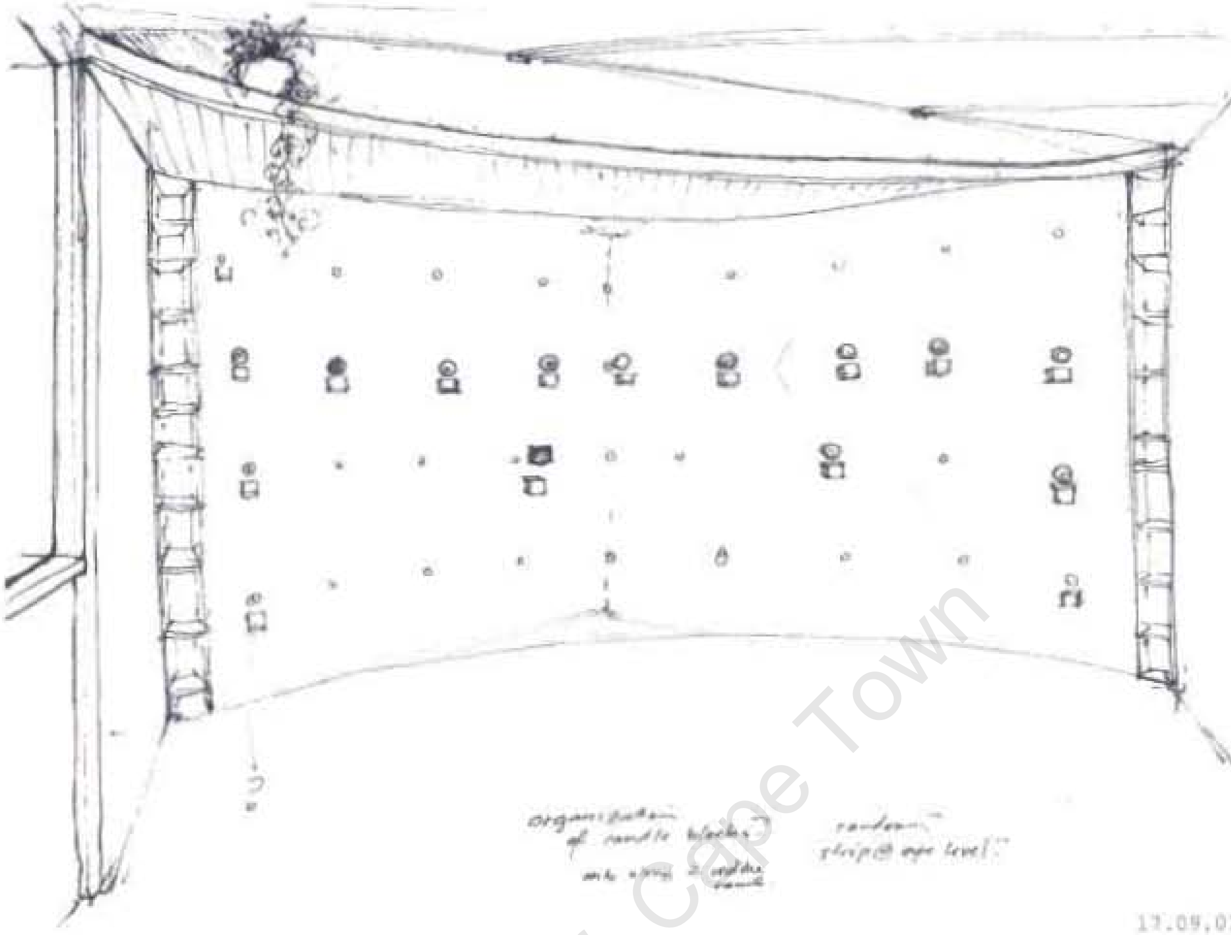
➡Contacts/Materials Spreadsheet

(The resource genealogy map represents only those relationships, or connections which were fruitful, it does not include the great extent of dead-end paths which were explored as well.)

➡Resource Genealogy Map

EVENTS

The accumulation and cataloging of resources - material, conceptual, and contextual, and the identification of forces and actors - caused inevitable collisions, which sparked design ideas or catalyzed *design precipitates*. This type of broad-based gathering of contextual information was specifically intended to create dynamic situations in which collisions were frequent. It is based on the idea that design is not a linear process. It works in a way similar to ones brain when reading. Our eyes must follow organized paths in order to make sense of the vast group of symbols, but the concepts, once captured become free to collide with others through random and chance associations, often resulting in the generation other autonomous ideas.



17.09.03

Beauty today can have no other measure except the depth to which a work resolves contradictions. A work must cut through the contradictions and overcome them, not by covering them up, but by pursuing them. Theodor W. Adorno, 1965

shift the wall back a further

from Hilde Heynen
ARCHITECTURE & MODERNITY

18 Sept.
this is the first sketch of the whole thing
- indicating a different design process.

18.09.03

DESIGN PRECIPITATES

The *design precipitates* were evaluated and selected or rejected based on *action criteria*.

ACTION CRITERIA

These criteria emerged as *interpretive accomplishments* through the *agents* collective project goal - a product of the interacting needs, motives, interests and values embedded in the contracts between *agents*. These criteria are *action coordination mechanisms* necessary for evaluating the potential of each design precipitate, and for making design decisions. The action criteria are considered constants against which all design precipitates are evaluated. **➡Communicative Action Contracts, ➡Research Method: actors**

- economic costs / remuneration
- critical / mimetic value
- social/cultural acceptability
- climactic suitability
- structural adequacy
- valency (can it be used in multiple ways, serve multiple functions, or solve multiple problems?)
- maintenance
- assimilation potential (in local building culture)
- reproducible
- efficiency (how many steps are involved in its production and assembly ?)
- human resource/skill availability (for its production-or-is training possible ?)
- location of necessary resources (proximity to building site ?)
- sufficient quantity of materials to produce it ?
- transportability

SURVIVING PRECIPITATES

Each building component/system was tested and evaluated based on the action criteria above.

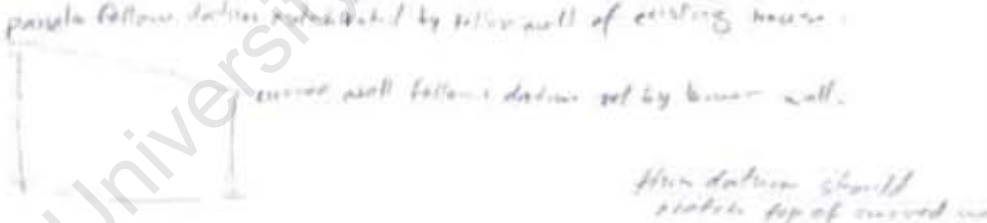
The surviving design precipitates became part of the final design. They were presented to the involved agents to verify their selection.

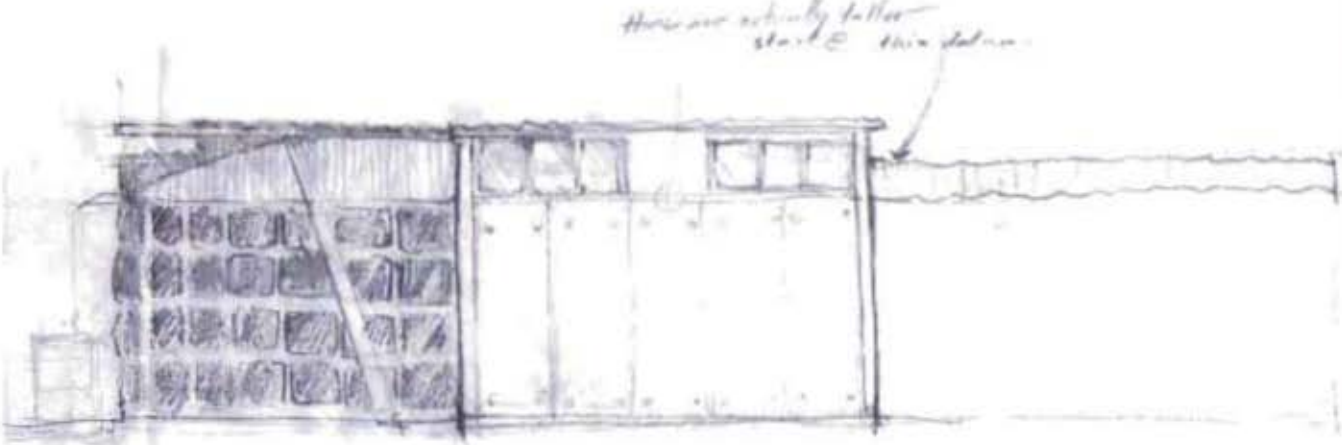
INPUT OF CLIENT INCORPORATED INTO DESIGN

At many points in this process design input was solicited from the clients, allied professions and other resources

DESIGN DEVELOPMENT

A unified tectonic building system was designed to capitalize on the formal and structural characteristics of the selected materials, components, and the human resources available. **➡Component Based Design** (Note: again, input was solicited at numerous stages - from previous experience of others, literature, professors, professionals from other fields, and any other sources encountered.)

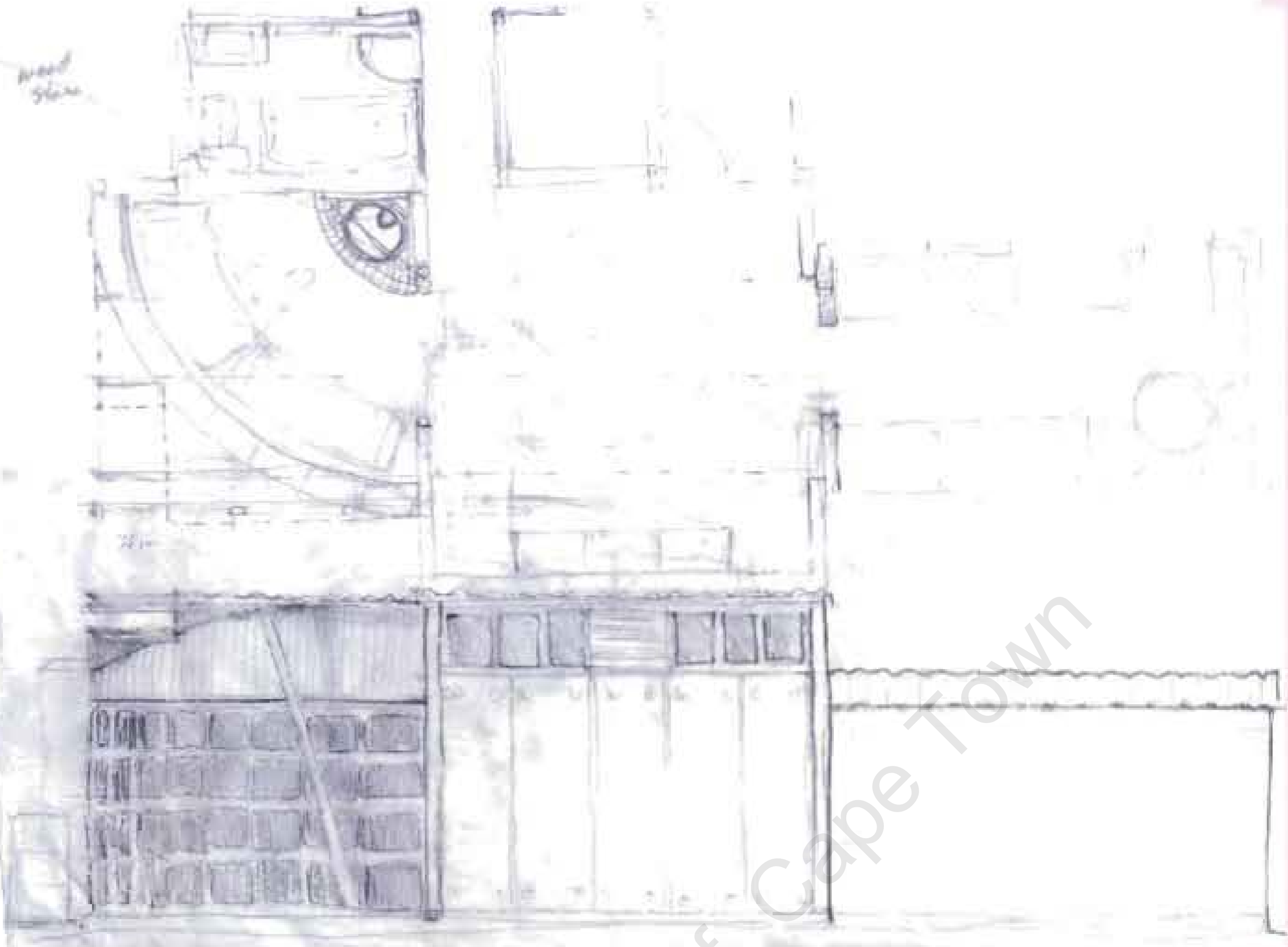




PROPOSE TO CLIENTS
The design was finally presented to the clients as a complete set of drawings. **➡design drawings/details**
It received approval.

CONSTRUCTION PLANNING
The construction process was flexibly planned around an eight-week schedule.

CONSTRUCTION
The house was built



Lefebvre – production of space

p. 73

"(Social) space – is the outcome of a sequence and set of operations, and thus cannot be reduced to the rank of a simple object."

"What exactly were the great cathedrals?" The answer is that they were political acts?

Is this house a political act by Beatrice & her husband Louis, and myself? possibly so.

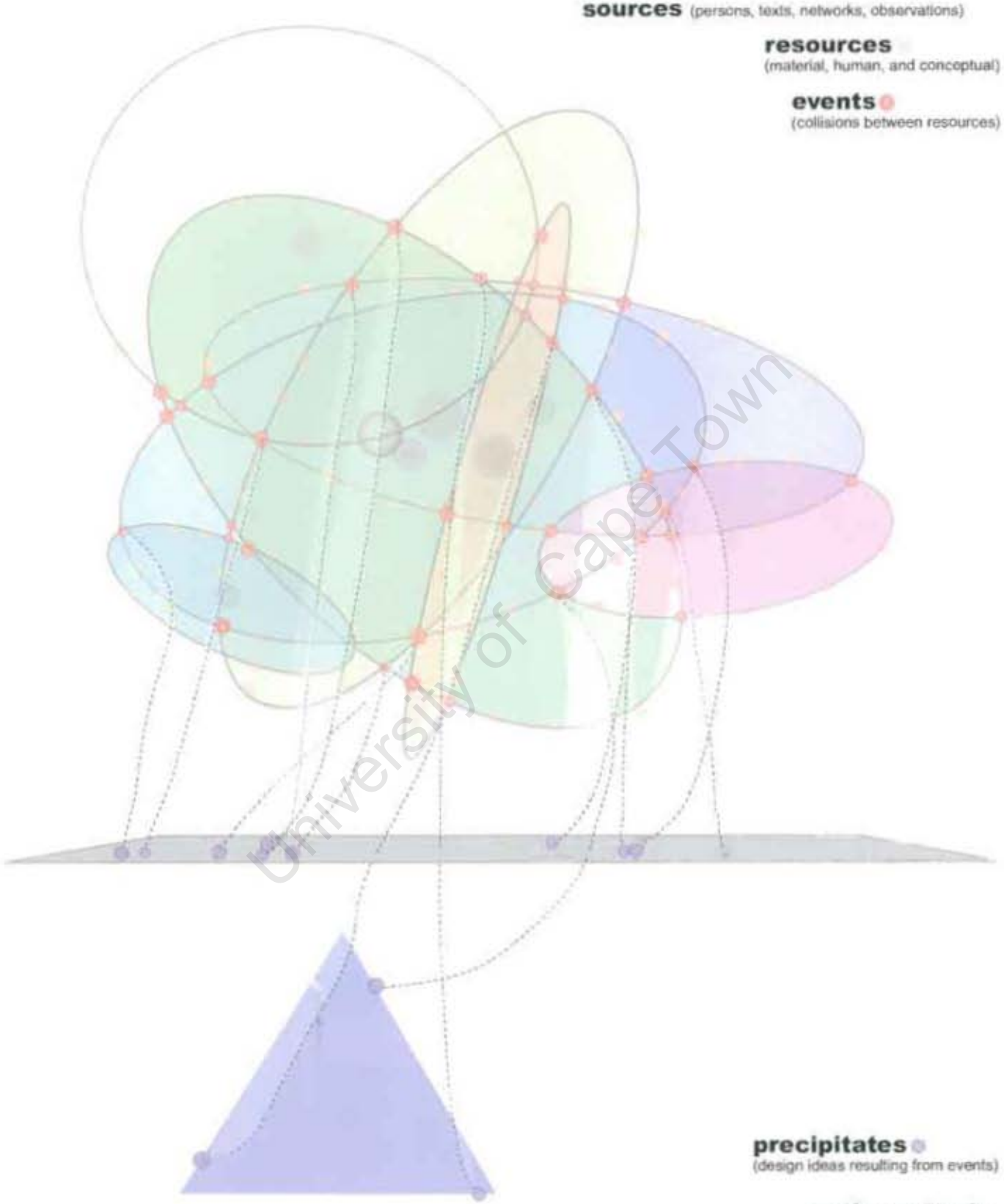
p. 75

"Repetitious spaces are the outcome of repetitive gestures (those of the workers) associated with instruments which are both duplicatable and designed to duplicate: machines, bulldozers, concrete-mixers, cranes, pneumatic drills, and so on."

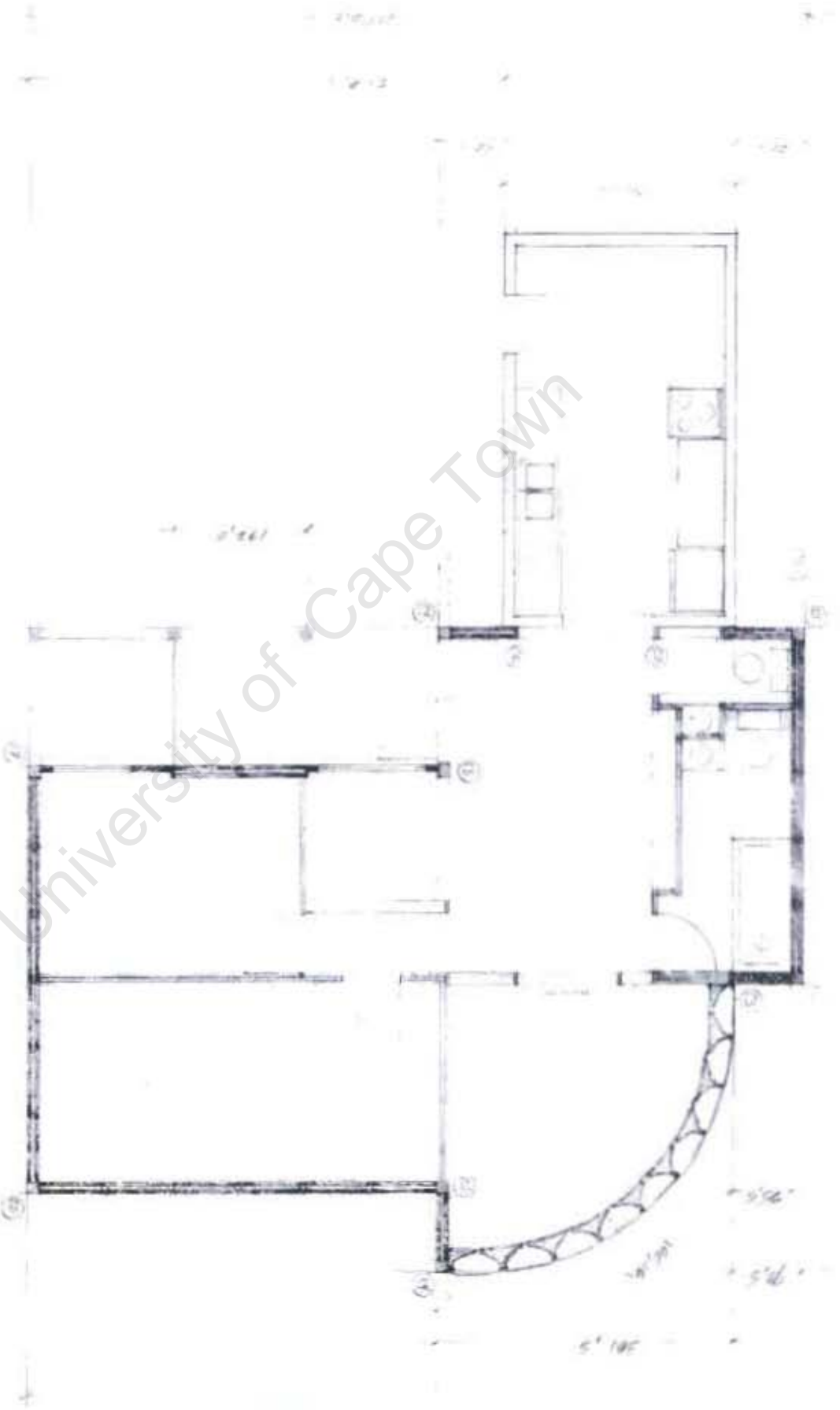
– but also the repetitive gestures of architects and plasterers (also workers) with their mechanical tools.

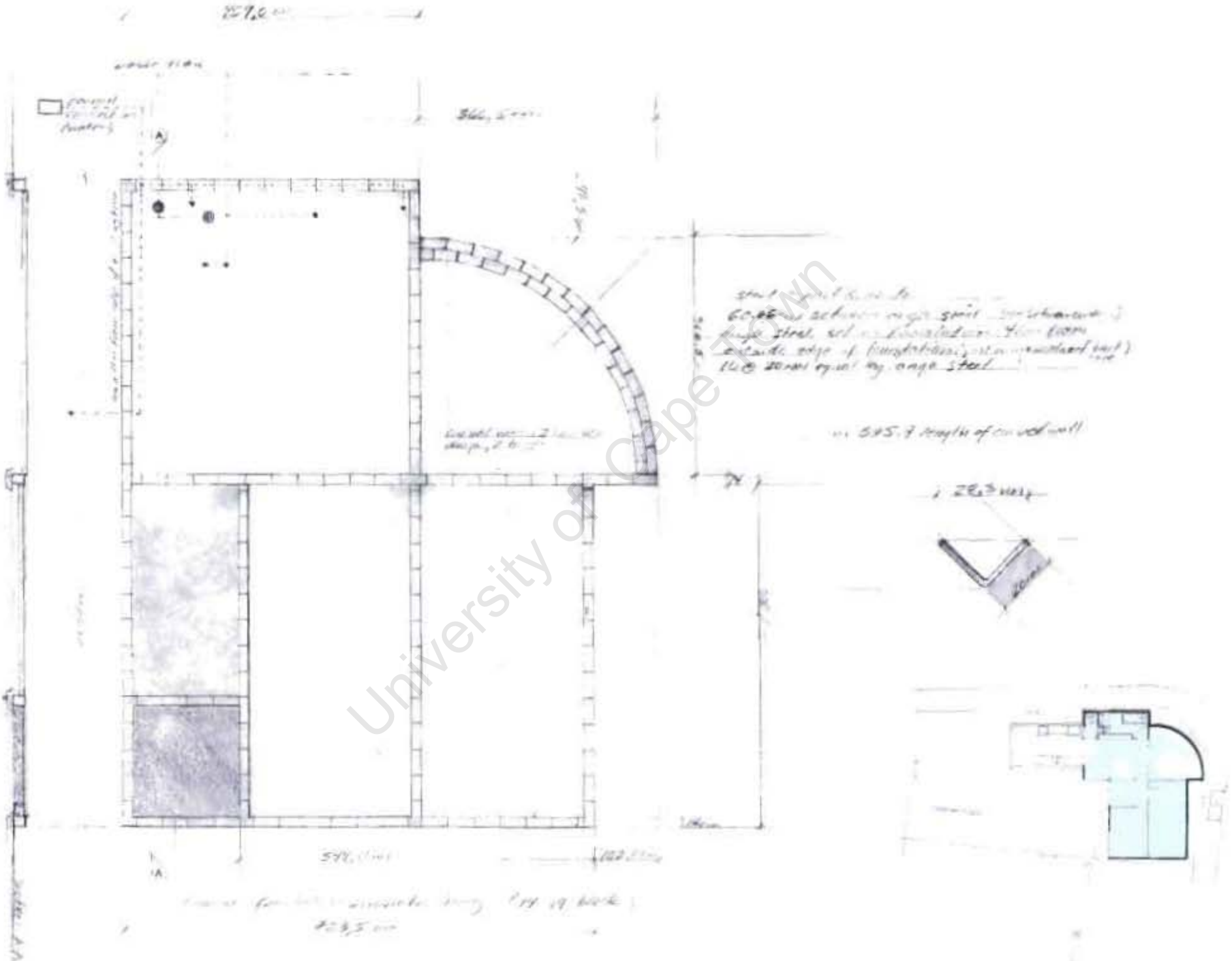
Thoughts:

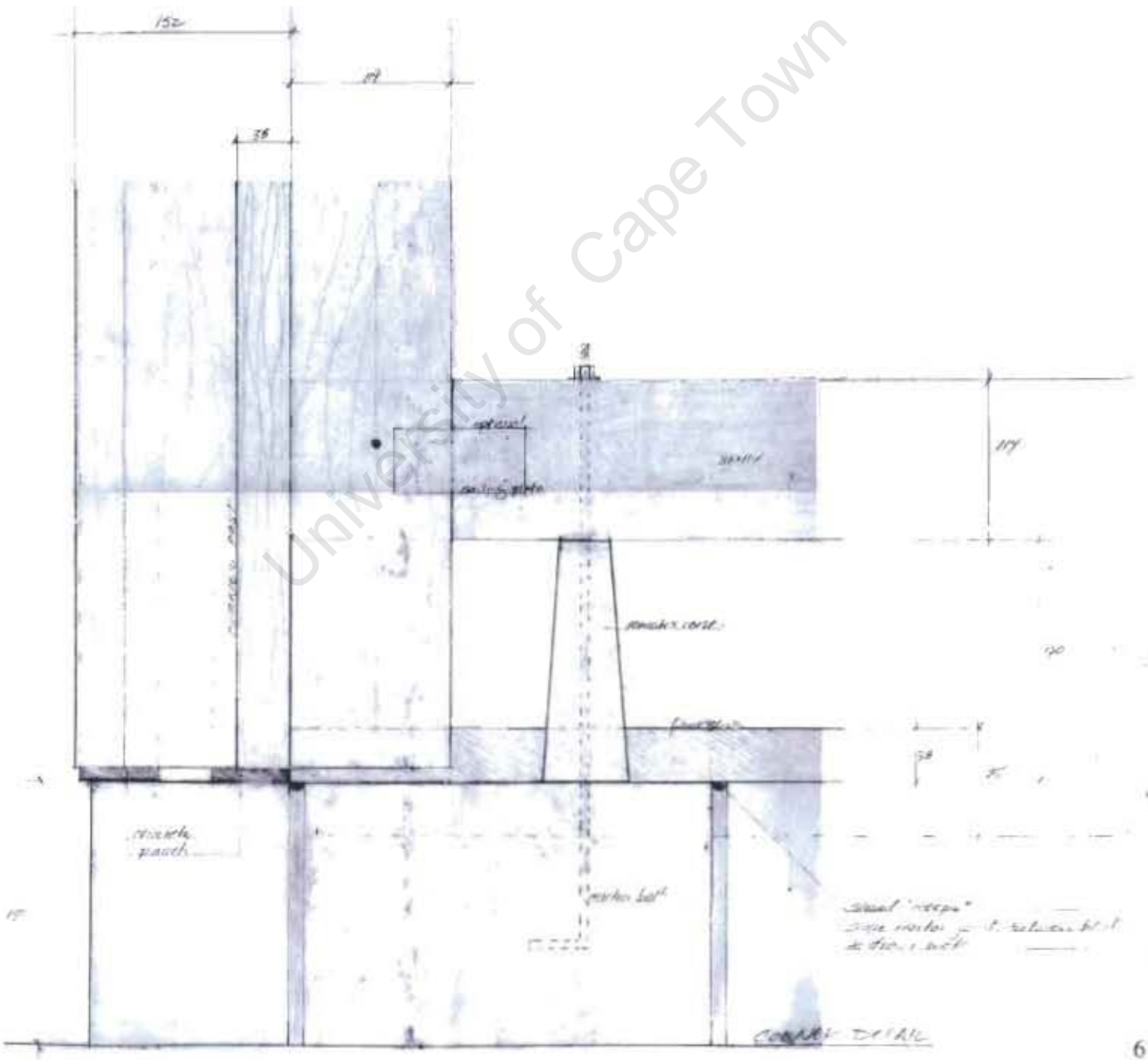
Do a studio in which there are no computers or drafting boards. In the studio you can only work with models and different materials (these can be representational materials) [illegible]

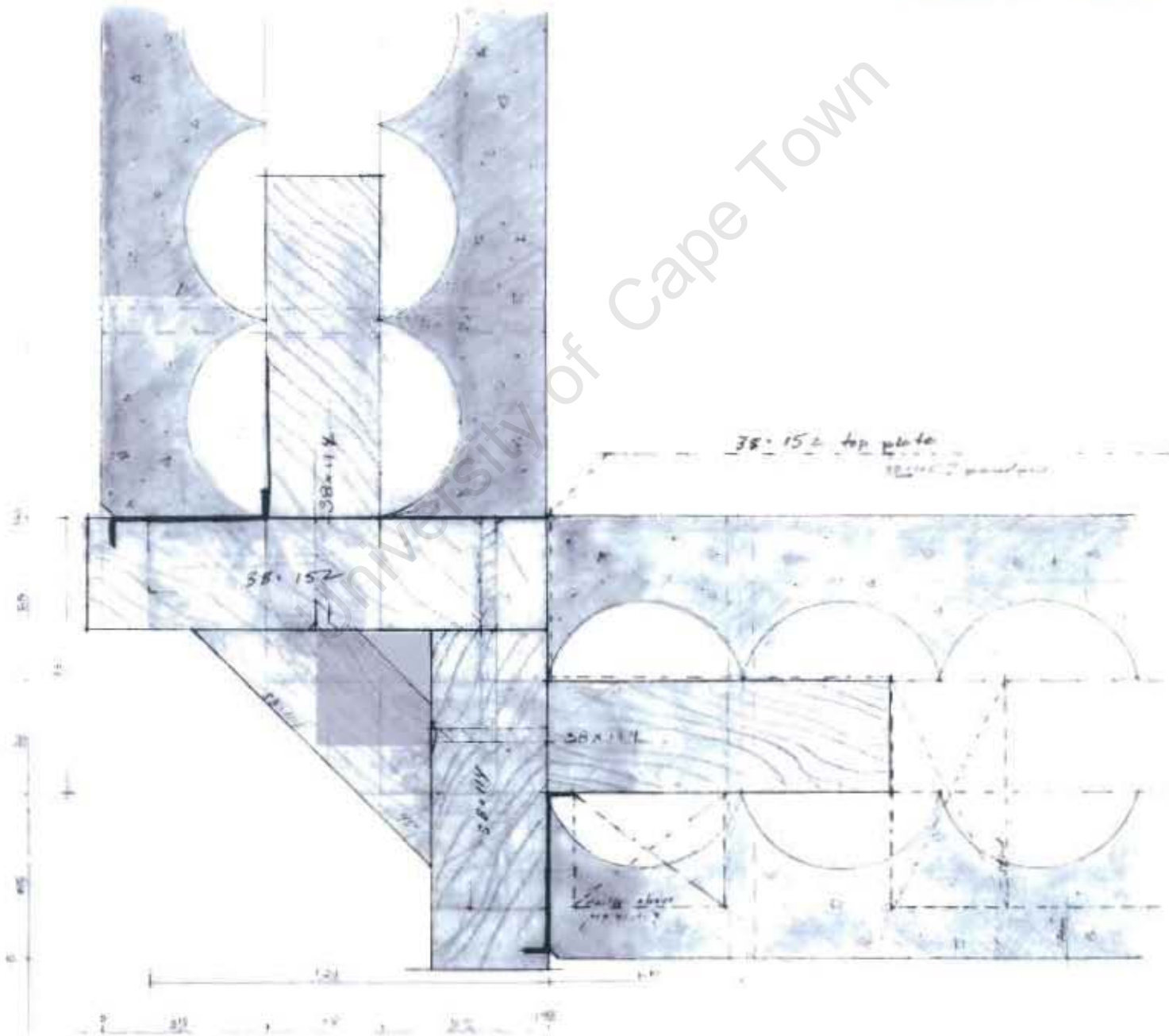


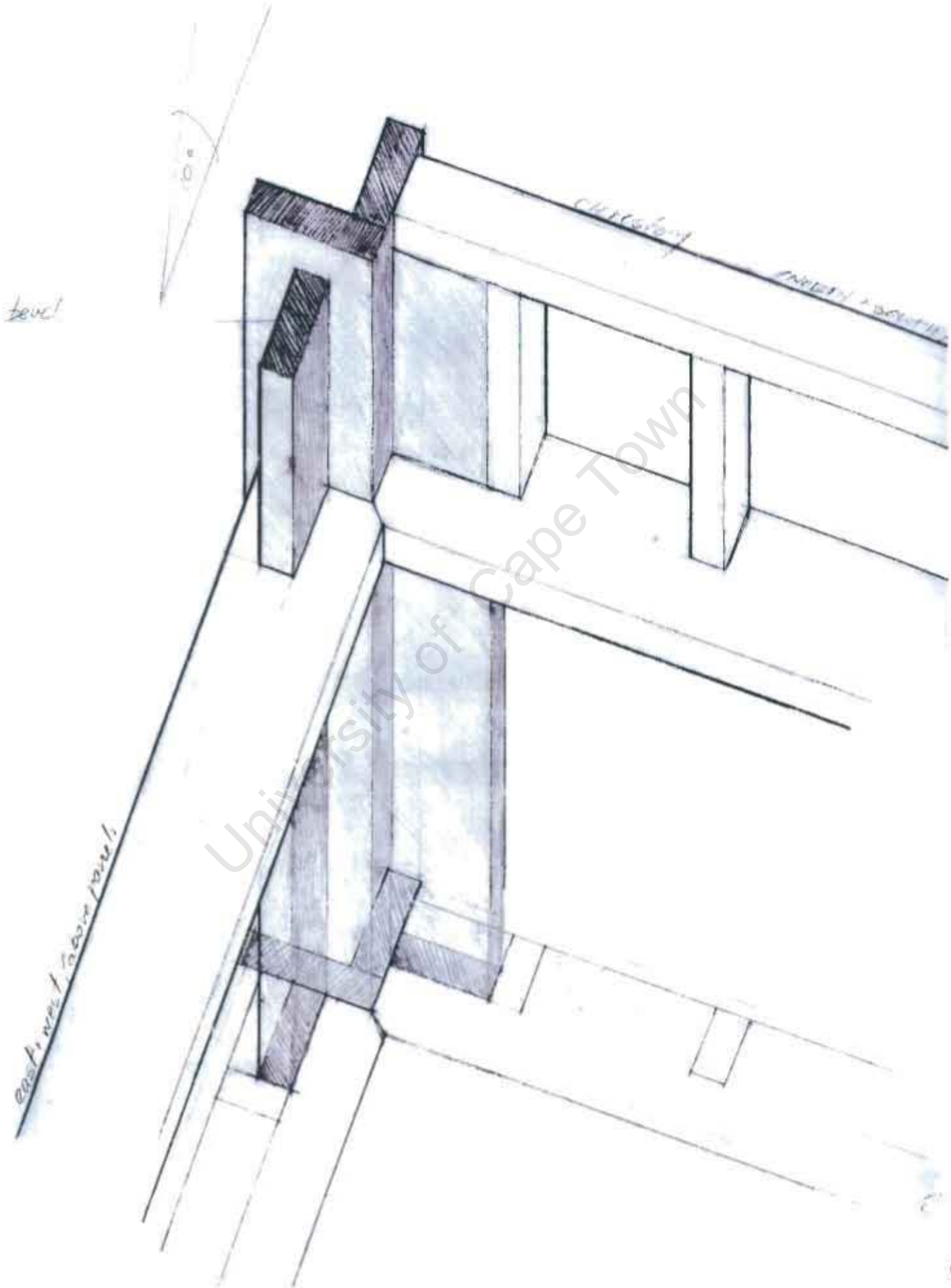
design-system diagram

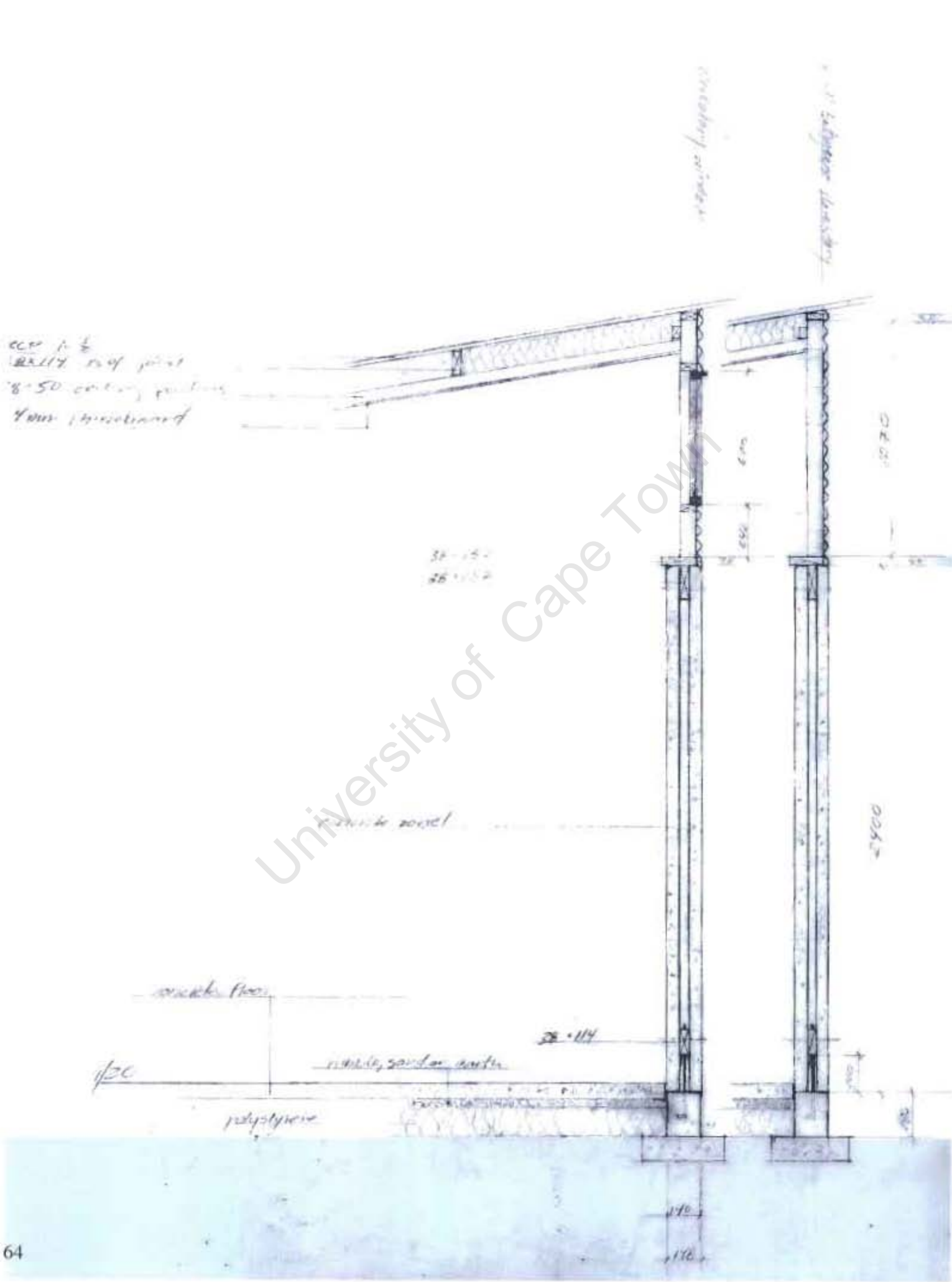


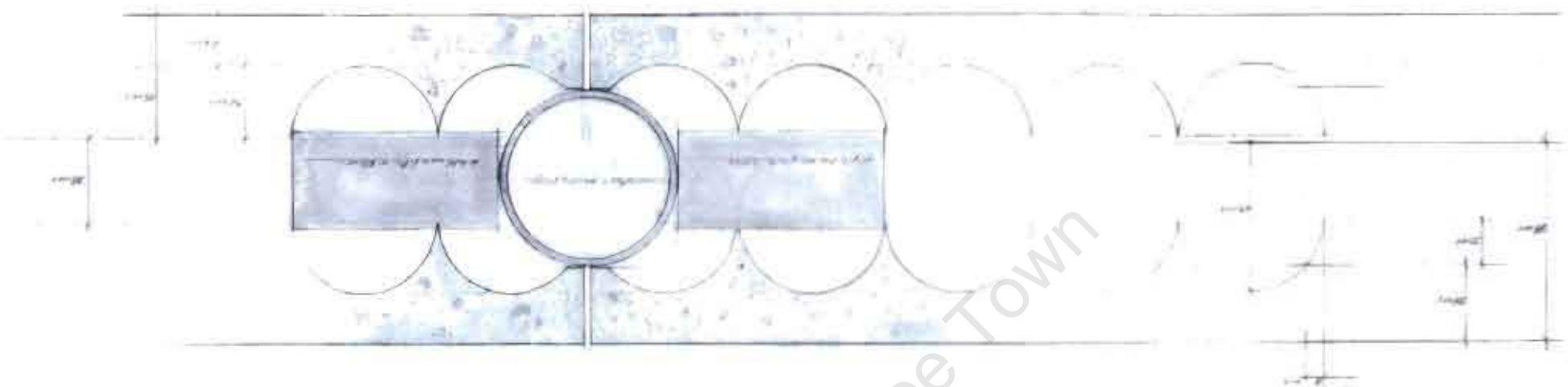


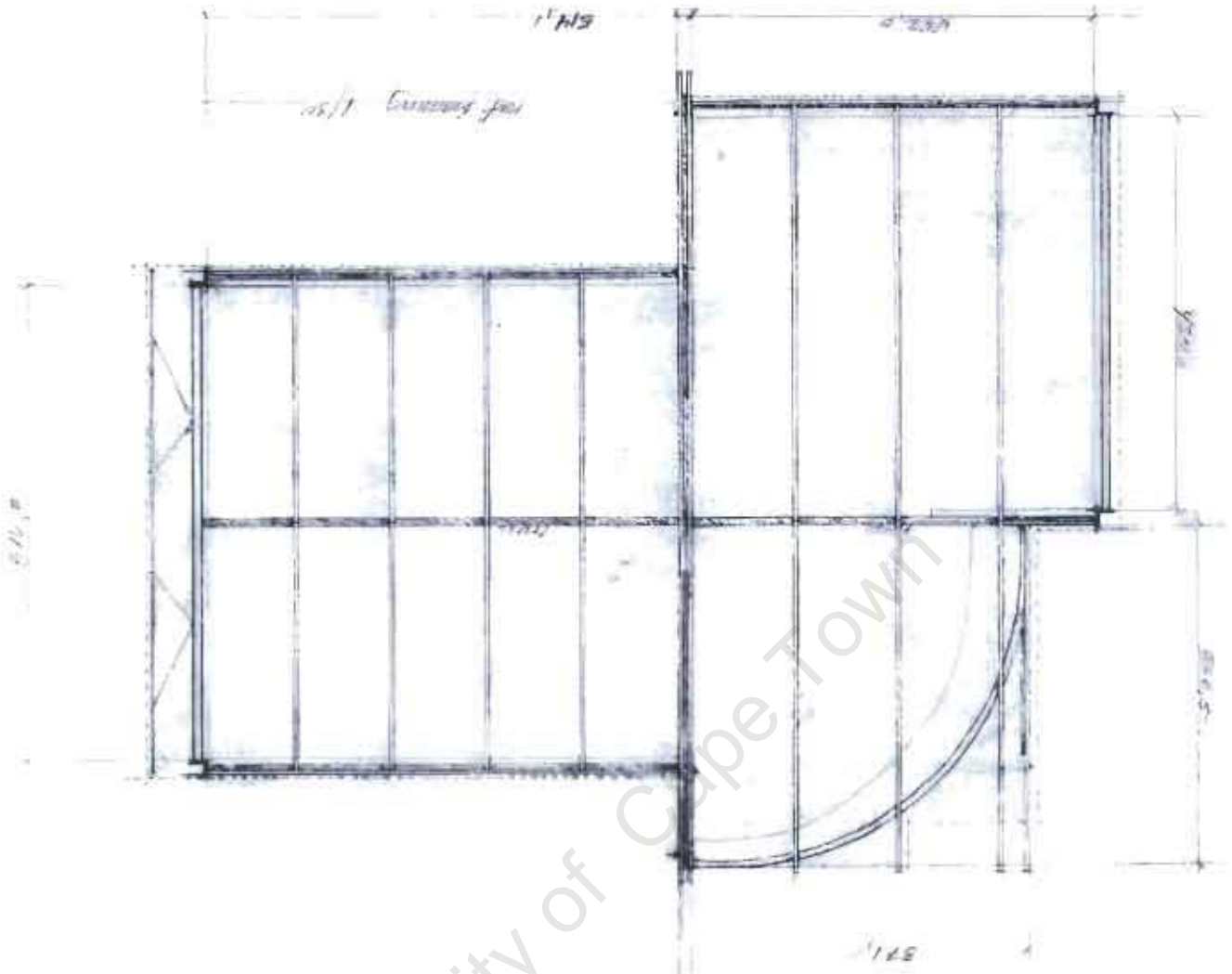


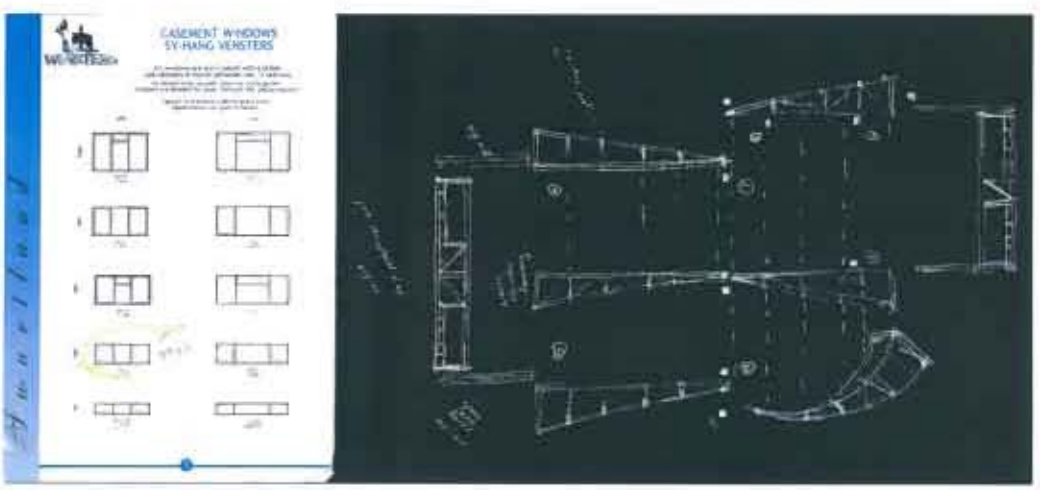


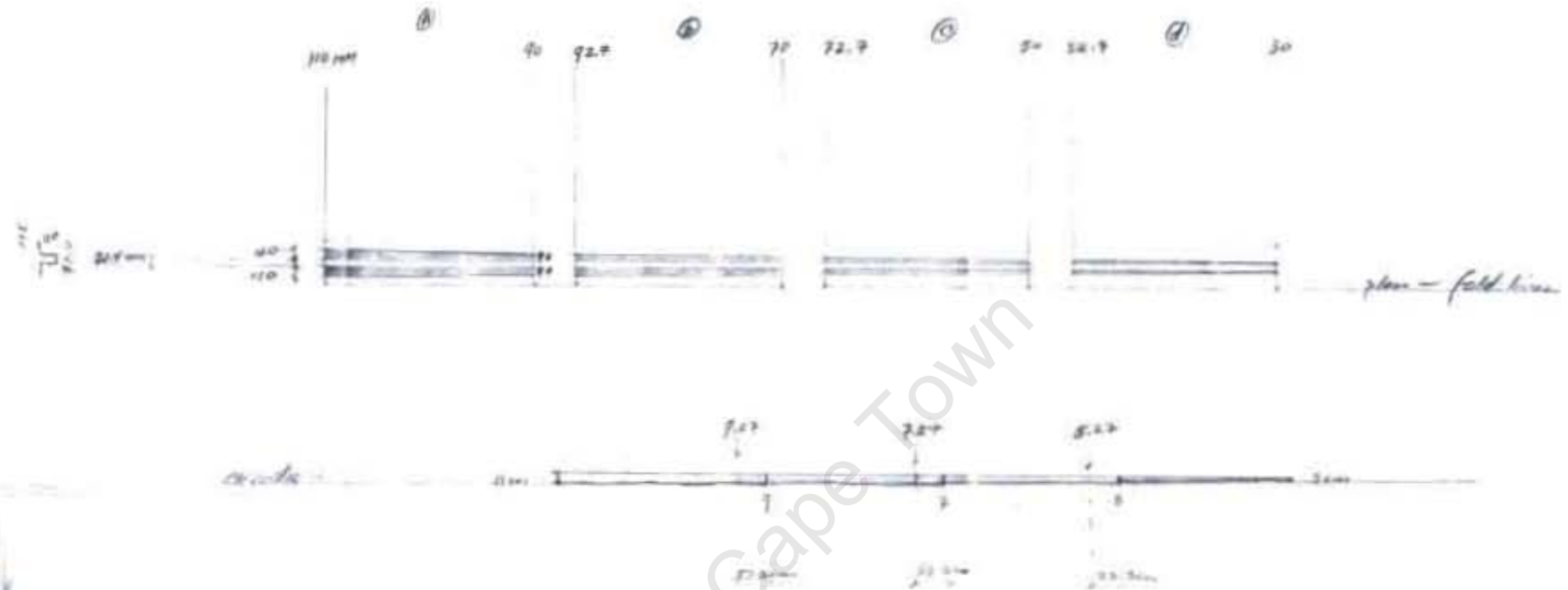








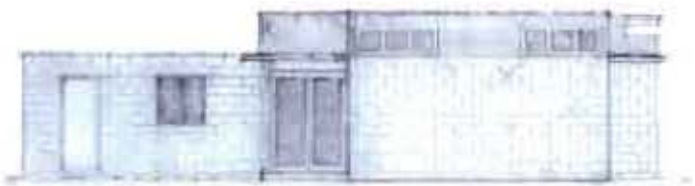


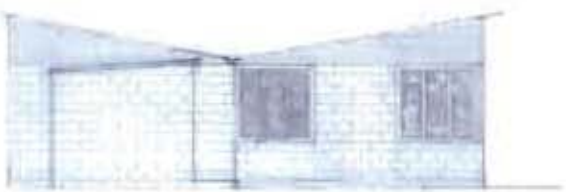


1/50

= 2.72 mm change over 333 mm

= .27 cm





COMPONENT BASED DESIGN

Component based design involves off-site, controlled prefabrication, interfaced with conventional construction techniques. A component can be a single element like glass, or an assembly. After prefabrication the components are transported to the site and erected as specified. The Mayinje house utilized component based design strategies for the design and fabrication of the dyed, reinforced concrete wall-panels. The off site fabrication allowed a greater number of panels to be made at one time. It also provided for greater quality control in the concrete curing process. This was essential in order to achieve the strength needed for a thin concrete panel. Though all these panels were produced in two batches, off-site, the intent of their design is that such panels could be individually produced at low cost by anyone, in their yard. The technology is such that a few panels could be fabricated when resourced were available. Over time enough panels might be accumulated to erect a structure. The other possibility is that similar panels could be produced in mass quantities in community workshops established for larger self-help housing projects. Component based housing systems are currently used extensively in informal settlements. Many shacks are built with wooden wall panels pre-fabricated independently throughout the Cape-flats. (➡**Shack Stats**.) Another system that has been adapted to housing is the Vibracrete fence wall. This system, and others like it utilize slotted reinforced concrete posts, between which single concrete sections are stacked to make a wall. They were designed as fencing, but have been used for the walls of single story houses. Component based design has the potential to provide great design flexibility while increasing construction quality, and decreasing house production costs.

Component based design can be applied to almost any scenario, from the conventional to the experimental, and for any budget or at any scale. Although acknowledging that design remains 'a continuous and reiterative process of value judgments', Stacey and a growing number of architects believe that the tools for mass production, which enabled the tools of mass customization, will now allow architects to rediscover genuine craftsmanship.[1]

The Mayinje house also utilized television tubes, which are essentially an off-site, pre-fabricated component. Although they were not designed to be utilized in house construction, their potential for adaptation was sufficient to merit their use.

DFM (design for manufacturability) is a process used in industrial and commercial product design. It is essentially a design process that looks closely at the production potential of any given design in terms of economic feasibility, marketing, consumer demand, cultural acceptability, resource availability, and manufacturability. It is a rigorous method that allows for practical, empirical design critique. DMF was used only loosely for the panel system with the Mayinje house. The pre-production evaluation failed to recognize the high cost of the extensive use of the timber, and the interior and exterior cladding necessitated by the design. (Timber was utilized as ligaments for the panels, and in the wall and roof structure above the panels. This timber framing had to be clad on both the interior and exterior.) A systematic use of DFM would surely reveal such oversights, and has excellent potential for advances in architectural design and production.

ENDNOTES

1. Barbara Knecht, "Defining Component-Based Design," *Architectural Record*, July 2004, 159.

[illegible] DEEDS REGISTRATION SYSTEM : CAPE TOWN

PROPERTY DETAILS [illegible]
TOWNSHIP WELTEVREDEN VALLEY

PROVINCE WESTERN CAPE

[illegible] CAPE TOWN CENTRAL

ORIGIN [illegible] WELTEVREDEN VALLEY [illegible]

[illegible]

* * * END OF REPORT * * *

99

Prepared by me

CONVEYANCER
M. STOCKENSTROM

58858/99

DEED OF TRANSFER

(In terms of the provisions of Section 9(1) of Act 113 of 1991)

Whereas I, LINDA MEYER
am duly authorised thereto by and acting herein on behalf of the Province of the Western Cape, I declare hereby that the

PROVINCE OF THE WESTERN CAPE

sold the hereinafter mentioned property on **17 JULY 1998** for the amount of **R11 513,42** (Eleven Thousand Five Hundred and Thirteen Rand Forty-two cents)

Now therefore I hereby cede and transfer all rights and title in full and free property, State, however, reserving its rights, to and on behalf of

NOMFUNDO HAZEL MAYINJE
Identity Number: 560122 0771 08 3

ERF 0391 WELTEVREDEN VALLEY, in the City of Cape Town, Administrative District Cape, Province of the Western Cape.

MEASURING: 192 (One hundred and Ninety-two) Square metres

AS WILL APPEAR FROM GENERAL PLAN NO. 134/1998 AND HELD BY CERTIFICATE OF REGISTERED TITLE NO. T126136/1998

A. SUBJECT to the following condition contained in Deed of Grant dated 23 June 1899 (Cape Quitrents Volume 39 No. 21), which reads as follows:

"VII That all rights to gold, silver and precious stones found or discovered at any time on or in the said land, shall be reserved to the Crown, together with a right of ingress to and egress from any mine or works undertaken for mining or prospecting purposes by any person or persons authorised by the Commissioner, but subject always to the provisions of Act No. 44 of 1887 the Act No. 31 of 1898 or any other Act to be thereafter passed with regard to prospecting and mining for precious stones and minerals."

B. SUBJECT FURTHER to the following conditions imposed by the Member of the Executive Council responsible for Housing, of the Government of the Western Cape, being the competent authority, and in terms of Section 4(1) of Act 113/1991 when approving the Township of Weltevreden Valley, namely:

"1. The owner of this erf shall, without compensation be obliged to allow electricity, telephone and television cables and/or wires and main/or other water pipes and the sewage and drainage, including stormwater of any other erf or erven inside or outside this township to be conveyed across this erf, and surface installations such as mini-substations, metre kiosks and service pillars to be installed thereon if deemed necessary by the local or other statutory authority and in such manner and positions as may from time to time be reasonably required. This shall include the right of access to the erf at any reasonable time for the purpose of constructing, altering, removing or inspecting any works connected with the above.

2. This erf shall be subject to the conditions and restrictions of the Town Planning Scheme of the Local Authority."

SIGNED at CAPE TOWN on 11 June 1999

DULY AUTHORISED AGENT

Before me,
CONVEYANCER

Registered at CAPE TOWN on 27 July 1999

REGISTRAR OF DEEDS

What is INDUSTRIAL ECOLOGY?

Industrial ecology, as promoted by such thinkers as Hardin Tibbs and others, seeks to redesign industrial systems in imitation of natural ecosystems. Key ideas include matching one industrial process's output stream to another's input (the 'waste equals food' concept), and making sure that total outputs are within the capacity of ecosystems (such as the air, land, or wetlands) to absorb and detoxify them sustainably. Taken to its logical conclusion, some say that industrial ecology's aim is the elimination of the concept of waste: every byproduct is used for some purpose. The term 'industrial' does not preclude the involvement of output of public consumption in the system, or 'consumer waste' Municipal recycling systems are an example.

The field of industrial ecology views business organizations and decision-makers as vitally important for environmental change, given the impact of their product and process choices on the environment. Industrial ecology is not so much a new discipline as an evolving synthesis of existing disciplines and techniques applied toward improving corporate sustainability. These include lifecycle analysis of materials and energy flows and efficiencies; dematerialization; design for environment strategies; pollution prevention; and product stewardship throughout the lifecycle (from resource extraction through manufacturing and use to disposal or recycling).

Companies that practice industrial ecology have found that by identifying the points in the production process where waste is greatest, they can also find and fix the most inefficient stages of the process. Improving processes saves operational costs such as materials and energy, and in some cases also saves capital costs because smaller, better-designed equipment can be used. Companies that have done this have typically also created better relationships with regulators and with the public. In many cases, different companies in the same geographical area have identified output/input matches and teamed up to save on both.[1]

The Mayinje House utilized principles of industrial ecology in its production. It also made use of an excellent example of an industrial ecology network – the IWEX website. IWEX, the City of Cape Town's Integrated Waste EXchange website, is a free service for all South African businesses – matching "waste material generators" to "waste material users" IWEX lists material requests/offers in an online catalogue. An online resource listing form can be filled and sent to the website by any interested party.
http://www.capetown.gov.za/iwe

For more on industrial ecology, see:

The Ecology of Commerce, by Paul Hawken (HarperCollins, 1993)
Green Products by Design: Choices for a Cleaner Environment (U.S. Congress Office of Technology Assessment/U.S. Government Printing Office, OTA-E-541, 1992)
The Greening of Industrial Ecosystems, edited by Braden Allenby and Deanna Richards (National Academy of Engineering/National Academy Press, 1994)
Industrial Ecology, by Tom Graedel and Braden Allenby (Prentice Hall, 1995)
Industrial Ecology: An Environmental Agenda for Industry, by Hardin Tibbs (Global Business Network, 1993)
Industrial Ecology: Toward Closing the Materials Cycle, by Robert and Leslie Ayres (Edward Elgar Publishing Co., 1996)
Lean and Clean Management: How to Boost Profit and Productivity by Reducing Pollution by Joseph Romm (Kodansha International, 1994)
And look out for the new *Journal of Industrial Ecology*, published quarterly starting in spring 1997. To subscribe, contact journals-orders@mit.edu, MIT Press Journals, 55 Hayward St., Cambridge, MA 02142, 617/253-2889, or visit their Web site.
Also recommended is the web site of Cornell University's Center for Work and the Environment.

ENDNOTES

1. text extracted from http://www.rmi.org, on July 22, no author cited.

I NEED HUNDREDS OF TIN CANS for building walls for a house. PLEASE PUT them in this Bin.

THANK you!!!

jonathan 072-205-4537

recycle

1: to pass again through a series of changes or treatments: as a: to process (as paper, glass, or cans) in order to regain material for human use

OASIS ASSOCIATION

The Oasis Recycling Project provides employment for men and women with intellectual disability. This unique workforce has very little prospect of securing employment in the open labour market. By supporting our project you are making a positive contribution towards the environment and ensuring that people with intellectual disability get the chance they deserve.

here's how...

Tel: 021-671 5106 (Claremont Workshop) • Tel: 021-933 1587 (Elsies River Workshop) • Email: oasisass@mweb.co.za

~~N E G L I G E N T~~ capitalists

the university, and power relations in the production of architectural identity

The advent of modernity in the enlightenment brought with it a breakdown of the unified world-views of religion and metaphysics into separate fields. *Cultural* modernity specifically, has been described by Weber as the division of the substantive reason expressed in religion and metaphysics, into three autonomous fields – science, morality, and art. These areas, like religion, could then be institutionalized, each domain becoming property of a professional group – or specialists.[1] Cultural modernity has been characterized by continually widening gaps between groups of specialists, and between specialists and the general public. According to Habermas one result has been that the advances, critique, and reflection happening in these areas, has not automatically transferred into everyday praxis. The threat in this situation is that the traditional substance of the life-world that has been disintegrating with modernity, will become more and more impoverished. The 'post-modern' rejection of the culture of 'expertise' is a reaction to this situation.[2]

The capitalist system itself depends on the division of labor and specialization within areas of knowledge. According to Lefebvre, the division of labor carries with it "a dissolving and disintegrating ideology that meets the requirements of the market and the social division of labor by promoting fragmented intellectual skills."[3] Universities around the globe have become the training grounds for cadres of specialized workers who supply the capitalist market. It is common knowledge that many large private-sector corporations provide funding to universities through research grants. These corporations "have the ability to focus research in universities by setting terms of reference for funding research"[4] Such relationships have reinforced a pedagogic system in which universities prepare individuals for channeling into a corporate capitalist system. Architecture schools in general are no exception. Our training system promotes continually more and more specialized knowledge through an internal dialogue. Greenwood and Levin state: "We are deeply concerned that critical and socially engaged research efforts are being undermined by autopoetic and self-referential academic activities in universities dominated by career opportunism and by students who are treated as imitators of their teachers rather than as original thinkers in the making.[5]... there is evidence that this autopoetic form of academic capitalism is less and less able to satisfy the needs of major social groups."[6] If these conditions are accurate, while at the same time many universities are also highly subsidized by citizen tax dollars, then a serious revision of our education system is needed if we are to be pluralistic in serving society.

bags of tin cans.

—— 5 RAND/bag - strollers (street people)
- cleaning workers.

—— 0 RAND - restaurants.

Wed 29.10.2003
Woke up at 5!
Picked up Jenny and Antonio
Drove to Sandra Machel
Explained plan work for the day
Drove to Rondebosch to the Rabkin's house
Picked up their car (with trailer hitch.
Drove to Voortrekker Rd to "DAY WAY" trailer hire
Rented trailer.
Filled up with gas
Drove to LEO STEEL
Purchased and loaded 15m of wire concrete mesh.
Drove to Claremont to Sally and Jenny's
Checked e-mail
Loaded soda cans.
Started off for Paarl.
Lost a bag of cans over a bump.
Had to stop twice to secure load.
Talked with Alex for directions to work space.
Arrived in Paarl and unloaded trailer.
Went to ISIPANI office and spoke with Stanford about contacts and details for sand, stone and supplies in the area.
Drove to Construction supply store (FEDERATED TIMBERS) and left the trailer for them to load (timber for forms, and cement. (Lost cell phone)
Drove to ABSA bank to set up ATM payments for FEDERATED TIMBER
Drove back to FTS, paid for supplies
Drove to work site
Unloading 21 sacks of cement and 30 pieces of timber i.e. Paarl.
Drove to Parrow Industrial (Panarottis)
Talked with Pete Sweeny and Loaded polystyrene.
Drove to TomoTom, also part of Parrow Industrial
Talked with Kevin Alberts, Loads of cones.
Drove to Sandra Riche.
Unloaded polystyrene and cones.
Talked with Hazel and Zukisa.
Drove back to Rondebosch to the Rabkins with Jenny and Antonio
Unhitched trailer and met Sally Sweeny with car.
Talked with the Rabkins.
Drove back to Kuils Bay.

CIRCLE
SCRAP
PHI 021-6914708

02-12-03 #2

22BX	0.10 A
L/S	22.80
SUBTL	22.80
CASH	22.80

JCL 5009 15:25TH

The current situation favors greatly the corporation at the expense of, and through the negligence of unrepresented and marginalized groups within society. Habermas comments that, "The life-world has to become able to develop institutions out of itself which set the limits to the internal dynamics and imperatives of an almost autonomous economic system and its administrative complements."[7] What does he mean here by institutions? I read institutions as meaning modes of thinking and acting. It is largely through universities - themselves institutions, that catalysts night be generated, which have the potential to set limits to modern economic machinations. But as we can see, many universities have been largely co-opted by agents of economic modernity. This tends to be especially true within the science, engineering, and technical departments, and less so with the humanities and arts. Here again we can see the fracturing of life-world and theory represented in the divisive separation of academic fields. With the technical departments of the university making essential impacts in life-world processes - but under the thumb of corporate interests, and the humanities and arts eking out written critiques of the status quo - most of which is read by their own colleagues, little change occurs.

Architecture is one field that is both a theoretical and practical discipline, and which unites the specialties of art, humanities, science and engineering. Because of this unique position, and its interest in the production of space, it has the potential to bridge the gaps between the extant and imagined projections of future life-world conditions, and also to orchestrate cross-disciplinary efforts that address critical social issues. According to Slate for example, "...low cost housing technology has only small, and surely insufficient or even negligible, input, guidance, and analysis by the non-technological fields, such as sociology, anthropology, economics, (other than financing), law, and human ecology ... it seems obvious that universities, colleges, research and training institutes, and other such organizations must provide advanced education and training, as well as research, in this difficult, complex field, which involves inter-relationships that break across traditional academic and practicing disciplines..."[8] If architecture is to effectually critique economic modernity and become a tool for greater social equity, then it must begin through the training of the architect. Architecture schools have the potential to create opportunities for experimentation and the testing of ideas in a way that architecture firms, under economic constraints to produce profit, cannot.

The architectural profession has historically been negligent of social issues, even those which fall within our arena of professional and academic concern such as, homelessness, affordable and appropriate housing, loss of environmental quality, and the growth of increasingly complex urban areas. Margaret Crawford in her article "Can Architects be Socially Responsible?" discusses the conditions that have lead to

sixthousandfivehundredandseventyeightcans

this general apathy within the architectural profession. Much of the reasoning, which I summarize below, holds ground within the South African architectural profession. There are of course exceptions to her generalizations, however the vast majority of architects around the world today, serve the wealthy. Crawford claims that the answer to her question lies in the nature of the architectural profession itself, which is more than the sum of the professional interests and value systems of the individual practitioners. According to her, modern professions are "...complex social constructs that structure their autonomous identities in relation to the specific configurations of the economy and society in which they operate."[9] As discussed previously, the development of the architectural profession was part of a greater trend towards specialization, issuing out of a capitalist economy and liberal state, and accompanying the growth of a middle class. South Africa's conditions were socially and politically different, and excluded the vast majority of the population from the benefits of a free capitalist system, but therefore also accentuating the benefits and prestige of this new elite profession. The goals of any profession have essentially been to control a market and provide economic benefits to the members of their group. In order to claim this territory, professions established themselves as unique from other professions by establishing technical superiority and market efficiency. Historically, architecture followed engineering in establishing itself as a profession, and has subsequently never been able to claim technical superiority. Initially, the other fields allied with architecture were the building and construction trades, which it distanced itself from in order to claim autonomy, and ideological superiority. This was successful from the point of view of establishing an academic foundation for architecture, which has history from at least as far back as Vitruvius. Within praxis however, this schism failed to serve the architectural profession. The empirically established economic efficiency of the building trades largely displaced architecture from the competitive marketplace. Further recent specialization within the field, resulting in landscape architecture, planning and public policy, urban design, interior design and industrial design, has further narrowed architecture's niche within capitalist economies. As a result architecture has struggled to maintain an identity, and has resorted to its long-standing place within the arts. As an art its identity was further threatened by the surrealists in their radical attempt to negate art. The surrealists hoped that by loosening the critical capacity to label art, it could be removed from the control of professionals, and thereby be reconnected with life. The attempt to negate art eventually served to do just the opposite - to reinforce the importance of the 'artist' as specialist, and further narrowing the life-world importance of the architect.[10] This development may partially explain the profession's fervent obsession with issues of form. Three-dimensional manipulations

24 forms

Sat. 01.11.2003
I hired a circular saw, drill, extension cord, and bolt cutters today.
Drove to Paarl and started building the formwork for the panels. Finished one of the 12 unit forms.

Sun 02.11.2003
Finished another twelve-panel formwork and cut the concrete mesh into 80 cm widths with bolt cutters. Also placed more cans.

high-strength, steel mesh reinforced concrete

within the arts were restricted to sculptors and architects, so at least there, the profession could claim a measure of exclusivity, or at least share some.

Architecture has held its ground however, as a solid academic field, which the strong ideologies of the Modern movement and continuing associations with philosophical currents, have helped to fortify. In practice however, unlike many of the fine arts, architecture has always, and still relies on clients for its existence. The resulting marginalization of the participation of architects in the creation of the majority of the built environment, together with its artistic alignment has resulted in built architectures' place as an oversupplied luxury commodity rather than a demanded public service. Patrons have tended to be private corporations, wealthy individuals, and to a small extent the state. Ghirardo writes, "Expenditures for museums, skyscrapers, concert halls, and other objects of bourgeois gratification come at the expense of important and necessary social services, not to mention adequate housing at modest prices."[11]

Today, architecture exists tenuously between fractured ideologies and a marginalized praxis that is servant to economic trends and political powers. A resistance to this marginalization is not exclusively the responsibility of the profession however. Architecture - as art, is a fundamental cultural necessity, and has reciprocal expectations from its audience, the public. According to Habermas, the first expectation of art, is that the layperson should educate oneself to become an expert in order to fully appreciate and critique the field and its works. The second, is that one should become a "competent consumer", in other words, that a person should use architecture and aesthetic experiences to relate to ones own life, or to locate its significance in terms of ones own experiences, interests, values, and struggles. The exclusive domains of the expert, and their unilateral evaluation of an area, are dismantled when aesthetic experience resonates against a real life. In Habermas's own words: "The reception of art by the layman, or by the 'everyday expert,' goes in rather a different direction than the reception of art by the professional critic."[12] Habermas sites Albrecht Wellmer as influential in illuminating the way that this reciprocation can occur. In *The Aesthetics of Resistance* by Peter Weiss, the process of re-appropriating art is documented in a group of "politically-motivated, knowledge-hungry"[13] workers in 1937 Berlin. Although the exact outcome of the encounter is not mentioned, the important aspect is that this group of workers, through night classes, was exposed to a bourgeois interpretation of the history of western art, which, in parlay with their own experience, they reframed. By engaging with both perspectives, they were able to uncover a broader interpretation - a 'reappropriation'[14] of the expert's culture. If the contemporary public were to engage with architectural ideas and productions in this way, the profession would surely be strengthened. However, for its part, the profession must also position itself socially as a valuable profession.

Thurs 30.10.2003
Left for work at 7:15 today
Spent the day putting the
curved wall foundation and
marking the places for the
angle irons.
The day went smoothly but slow.
Three of Zukisa's friends are
now helping out.

Mon 27.10.2003

Work proceeded slowly today.
I had many problems getting the measurements to add up correctly.
My diagonals seemed right but the measurement across the center of the house was about 7 cm off.
I finally realized that I had laid out the North and South sides of the house separately and so, independently they had the right dimensions, but with respect to each other they were skewed.
These problems slowed down the construction and I had two guys standing around most of the day. I was trying to set corners, level, lay block, and measure while at the same time keeping the others busy.
It wasn't working.
None of my workers have enough experience to just let them go with something.
I wonder what the pace would be like with some skilled masons?
Is it worth the cost????
Tony and Anthony do quite well with some instruction.
One of the footers was a couple centimeters too high, so it had to be chiseled out.
An error in leveling the footer or from a mistake in the leveling.
It actually gave one of the guys something to do.
I had to go get some more plumbing supplies at lunchtime.
At the end of the day I will have to let Elliot and David go, there just isn't enough work right now.
Zuksa and his friend Eric have been helping out quite a lot as well, which further reduces my need for labor.

As stated, one strategy for accomplishing this may be to collaborate closely with the other professional and academic fields in orchestrating solutions to public concerns involving the built environment. This is happening in the best cases. An additional strategy for strengthening itself as a profession is to regain a measure of its lost technical expertise. Architecture might do this in areas overlooked by engineering. The recent developments in 'green architecture' are one example. The great surge of public interest in this area has been embraced and promoted by architects. Kenneth Martin Kao writes, "As architects participate less in pioneering research and the development of building technology, they are less likely to be perceived as master builders – as being expert in the building process. Unlike many architects, who limit themselves to working as 'artists' or 'design stylists,' Frank Lloyd Wright pursued the tradition of the architect as a master builder who synthesized and reinterpreted both the vernacular and state-of-the-art technology."[15] Frank Lloyd Wright himself, wrote, "Always the desire to get some system of building construction as a basis for architecture was my objective-my hope. There never was, there is no architecture otherwise, I believe."[16] Kao also comments that the disengagement of architects with innovative building technology is partially a result of their limited educational training in this area.[17] As for architectural academia, it must search for links between its vibrant ideologies and its praxis, and restructure its training to support a redirected profession - one that is positioned as a critical, socially active, technological innovator. (Especially in sustainable building technologies) In doing so, architecture may become a squatter on the grounds and niches that have been disserved socially and environmentally by the myopic capitalist market, while at the same time planting new seeds of critical inquiry. The Mayinje House, is a project that has attempted to do this. Its intent has been to join architectural education with social action through action research. It has also been an experiment in building design and construction, and an exercise in merging theory and praxis.

Note – It is problematic to advocate pro-bono work from the architectural profession, which has the right to charge for its skills and expertise. Architecture students however, spend massive amounts of time, energy, creative power. and money in developing and communicating imagined solutions to imaginary problems. There are surely enough life-world problems that deserve at least a portion of this phenomenal resource. The students of the medical school at UCT are required after graduation to work for two years in hospitals in South Africa, before they may choose to flee to higher paying jobs overseas. This type of social obligation has been institutionalized as part of the education system. In my opinion, such an obligation is more than fair. Architecture schools might begin to implement real world design programs as part of their five-

06.11.05

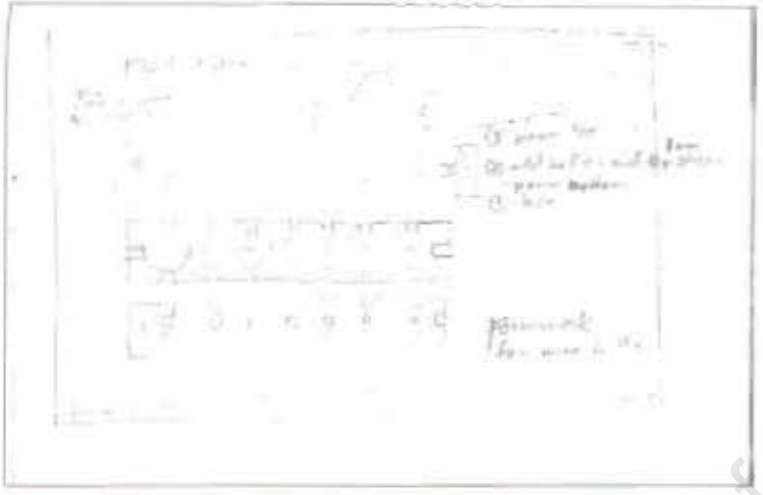
recycled brick patio

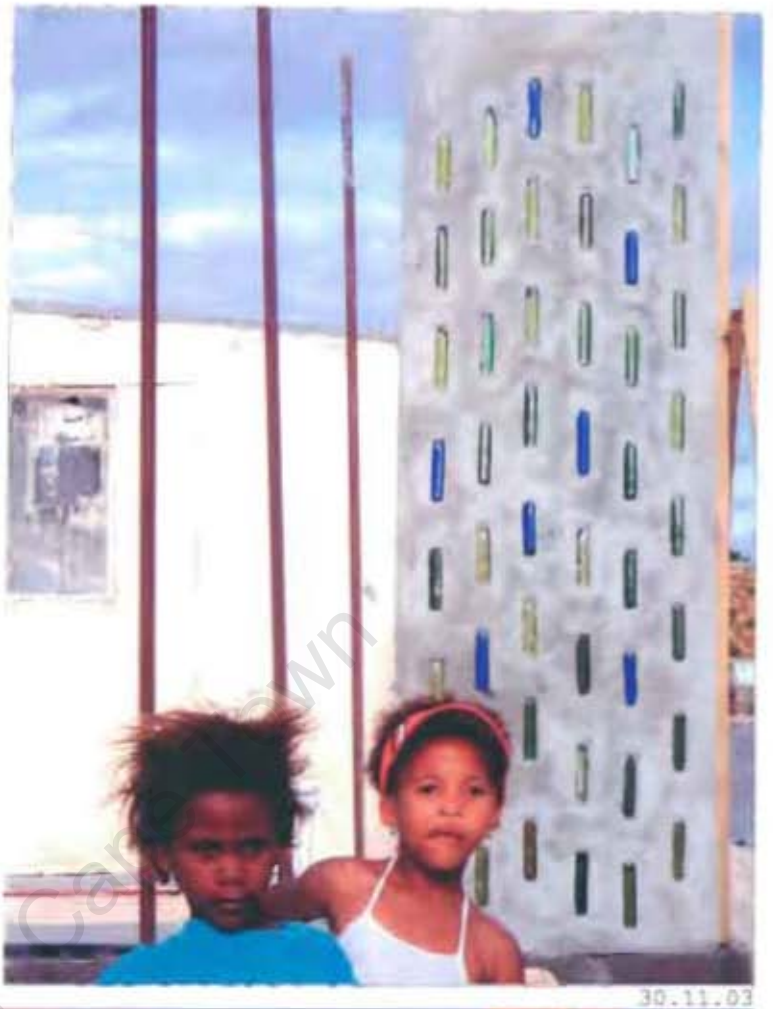
bottle wall, using 'tilt-up' concrete slab method

year education curriculum. Such programs could involve collaborations between industry, government organizations and NGO's, architecture professors and firms, and private interests. Funding from government, industry, private grants, and the University could be leveraged to support mutually beneficial work. The Rural Studio at the University of Alabama, started by Sam Mockbee is one such program. Steve Badanes of Jersey Devil is also running a similar program as a professor at the University of Washington, Seattle.

ENDNOTES

1. Jürgen Habermas, "Modernity an Incomplete Project," in *The Anti Aesthetic: Essays on Postmodern Culture*, ed. Hal Foster (Seattle: Bay Press, 1983) 8.
2. Jürgen Habermas, 8.
3. Henri Lefebvre, *The Explosion: Marxism and the French Revolution of May 1968* (New York Monthly Review, 1969), p. 119. from Katherine Shonfield "The Use of Fiction to Reinterpret Architectural and Urban Space."
4. Davydd J. Greenwood and Morten Levin, "Reconstructing the Relationships Between Universities and Society Through Action Research," in *Handbook of Qualitative Research*, eds. Norman K. Denzin, and Yvonna S. Lincoln (London: Sage, 2000), 88.
5. Greenwood and Levin, p. 86.
6. Greenwood and Levin, p. 89.
7. Jürgen Habermas, "Modernity-An Incomplete Project," in *The Anti Aesthetic: Essays on Postmodern Culture*, ed. Hal Foster (Seattle: Bay Press, 1983), 13.
8. Floyd O. Slate, "Higher Education in Low-Cost Housing," in *Low-Cost Housing Technology: An East-West Perspective*, eds. L.J. Goodman, R.P. Pama, E.G. Tabujara, R. Razani, and F.J. Burian (New York: Pergamon Press, 1979), 291.
9. Margaret Crawford, "Can Architects Be Socially Responsible?," in *Out of Site: A Social Criticism of Architecture*, ed. Diane Ghirardo (Seattle: Bay Press, 1991), 27.
10. Hilde Heynen, *Architecture and Modernity*: A Critique (Cambridge: MIT Press, 1999), 67.
11. Ghirardo, Diane, ed. *Out of Site: A Social Criticism of Architecture*. Seattle: Bay Press, 1991. p.15
12. Jürgen Habermas, 12.
13. Jürgen Habermas, 13.
14. Jürgen Habermas, 12.
15. Kenneth Martin Kao, "Frank Lloyd Wright: Experiments in the Art of Building," in *Craft & Architecture*, Modulus 22, The Architectural review at the University of Virginia (New York: Princeton Architectural Press, 1993), 67.
16. Frank Lloyd Wright, *An Autobiography* (New York: Duell, Sloan & Pearce, 1943), 224.
17. Kenneth Martin Kao, 67.





30.11.03

Marcuse maintains that through art, objects take on the form and quality of freedom.[7] "Aesthetic transformation releases objects from constraints that prevent their free realization. As such, art, and artistic culture generally, is on the side of the forces which dissociate themselves from contemporary material culture."[8] "Artistic culture *withdraws and rejects* the *rule of equivalence*, the world of commodities and the domination of instrumental reason."[9] Thus, the use of 'waste' objects in the Mayinje house has the potential to release them from the constraints of the dominant paradigm through which they were produced. Marcuse's comments suggest the multi-valent nature of art - or architecture, and the contradictions they might embody in an economic modernity.

In stating that the Mayinje House intends to critique a consumer culture, it is also necessary to discuss the *culture industry*. The term *'culture industry'* first appears in Horkheimer and Adorno's, *Dialectic of Enlightenment*. They originally employed the term *mass culture*, but abandoned it because they did not want to imply that artifacts of popular culture were legitimate offspring of the general public, but rather tools of a capitalist hegemony. The *culture industry* and its products are created by those in power. Referring to Horkheimer and Adorno, Held writes: "The protagonists of the present distribution of power and property, harressing the endogenous forces which centralize ownership and control, employ economic, political and cultural means to defend the *status quo*. As a result, most areas of cultural life become co-opted and transformed into modes of controlling individual consciousness. Simultaneously, culture becomes an *industry*. Profit motive is transferred on to cultural forms; more and more artistic products are turned into a *species of commodity ... marketable and interchangeable like an industrial product*."[10] Horkheimer himself writes: "Culture today is not the product of genuine demands; rather, it is the result of demands which are evoked and manipulated"[11] Noam Chomsky has referred to this as "manufacturing consent." Another statement by Held reveals the extent of perversity of this modern economic manifestation. "The culture industry gears itself almost entirely to the development of cultural forms which are compatible with the preservation of capitalism."[12] He is suggesting that the only cultural forms which are produced are those which can be bought and sold - this signifies not simply the production of objects and services that can be bought and sold but the potential for a complete commodification of culture, including traditional cultural forms. If this is accurate, then we are living in a purely economic modernity in which only those cultural manifestations that can be commodified are fit for survival. This is a particularly extreme position, but not altogether radical. The parallel commodification of life itself through gene patenting affirms the pervasiveness of the global, modern corporate economy.

Cultural forms however, cannot be classified exclusively as commodities just because they may be bought and sold. According to Caccaari

06.12.03

[CONTINGENCY ?

Design is contingent on availability of materials/products — supply:

what do I do if sources become unavailable?

How can alternatives be managed?

Whats else can I find TV tubes if Panasonic doesn't have enough? the landfill? NO - I need a direct source.

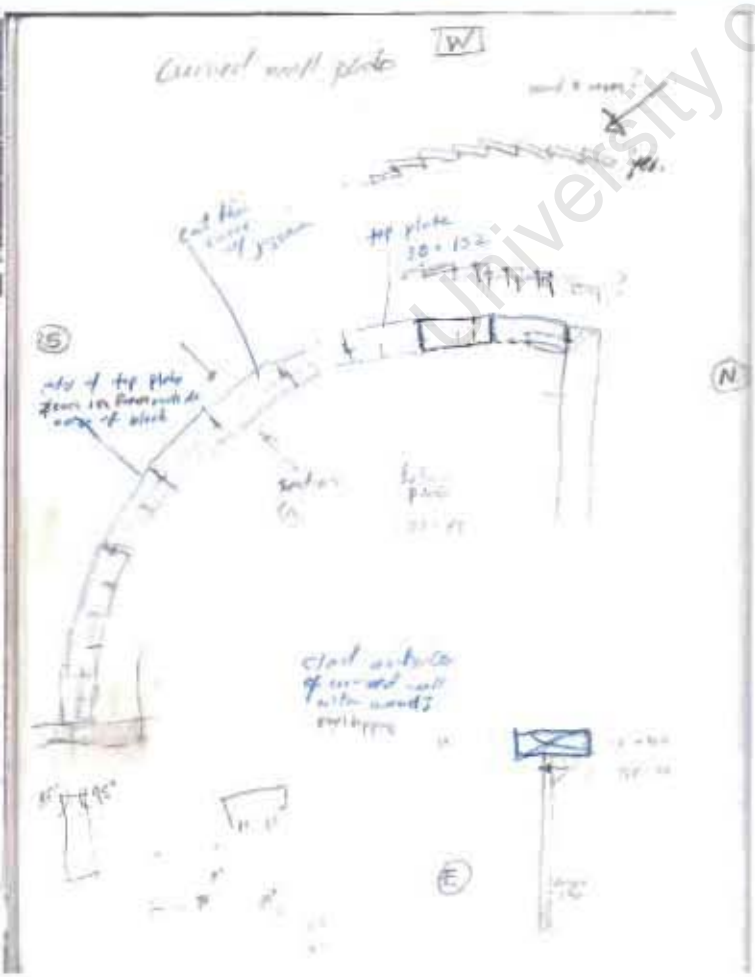
(The Venice School), the metropolis is characterized by the production of commodities in which use value and exchange values are converted into each other constantly in order to insure the continuity of production. But there is not necessarily any relation nor is there stasis between the use value and the exchange value of a given commodity. In a traditional society or in the country (rural culture) it is often the case that an object will be produced and used without any intent of marketability. Similarly, in traditional systems use value and exchange value coexist without necessarily being in relationship to each other.[13] This type of condition is still possible within a modern economic system. Any system contains micro systems, and moments of resistance to dominant trends. Additionally, there are values inherent in cultural manifestations beyond the economic and the utilitarian. The spiritual, nostalgic, historical, emotional, in addition to the economic and utilitarian all exist together layered one over another. It may therefore be possible for a work to exist as more than commodity, even under the extreme pressures of economic modernity.

Another mechanism of economic modernity's consumerism is, through corporate controlled media - television, movies, radio, and even print, to bombard us with stimulus to the point of numbness. We become like the worker in the chocolate factory who can no longer has any taste for chocolate. We are so saturated that we loose sensual capacity. This is a revelation that anyone who has left the modern world for a week or more, camping or hiking, has experienced. At some point, being away from all the chaos of the metropolis we begin to regain the ability to see, hear, smell, and the world becomes more vibrant, we then realize what we are loosing daily, what we have lost in the assault of the modern cacophony. This loss of sensuality - loss of the ability to feel, makes us extremely vulnerable to both manipulation and apathy. What capacity do we have for judgment when we cannot feel? We become apathetic to destruction and injustice in our daily encounter with it, while at the same time becoming vulnerable to consumerism in our attempt to induce feeling. To break through the shell we purchase... in the hope that the commodities will give us the feelings we are craving. The television is arguably the principal instrument of the culture industry, consumerism, and distraction. Adorno writes about the phenomena of television as early as 1954 in his article: "How to look at Television,"[14] and currently there are entire books devoted to a contemporary criticism of television. Besides the direct, manipulative promotion of consumerism through corporate commercials, television has become a major agent in 'spectacle.' The Situationists believed that in capitalist societies life has become a series of spectacles. Through spectacle we become placated observers - entering the submission of passivity. We cease to be actors in the life-world. It is through spectacle that images acquire the power of reality. Television, moving images and sound, and our recent ventures into 'virtual-reality'

are forcing our retreat into a 'monopoly of representation.' According to Lefebvre, universal alienation is the result.[15] Upon returning to the United States recently, I was confronted head on by the cultural placebo that is television. I was invited by a group of architecture colleagues to their weekly supper - a gathering that I assumed would be like the ones on Friday nights in my home community, in which we would share home-cooked food, conversation, discussion, ideas, plans, etc. I was shocked by the contrast. My colleagues' gathering amounted to a huddling around the television to watch several recorded episodes of a current sitcom - with the advertisements fast-forwarded. The entire engagement consisted of our queued reactions to the program in a conciliated, collective buzz. Community was simulated through the parallel experience of laughter in our abetted immersion into the insignificant situations of the orchestrated spectacle. Food was consumed, also passively while watching the television, and afterward there was some insipient chat and then everyone left early for bed, and their work tied to a computer mouse the next day, and the next... At least the advertisements were avoided. I had always felt that commercial ads were the most damaging aspect of television programming - thousands of short, highly seductive sermons on consumerism. However, the annihilation of meaningful communication between viewers was equally damaging. I have a friend, who, like me does not own a TV - yes, intentionally, and has not owned one for as long as I can remember. He does own a t-shirt with the silhouette of a person with a sledgehammer raised over a television set. Below the image are the words - Kill Your TV!

I have another idea...

In the Mayinje House, the situating of the television and other consumables in an unfamiliar context is intended to open a space for critique of consumer society in general, and compel a change of attitude. The ambiguous role of the television screen here, is intended as one of provocation - a blasphemous contradiction to its entrenched role as a purveyor of homogeneity. Or, It could appear that utilizing these symbols of consumer culture - the television and the 'Coke' can, are in essence, a condoning of the existing economic modernity? They are not. They reflect, on the contrary, the essential uselessness of these products for that which they were produced. "Wherease art seeks to fulfill the idealist dictum - 'purposiveness without purpose' (Kant), commodities of the culture industry are bound by purposes set by the market - or 'purposelessness for purposes'[16] At the same time, the Mayinje House advocates a system in which there is no concept of waste, and in which products are designed not through a theory of planned obsolescence, but through an ecological model. The TV wall is an example of the potential of such a model even under design conditions in which these 'waste' materials - now resources - have not been specifically designed for second-generation utility. It asks, "What would happen if we



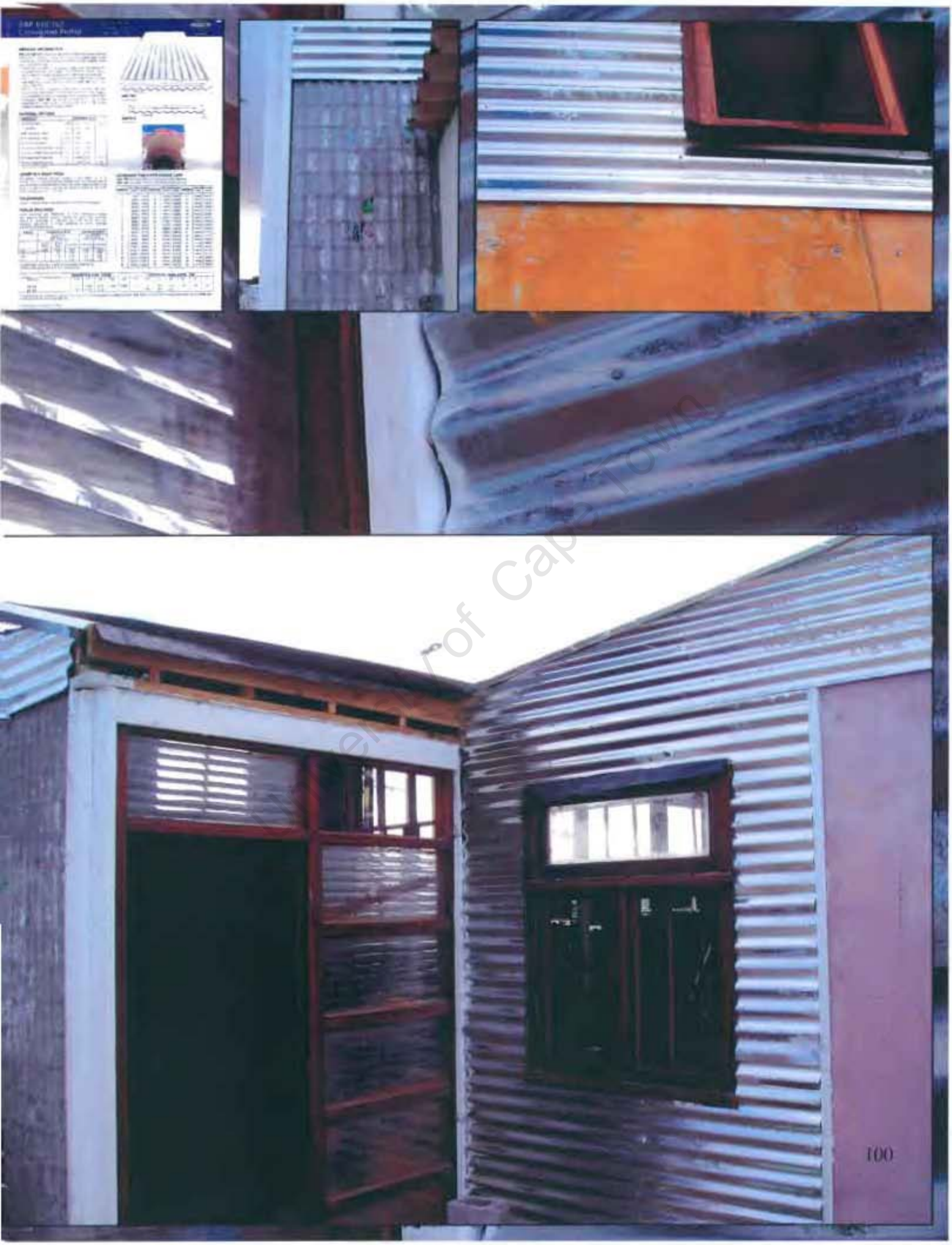
intentionally designed products for post-use uses." The employment of waste materials in this manner represents an application of industrial ecology. (➡**industrial ecology**) Such modes of 'sustainability' thinking are in direct conflict with existing corporate legal structures which uphold the rights of corporations - legal persons, to operate exclusively for the production of profit with very little accountability - and even incentives to disregard both social welfare, and our vital ecosystems. The mechanism that allows this is called externalization. Though it may seem crazy to use a dead TV in a building, it is corporate behavior that has been classified as 'psychopathic' by psychologists who have compared the typical characteristics of a corporation with the clinical definition of psychopathy. Interestingly, the incentive of the Panasonic corporation for finding other modes of disposal for their flawed television tubes, was a purely economic one. Although my contact person at Panasonic was a genuine and caring individual, he admitted that the increasing cost of landfill space was causing him to search for other disposal methods for Panasonic's wastes. The TV tubes could not be recycled because they are made of a glass composite. The bottom line was profit. Putting an economic price on pollution, or waste dumping is one tactic for pushing companies toward sustainable behavior. It is part of a strategy of defining and calculating 'hidden costs'- costs that are typically borne by the 'public good.' Such hidden costs include the public expense of purifying polluted air and water, medical costs associated with increased cancer, respiratory disease, and other environmental illness, the cost in sunscreen because of destroyed ozone!, the cost to future generations of biodiversity loss, and many others. The debt accrued by the public from these costs, much of which will be paid by our children and theirs, has been called generational tyranny.

There are companies that are attempting to slowly convert to sustainable production, or a 'zero-footprint.' It is an effort that may be impossible for certain sectors of industry. However, even the most destructive industries can improve with a change in paradigm. For example, some mining companies are currently employing a curious, spatial and ecological design philosophy. They are making efforts to thoughtfully design the landscape of open-pit mines, to create, at the termination of their extraction, landscapes which will have secondary uses as recreational amenities, wildlife habitat (wetlands), sewage-treatment systems, etc. There are infinite sustainable, productive opportunities in such ecological thinking.

The Mayinje House is one small example of this thinking. It is an architectural work that through mimetic production, looks well beyond the mere functional.

ENDNOTES

1. David Held, *Introduction to Critical Theory: Horkheimer to Habermas*, (Berkeley: University of California Press,1980), 13-15.
2. David Held, 16. italics from Theodor Adorno, *The Culture Industry*, Routledge, 1991.
3. David Held, 22.
4. David Held, 77.
5. David Held, 83.
6. Herbert Marcuse, *One Dimensional Man* (Boston: Beacon Press 1964), p. 66.
7. David Held, 86
8. Herbert Marcuse, 240. (Marcuse sites Hegel's *Vorlesungen über die Aesthetik*, in *Sämtliche Werke*, ed. H. Glockner (Stuttgart: Frommann, 1929) vol. 12, 217ff., in support of this view.)
9. David Held, 86, italics from Herbert Marcuse, *Counterrevolution and Revolt*, 86
10. David Held, 90, italics from M. Horkheimer and T. Adorno, *Dialectic of Enlightenment*, trans. J.Cumming (New York: Herder & Herder 1972), 158
11. Max Horkheimer 'Art and mass culture', in *Sozialphilosophische Studien* (Frankfurt: Athenäum fischer Taschenbuch Verlag, 1972), 302-3
12. David Held, 92.
13. Hilde Heynen, *Architecture and Modernity*: A Critique (Cambridge: MIT Press, 1999), 136.
14. Theodor Adorno, "How to look at Television," *The Quarterly of Film, Radio and Television*, vol.8 (spring 1954), reprinted as "Television and the Patterns of Mass Culture" in *Mass Culture: The Popular Arts in America*, eds. B. Rosenberg and D. Manning White, (New York: Free Press, 1957)
15. Hilde Heynen, ' 50-51.
16. David Held, 93.



MANIPULATING ECONOMIC MODERNITY

THE PRODUCTION OF VALUE

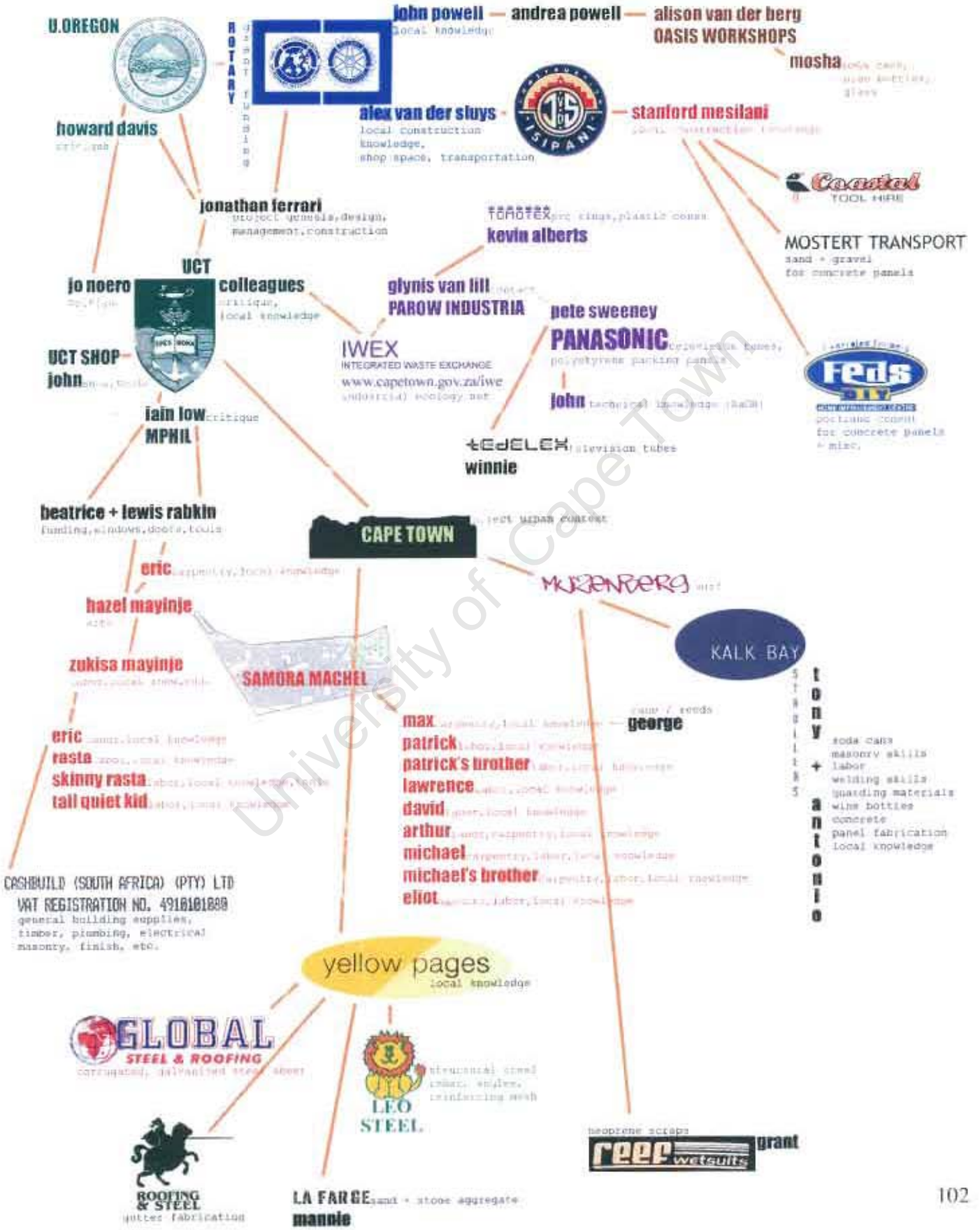
Beauty today can have no other measure except the depth to which a work resolves contradictions. A work must cut through the contradictions and overcome them, not by covering them up, but by pursuing them.[1]
Theodor W. Adorno

How is value created in this experimental building production process? The constellation of ideas in this essay that speak to this question include: identity thinking and the exchange principle, value-added branding, market manipulation, and production of meaning.

As mentioned earlier, in a traditional agricultural society, building value exists largely through the utility of the building – its role in providing a material livelihood for the user, which relates directly to the user's ability to nurture a meaningful existence. Economic modernity however, has appropriated the house as a commodity and transferred the terms of value to principles of exchange. In an economic system, the *exchange principle* is "the reduction of human labor into the abstract universal concept of average working hours."[2] Following this logic, average working hours can be exchanged for cash. The house then, has a cash, or monetary value, it can be bought and sold – or exchanged for money. The exchange principal is also based in the *principal of identification*. According to Adorno, exchange is the social model of the principle of identification.[3] This concept is an accepted rule of logic; identity is reflexive, and is therefore an equivalence relation. (e.g. I am equal to myself.) Through exchange it becomes possible for "non-identical individuals and transactions (to) become identical and commensurable. The spread of the principle of identification imposes on the whole world an obligation to become identical, to become total."[4] *Identity thinking*, as described by Adorno, is thought that endorses the world as it is.[5] The production of the Mayinje House is clearly opposed to identity thinking, however it seems that it must rely on the exchange system if it is to participate in the modern economic system, which for the benefit of its owners, it must do. Therefore it must search for a dialectic relationship - possibly through mimesis? Heynen describes Koolhaas's sea terminal as a project that "refuses to choose between a banal commercial logic and the aspirations of art."[6] She also comments that, "Mimesis makes it possible for a design to be completely responsive to normal expectations, while at the same time offering something else."[7] There is clearly potential for the Mayinje House - as a commodity, to satisfy the functional economic needs of the client, while still participating in the world of art, and existing in service to dwelling. I have already discussed the latter aspirations, but not the role of the house as commodity.

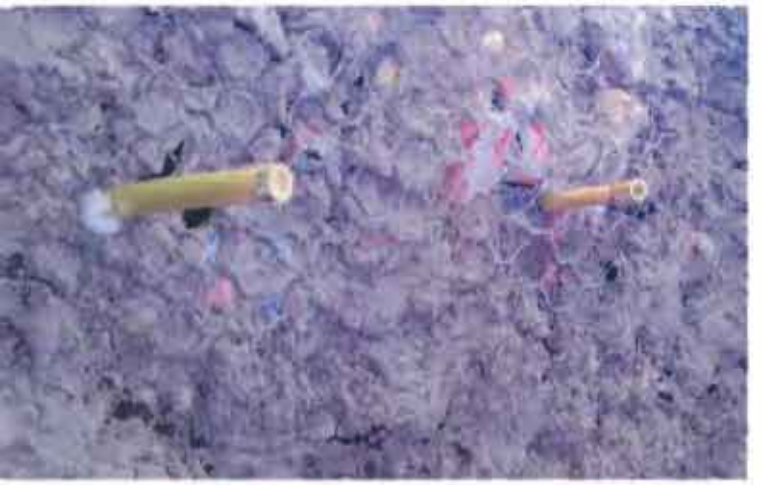
How are materials with no exchange value transformed into something with exchange value? We know that labor may be used to add value through processing and shaping.[8] However it is common that the value added is not simply an accumulation of the total of working hours required to produce the commodity. There is a level of freedom therefore, in the exchange principle – an unidentified *value space* - the potentiality for a higher, or lower exchange value than the sum of labor and materials. One example of this value-space is *branding*. Much architectural production today involves branding, which is essentially a mode of creating value – or adding value through identity. It involves associating the product with another individual, entity, or image – one that itself contains value. Branding, is a cloning of the identity principle – and likewise fosters homogeneity. Frank Gehry's architecture is 'branded architecture.' A Gehry building is easily recognizable - this is intentional. Because there is a similarity, or 'signature' to all his recent work - and said signature holds significant value, then by creating a building with his recognizable 'style,' it acquires the added value associated with his name. The building becomes a 'Gehry building' – adding value while forsaking a unique identity.

resource genealogy map



Gehry is a 'name brand' architect. Branding has also become a way of masking. Heynen writes: " Things lie, and when, having become commodities, they lie in order to conceal their origin, namely social labour, they tend to set themselves up as absolutes. Products and the circuits they establish (in space) are fetishized and so become more 'real' than reality itself – that is, than productive activity itself, which they thus take over...The successful unmasking of *things* in order to reveal (social) relationships – such was Marx's great achievement..."[9] The manipulation of the media, in promotion of branded commodities that can be delivered only by 'professional' industry, is one tactic of the corporate oligarchy to maintain control of the means of production of the home, while masking their tenuous grasp on the production of housing. The mystified technical production of the modern, western home type, together with successfully promoted images of it, have served to create a demand that cannot keep pace with production, resulting in an elevated market value.[10] Although corporate manipulation has successfully established partial control of the commodity market, "They have found it harder – witness their 'monetary' problems – to establish control over the capital market itself...The bourgeoisie and the capitalist system thus experience great difficulty in mastering what is at once their product, and the tool of their mastery, namely space. They find themselves unable to reduce practice (the practico-sensory realm, the body, social-spatial practice) to their abstract space, and hence new, spatial contradictions arise and make themselves felt. Might not the spatial chaos engendered by capitalism, despite the power and rationality of the state, turn out to be the system's Achilles heel?"[11]

Informal settlements and their associated economies, flourishing amid cities around the world, are an excellent example of the inability of the corporate oligarchy to control the capital market - and space itself. Artists and craftspeople from informal settlements and townships use raw materials that escape (or are discards from) the commodity market. With these materials they produce commodities that are currently outside the control of the formal bureaucratic markets. This condition exists partially because of the nature of these de-valued raw materials, but additionally due to the fact that the markets themselves have been created by the craftspeople - autonomously operating individuals, who directly benefit from their efforts. These 'informal' economies are quite similar to tracitional market-product relationships. "Christopher Jones has argued that the craftsmen of earlier times not only engaged in physical design, but also in social, economic, and in short, total design. The wheelwright, for instance, in designing farm wagons made incremental changes in their design in response to changing social behavioral and economic demands. In addition, the wheelwright was his own economist, sociologist, administrative consultant, and so on. He made changes not only in wagons but in the way wagons could be purchased, the way in which they could be repaired, the way in which they could be used and the ways in which he could design them. In other words, the wheelwright not only designed the wagon, but he designed the situation in which the wagons were designed."[12] The contemporary products generated out of the 'squatter' settlements are mostly sold on the street to tourists with cash. This cash, or capital itself, as discussed by Lefebvre has been difficult for the bourgeoisie to control. (Which can also be seen in the successful money laundering and worldwide existence of cash based 'underground-markets') Independent production and sales of this artwork could be considered avant-garde and revolutionary because of its radical, elusive nature in respect to the bourgeoisie's neo-capitalist hegemony. The opportunism of this artwork in 'capitalizing' on the weaknesses of the existing system, represents a genuine critique of an economic modernity which has been insufficient for many groups affected by it. Heynen sites Adorno in stating that, "The critical value of a work of art is not embodied in the themes it deals with or in the so-called 'commitment' of the artist, but in the artistic process itself."[13] It is through identification with, and manipulation of the system that they have been able to revolt against it. "The opposition of artworks to domination is mimesis of domination. They must assimilate themselves to the comportment of domination in order to produce something qualitatively



cane/reed for ceiling

distinct from the world of domination[14] Michael Cahn compares this with inoculation – of being infected with a weak pathogen in order to create immunity to it.[15]

Housing production has been unable to escape the world of domination, however. If housing production were to create market value in a similar manner as South African art and craftwork from free resources bases, but sold in the state commodity market, then it could provide one avenue of entrance into the exclusive modern economic system through the production of capital and equity. Would houses produced with waste materials be accepted in a formal housing market? According to the Assessors at Absa and Standard Banks, the appraised value of a house in South Africa is not influenced by its particular construction technology. Resale value is based exclusively on three terms: 1. The house's condition - is it structurally sound, are there leaks, damage, etc., 2. The square footage of the house and adjoining property, and 3. The location of the house (what district, suburb, neighborhood, street etc.) This evidence suggests the possibility of economically viable housing based around an industrial ecology production system. ➧**industrial ecology**

What are some of the social and technological issues involved with such a system? Essentially the value of all raw materials lies in three factors: Who controls the location of its extraction; The effort, or cost associated with extraction and processing (if required) – costs may include, labor, equipment, environmental regulations requiring clean-up or remediation; And the social, cultural, and economic codification of the material within a particular economic value system. The major factor affecting an industrial ecology resource base is the last one. Because trash is currently codified as material with a no value, and often has a disposal cost, the free acquisition of such materials should be possible through contracts with industry. The basic waste materials generated by consumer markets - metals, glass, paper, and plastic, are the same materials found in modern house construction, and surprisingly, exist in almost the exact same percentages. So the appropriate types of material exist in vast quantities. Wood and masonry wastes have already been incorporated into the informal building economy of Cape Town. Everything from recycled timber, to bricks, doors, windows, and hardware can be purchased along the roadsides in the Cape flats. What potential is there for those materials that have not been specifically designed for construction use? Heynen writes: "Criticism and resistance remain in my view an obligation; but these need not be confined to the most advanced materials and techniques: in a situation where it is not clear precisely what progress is and what techniques can be called the most advanced, a limitation like this is no longer relevant."[16] Terra cotta is a prime example of an ancient material that has been used in the most advanced techniques – such as on the nose of the space shuttle. According to this logic, industrial and consumer wastes should also be explored for their potential. The degree of social acceptance of many alternative building systems, components, and materials is unknown, however the general acceptance of the Mayinje House by its owners, and the community, both young and elderly has been surprising. The number of favorable comments and complements, especially from some of the older, traditionally dressed women, indicates great potential. It also resolved my concerns about "reinforcing the condition of poverty" ➧**Socially Responsible Housing...**

An industrial ecological housing production system, which operates through manipulation of those same devices used by the status quo, could also employ the branding tactic. Township artwork has acquired a sort of "branding." Individual pieces can be recognized in galleries around the world, and have gained value in collective association. The craft examples for sale on the streets, capitalize on this "brand image." By querying and critiquing the corporate home image, and developing an endemic production of dwellings through a value-adding process of architecturally transforming physical materials with little market value, and through a branding of a South African house image it may be possible locate and maintain income and profit with the proletariat. Can homogeneity be avoided in production involving branding? "It may be pointed out right away that, whereas a *work* has something irreplaceable and unique about it, a product can be reproduced exactly, and is in fact the result of repetitive acts and gestures."[17] Although houses produced

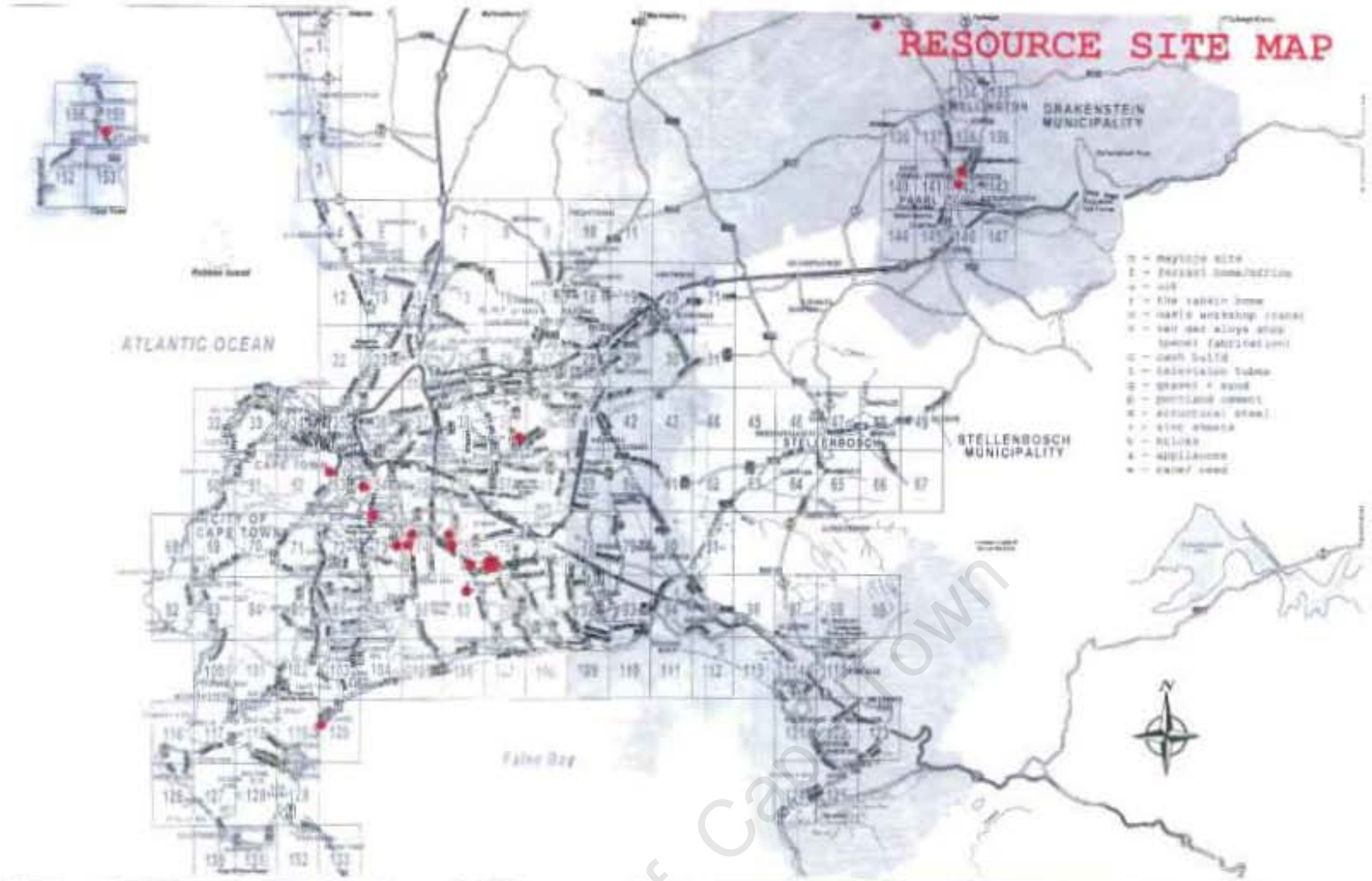
16.12.03

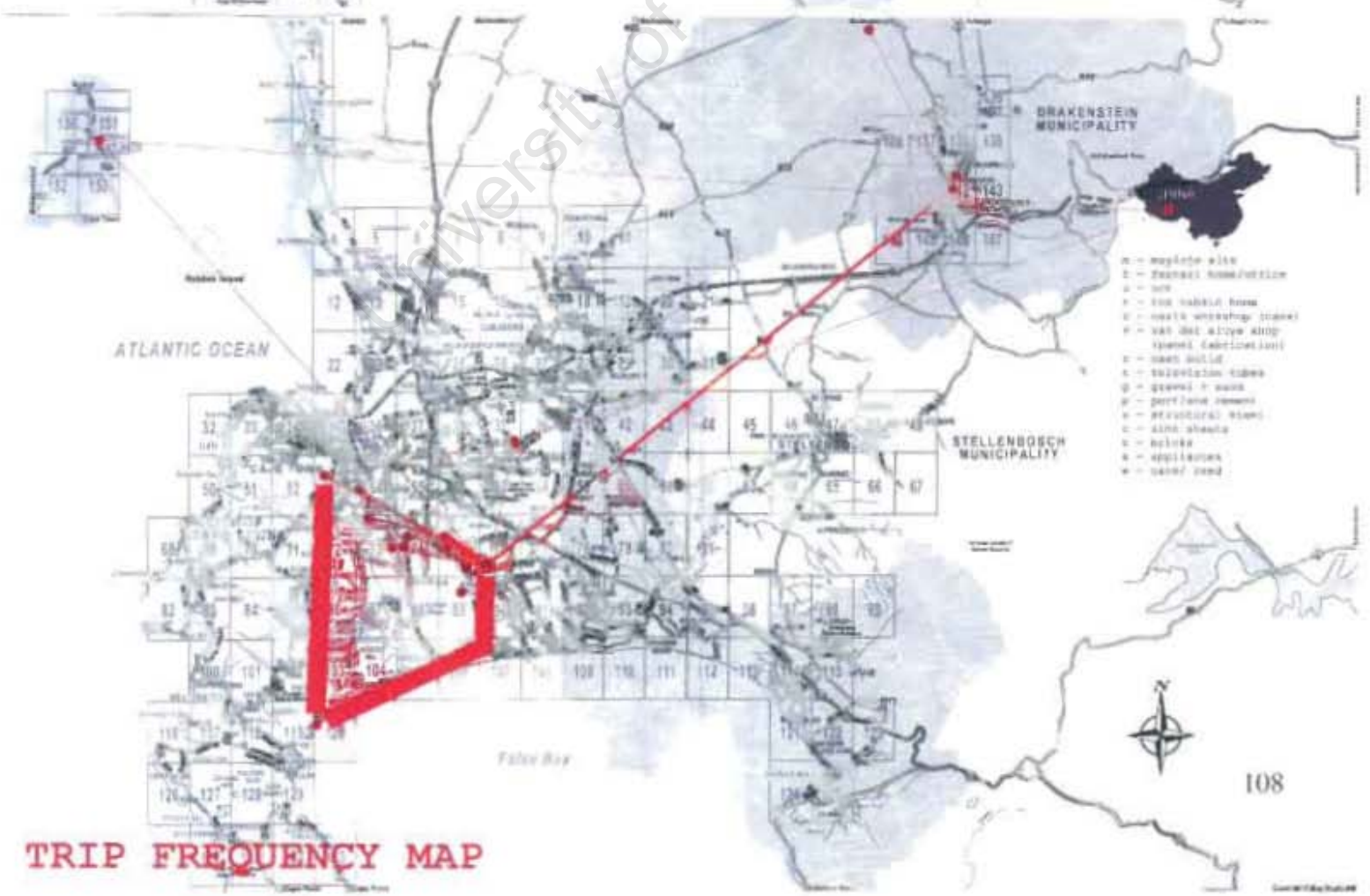
under this mode would be commodities, they could also be 'works' and not simply products. The great variability, and diversity of industrial waste materials is one factor that would tend to prevent homogenization of production. An organized program of collaboration between universities, government, private industry, and local community - implemented individually through student projects would also deter uniformity. Furthermore, the essential basis of such a program, rooted in class struggle itself contradicts the uniform placelessness promoted by economic modernity. According to Lefebvre: "As for the class struggle, its role in the production of space is a cardinal one in that this production is performed solely by classes, fractions of classes, and groups representative of classes. Today more than ever, the class struggle is inscribed in space. Indeed, it is that struggle alone which prevents abstract space from taking over the whole planet and papering over all differences. Only the class struggle has the capacity to differentiate, to generate differences which are not intrinsic to economic growth *qua* strategy, 'logic' or 'system' – that is to say, differences which are neither induced by nor acceptable to that growth." [18]Class struggle, by its very nature demands *endogenous development* - change from inside, and economy as a social mechanism based on tradition, culture, community, and internal forces. The antithesis is *exogenous development* – from the outside, or an economy based on foreign investment, technology, and dependent on these external forces. Exogenous development tends to be the sort of development promoted by hegemonic economic modernity.

An endemic, endogenous production also has the ability to reinforce dwelling. In many indigenous cultures, specific places are often associated with events that teach a lesson. Through this relationship, place and landscape are tied to the people and the ethics of the group. For example: "That corner is the place where Mbutu was hit by a truck while running off with a stolen chicken." or "That open field is where Michael found a 100 rand note after helping the old woman carry her groceries." In the same way through endogenous acts of meaningful architectural production – endemic building that benefits the community, a group's social structure, values, and memory are reinforced and dwelling is fortified. By reconnecting the production process with meaningful work, we can return dignity to the human acts of labor. Lefebvre writes: "The historical and its consequences, the 'diachronic', the 'etymology' of locations in the sense of what happened at a particular spot or place and thereby changed it – all of this becomes inscribed in space. The past leaves its traces; time has its own script. Yet this space is always, now and formerly, a *present* space, given as an immediate whole, complete with its associations and connections in their actuality. Thus production process and product present themselves as two inseparable aspects, not as two separable ideas."[19]

I do not wish to hear speak of that which is new, of that which is different, as these words do not interest me. I am only interested in that which is original, 'original' in the sense of origin, of re-establishment, of beginning again, of going to the source, which implies the existence of something incontrovertible... We immersed ourselves in the place, bathed in it, and felt its presence. The emphasis of this presence is our project; we descended more into the presence of the place...There was place as topography, as landscape, but place also understood in terms of everyday culture. We have made the Sunday stroll ... our project.[20] *- Carme Pinós*

These words rescund with me, and I think, these sentiments, of all the thoughts in this project are perhaps the most significant. It is impossible to live meaningfully in the world, or, as an architect to build meaningfully without taking the Sunday stroll. I would have gained nothing - learned nothing - if I had not listened to Tony as he offered to collect cans with me. If I had not lifted a shovel with Antonio, Zukisa, and the others, if I had not walked down Oliver Tambo Drive in search of lunch, if I had not spoken with Pete at Panasonic, or the women chipping mortar off bricks on my way to Cash-Build. The meaning in this project lies embedded in the relationships, the networks of everyday experience that shaped the ground, walls, and roof of the Mayinje House.

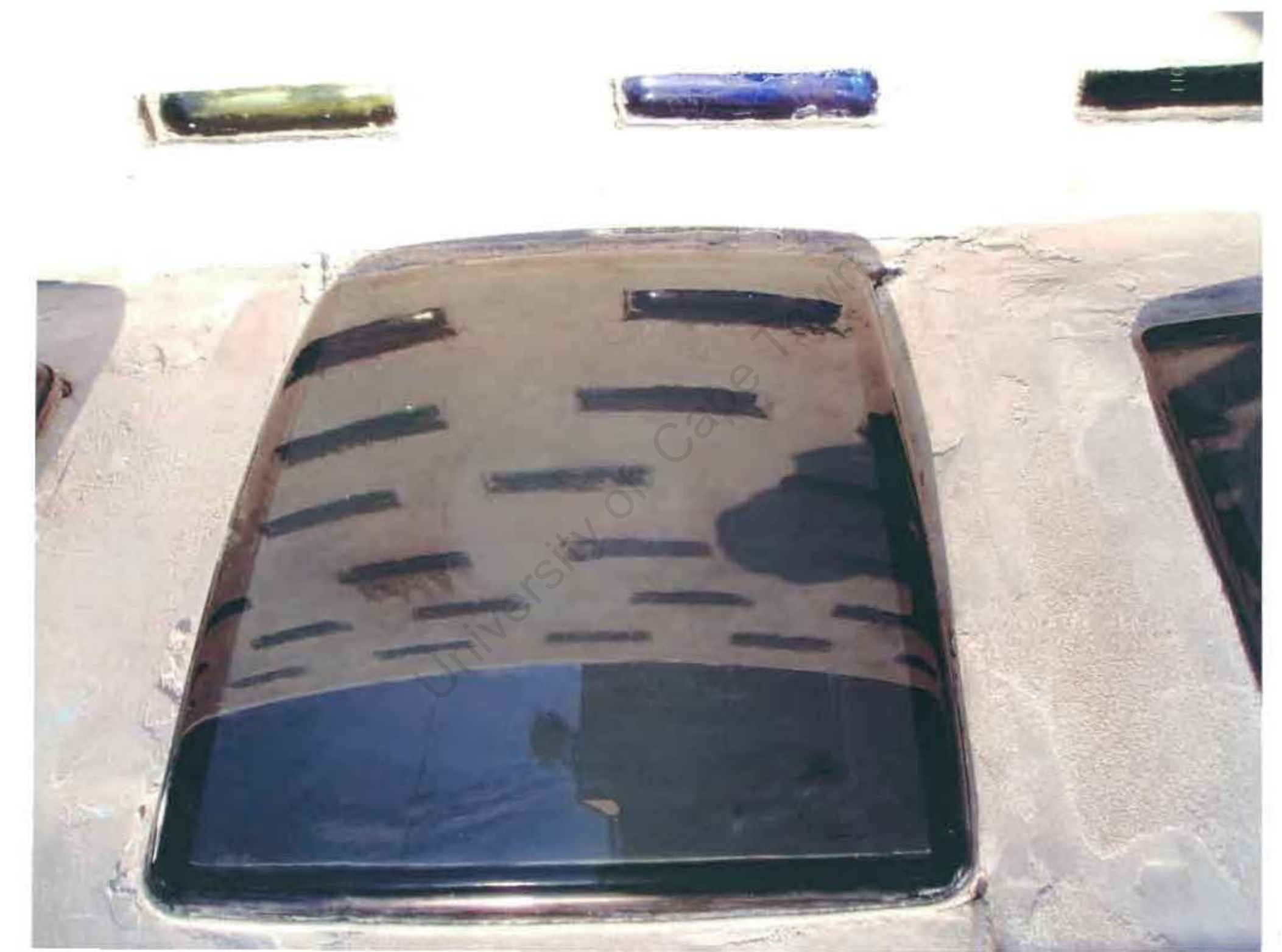


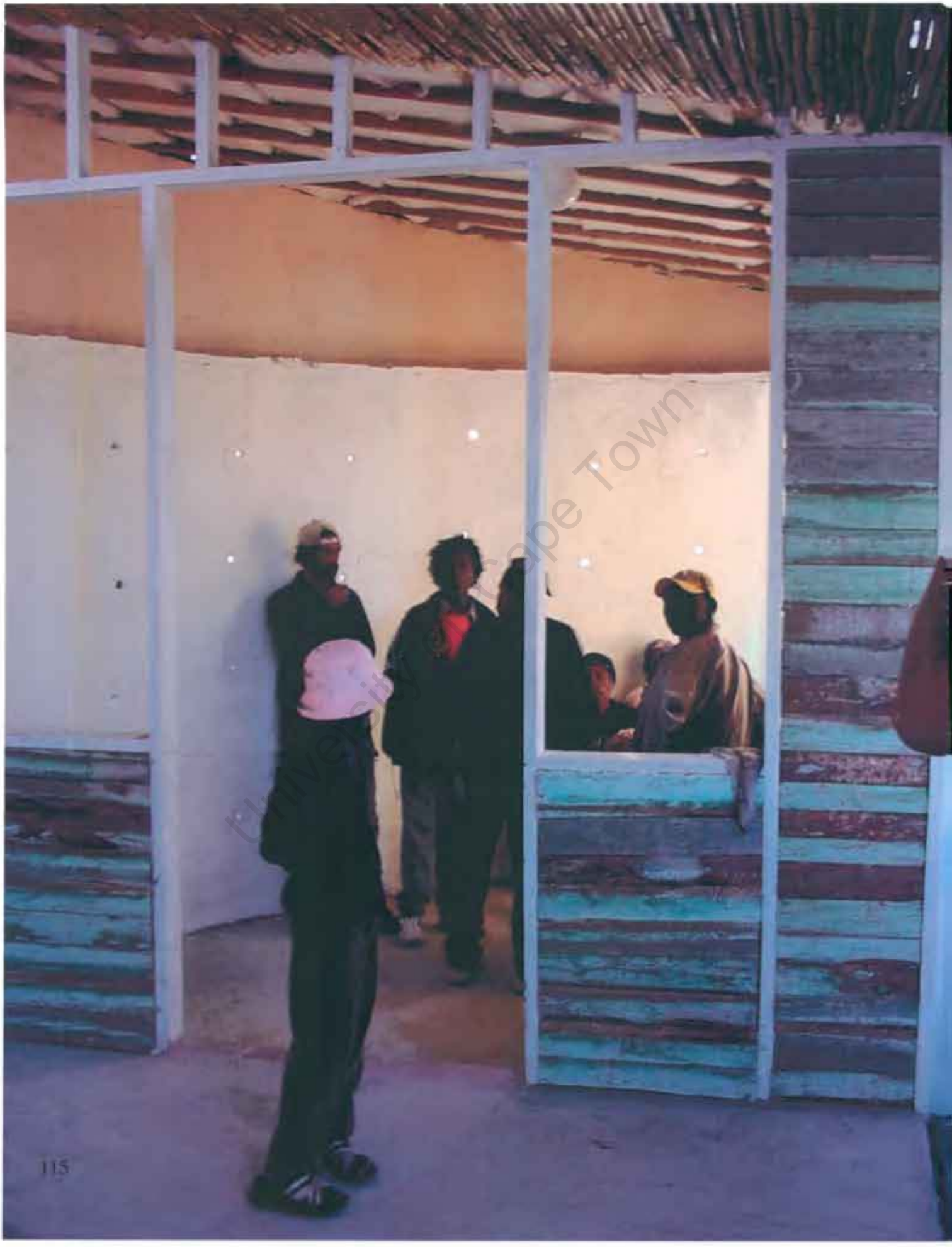


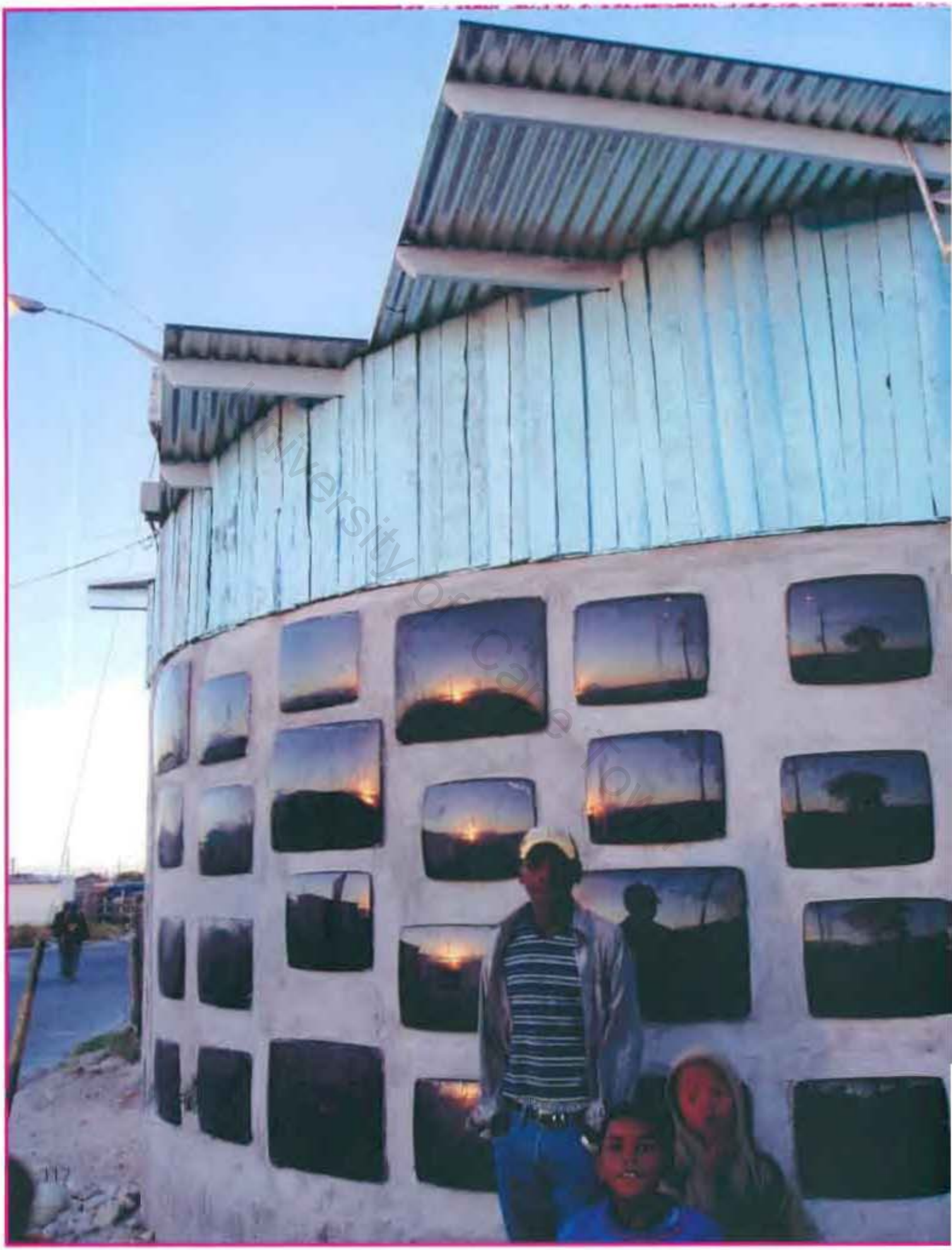
TRIP FREQUENCY MAP

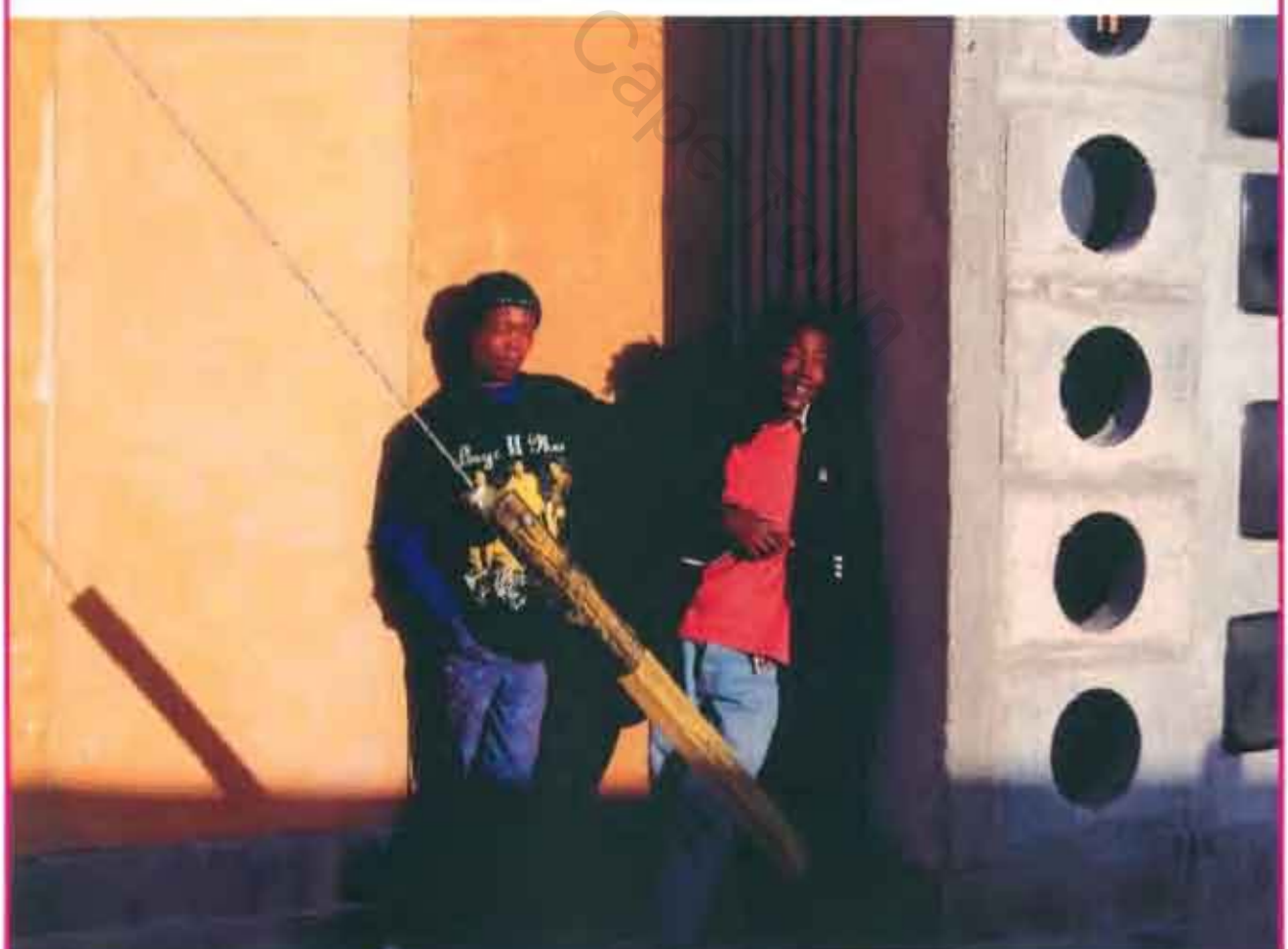
ENDNOTES

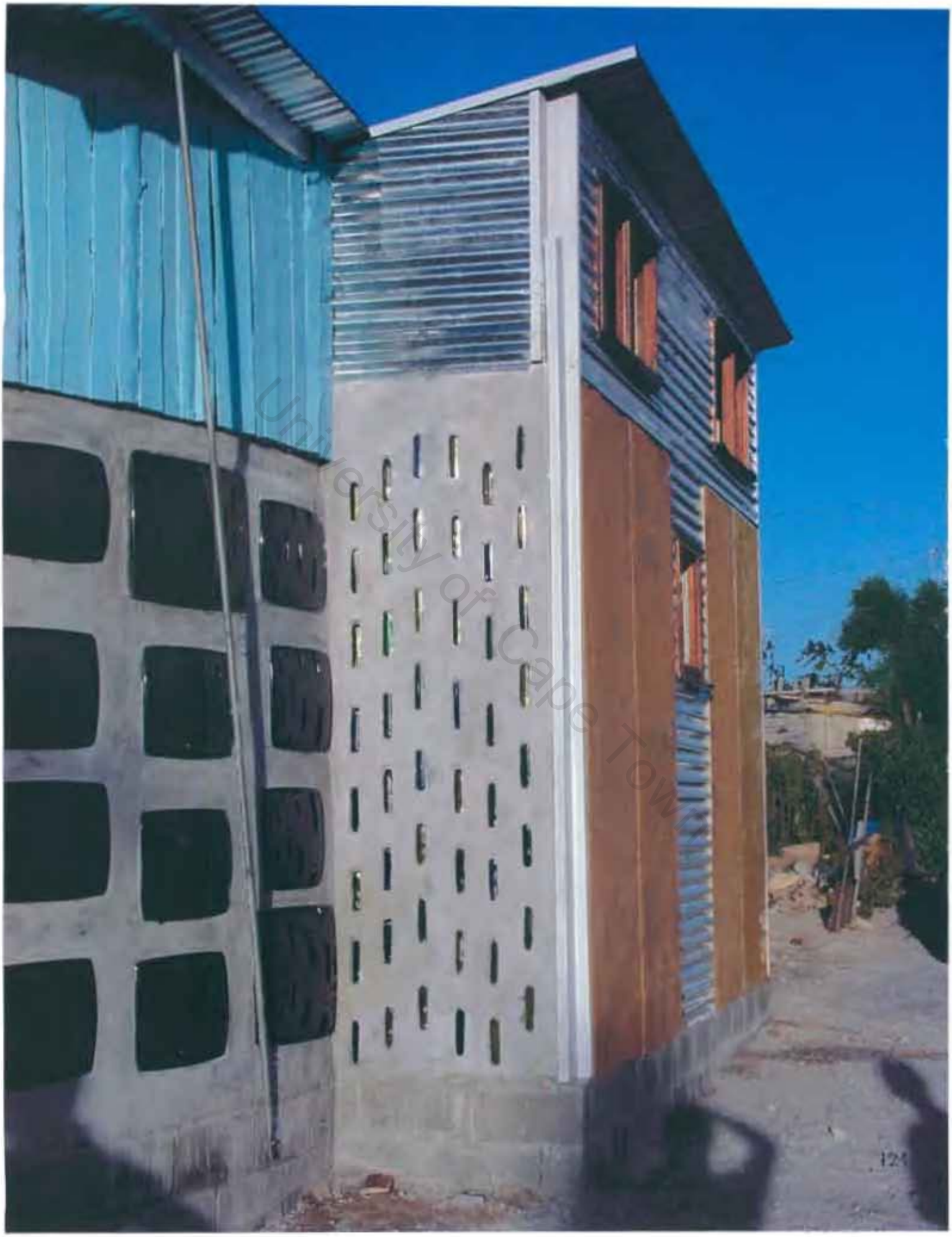
1. Theodor W. Adorno, "Functionalism Today," *Oppositions*, no.17, 1979, 41.
2. Hilde Heynen, *Architecture and Modernity*: A Critique (Cambridge: MIT Press, 1999), 179.
3. Hilde Heynen, 177.
4. Theodor W. Adorno, *Negative Dialectics* (New York: Continuum, 1983), 146.
5. Hilde Heynen, 178.
6. Hilde Heynen, 222.
7. Hilde Heynen, 224.
8. Howard Davis, *The Culture of Building* (New York: Oxford University Press, 1999), 166.
9. Hilde Heynen, 80.
10. Martin Pawley, *Garbage Housing*, (Chichester: The Architectural Press, 1975), 51.
11. Henri Lefebvre, *The Production of Space*, translated by Donald Nicholson-Smith, (Oxford: Blackwell, 1991), 62-63.
12. Gordon Best, "Methods and Intention in Architectural Design," in *Design Methods in Architecture*, eds. Geoffrey Broadbent, and Anthony Ward (London: Lund Humphries, 1969), 150.
13. Hilde Heynen, 185.
14. Theodor W. Adorno, *Aesthetic Theory*, trans. Robert Hullot-Kentor (Minneapolis: University of Minnesota Press, 1997), 430.
15. Michael Cahn, "Subversive Mimesis: T.W. Adorno and the Modern Impasse of Critique," in Mihai Spariosu, ed., *Mimesis in Contemporary Theory*, vol. 1 (Philadelphia: J. Benjamins, 1984), p. 49.
16. Hilde Heynen, 191.
17. Henri Lefebvre, 71.
18. Henri Lefebvre, 55.
19. Henri Lefebvre, 37.
20. Carme Pinós, "Following the Trace," in *The End of Architecture? Documents and Manifestos: Vienna Architecture Conference*, ed. Peter Noever (Munich: Prestel, 1993), 73.

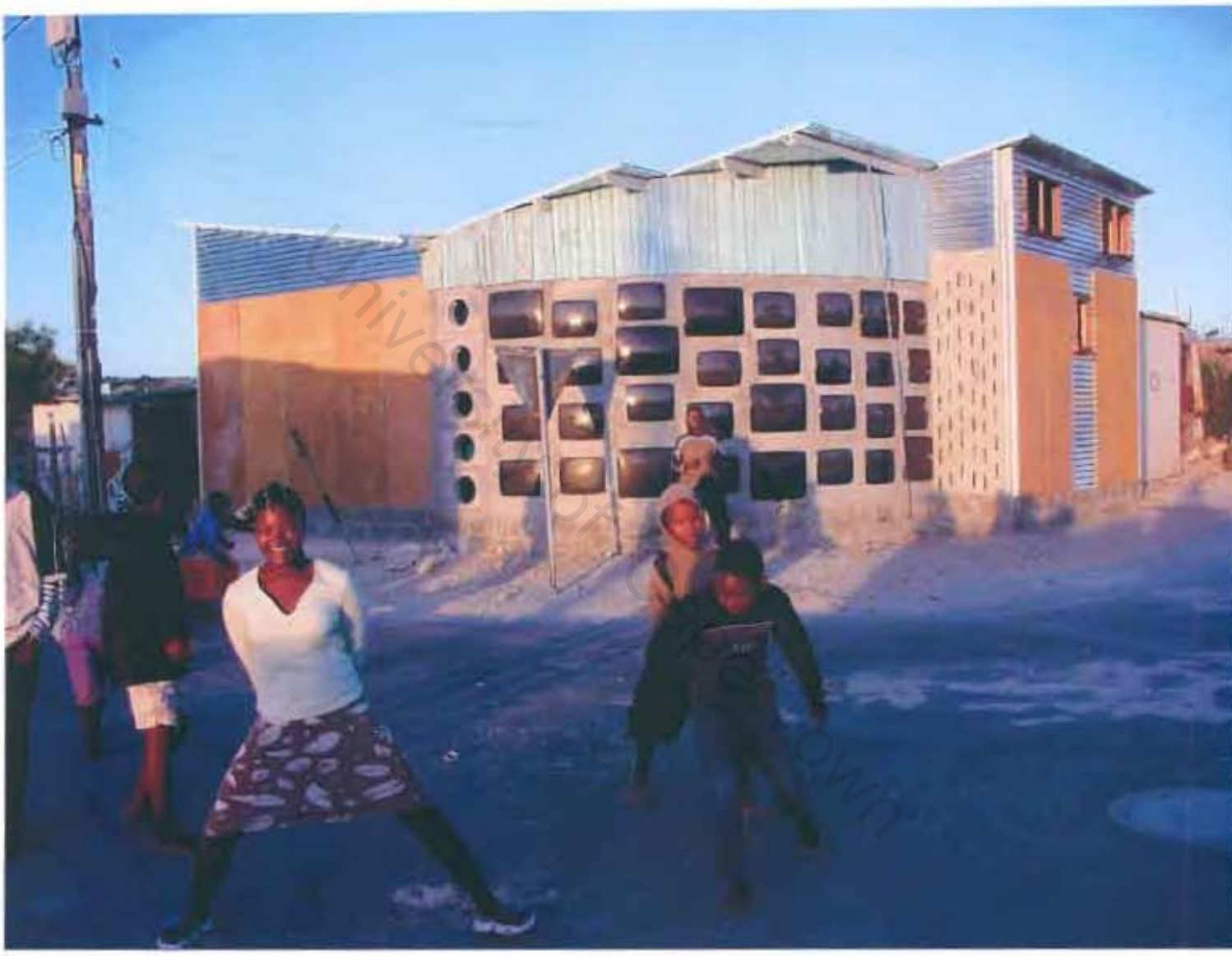


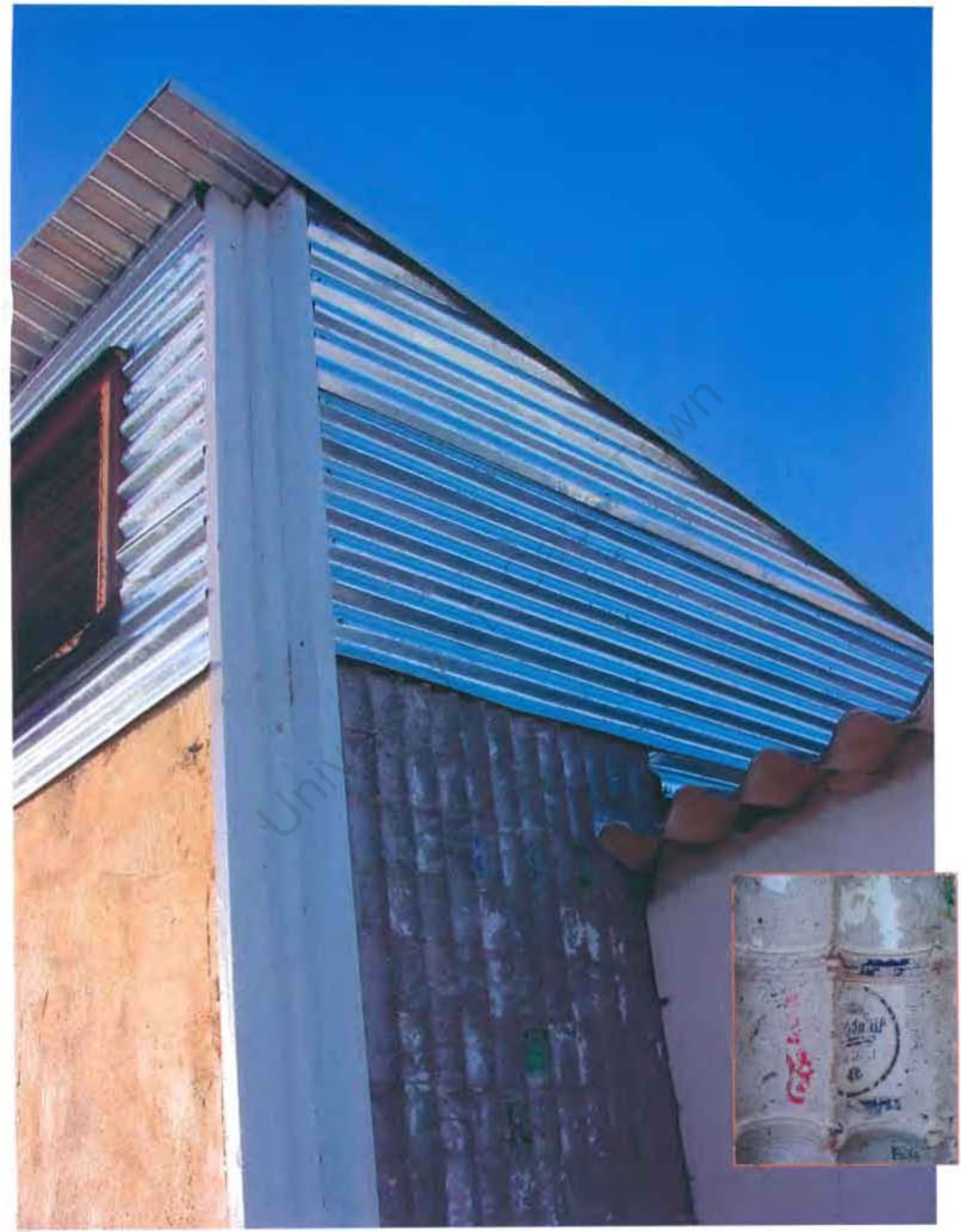












Reply | Reply to all | Forward | Move to trash | Show full headers | <- Read previous

From: carey_clouse@faculty.nols.edu
To: jferrari@darkwing.uoregon.edu
Cc: ranakit@yahoo.com
Time: Mon, 09 Feb 2004 20:14:03 MST
Subject: wow.

Dude, dudress-

I can't thank you enough for all the beta you gave me- South Africa is boundless, and I know I would have been totally lost without all of the good ideas.

I spent a week in Kruger- pretty spectacular- and then hit up Cape Town and the nearby towns. I had brunch at the Olympia Cafe, went to the cape, and even spent a few days in a township. It was cool too to check out the University and the city.

Ferrari- you left your name on your office door- and it was so wierd when I saw that at UCT. Real proof that you guys were there.

The township was by far the highlight of my trip- and Jonathan- your casa is incredible. I spent some time in Samora Michel- and met the kids that live in the house, and they are so proud of it. People were unbelievably friendly.

And it works- The living room was probably ten degrees cooler than the kitchen- bien fait.

I looked at a lot of affordable housing projects- my current obsession- and it was just wild to see the divide between classes there. I've never seen anything like it. I showed my pix to my office during our common lunch this week- and everyone is excited about your creation- I'm wondering how you would feel about me writing an article on it? I'll pass a copy by you first.

So- I took a roll of slides and a roll of prints of the house, and want to send them to you- can I get an address?

Rana- congrats on the job- where is it? I hope not in Taiwan. Jonathan- what are your plans? (Is there life after Lawrence?)

Again, thanks for the coaching- and come on over and visit me one of these days- I think a whole crew will be down here in SFO over spring break, if you want to follow the masses...

Peace, yo- Carey

This message sent by NOLS services. -- http://www.nols.edu

Reply | Reply to all | Forward | Move to trash | Show full headers | <- Read previous

WEEK	MATERIALS (SAR)	PAID LABOR (SAR)	SWEAT EQUITY (SAR)
1	6,053	1,073	1,500
2	3,667	700	1,500
3	3,084	1,390	1,500
4	792	2,175	1,500
5	7,967	1,958	1,500
6	5,285	1,605	1,500
7	5,832	4,608	1,500
8	4,040	5,837	1,500
TOTAL	36,720	19,346	12,000

(this figure is an estimate of the wages that would normally have been paid for m skilled labor - the represent the studen contribution)

TOTAL MATERIALS 36,720 R = 54% of real cost
TOTAL LABOR 31,346 R = 46% of real cost

REAL COST OF HOUSE 68,066 R HOUSE SIZE 59.2 SQ.M. = 1,150 R/SQ.M.
RANDS PAID 56,066 R HOUSE SIZE 59.2 SQ.M. = 950 R/SQ.M.

COMPARISON
RDP HOUSE COST 15,000 R HOUSE SIZE 15.0 SQ.M. = 1,000 R/SQ.M.

STANDARD WAGES LABOR 50-100 R / 8 HOURS SKILLED LABOR ~ 250 R / 8 HOUR

my special thanks to:
rana chen – for all those reasons that would take too much space to mention here
jenny and sally, kyla, seth, robert, henry, and ellie for being my adopted family
the WESTERN RIGHT WHALES – for being magnificent transient neighbors
tusk – my VW beetle who served us faithfully through the arduous journey
beatrice and lewis rabkin – for believing in the design idea and for funding the project
alex van der sluys – ISIPANI-J VAN DER SLUYS CONSTRUCTION – for patient, professional advice, enthusiasm, the donation of workshop space and a big truck with a hoist for transporting the concrete panels
iain low – for advice, mentorship, and critique
jo noero – for support and inspiration
pete sweeney – at PANASONIC – for donating the television tubes and putting up with my persist pestering
alison van der berg, mosha, and all her staff – OASIS workshop – for providing the vast majority of the soda cans and blue glass wine bottles
jeanne and linden – for the magical flat on the water in KALK BAY
kevin alberts – TOMOTEX – for the thread tubes
ROTARY INTERNATIONAL – for granting me an AMBASSADORIAL SCHOLARSHIP and making it all possible
john powell and the LION'S HEAD ROTARY for sponsoring my stay in CAPE TOWN
hazel mayinje – for entrusting me with the design and construction of her house
john at the UCT archi-shop – for the use of shop space and tools
lindiswa mthukwana – for the lundi CD
john at the MUIZENBERG BP – for your endless smile

and ESPECIALLY, to all the craftsmen who put their time and energy and enthusiasm into this project, especially at the end when the days where much longer than a day should be. i wish i could have given you all more. many thanks
eric
max
patrick
patrick's brother
lawrence
david
arthur
michael
michael's brother
eliot
antonio
tony
zukisa
eric
rasta
skinny rasta
the tall quiet kid

i would like to dedicate this project to antonio and tony – two incredible men whom i met on the street in kalk bay while I was collecting cans. tony asked if he could help me out. these two men spent their nights under the train bridge when we met, and continued to do so during the entire project - except for the time they spent overnight at the site, protecting the construction materials from theft. they may be back at their spot under the first arch of the train bridge at this very moment. tony and antonio met me every morning and often on weekends before sunrise for our drive to the site. i entrusted them solely with the fabrication of the second run of panels, which they completed flawlessly, adding their artistic vision through the foliage printing of the wet concrete. tony is a master welder and provided me with many insights into local construction techniques. antonio was by far the hardest worker, tirelessly digging, mixing concrete, and even chiseling out hardened concrete when mistakes were made, and never ever with a single complaint.
this house would never have become a reality without the dedication of these two 'strollers' as they described themselves. for me they have been two great friends - generous, giving men who deserve much more than i could give them, and much more than the world has dealt them. i will be forever in debt to them for their companionship, wisdom, and participation in this vision.

CONSTRUCTION DIARY

Mon 20.10.2003
On Sunday Zukisa and family took down the blue shack that was sitting where the new dining room will be.
Eliot was there in the morning to ask for work. He was referred by Rubin, who is the gardener for Beatrice and Lewis.
We dismantled the toilet shack first
Staked out the house corners
Started digging trenches
The inspector showed up (David) and wanted us to find the site boundary pins, he seemed a bit cross that we were digging the trenches without having marked the site boundaries.
He couldn't find the pins and left saying that they would be back.
We looked for the pins and found none. After more than an hour a neighbor woman told us that there were only pins at the back of the property, none in the front, only paint marks on the pavement.
We continued digging the trenches
I ordered sand and stone and paid through the automated teller.
Bought fried chicken for lunch.

Tues 21.10.2003
Got to work at 6:45 today
Resumed digging and measuring and leveling. We have been using a water level (clear tube filled with water)
It seems that so far Antonio, the shorter homeless man is the best worker. He is non-stop, and attentive to what needs to be done.
Yesterday three guys showed up asking for work. I told the first (David) to come back today, he did. I have decided to give him a job also. It seems that it is more efficient if people work in teams of two. Especially when digging. One person with a pick loosening the soil, the other with a shovel clearing the trench. One can rest while the other works.
I left the guys in the morning while I went to find somewhere to purchase block, cement, and, steel. Found the best price for block and cement at CASH BUILD on Landsdowne Rd. Monica and G. gave me a good discount and good deal on the delivery.
Checked out another place for metal roofing,
Found LEO Steel further up Landsdowne. They have all types of reinforcing steel.
Found out that 25x25 mm angle is the smallest, but 20x20 mm square tube does exist.
May have to use it around curved wall even though more expensive???
Returned to site - the guys hadn't made as much progress as I had hoped.
Sand came; they dumped it behind the existing house. Block and cement also delivered.
Moved the block (326 @ 140x190x390) to inside of site away from street so it wouldn't get stolen. Moved cement (50 bags) into the blue bedroom.
Widened trenches after inspector showed up
Started leveling trenches.
Must figure out the toilet drain tomorrow and put pins in trenches in correct places.

Wed. 22.10.2003
A bit of drizzle this morning, not as hot.
Molo molo - good morning in Xosa
The day started well, widening and straightening trenches
Checking levels and filling areas that need it.
Called about stone delivery twice.
Measuring and placing corner pins all morning.
Had to make some plumb bobs with the pins to check the diagonals because the piles of dirt prevented us from stretching the tape across.
Decided to try and dig at the corner of the property to intercept the sewage pipe. It was either that or cut a deep trench across the site. Antonio dug down 1.5 meters and found electric cables as well as a green water pipe
Kept digging and digging.
Nothing , Nothing
Called about stone delivery again, finally the driver called, said he was on Oliver Tambo.

PRIMARY BIBLIOGRAPHY

Allen, Robert C., ed. *Channels of Discourse, Reassembled: Television and Contemporary Criticism, Second Edition*. Chapel Hill: The University of North Carolina Press, 1992.

A selection of essays on contemporary criticism of commercial television. Draws from semiotics, narrative theory, reception theory, genre theory, ideological analysis, psychoanalysis, feminist criticism, and British cultural studies.

Andrew, Paul, and Derek Japha. *Low Income Housing: Alternatives for the Western Cape*. Cape Town: David Philip, 1978.

A economic cost study of a selection of housing types for the Western Cape.

Borden, Iain, and Jane Rendell. *Intersections: Architectural Histories and Critical Theories*. London: Routledge, 2000.

A collection of essays on critical theory and contemporary architectural issues

Broadbent, Geoffrey, and Anthony Ward, eds. *Design Methods in Architecture*. London: Lund Humphries, 1969.

A collection of essays on architectural design method coming out of the *Portsmouth Symposium on design Method, 1967*. Includes methodological approaches from diverse disciplines and theoretical backgrounds.

Coetzee, J.M. *In the Heart of the Country*. New York: Penguin Books, 1982.

A novel set on a remote farm in South Africa in an allegorical style which comments on the colonial experience of this country. A background reading

Davis, Howard. *The Culture of Building*. New York: Oxford University Press, 1999.

Discusses how buildings are the product of complex *building cultures*.

Denzin, Norman K., and Yvonna S. Lincoln, eds. *Handbook of Qualitative Research*, 2d ed. London: Sage, 2000.

A collection of essays representing the most current thinking on Qualitative research. It is not a revision of the first addition, but an entirely new compilation.

Fellows, Richard and Anita Liu, *Research Methods for Construction*. Oxford: Blackwell, 2003.

A comprehensive guide to research methods in the construction and engineering fields.

Foster, Hal, ed. *The Anti Aesthetic: Essays on Postmodern Culture*. Seattle: Bay Press, 1983.

A collection of essays from, Habermas, Frampton, Krauss, Crimp, Owens, Ulmer, Jameson, Baudrillard, and Said. Critical writings addressing postmodernism, what it is, and how it should be positioned in order to have critical importance.

Went to get him in Tusk, couldn't find him anywhere on Oliver Tambo Drive. Called him again and discovered that he was in Guguletu, on Oliver Tambo Rd., gave him proper directions.
The work is agonizingly slow.
Bought gloves for everyone.
Strung lines between corner pins at top of footer level.
Alex called, still no truck to get the cans to Paarl. I've been waiting for 2 weeks now. Time to hire a truck.
The cost keeps going up with all these problems.
Started pouring footers.
2 wheel barrels sand, two of 29mm stone, one 50 kg bag of cement
Have to have some closure about the sewer pipe tomorrow or else we'll just have to dig the deep trench right across the lot???
I refuse to redesign the layout again.
Realized that I can use 25x25 angle iron if I turn it 45 degrees from how I had designed it. Yea! One small victory!

Thurs. 23.10.2003
Antonio has continued digging to look for a sewer connection while the others widened trenches and Zukisa and I did some more leveling.
We were just about to start pouring more footers when Tony and Antonio decided to lift the other manhole cover to see if the sewer line ran to it, because we still hadn't found it.
(Why is a manhole cover round? - because they are so heavy that when you slide them back into place you can't risk them falling into the opening. If they are round they can't fall in, they don't have to be in any particular orientation, and they can be tilted open easier.)
Anyway, we discovered that the original manhole we had been looking at was just a storm drain, and the pipe entering wasn't our sewer pipe. The other manhole that the guys had just opened was the sewer (from smell, and shit floating by). And, there were no white PVC pipes entering it directly. As I suspected originally, the white sewer pipe at the corner of our site must run perpendicular to the middle of the road where it hooks up to the main sewer. Well, at least we know now.
Only two choices now, one is to cut across the site diagonally, the other is to take the pipe around the corner with a 90-degree bend.
The digging will be much faster around the corner and we won't have to break up the slab from the old shack on which we have been mixing concrete. But it means an extra length of pipe, plus an elbow (130 R total) (the PVC comes in 6m lengths.)
If I had kept the bathroom in the corner like the original design, it would have been at least 500R cheaper, but I thought there was another sewer connection on the South Side. The inspector said there wasn't, but from looking at the sewer lines coming into the manhole, I'm sure there is. Also the neighbor's bathrooms are along the South street and must be running into the center of the street, but where is the connection box???? Should have done more research into this before starting. Anyway - on the spot decision, I decided to run the sewer lines around the corner to hook up to the existing sewage pipe.
I sketched out a design and went to buy the materials while the guys started digging.
When I returned and started laying it out I realized that my design was wrong (I had both toilets in series instead of them coming from separate branches.) So I redesigned it and returned the fittings for others. The return process is not so smooth here in SA, but at least I have an account so that I can return things that I do not need.
It was right the second time. We got the sewer lines in place and the trench filled by the end of the day.
(At lunchtime I told the guys that we must have all the footers poured by the end of the day Friday.)

Fri.24.10.2003
Started mixing concrete immediately.
I did the final leveling with Zukisa and strung lines.
Had to place block along the roadside trenches where the slope of the site went down to below the level of the footer. Here the footer will be just about at ground level, but we did so much digging that the trenches no longer have hard edges.
I spent the day building the edges for the footers, stringing lines, leveling, and screeding the concrete footers (David did most of them), and putting anchor pins in place.
Bought lunch for everyone - sausage and peppers and onions.
After lunch we switched to a mix of 2.5 wheel barrels sand, 2.5 stone, 1 bag cement. (This is the exact proportion given for foundations shown on the cement bags)
At about 6:00 it started raining a bit, I hope the concrete will be OK.
We finished at 7:00
I paid the guys, and Zukisa and Eric also.

Foucault, Michel. (a translation of Les Mots et les choses) *The Order of Things: An Archaeology of the Human Sciences.* New York: Random House, 1970.

The acclaimed contribution to French and western philosophy, proposes that 'man' has only recently taken front stage as an object of human knowledge. A critical reflection of how this came to be and how it may change again, at which time 'man' would disappear and a new mode of thought would emerge.

Ghirardo, Diane, ed. *Out of Site: A Social Criticism of Architecture.* Seattle: Bay Press, 1991.

A group of essays all loosely relating to social issues with relation to contemporary architectural practice and theory.

Goodman, L.J., R.P. Pama, E.G. Tabujara, R. Razani, and F.J. Burian, eds. *Low-Cost Housing Technology: An East-West Perspective.* New York: Pergamon Press, 1979.

An overview of foundational, as well as specific conditions relating to low-cost housing production. Includes technological, material and social factors.

Habermas, Jürgen. (translated by Thomas McCarthy) *The Theory of Communicative Action, Volume 1: Reason and the Rationalization of Society.* Beacon Press: Boston, 1984.

Held, David. *Introduction to Critical Theory: Horkheimer to Habermas.* Berkeley: University of California Press, 1980.

Heynen, Hilde. "Architecture and Modernity: A Critique." MIT Press: Cambridge, 1999.

Judin, Hilton, and Ivan Vladislavic, eds. *BLANK: Architecture, Apartheid and After.* Rotterdam: Nai, 1998. and Cape Town: David Philip, 1998.

a collection of essays on architecture, urbanism, and public cultures in South Africa from before Apartheid to the contemporary.

Kellner, Douglas. *Critical Theory, Marxism, and Modernity.* Baltimore: The Johns Hopkins University Press, 1989.

Knecht, Barbara. "Defining Component-Based Design." *Architectural Record;* July, 2004. pp. 153-160

A description of component-based design

Larsson, Annita. *From Outdoor to Indoor Living: The Transition from Traditional to Modern Low-Cost Housing in Botswana.* Lund: Wallin & Dalholm Boktr. AB, 1988.

A small collection of case studies from Botswana focusing on the modernization of dwelling, and accompanying social changes.

LeFebvre, Henri. *The Production of Space.* (translated by Donald Nicholson-Smith) Oxford: Blackwell, 1991.

Mon 03.11.2003
Returned the rented tools
Picked up tools from Samora Machel
Talked to the stone and sand guys about the delivery
Drove to Paarl
Today we finished putting the cans in the forms, we are about 1200 cans short.
Then I went to ISIPANI to rip the shims for holding the forms up off the ground.
We shimmed up the forms by 16 mm with the cans staying on the floor so that the space for the concrete became deeper.
Oiled cans and forms with linseed oil
Cut dowels for the bolt holes.
Placed dowels at the corners, in gaps left at the intersection between 4 cans.
Flattened and placed steel mesh - bent the cut ends to go around where the bolt holes will be.
Started pouring concrete
80 liters sand, 80 liters stone, 1 50k bag cement
(One batch of concrete will fill two forms with about a bucket of concrete extra.)
poured 4 panels
left work at 8:30pm
Drove back to St. James
Tony and Antonio are staying the night at the workshop.

Tues 04.11.2003
This morning I called Oasis workshop to see if they could sell me more cans.
They said the cans would be ready on Wednesday Morning.
Then I went to UCT to check about borrowing Tools
Drove to Paarl
The guys didn't have as much done as I thought they would. (I had asked them to oil and shim the panels up. They hadn't shimmed or oiled much, and were just starting to pour at 10am. Later Tony said that he hadn't understood what I meant by shim)
I measured the diagonals to square the set of forms (12panels/form) The form wasn't too far off because of the regular dimension of the cans.
We poured another 9 panels
For each panel the pegs had to be measured to make sure they were in the correct spot and hadn't been knocked out of place by the screed board. Many of them had to be readjusted.
All the steel mesh must be straightened before using it.
We Searched for plants and tried printing one of the panels. It worked fairly well, but got erased when we stained it and troweled it again.
Watered the panels before leaving.
Drove back to St.James late, around 10:00

Wed 05.11.2003
Picked up cans at Oasis.
They just barely fit in Tusk. (White convertible VW Beetle)
Drove to school to talk to borrow tools.
Drove to Paarl
Finished casting the panels by dusk, and cleaned the workspace.
The dying of the panels with pigment didn't go as I had planned, I couldn't seem to get the rusty ochre color I wanted.
I may buy a bag of white cement to see if I can get the right color with it.
Also, I'm a bit worried about the stone we used. It is not a hard bluestone, but a sandstone from Malmsbury which is not as hard. But everyone says it's the best. I hope the panels will be strong enough!

Thurs 06.11.2003
Drove to the site in the morning and hired three more guys
Drove to Cashbuild to get the timber for the sill plates and the rest of the plumbing stuff.
Then I had to take Zuklsa in to The Rabkin's with luggage and food for Hazel's trip to the Eastern cape for a funeral. The moment we got back to the site Hazel called because she had forgotten her ID book and they wouldn't let her on the bus without it.
We had to drive back into Cape Town to deliver it. Got there in time.
Got stuck in rush hour traffic on the way back to the site.

The French philosopher's seminal work on the creation of space within the global capitalist system. He builds on Marxist thinking about commodity, labour, and materialism.

McKibben, Bill. *Hope, Human and Wild: True Stories of Living Lightly on the Earth*. Saint Paul: Hungry Mind Press, 1995.

Mautner, Thomas, ed. *The Penguin Dictionary of Philosophy*. London: Penguin, 2000.

A philosophy reference book.

Mda, Zakes. *The Heart of Redness*. Oxford: Oxford University Press, 2000.

A novel by the author, providing insight into modern southern African culture.

Myers, C.G. *"A Study into the Development of a Township."* B.B.Sc. Thesis, University of Cape Town, 1971.

Noever, Peter, ed. *The End of Architecture? Documents and Manifestos: Vienna Architecture Conference*. Munich: Prestel, 1993.

The proceedings from a symposium composed of the leading architects within the deconstructivist' architectural scene.

Pawley, Martin. *Garbage Housing*. Chichester: The Architectural Press, 1975.

A comprehensive analysis of the potential for the use of post-consumer waste materials for the provision of housing. From research conducted through the Cornell University School of architecture during the 70's.

Sennett, Richard. The Spaces of Democracy: Raoul Wallenberg Lecture. Ann Arbor: University of Michigan, College of Architecture + Urban Planning, 1998.(also see *Flesh and Stone*, and *The Fall of Man*.)

Siza, Alvaro. *Writings on Architecture*. Edited by Antonio Angelillo.

Tuan, Yi-Fu. *Space and Place: The Perspective of Experience*. Minneapolis: University of Minnesota Press, 1977.

Perception of place and space from the perspective of human experience. The author is a geographer. For him, place = secuirity, space = freedom, we are attached to one and long for the other

Turabian, Kate L. *A Manual for Writers of Term Papers, Theses, and Dissertations*, 6th ed., rev. John Grossman, and Alice Bennett. Chicago: University of Chicago Press, 1996.

Wilbur, Ken. *A Theory of Everything: An Integrated Vision for Business, Politics, Science and Spirituality*. Boston: Shambhala, 2001.

Integral theory and real world existence.

The guys leveled and packed the floors and placed the polystyrene.
Then we filled the spaces in the polystyrene with soils and leveled and tamped it down.
Poured the living room floor
Tony did the leveling and screeding
It looks good but it is way out of level.
We hid the timber on the top of the tin roof of one of the Mayinje's existing houses so that it wouldn't be seen, and if anyone did try to steal it they would make noise getting the timber off the tin roof.

Fri 07.11.2003
I went to buy more cement, and got some used brick by the side of the road and loaded it into the transport that I had hired.
Poured the west bedroom and a bottom layer of the other rooms. There was too much stone in one of the mixes and we struggled to level it. It was a hot day and the concrete was drying way too fast. The guys forgot to put stone in another batch, and as I was walking over to tell them to put stone in, I stepped off the foundation and twisted my ankle fairly badly.

Sat 08.11.2003
Got to the site early, had breakfast.
The guys started leveling the patio area and cleaning the perimeter of the site.
I went to get five more bags of cement and brought them back in Tusk.
We finished pouring the floors with just a sand and cement mixture. Our leveling board became warped over night. Too much water in the mix.
The floors are far from perfect, but some day they will be tiled. My expectations for a high level of workmanship are decreasing daily.
The guys finished cleaning the site - we separated the stone from the concrete rubble and stacked the concrete rubble by the house. It can be used to lay a walkway or make a raised bed for a garden.
The stone we stacked on the outside corners of the curved wall.
Bought a case of soda from a passing soda truck.
Left at around 2pm.

Mon. 10.11.2003
Left house just before 7:00am
we collected some bottles from the recycling place at Kalk Bay and from the Olympia Café.
At the site I built the tilt-up concrete forms for the small walls at the ends of the curved wall. I used lumber from the sill plates except for the batons that the wine bottles rest in.
Went to buy cement.
The guys mixed concrete and filled the forms and made the small window openings for the bottles. Everyone worked on them a little, including Zukisa's friends.
Antonio laid the brick for the patio. We still have more than half of the patio to do.
Tony patched places in the floor slab where it had flaked up because it was watered too soon.
Left work at about 7:00pm

Tues. 11.11.2003
Bought two more bags of cement today, and made two trips over to Guguletu to buy bricks by the side of the road (Vanguard Rd.) (.5 and .6 R per brick)
I finished laying the patio, I intended to have a herringbone pattern, but because each row had an odd number of bricks, the two horizontal and two vertical of the herringbone always left me with one extra. So it was Antonio's idea to sometimes put one horizontal, sometimes three, and sometimes two, and to vary it with each row. The result was a sort of Mondrian effect. I like how it turned out.
We mixed another batch of concrete and finished pouring the other bottle wall. Tony did the window openings for it. Zukisa cleaned up the other window wall.
Many people have been stopping by to see what we are doing. Some are interested in learning so they can use the ideas, others are just curious. All say they have never seen a house like this.
We swept sand in between the bricks of the patio and then watered and tamped it.
Loaded tools in Tusk for tomorrow.

Wed. 12.11.2003
Left the house at 5:00 today
Drove to Samora to pick up Eliot.
Drove to Paarl.
Pulled panels from forms - one of 23 cracked

a final word of thanks to my parents **sharon** and **paul** for their ceaseless support, encouragement, guidance, and nurturing. my passion for creation is a direct out-spring of their grace and dedication in the world.