uAD

Explorative Architectural Design
AN URBAN ARCHITECTURE
U in uAD means urban architecture.
An urban architecture is a social and critical architecture, architecture with a pervasive impact on the urban community. uAD projects are a bottom up approach to influence the urban community. Therefore the uAD architecture projects are like beacons in the urban tissue.
One architecture project can make the difference in the evolution of a region.

THE ARCHITECT AS GO-BETWEEN
A uAD – architect makes a spatial interpretation of social issues. In uAD the accent lies on the interpretation and critical analysis of society. What is the spatial impact of contemporary urban challenges?
A uAD architect is more than a builder. She/he is a go-between who is able to develop, in discussion with other disciplines, a high quality spatial answer. An answer that influences to a large extend the living quality

THE SITE IS THE REGULATORY IDEA OF THE PROJECT
The site and not the program is the regulatory idea of a uAD project. The urban perspective in uAD means a constant reading and interpreting of the qualities and features of the contemporary urban space. It implies a research by design of architectural possibilities instead of an elaboration of solutions. Therefore the uAD design process is a constant correlation of creating, reading and interpreting.
This implies a design attitude of research, reflection and discussion. Reflection on architecture, urbanism and society is supported in uAD by the theoretical component history and theory. The objective is to critically position our designs and ourselves in a contemporary debate on architecture and design.

A MULTITUDE OF PERSPECTIVES
uAD is a very broad trajectory. We explore the urban perspective on architecture from a multitude of perspectives: a research by design (sem 1), an urban project (sem 2) and an anchor project (sem 3)
Semester 1 In a research by design architecture projects are used as instruments to reflect on the spatial impact of social issues. For example: How can a problem of inundation be used to create a new type of living environment? What is the spatial impact of global warming? ...
Semester 2. In an urban project the qualities and importance of a given space for the surrounding urban tissue is explored. Which are the key projects that need to be developed?
Semester 3 The anchor project is a strategic architectural project. Which program, in a given space, can influence the evolution of the urban tissue? In the anchor studio the accent is on the architectural project and the urban tissue as constructs. Because the building is developed in detail history and theory are replaced in this semester by construction and building engineering.
Semester 4 In the master test the student himself decides on the type of project a research by design or an anchor project. In this way the uAD student works on all possible scale levels: from a regional scale to a construction detail and within different disciplines from social sciences to building engineering.
ARCHITECTURE AS MEDIUM
Reflecting by design upon what opportunities and specificities being an architect brings about, helps you perceive the current field of architectural practice as a broad spectrum of architectural investigation, exploration, production and thinking in the light of ongoing changes and challenges. It helps you to better define or to redefine the field of architecture by relating it to other fields. Reflection is a possibility to create new insights. Your position will loose and win sometimes.

THE EXPANDED FIELD OF ARCHITECTURE
Basically we want you to learn to deal with architecture as expanding field, and to position yourself within this expanding field. The combination of architectural practice, architectural research, and different spatial art practices guarantees a break-open-approach whereby we encourage you to push and transgress the disciplinary boundaries. Therefore REAL proposes a platform carried by a jumble of architects, artists and designers with different spatial practices and professional backgrounds. Moreover REAL is an open trajectory that encourages collaborations within and outside the Sint-Lucas School of Architecture. It is in this ongoing dialogue with others that architectural training, practice and research take place. By doing so REAL provides you with learning stages and platforms on which these dialogues can critically unfold.

REAL PLATFORM
Encounter and interaction being the basis of all learning, REAL is the place where you can do your experiment in proximity of other such experiments. You will be encouraged from day one to develop design hypotheses and to position your work in the dynamics of the surrounding landscape of other projects. REAL disclaims the pre-defined trajectory and counter proposes the creative meeting of widely differing individual trajectories. Consequently, REAL is an interaction and research platform for reflective and proactive architectural practices.

Detail on REAL and REAL design studios: www.realtrajectories.be
Annelies De Smet, Mira Sanders, Arnaud Hendrickx, Wim Goossens, Carl De Smet, Dimitri Vangrunderbeek, Thierry Lagrange, Nel Janssens, Pieterjan Ginckels and Marc Godts
4.3 Dynamiek

Beleving

Het planten van de rijst (lente)

Buurtfeest (zomer)

De oogst (herfst)

Schaatsen op de bassins (winter)
3 Masterplan
### AFVAL

**Groenten**

Boven in de serres worden er verschillende groenten gekweekt die dan rechtstreeks onder de bewoners verdeeld worden. Iedereen kiest zelf of ze in dit systeem willen meestappen. De overschot kan doorverdeeld worden aan de lokale winkels. Op deze manier minimaliseren we transport en verpakking.

**Compost**

Het groenaftval zorgt voor de aandrijving van de vergasser. Een ander deel kan gecomposteerd worden om dan later als verse potgrond te dienen.

**Verzamelen**

Ruth Carlens

‘Vergrotendok’
Quinten Foccaert

‘South-Africa’
STRATEGY
STRATEGIES FOR THE DEVELOPMENT OF BELHAR AND DELFT

The train station area at the border with the campus is an important way to spatially connect the university to the neighborhood. Both students and neighborhood residents intensively use this cheap transportation mode. This is an opportunity to create social contacts and to develop shared interests such as a market place.

Basic infrastructures such as parking, taxi and bus ranks which serve the train station need to be implemented around a public square. The proximity of a big residence and two secondary schools are important buildings on the site and this amount of students in combination to the students of the university makes that the waste land is crossed very often. The students will populate the spaces and create opportunities for a local market since they now have to travel to Bellville for their basic needs such as buying food and beverages.
STRATEGIES FOR THE DEVELOPMENT OF BELHAR AND DELFT

The area in between the railway and the freeway is nowadays already seen as a development area for the Bellville-South industry. This is a good location because its connection. It could be a university driven development of industry which benefits the local inhabitants if they can be educated to fulfill certain tasks in the production process. **Waste water management and sustainable infrastructures** could be pilot projects for the development.

The industry which is planned is a non-polluting assembly industry. This provides low skilled jobs of which the inhabitants of the area will benefit. Training units of the university will guarantee this flow of workers from the community.
THE CAPE TOWN 2030 INITIATIVE.

... We described the Cape Flats as a 'swimming pool with the plug pulled'. The pleasure of those in the pool is limited because of a receding water level. Yet more people are entering the pool. Those in the pool already and those who enter compete for a limited resource. The debate on whether to allocate N2 housing allocation to backyard dwellers or newcomers illustrated this point. How can the need of newcomers be prioritised at the expense of longtime citizens with unfulfilled needs?

... The N2 freeway is another example. Again, the nature of this infrastructure has remained unchanged over time, despite of enormous change in its context. A freeway which largely served as a link between settlements now runs through the city. The impact of this road on surrounding poor communities is enormous. The highway is a dangerous barrier that divides communities. Road accidents happen often, and great efforts have been made (through building barricades) to keep it functioning properly.

No one asks what this freeway should be in the city of today. How should it move people? What else can it do? We studied the freeway in its context. We found that a very large component of Cape Town's population - and even larger component of the poor - lives within walking distance from it. If the cross-section of the freeway is redesigned to allow for different modes of transport; and if the freeway is integrated with adjoining communities it can generate opportunity and contribute enormously to local economic development. We illustrated this by comparing the freeway to a water pipe passing through thirsty (poor) communities. Presently, at places - notably 'one-stop' service stations - this pipe is severed its energy tapped. We thought we could emulate this, severing the pipe at selected points, and allowing adjoining poor communities access to its energy.

...
10 MINUTE WALK / total segment length R800 metric / UCL depthmap
Community prosperity means social, economic and environmental prosperity. Each of these dimensions is strongly influenced by the physical design of the places where people live. Physical design influences human behaviour, which in turn influences community prosperity. The most important aspect of physical design is connectedness. Connectedness can be measured scientifically. Its effects on societal wealth have been identified by UK scientific research over the last forty years. This note summarises the main research findings of the Space Syntax research programme at University College London.

LOCAL ECONOMIC PRODUCTIVITY
Better connected town centres generate higher levels of retail income. Better connected means stronger local “movement infrastructure” such as footpaths and pedestrian crossings, as well as stronger large-scale connections for longer distance journeys.

Total retail income is directly related to the strength of the local-to-global movement network. This means not only having more connections but having connections that form better networks that encourage access, browsing and transaction – these are the fundamental human necessities of effective local economies.

COMMUNITY COHESION
People see more of each other in better connected places. Levels of pedestrian movement are higher in better connected town centres and residential areas, creating higher levels of social awareness. The presence of other people is a social good with economic benefits.

PERSONAL & PROPERTY SAFETY
Better designed streets have less mugging. This means having streets with more houses along them, not fewer, so that there are more eyes on the street, more participants in street-life.

Better designed streets have less burglary. Again, this means more houses, more eyes, more participants. Living in a house on an urban street is not the safest place to be, and it becomes less safe the more affluent you are. Purpose-built flats are safer but residents of these contribute less to street safety. Higher densities of dwellings mean less burglary.

Better designed streets have less anti-social behaviour. More houses, more eyes and more everyday activity deter anti-social behaviour.

ROAD SAFETY
More people cross safely when pedestrian crossings respect local “desire lines”. Well designed, well located “local movement infrastructure” encourages local journeys to local places and benefits both economic activity and community cohesion.

PROPERTY VALUE
Better connected housing is more highly valued. Council Tax banding is directly influenced by spatial location. More highly taxed properties are more globally integrated in the movement network and less locally integrated.

ENERGY CONSUMPTION
Better connected places encourage shorter, less carbon-intensive journeys. Walking and cycling is only viable if the local movement infrastructure encourages it. Again, connectedness is key.

The term space syntax encompasses a set of theories and techniques for the analysis of spatial configurations. Originally it was conceived by Bill Hillier, Julienne Hanson and colleagues at The Bartlett, University College London in the late 1970s to early 1980s as a tool to help architects simulate the likely social effects of their designs.


Because of the difficult location of the site in between the airport and the nature reserve, Belhar and Delft are disconnected from the rest of the city. The overall intention is dual.

With the green axis connections will be made to the areas at the other side of the nature reserve. These green spines will contain functions on the level of the district such as university educational and research buildings, public parc structures, leisure and art centres, meeting facilities and health centres.

The red axis will be established through a connection with the N2 motorway to increase connectivity and to activate the Delft Mainroad. This axis will mainly exist of commercial functions and will created by the cathalist function of the green axis.

In the first stage the northern green axis will be developed together with the N2 connection. The Northern axis will support the outreach of the university and will act as a pilot for the development of the further neighborhood. The implementation of this new green axis formulates an answer on the urban scars created by the apartheid regime.
FASE 1/ RESEARCH ON TYPOLOGY
BASIC EXTENDABLE HOUSING

ground level

first floor

volume
This structural form, developed by Eco-Build Technologies in Cape Town, consists of a timber structural frame combined with a sandbag construction as infill for the walls of the building. The timber beams have metal inlays to provide tensile strength and thus improve the structural integrity of the house.

The sand bags provide excellent thermal mass qualities for passive thermal control. One of the many qualities of this type of building technology is that the Eco-Beam system exhibits tremendous thermal stability, tapping into the indigenous building techniques that made the traditional buildings thermally sound and comfortable to live in. Anybody who has lived in a mud and wattle rondavel or an old stone house will know this effect. The occupants will be kept cool in summer and warm in winter.

The system also has excellent sound-absorbing properties that help to provide a measure of privacy in close-quarter living. The Eco-Beam with sandbag infill is much heavier than brick construction and is therefore wind resistant. It resists water penetration because the sand in the bags acts as a filter - any water penetrating the plaster will simply filter down to the dampcourse an exit the wall to the outside.

Crucially, this unique way of building is suited to mass production and will provide job opportunities and skills development for the local community of Freedom Park if it is locally produced, since it is simple to construct and favours unskilled labour, including women. In terms of cost saving, no bricks lie around the site before, during or after completion, thus eliminating site-clearing work, which is a major cost factor on any building site. The loss of building materials through wastage and theft is also markedly reduced.

The construction is primarily manual with little or no need for electricity in both the production of the Eco-Beams and the construction process. The sandbags are plastered over on the outer side, and so the only ‘wet’ artisan required is the plasterer. The plaster adheres easily to the sandbags and the chicken wire that covers the walls. The Eco-Bags are wetted before being plastered. The wet bags behind the plaster enable the plaster work to ‘cure’ instead of merely drying, as it does in standard construction. The end result is a very hard and reinforced cement finish.
FASE 1/MASTERPLAN
The completion of the urban grid will happen analogue to the scene below. The existing neighborhoods are composed of T-junctions which discourage circulation within the neighborhoods. I use this principle for the small streets within the network, in order to become lower traffic in the residential streets. This was done by organising the infill of the main axis with an urban fabric generated by pinwheels. The grid was adjusted in order to connect with the existing fabric at certain similar residential streets within the existing fabric as well as new connections to the empty strip that will function as the main connector for the entire district.

Pedestrian connections however should be encouraged in those residential streets, therefore pedestrian connections are implemented in the grid which completes the pinwheel grid, this was done by adding a new typology.

This basic network will be extended by main roads, connecting all the surrounding neighborhoods. These main roads will be connected with the main roads within the maze of the existing neighborhoods in order to create a space for passing traffic. Within this network of main roads the existing institutions will be integrated and become a part of the urban fabric instead of being islands outside of the fabric as they are nowadays.

The way these main roads are planned contributes to the central location of the square and the transport hub as well as it enforces the position of the university in the urban network.

A square will be planned connecting the trainstation (and campus) with a transport hub for busses and taxi-busses. This square converges from the trainstation to the hub in order to integrate the modes of transportation, allowing them to work together in order to provide cheap and good connections to the city centre. This square will also provide the necessary space to have markets and all different kinds of public events.

The urban fabric will be generated from the hub and unfolded towards the southern neighborhoods and the main road (Erica Drive). In this way the hub will become the central point in the urban development both from the university as from the surrounding neighborhoods.

The base layer makes the basic connections between the university and the surrounding urban fabric. These connections are based on existing routes and traces of former rail tracks through the neighborhoods. The roads on campus are organised in a U-shape which will be extended with two sightlines on the area which will be developed, these two lines come together in an off-campus residence which in that way will also dominate the pedestrian circulation of the students.

In a first phase these connections can stay only visual but in a later stage when the university is ready to lower the security measurements, these connections can become physical and create movement through the campus.
FASE 2/ GREEN STRUCTURE
“The study of empty spaces forces us to look at the actual sequencing of events and activities rather than placing static labels on architecturally defined spaces as being always and only for a particular kind of activity.”

Monica L. Smith, 2008, Urban empty spaces.
The black lines indicate paths which are created by pedestrians moving from and to the neighborhoods in order to fulfill their daily necessities. Many of those paths lead eventually to transportation means such as busses, taxi busses and the train station. These trails are the backbone of the design since they contain a lot of information about pedestrian circulation and needs. This grid was adjusted with some additional connections which are the result of the urban fabric created to link the university to the train station and the green structure in order to stimulate the university’s outreach.

The base layer maintains the original character of the existing structure. It represents the emptiness of the space and connects to the different neighborhoods. These connections are based on the existing paths. At certain points this yellow structure becomes wider than at other points. This was done to give a certain order to this emptiness. It contains undefined spaces where there is enough room to play an informal soccer game or too do any kind of sports or leisure as I’ve seen in many empty spaces between townships and motorways. To have a certain social control all university buildings were placed near to these open structures to overview the emptiness.

The third layer on the green structure exists of pavilion like buildings which contain the university facilities in combination with facilities of the neighborhood. The buildings are implemented in the direction of the green strip on an orthogonal grid. Placing the buildings in this order results in a feeling of emptiness when people move on the green structure; since the buildings are aligned with each other. This means that only two buildings will be visible while the rest is positioned behind them. On the opposite direction of the orthogonal grid, the buildings complete the perspectives which are created, seen from the streets of the neighborhoods. This confirms the presence of the university and makes the functions visible from the neighborhoods.

The green layer exists mainly of reed fields and organises the green structure by adding partly accessible and non accessible area’s. These reed fields direct the passengers in their path and creates open spaces in the emptiness at the other side. They make that the green structure can take a distance from the backyards of the existing housing and makes the park existing on its own.

At the same moment these green reed fields are the study fields for the wastewater department of the university and grey water of the surrounding houses and the university buildings will be directed towards these fields. This will create awareness amongst the population of the entire district (users of the public space) and will fight the drying of the soil in the ecological point of view.

The area where the green structure was planned is characterised by its emptiness. This is a direct result of the apartheid planning which was done in such a way that it made the neighborhoods inverted and prevented connections between those neighborhoods. In my strategy for poverty alleviation I designed on the one hand an urban fabric which provides this connection to the university and on the other hand I carefully made some additional connections in the existing neighborhood by demolishing the least houses possible. This means that there are established some new connections in between the neighborhood over this empty space.

It is critical for these neighborhoods that the space in between becomes part of the existing fabric without disturbing the existing emptiness which is a characteristic of the entire Delft and Belhar district and can even be seen typical for the entire Cape Flats.

Therefore this strategy of activating and using the emptiness in between the neighborhoods can be seen as a pilot project which can be used over the entire country and which tremendously increases mobility in the subordinated neighborhoods. This is a key element in the strategy for poverty alleviation.
INTEGRATING FUNCTIONS

1/ department water management
2/ library + 12th grade education
3/ medical aid + prevention
4/ workshops + adult education
FASE 2/ ARCHITECTURE
1/ Classroom
2/ Storage
3/ Study/reading room
4/ Bookshelves
5/ Terrace

FIRST FLOOR

1/ Bookshelves
2/ Info desk
3/ Multi-purpose + internet access
4/ Toilets
5/ Locker
6/ Snack/bar

GROUND FLOOR

LIBRARY