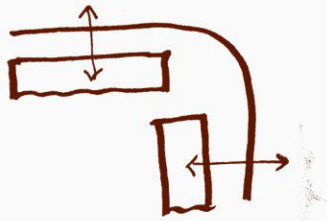
FORM GENERATORS

1. Buildings on boundaries
visual and physical access



2. Hierarchy and threshold
human scale, publlic spaces

3. Natural space
as a landmark

4. Movement accross site
stitching sides

5. Building as exhibition
of ethos

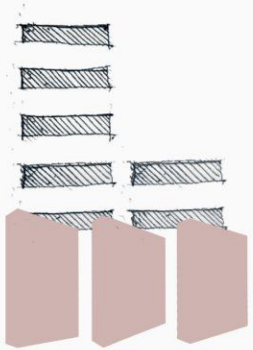
READINGS

BUILDINGS

FRANCIS CHING 1979

Form, Space and Order

Frank Ching's book "Form, space and order" was used to establish hierarchy and the repetitive placement of selected components on site. In his book, Ching talks about hierarchy by size, shape and placement. The question of which parts of the design should be more dominant is raised, which then informs the design process.The repetition is used to bring a certain element of order amongst various other design strategies employed. With visually repetitive elements, the components do not neet to be identical to have a striking impact on an individual's perception of space. This will be executed on site boundaries when individuals are introduced to the built form. Hierarchy of vertical volumes is applied as a principle from the book. This guides the user to locate different spaces on site by visual assessment.

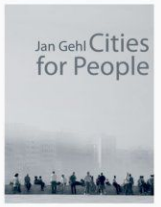


PUBLIC SPACE

JAN GEHL 2010

Cities for People
& In Search of Human Scale
& Life Between Buildings

Jan Gehl's theory in "Cities for People" states that people have been neglected in cities. This project is in agreement with that statement with specific focus on the lack of attention given to public green spaces in cities. Jan Gehl explores the difference between human dimensions and planning ideologies and the disconnect between these concepts, with simple design solutions such as walking-, sitting- and meeting spaces as the solution towards safer, more sustainable and healthy cities. In another book "In search for human scale" he ecos this idea again by noting the confusion of people when navigating their way in cities due to the loss of human scale. Making and maintaining contact with people with activity as an attraction is another solution that the author offers for design in the city realm.



GENERAL

DEKAY MARK 2011

Integral and Sustainable Design: Transformative Perspectives

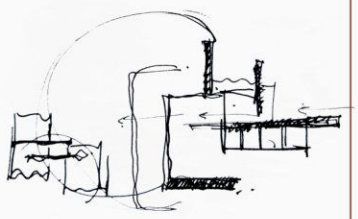
"Integral Theory"/" All Quadrants"
= the inside/outside of the individual/collective.
Simplest model that sums up user experience/s.

The author wrote this book "'for sustainability and for the positive effect on people and nature." This book proposes that integral designs for sustainability are found in considering multiple levels of developing complexity: the self, culture and nature. The intersection between these reals is the ideal space from which an integrated design should emerge. The integral theory suggests that the four quadrants used to analyse a design would include the inside and outside perspectives of the collective- and individual user. These quadrants are filtered for applicable information for the project and then linked to systems and spaces in the design.

INITIAL IDEAS

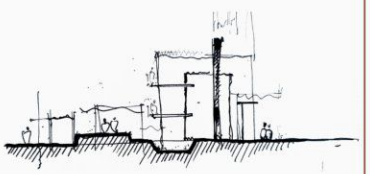
PLAN

The built form on plan was meant to be fragmented, yet have intersecting circulation spaces from the start. Variations of thick and thin walls were envisioned.

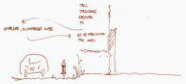


SECTION

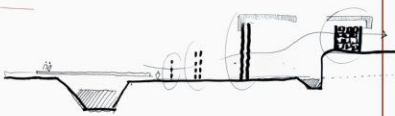
The concept behind the section was to move in vertical levels of hierarchy through the site. Ground level variations were planned.



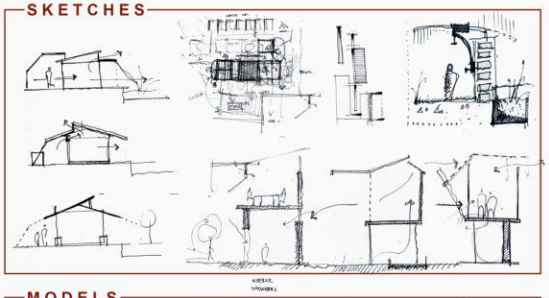
SYSTEM



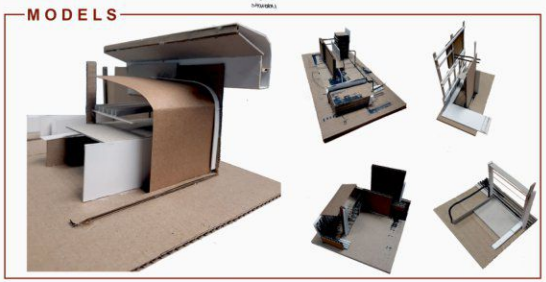
The system of movement on site would be created to take the user through different thresholds that creates exposure to various EBTs.



SKETCHES



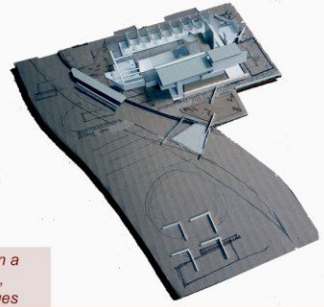
MODELS



FORM KEY THEORY DESIGN

DESIGN DEVELOPMENT

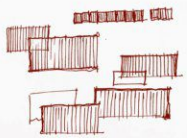
MODEL	*volumes not correct*	*meeting spaces in East to West orientation*	*meeting spaces in South to North orientation*	*exploring walkways accross the river*
SCALE	1: 1000 / 1: 1000 / 1: 1000	1: 1000	1: 1000	1: 1000 / 1: 1000 / 1: 1000
KEY ELEMENTS	Massing on the **Eastern side** of the Apiesrivier / Massing on the **Western side** of the Apiesrivier / Massing as a **hybrid** on site	**Meeting spaces** identified and placed within the cluster of buildings in **vertical orientation**.	**Meeting spaces** rotated and placed on edge of the cluster of buildings in a **horizontal orientation**.	Explore **walkways** throughout the site / Explore **walkways** and **different forms** / Explore **walkways** and built fabric as a **landmark**
PARTI				
SKETCHES				
OUTCOME	Positive outcome for testing massing on site. Sketches gave way to manipulation of NGL during later design stages.	Negative outcome of situating buildings away from the boundary, orientation was problematic.	Positive outcome of re-orientating the meeting pods buildings.	Positive outcome of exploring routes on site and walkway accross the river. Landmark concepts gave way to gabion stuctures in the design.



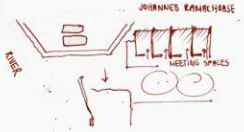
repeating on a larger scale, volume issues

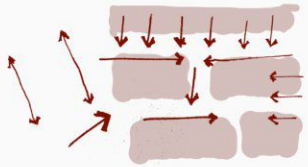
1: 500

Repeating the exploration on a **larger scale** and deciding where the bulk of the **massing** should be placed

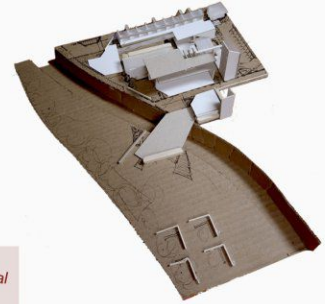


Considering where **circulation space** should be for **vehicles**





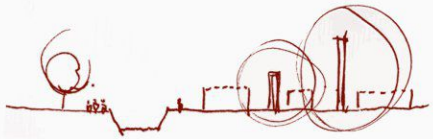
Positive outcome for moving to a larger scale, but negative for the overall placement of buidings.

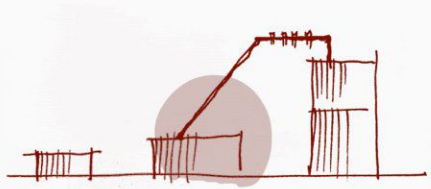


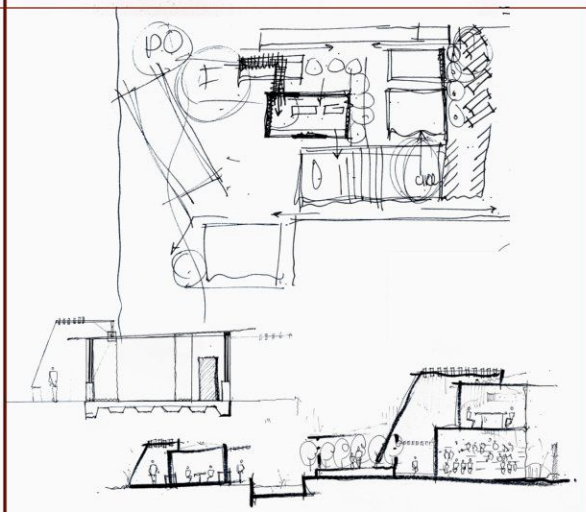
moving vertical fabric to a central point of axis

1: 500

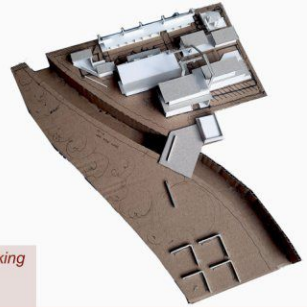
Creating elements where **vertical built fabric** is placed throughout the site between the buildings







Negative outcome for the placement of parking on the ground level - not adhering to form generators.

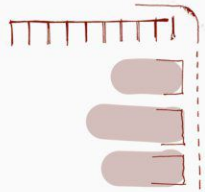


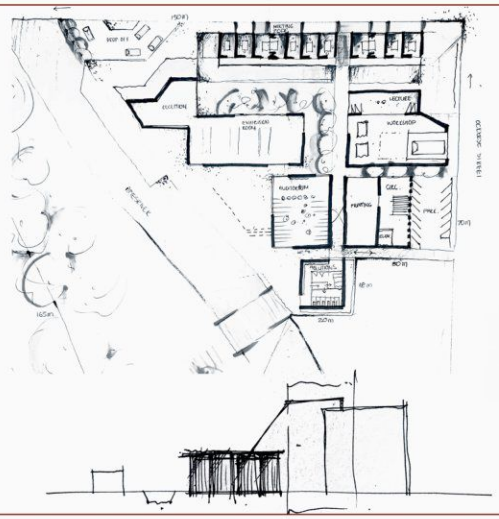
removing parking from Eastern boundary

1: 500

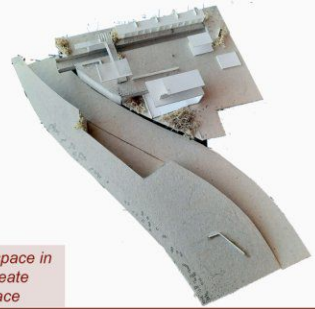
Placing **all buildings on boundaries** again as per form generators

Creating a **core** within the site as a focus point for **programme and technology**





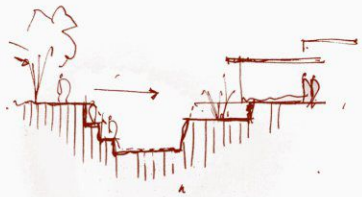
Positive outcome for the development of the floor plan and finer spatial details that came into place.

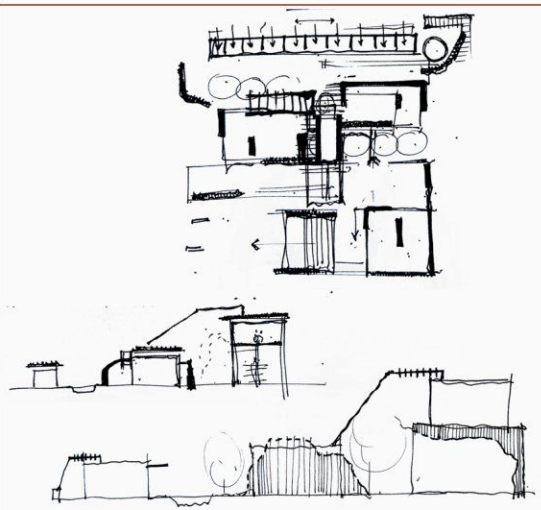


creating space in river to create public space

1: 500

Expanding the **space from the river** to filter through the buildings.





Positive outcome for the creation of public seating on the river bank and addition of plants and retaining walls.

DESIGN DEVELOPMENT

PASSIVE STRATEGIES

LIGHTING + THERMAL COMFORT / VENTILATION

CRITERIA

To create an acceptable indoor office environment for the users that will operate in accordance to human thermal and lighting needs, while decreasing the necessity of energy to compensate for factors that can be controlled by passive design strategies.
- Kristel Botha

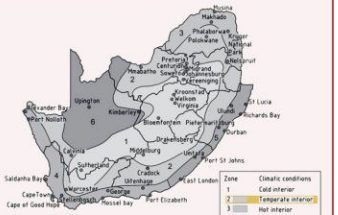
"buildings are complex systems,"
(De Wilde, 2018, p. 1)

"Thermal comfort is that condition of the mind that expresses satisfaction with the thermal,"
(ASHRAE, 2019)

PROJECT INFORMATION

Location and coordinates	Arcadia, Pretoria, Gauteng, 25.744°S, 28.190°E
Climatic Zone	2
Building Classification	G1 - Offices *(SANS 2021: p. 24)(Table 1)*
Building Occupancy	1 person per 15m² *(SANS 2021: p. 9)*
Metric	PMV - ASHRAE 95

CLIMATIC ZONES OF SOUTH AFRICA



DESIGN POPULATION IN ACCORDANCE WITH SANS 10400-A
(table 5) *(SANS, 2021)*

1	2
Class of occupancy of room or storey or portion thereof	Population
A1, A2, A4, A5	Number of fixed seats or 1 person per m² if there are no fixed seats
E1, E3, H1, H3	2 persons per bedroom
G1	1 person per 15 m²
E4	16 persons, provided that the total number of persons per room is not more than 4
C1, E2, F1, F2	1 person per 10 m²
H5	16 persons per dwelling unit, provided that the total number of persons per room is not more than 4
C2, F3	1 person per 20 m²
A3, H2	1 person per 5 m²

MAXIMUM ANNUAL CONSUMPTION PER BUILDING CLASSIFICATION FOR EACH CLIMATIC ZONE
(table 3)

1	2	3	4	5	6	7	8
Classification of occupancy of building	Description of building	Maximum energy consumption kWh/m²					
		Climatic zone*					
		1	2	3	4	5	6
A1	Entertainment and public assembly	420	400	440	390	400	420
A2	Theatrical and indoor sport	420	400	440	390	400	420
A3	Places of instruction	420	400	440	390	400	420
A4	Worship	120	115	125	110	115	120
F1	Large shop	240	245	260	240	260	255
G1	Offices	200	190	210	185	190	200
H1	Hotel	650	600	585	600	620	630

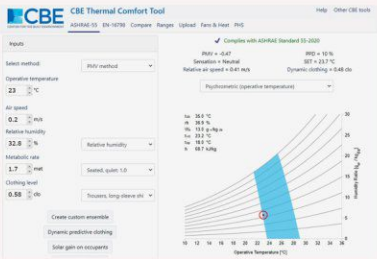
NOTE 1 The annual consumption per square metre shall be based on the sum of the monthly consumption of 12 consecutive months.
NOTE 2 Non-electrical consumption, such as fossil fuels, shall be accounted for on a non-renewable primary energy thermal equivalence basis by converting megajoules to kilowatt hours.
* The climatic zones shall be as given in annex A.

MINIMUM TOTAL R-VALUES OF ROOF ASSEMBLIES
(table 7)

1	2	3	4	5	6	7
Description	Climatic zones					
	1	2	3	4	5	6
Minimum required total R-value (m² K/W)	3,7	3,2	2,7	3,7	2,7	3,5
Direction of heat flow	Up	Up	Down and up	Up	Down	Up

METAL SHEETING ROOF ASSEMBLIES
(table 8)

1	2	3	4	5	6	7
Description	Climatic zones					
	1	2	3	4	5	6
Direction of heat flow	Up	Up	Down and up	Up	Down	Up
R-value (m² K/W) of roof covering material			0,30		0,36	0,30
R-value of ceiling	0,05					
Added R-value of insulation	3,35	2,85	2,35	3,35	2,29	3,15



BENCHMARK

Office in Pretoria, GT, ZA, G...
Model Properties Close
HVAC type: VAV - Return Air Package (System 5/6)
Baseline *ASHRAE 90.1 - 2019*
ASHRAE Climate Zone 2

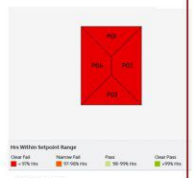
Wall Insulation	0.8 W/m²K
Floor Insulation	1.25 W/m²K
Roof Insulation	0.31 W/m²K
Glazing U-Factor	3 W/m²K
Visible Light Transmittance	1
Solar Heat Gain Coefficient	0.81
Infiltration Rate	2.24 m³/m²h
Ventilation Rate	5 L/s-person
Equipment	15 W/m²
Lighting	5 W/m²

Best practice values

BASE CASE

STRATEGY
Simple form and low values
- Build initial form of what the building
- Values for the materials in lower range
- Simplest form of the meeting room

RESULT
FAILED PMV

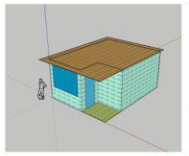


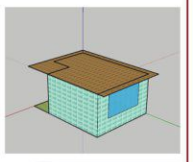
TESTING

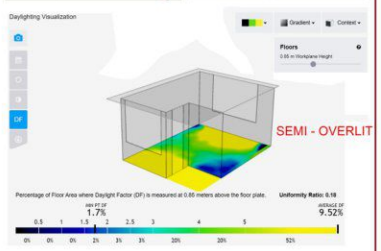
Office in Pretoria, GT, ZA, G...
Model Properties Close
HVAC type: VAV - Return Air Package (System 5/6)
Baseline *ASHRAE 90.1 - 2019*
ASHRAE Climate Zone 2

Wall Insulation	2 W/m²K
Floor Insulation	1.8 W/m²K
Roof Insulation	0.8 W/m²K
Glazing U-Factor	4.3 W/m²K
Visible Light Transmittance	0.7
Solar Heat Gain Coefficient	0.35
Infiltration Rate	9.14 m³/m²h
Ventilation Rate	15
Equipment	20 W/m²
Lighting	

Lower values over all



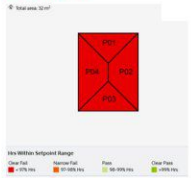




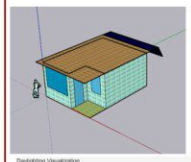
ITERATION 2

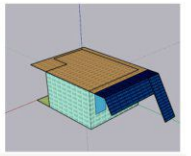
STRATEGY
Shading
- Add shading to the Northern overhang
- Bend shading at an angle for less harsh light in office space
- Add another section of shading for privacy (design strategy - not tested in analysis)

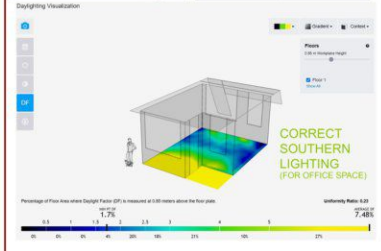
RESULT
FAILED PMV



TESTING







Office in Pretoria, GT, ZA, G...
Model Properties Close
HVAC type: VAV - Return Air Package (System 5/6)
Baseline *ASHRAE 90.1 - 2019*
ASHRAE Climate Zone 2

Wall Insulation	2 W/m²K
Floor Insulation	1.8 W/m²K
Roof Insulation	0.8 W/m²K
Glazing U-Factor	3.2 W/m²K
Visible Light Transmittance	0.65
Solar Heat Gain Coefficient	0.55
Infiltration Rate	9.14 m³/m²h
Ventilation Rate	18 L/s-person
Equipment	20 W/m²
Lighting	18 W/m²

Unchanged

ITERATION 3

STRATEGY
Insulation values
- Wall, floor and roof received lower u-values
- The values were changed slightly from the original values from the base case
- Values closer to benchmark values

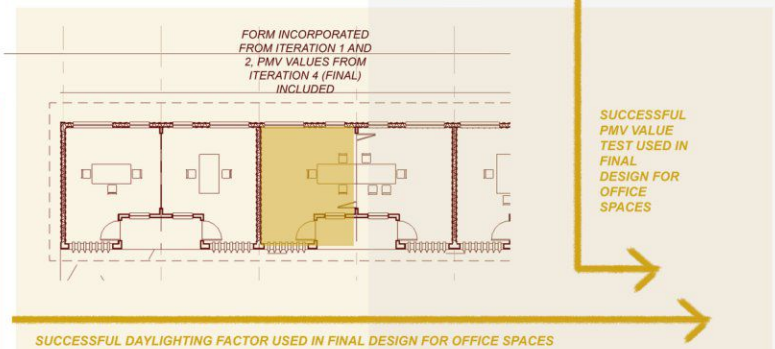
RESULT
MEDIUM PMV

TESTING

Office in Pretoria, GT, ZA, G...
Model Properties Close
HVAC type: VAV - Return Air Package (System 5/6)
Baseline *ASHRAE 90.1 - 2019*
ASHRAE Climate Zone 2

Wall Insulation	1 W/m²K
Floor Insulation	1.2 W/m²K
Roof Insulation	0.32 W/m²K
Glazing U-Factor	3.2 W/m²K
Visible Light Transmittance	0.65
Solar Heat Gain Coefficient	0.55
Infiltration Rate	9.14 m³/m²h
Ventilation Rate	18 L/s-person
Equipment	20 W/m²
Lighting	18 W/m²

Lower
Lower



FINAL DESIGN

STRATEGY
Insulation values
- Wall, floor and roof received even lower u-values
- The values were changed drastically from the original values from the base case
- Values now fall beyond what the benchmark predicted for best practice

RESULT
SUCCESSFUL PMV

TESTING

Office in Pretoria, GT, ZA, G...
Model Properties Close
HVAC type: VAV - Return Air Package (System 5/6)
Baseline *ASHRAE 90.1 - 2019*
ASHRAE Climate Zone 2

Wall Insulation	0.2 W/m²K
Floor Insulation	0.45 W/m²K
Roof Insulation	0.32 W/m²K
Glazing U-Factor	2.8 W/m²K
Visible Light Transmittance	0.65
Solar Heat Gain Coefficient	0.2
Infiltration Rate	7 m³/m²h
Ventilation Rate	18 L/s-person
Equipment	12W/m²
Lighting	6 W/m²

Lower
Lower
Lower
Lower
Lower
Lower
Lower

BUILDING PERFORMANCE

INDUSTRY PROBLEM

CONVENTIONAL BUILDING TECHNOLOGIES /PRACTICE

&

CONSTRUCTION WASTE MATERIAL

INDUSTRY — **ENVIRONMENT**

The construction industry is a main contributor to climate change, pollution, energy use and the exhaustion of valuable and limited resources (Othman, 2009: 39) with the role that an architect plays as critical in the execution of sustainability (Sebake, 2008: 12).

The built industry is not only a culprit in terms of its destructive impact on the natural environment, but acts as an essential role player in the country's economic and social development (Othman, 2009: 36).

There is a crucial need for architects to include appropriate building technologies that would contribute to the further development of the tectonic trajectory in South Africa, which will benefit the economy and the natural environment.

The solution cannot be to simply continue with new building technologies that are void of specific values that contribute to the built environment, but to be innovative and include building technologies that will be able to add value to the built environment and larger context in South Africa.

RESEARCH QUESTION

Can the inclusion of Emerging Building Technologies within the built industry contribute value to the environment such as being more versatile, economical, contextually responsive and socially responsible in the South African context? Can this cause the EBTs to be catalysts for the development of the current stagnant state of the tectonic trajectory in South Africa?

INDUSTRY — **ENVIRONMENT**

RESEARCH

DEFINITION

emerging building technology

/ɪˈməːdʒɪŋ/ /bɪldɪŋ/ /tɛkˈnɒlədʒi/

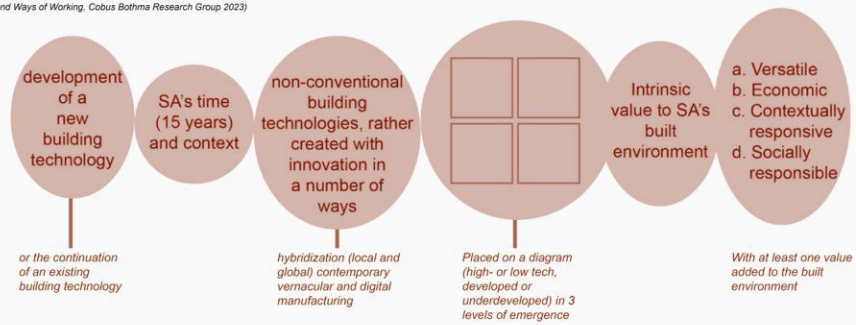
Material
Construction Process
Structural system

Research on the Evolution of Building Technology Based on Regional Revitalization (Wu, Wei, Peng, 2019)

noun plural 'emerging building technologies'

1. ***An emerging building technology (EBT) is the development or continuation of a building technology that has emerged over the past 15 years within the South African built environment. Emerging building technologies are counter to the current/conventional building technologies that are mainly used in the industry and can be formulated in a variety of ways.***
2. *It can be due to the hybridization of local and global technologies (Louw, 2022: 2) or the contemporary consideration of vernacular traditions/African building dynamics (Steyn, 2020: 2). Another way is by means of digital manufacturing with involvement of "craft practice as a knowledge-generating activity…" (Loh, 2019: 258), or the invention of a complete new material, construction process or structural system (Wu, Wei & Peng, 2019: 1).*
3. *These building technologies can be placed on a spectrum of being low-tech (hand-based) or high-tech (industrialised) as a mode of production as well as receiving a development status within the local context.*
4. *Emerging building technologies hold intrinsic value to the built environment by being either versatile, economic, socially responsible or contextually responsive.*

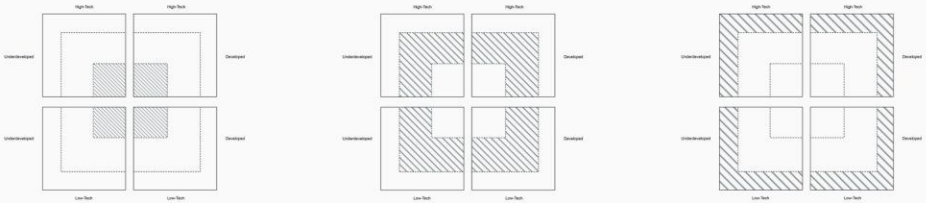
(DIT 801 Extend Ways of Working, Cobus Bothma Research Group 2023)



CATALOGUE

ARCHITECT & PROJECT	IMAGE	YEAR	LOCATION	REPORT	EMERGING BUILDING TECHNOLOGY			PRODUCTION MODE		DEVELOPMENT		VALUE
					BUILDING MATERIAL	CONSTRUCTION PROCESS	STRUCTURAL SYSTEM	LOW-TECH (traditional or hand-based)	HIGH-TECH (industrialised)	UNDER-DEV.	DEV.	

PLOTTING



lowest level of emergence — *highest level of emergence*

PROJECTS

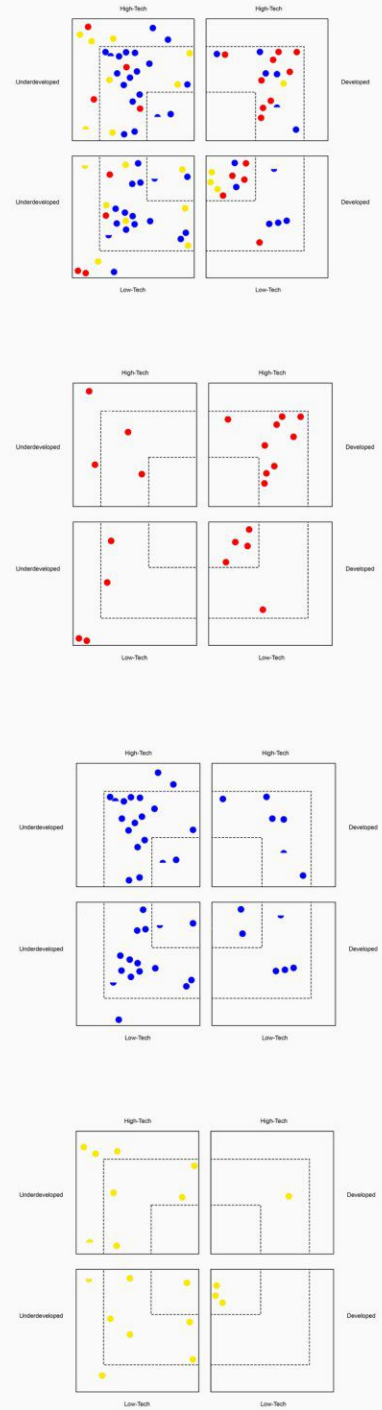
Ithuba Community College by BuildCollective and S2Arch, Project 1

Langbos Children's Centre Community centre School by Jason Erlank Architect, Project 19

Modular Mobile Home by David Krynauw, Project 22

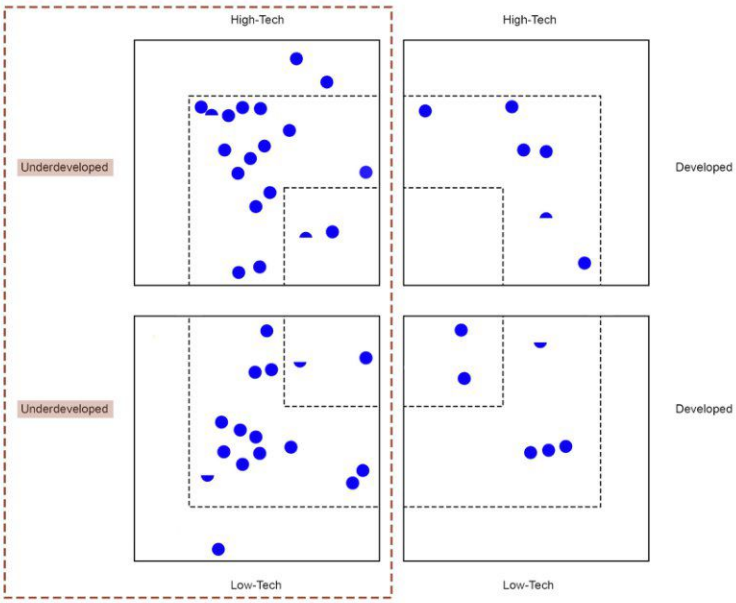
South Africa's first 3D printed low- cost house by UJ and KwaZulu-Natal Human Settlements Department Project 18

RESULTS



(EMERGING) BUILDING TECHNOLOGIES

ANALYSIS

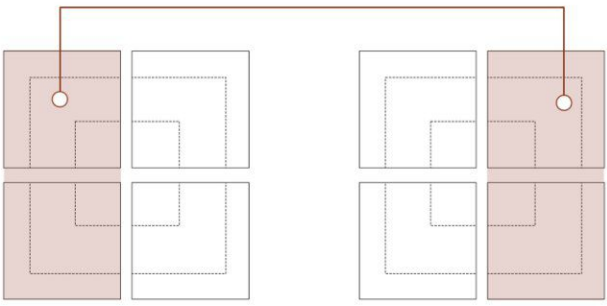


focus on construction process

The construction process was the selected category of emerging building technology that would receive focus within the project. The majority of EBTs as construction processes are underdeveloped due to a range of challlenges, which could be arguabbly caused by the lack of systematic integration into South Africa's built environment.

CONSTRUCTION PROCESS

The aim is to shift the placement of EBT construction processes in South Africa from the "underdeveloped" to the "developed" side of the industry. This project contributes to this aim by including EBT construction processes in the builldings on site with the emphasis on 3DCP of walls.

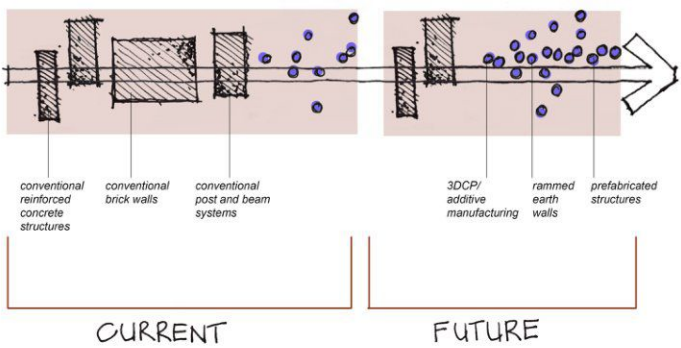


underdeveloped *developed*

gradual, but deliberate shift

INDUSTRY AIM

The aim of placing the focus on the construction process as the main EBT is to use the opportunity of the aforementioned building technologies that are currently on the spectrum along with conventional building technologies within the built industry. Based on the research conducted, by incorporating emerging construction processes in the project, the probability of shifting this category of EBT from "underdeveloped" to "developed" is the most likely within the South African context. Built environment professionals will have front seat exposure to construction processes when they are involved with the project's programmes. The public will additionally also gain exposure, creating a wide entry level for the selected construction processes.



integrated approach

EBTs

Silindokuhle Creche

ARCHITECT & PROJECT	IMAGE	YEAR	LOCATION	REPORT	EMERGING BUILDING TECHNOLOGY			PRODUCTION MODE		DEVELOPMENT		VALUE
					BUILDING MATERIAL	CONSTRUCTION PROCESS	STRUCTURAL SYSTEM	LOW-TECH (traditional or hand-based)	HIGH-TECH (industrialised)	UNDER-DEV.	DEV.	
Kimwelle, Kevin **Silindokuhle Creche**		2017	Joe Slovo Township, Gqeberha, Eastern Cape	The building is made out of recycled materials by local builders that constructed a section of the building as a composite wall that contains glass and concrete within a timber frame. The architect works with the "Grassroot Community" concept that enables positive change from a community, to a region, to the local context all the way to an international level.	N/A Recycled glass bottles, timber and corrugated iron used in structure							The project is **economical** because of the recycled glass bottles that they make use of to build parts of the structure. The composite wall with the glass bottle ensures natural light to enter the building for the educational programme, that lowers the need for electricity usage in the community. The project is also **socially responsible** because the different class-income groups were connected due to the contribution and donation process "...connecting the most privileged members of the city with the most marginalised." (Chapman 2019)
						N/A The construction process involved conventional techniques						
							Composite wall with glass wine bottles between plywood panels	The composite wall is constructed by hand by layering the glass bottles and concrete within the timber frame by hand.		Using glass bottles as part of a structural system is under -developed in SA. Usually walls are constructed from conventional elements that don't let light through a recycled object.		

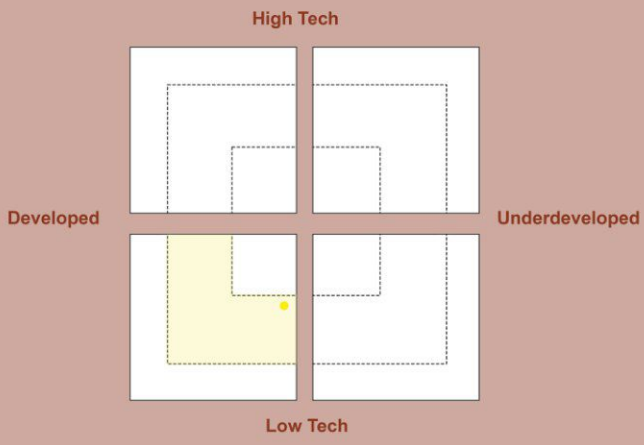
Soil and Serenity

ARCHITECT & PROJECT	IMAGE	YEAR	LOCATION	REPORT	EMERGING BUILDING TECHNOLOGY			PRODUCTION MODE		DEVELOPMENT		VALUE
					BUILDING MATERIAL	CONSTRUCTION PROCESS	STRUCTURAL SYSTEM	LOW-TECH (traditional or hand-based)	HIGH-TECH (industrialised)	UNDER-DEV.	DEV.	
Veld Architects Soil and Serenity		2022	Rhenosters-pruit Conservancy, Centurion, Gauteng	A residence project where the rammed earth walls contain soil takes from the site to pay homage to the context.	N/A Soil used for the rammed earth walls							The project proves to be very **economical** since the shipping containers "... are 25 percent cheaper than conventional brick and mortar homes." (Laylin, 2013) This project is **versatile** because this structure can be repeated and linked infinitely, meaning that it is versatile in size and usage.
						Rammed earth walls made on site by using the soil from the excavations, with plywood formwork and a pneumatic press.		It is low-tech due to the fact that simple methods are used to construct the walls.	It is high-tech due to the fact that industrial machines are used to construct the walls, such as pneumatic compressors.		Rammed earth walls are developed within the SA context - it has been done by many practi - tioners	
							N/A steel coloumns					

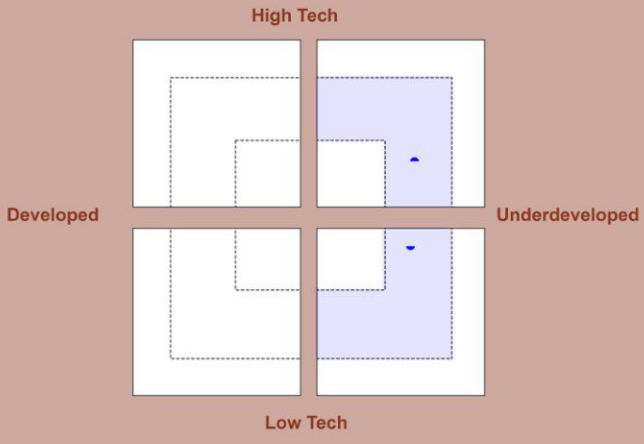
UJ 3DCP House

ARCHITECT & PROJECT	IMAGE	YEAR	LOCATION	REPORT	EMERGING BUILDING TECHNOLOGY			PRODUCTION MODE		DEVELOPMENT		VALUE
					BUILDING MATERIAL	CONSTRUCTION PROCESS	STRUCTURAL SYSTEM	LOW-TECH (traditional or hand-based)	HIGH-TECH (industrialised)	UNDER-DEV.	DEV.	
UJ's Faculty of Civil Engineering and the Built Environment, in partnership with the KwaZulu-Natal Department of Human Settlements and AfriSam South Africa's first 3D printed low-cost house		2022	Johannes-burg, Gauteng	South Africa has completed its first 3D printed low-cost construction home. The 3D printing technique used can build a house in less than 24 hours.	N/A Concrete							Due to its efficiency, this means of construction resulted in residential infrastructure being produced at an unprecedented rate while using 32% less of the materials required for traditional construction methods. This could be a catalyst for procucing sustainable human settlements while strengthening the economy.
						3D printable concrete layed in layers one on top of another by a robotic industrial printing arm. Openings were accounted for as the printing process was in session			Automated robotic printing arm utilised on site to print the main concrete structure of the low cost home. Although a smaller labour force is needed for this project, the people involved need to be highly skilled practitioners.	Automated construction practices and BIM modeling techniques		
							N/A Load bearing walls					

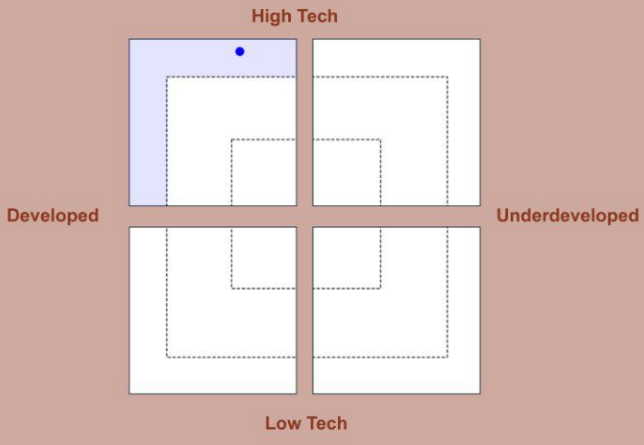
Silindokuhle Creche *structure*



Soil and Serenity *construction process*



UJ 3DCP House *construction process*

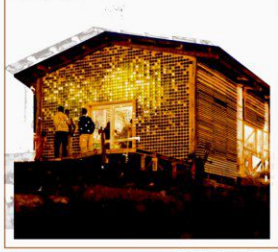


RESEARCH

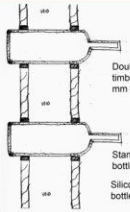
CONSTRUCTION

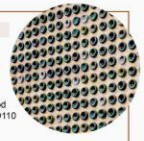
Silindokuhle Creche (Chapman, 2019)

Kevin Kimwelle
2017, Eastern Cape, SA
50 m2
Educational



DETAIL



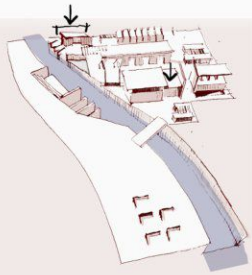


Low Tech & Underdeveloped

Composite wall with glass wine bottles and timber panels as infill

COMPOSITE BOTTLE WALL SYSTEM

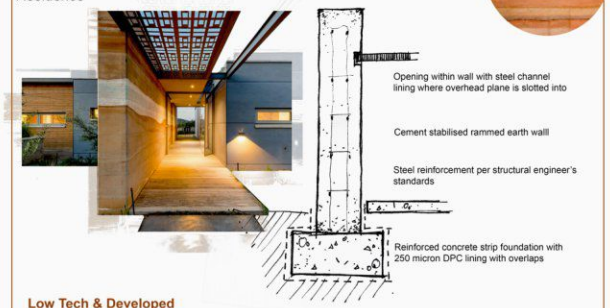
INCLUDED IN SELECTED AREAS OF THE BUILDINGS IN COMBINATION WITH 3DCP WALLS. COMPOSITE WALL DESIGNED TO SHOWCASE THE MORE SUSTAINABLE ASPECT OF EMERGING BUILDING TECHNOLOGIES.



Soil and Serenity (Veld Architects, 2023)

Veld Architects
2022, Centurion, SA
500 m2
Residence

DETAIL

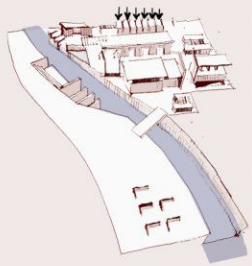


Low Tech & Developed

Rammed earth walls made on site by using the soil from the excavations, with plywood formwork and a pneumatic press.

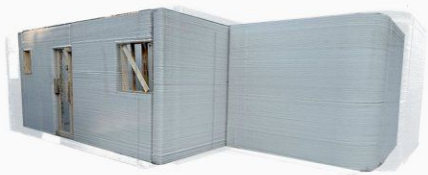
RAMMED EARTH WALL

WALLS ARE PLACED ON THE NORTHERN BOUNDARY OF THE SITE. TO PLACE AN EBT ON THE ROEFRONT OF THE PREMISES TO ACT AS AN INITIAL INTRODUCTION. REPITITION IS ALSO CREATED BY THE PLACEMENT OF THE WALLS ON SITE.



UJ 3DCP House (News 24, 2023)

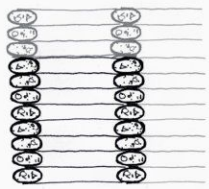
University of Johannesburg & Afrisam
2022, Johannesburg, South Africa
RDP Housing Scheme Test



High Tech & Underdeveloped

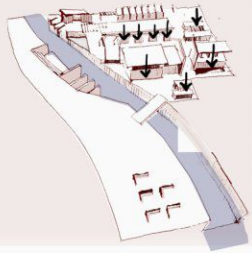
Rammed earth walls made on site by using the soil from the excavations, with plywood formwork and a pneumatic press.

DETAIL



3DCP WALLS

STRUCTURES TOWARDS THE INNER PARTS OF SITE ARE CREATED FROM ADDITIVE MANUFACTURING TECHNIQUES. THE WALLS REQUIRE NO FORMWORK DURING CONSTRUCTION AND MINIMAL REINFORCEMENT IN STRUCTURAL COLUMNS.



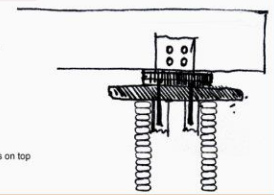
House Zero (Bahmann, Frenkel, 2012)

ICON and Lake Flato
2022, Texas, USA
Residential House

High Tech & Developed

Rammed earth walls made on site by using the soil from the excavations, with plywood formwork and a pneumatic press.

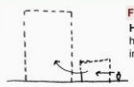
DETAIL



SPATIAL

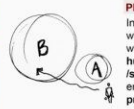
Middle West Spirits

Jonathan Barnes Architecture and Design,
2016, Colombus, US
10 000m2
Restaurant, Brewery



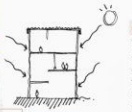
FORM

Hierarchy from human scale to industrial scale



PROGRAMME

Intial encounter (A) with intimate space with **human-interaction /service** to next encounter (B) of **production space**

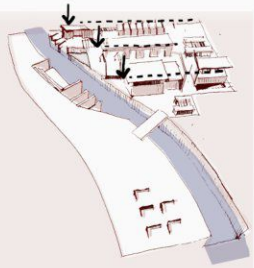


MATERIAL

The building's **cladding** allows for optimal **natural light** to infiltrate the work spaces on various levels.

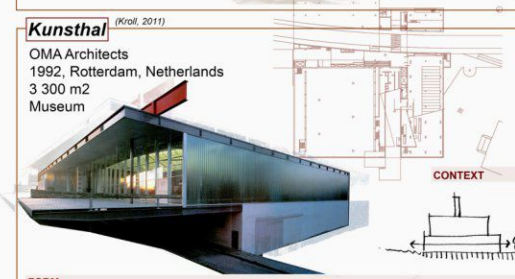
HIERARCHY OF BUILDINGS IN VERTICAL VOLUME

THE NORTHERN BOUNDARY STARTS WITH THE SHORTER STRUCTURES STARTING AT A HUMAN-SCALE. BUILDINGS GROW IN LENGTH AS ONE MOVES CLOSER TOWARDS THE BACK OF THE SITE. THE PROGRAMME IS ALSO TAILORED TO MOVE FROM HUMAN-SERVICE SPACE TO PRODUCTIONS SPACE.



Kunsthal (Kroll, 2011)

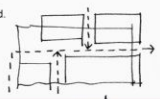
OMA Architects
1992, Rotterdam, Netherlands
3 300 m2
Museum



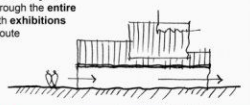
CONTEXT

FORM

Subdivided volume with intersections that are separate yet unified.



Public walkway that runs through the **entire site** with **exhibitions** along route

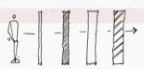


PROGRAMME

"Cultural staple" designed to be flexible space where different **activities can coexist**.

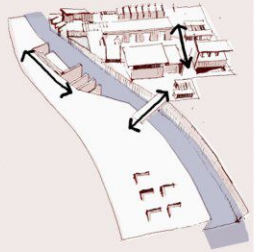
MATERIAL

Various levels of **transparency** with different claddings



INTEGRATION OF WALKWAYS BETWEEN BUILDINGS

PUBLIC WALKWAYS ARE INTEGRATED BETWEEN THE BUILDINGS ON SITE. EXHIBITION SPACES ARE CREATED AND DIRECTED TOWARDS THE PUBLIC. VARIOUS LEVELS OF TRANSPARENCY ARE APPLIED BY ADDING LAYERS OF DENSITY THROUGHOUT THE DESIGN.



44 On Stanley (Bahmann, Frenkel, 2012)

Kate Otten Architects
2003, Johannesburg, South Africa
11 000 m2
Mixed Use Urban Development

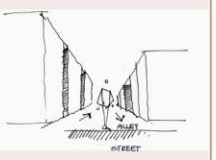
CONTEXT

The development is **weaved between buildings** on an **existing city block** that **invite and include urban activity** while enhacing a **new sphere to the city** fabric.

PROGRAMME

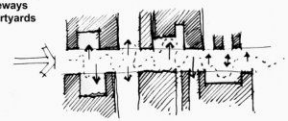
Urban renewal within the Johannesburg area and creation of **city identity**

"foothold for emerging creative businesses"



FORM

Interconnected passageways and courtyards



Selected zones that close during evening hours for security

PRECEDENT STUDIES