Architectural Education Forum

SYMPOSIUM 2016

architectural education @ different scales

3-4 SEPTEMBER 2016

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

SCHOOL OF ARCHITECTURE & PLANNING

CONTENTS

2 **CONTRIBUTORS**

3 **ARCHITECTURAL EDUCATION @ DIFFERENT SCALES**
Professor Ariane Janse van Rensburg, School of Architecture and Planning, University of the Witwatersrand

4 **EXPLORING NEW TERRAINS**
Professor Mark DeKay, RA, University of Tennessee School of Architecture

12 **STREETWISE SIX – A BOARD GAME**
Kirsten Doermann, Solam Mkhabela and Jennifer van den Bussche, School of Architecture and Planning, University of the Witwatersrand

19 **INTERSECTIONS BETWEEN TEACHING, URBAN DESIGN AND FILM**
Solam Mkhabela, School of Architecture and Planning, University of the Witwatersrand

26 **PEDAGOGIC TOOLS TO ENGAGE THE COMPLEXITIES OF THE CONTEMPORARY SOUTH AFRICAN CITY**
Melinda Silverman and Fadly Isaacs, School of Architecture, Planning and Geomatics, University of Cape Town

33 **TOWARDS A NEW ARCHITECTURE SCHOOL**
Phillip Lühl, University of Namibia

42 **ACCESSIBLE ATTAINABLE ADMISSION TO ARCHITECTURE**
Simone le Grange, School of Architecture, Planning and Geomatics, University of Cape Town

50 **ARCHITECTURE FOR ALL**
Sandra Felix

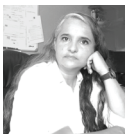
56 **A PHENOMENOLOGICAL APPROACH – DEEP HISTORY FOR ARCHITECTURAL STUDENTS**
Doctor Sechaba Maape, School of Architecture and Planning, University of the Witwatersrand

CONTRIBUTORS

MARK DEKAY, professor at the University of Tennessee School of Architecture, holds two masters' degrees in Architecture (professional and post-professional). His research, workshops and publications focus on integral sustainable design theory, bioregional architecture, green infrastructure and urban design and climatic design.

KIRSTEN DOERMANN, was educated at RWTH Aachen, ETH Zürich and the Berlage Institute Amsterdam andUniversity of the Witwatersrand. One of her interests is 'structures of great capacity' in various scales that are able to accommodate changing context. She is working on her PhD proposal on urban compounds in Johannesburg.

FADLY ISAACS is a lecturer at the School of Architecture, Planning and Geomatics, University of Cape Town. He is exploring spatial justice within the Cape Town metropolitan area by critically reflecting on concepts of architectural placemaking, identity and redress, which inform his teaching and research.



SANDRA FELIX is a professional architect with a BAS and B Arch degree from the University of the Witwatersrand. Her experiences in sessional lecturing/tutoring at the university prompted the search for answers about transformation in architectural education, which she undertook by researching and understanding the initiatives of her peers.

SIMONE LE GRANGE, academic development lecturer at the University of Cape Town, where she has taught across the undergraduate programme in design, theory, and representation. She convenes UCTs access and success academic development projects, and works towards transformation in the field of architecture.

PROF. ARIANE JANSE VAN RENSBURG, is an architect and artist, directs the undergraduate architecture programme at the University of the Witwatersrand, teaching design. She has organised three symposia on architectural education, establishing the Africa-based Architectural Education Forum.

PHILLIP LÜHL is a registered architect and lecturer at the Department of Architecture and Spatial Planning at the Namibia University of Science and Technology, which he joined in 2011 as part of the founding staff. He is currently pursuing his doctoral research on spatial co-production in the context of urban informality in Windhoek.

DOCTOR SECHABA MAAPE is an architect and lecturer at the University of the Witwatersrand. He focuses on the role of ritual in environmental variability and spatial adaptation, informing his practice work, which seeks to embed architectural sustainability in the schematic frameworks of black communities in South Africa.

SOLAM MKHABELA, a lecturer at the University of the Witwatersrand, holds a BAS degree in Architecture and a masters degree in City Planning and Urban Design from the University of Cape Town. He is currently doing research for his PhD on the role of audiovisual in planning and urban design processes.

MELINDA SILVERMAN is an architect and urban designer interested in both South Africa's urban past and its urban future. She has co-authored several urban policy papers, taught courses on housing and on urban history and has written on contemporary architecture and urban issue. She teaches at the University of Cape Town.

JENNIFER VAN DEN BUSSCHE, Centre for Sustainable Urban Development, University of Columbia, holds a masters degree in international and community development. She uses participatory design methods to facilitate, co-ordinate and implement community-driven projects, and co-ordinates the GSAPP Studio X projects in Johannesburg.

TOWARDS A NEW ARCHITECTURE SCHOOL

Positioning Namibia's first school of architecture theoretically within its post-colonial context.

BY: PHILLIP LÜHL, NAMIBIA UNIVERSITY OF SCIENCE AND TECHNOLOGY

ABSTRACT

Architectural education has on several remarkable occasions been the locus of radical change, usually in the wake of deep social transformations. In post-independence Namibia, *decolonisation of space* has not been the subject of much debate. The architectural profession remains elitist, skewed in race and gender and largely disjointed from the everyday realities of the majority of ordinary citizens who often lack the most basic aspects of a dignified living environment.

With Namibia's first undergraduate architecture programme established in 2010, the question arises how it situates itself theoretically within this post-colonial context, as well as within the wider debates on architectural education and how that might inform pedagogy. This paper reflects on how, through curriculum review, the school positions architecture as a critical response to prevailing socio-spatial challenges and the architect as co-producer of space within a complex field of social, technological, economic and political dynamics.

KEY WORDS:

- Namibia
- decolonisation of space
- representativity
- architectural education
- curriculum

INTRODUCTION

The opportunity to establish a new architecture programme, especially if it is the first one in a country, does not appear often and it bears particular opportunities and impediments. This paper attempts at post-rationalising the development of the undergraduate architecture programme at the Department of Architecture and Spatial Planning at the Namibia University of Science and Technology. By reviewing various influences that played out in the establishment of the programme, the author aims to provide a tentative basis to nurture further discussion on the school's pedagogic approach, and to position it within a wider ›

THE ARCHITECTURAL PROFESSION REMAINS ELITIST, SKEWED IN RACE AND GENDER AND LARGELY DISJOINTED FROM THE EVERYDAY REALITIES OF THE MAJORITY OF ORDINARY CITIZENS WHO OFTEN LACK THE MOST BASIC ASPECTS OF A DIGNIFIED LIVING ENVIRONMENT

regional and international debate on transformation of architectural education.

The paper first traces Namibia's colonial socio-spatial legacies to contextualise the relevance of the architectural profession in post-colonial transformation processes. It then provides an overview of western (or northern) models of architectural education and their variegated implementation in South Africa, which has the most established architecture schools in the region, and from which Namibia continues to borrow in many fields. A brief overview of the institutional context in which the programme was established follows. The paper concludes with presenting how these four thematic lenses informed the transformation of the Namibian curriculum, and what still remains to be done.

THE OPPORTUNITY TO ESTABLISH A NEW ARCHITECTURE PROGRAMME, ESPECIALLY IF IT IS THE FIRST ONE IN A COUNTRY, DOES NOT APPEAR OFTEN AND IT BEARS PARTICULAR OPPORTUNITIES AND IMPEDIMENTS

NAMIBIA'S UNCONTESTED COLONIAL SOCIO-SPATIAL LEGACIES

In the 1950s and '60s South Africa consolidated its apartheid policies across the entire territory of Namibia – then South West Africa – building on legacies of the earlier German colonial occupation. Modernism, inseparable from the colonial project (Friedman 2000; Heynen 2005; Lühl 2012a), meant that architecture and spatial planning played a central role in establishing geographies and structures of control, often under the poor disguise of development. Today, inequalities resulting from this deep political, economic, social and territorial restructuring are not only still very present, but arguably continue to be reproduced, not least by the uncritical perpetuation of the modernist planning paradigm. This particular form of uneven geographical development (Harvey 2006) creates standards of living comparable with Scandinavian countries for some, who are seamlessly integrated – both socially and spatially – into a global economy. For the great majority of Namibia's citizens, however, this first world bubble remains inaccessible (Delgado and Lühl 2013). While architecture remains at the service to this formalised economy, many people have to make ends meet in the spaces that are left unstructured, often uncritically referred to as informal. The informal is often perceived as an anomaly within a linear urbanisation process, as space waiting to be substituted by formal, or what Vanessa Watson sarcastically calls "proper" development (Watson 2003). However, as suggested by AlSayyad (2004), from a historical perspective "the formal" is the new mode, most patently represented by the introduction of private property under colonial rule, and its consolidation remains incomplete and perhaps incomplete-able.

Tellingly, the pervasive spatial legacies that stem from this process are not directly addressed in the Namibian constitution of 1990. Private property remained sacrosanct and no ancestral claims for land were entertained; this laid the ground for cementing the status quo. Article 23 of the Namibian constitution makes reference only to social, economic and educational aspects of historical inequality (Namibia 1990) and scantly mentions spatial issues related to land, housing and urban development, which continue to shape the everyday experience of social inequality. Not unsurprisingly, during the first 20 years since independence, space and its relationship to decolonisation has not been the subject of much public debate, with government focusing more on a "quantitative than a qualitative approach" towards undoing socio-economic discrepancies (Marley Tjitjo quoted in Lühl 2012b). Unlike in South Africa, where after the fall of apartheid, new positions emerged from the prioritisation of types of actions over form. Architects lost their position of "speaking on behalf of" and had to embrace a new relationship of architect and client as one of negotiation. Architecture emerging from such space of negotiation was based on flexible strategies, processes and materials; including different "ways of seeing the social and spatial landscape" (le Roux 1998). "Undisciplined practices", le Roux argues, thus emerge from following paths of new users of space, with form being the resultant of the negotiations along the way. She expressed the hope that this will bring about liberating architecture through which the "roles of race, gender and cultural affiliation in the shaping of space would be shaken up" (ibid 1998). While the practice of architecture

might have transformed in relation to political and social change in some instances, the question for educators remains how such new practices are accounted for within the education of future architects and if they lead to new disciplinary knowledge, new spaces and urban environments that are rooted in the contingencies of a post-colonial order.

ARCHITECTURE AND SOCIAL RELEVANCE

The pioneers of the CIAM (*Congrès Internationaux d'Architecture Moderne*) framed their founding manifesto of 1928 in terms of the architect's professional obligations towards society (Conrads 1970). However, as de Carlo succinctly criticised already in 1969, the modern movement with all its formal commitment to social causes ultimately propagated elite cultural and aesthetic codes. The alignment of architects with the worldview of those in power – because of their dependence on money, land and authority to pursue their practice – permitted architects to simply provide answers to pressing questions or capitalist development by developing ever more (cost-)efficient solutions to urbanisation and housing, ultimately contributing to increasing spatial segregation of classes (de Carlo, republished in Blundell-Jones, Petrescu, and Till 2005). Blundell-Jones et al. argue that modernisation has meant "removing people from decisions" and led to their alienation, analogous to the emergence of representational democracy (Blundell-Jones, Petrescu, and Till 2005).

Yet, such critiques are not relics of the 1970s, if at all they are more relevant today. After those volatile years, which allowed for much experimentation around the world, the rise of neoliberalism entrenched architecture's service to capitalist production of space. Mainstream architecture largely retreated into its autonomous realm, thriving on formalism and global fashions and giving rise to the starchitect. Representations of architecture in mass media exacerbate the general public's engagement with architecture solely on the aesthetic dimension, which renders them passive consumers rather than "active doers and makers" (ibid 2005). A distance between the architect and the general public is thus created and maintained.

The Namibian experience confirms some of the above issues. Twenty-seven years after independence, the architectural profession in Namibia remains profoundly stratified in terms of race and gender. Of the 131 registered architects in Namibia (July 2015) only about 22% are female and 75% are white. Among the 60% of all architects that are Namibian nationals, numbers are even starker: 85% are white (Namibia Institute of Architects 2015), contrasting with national demographics where whites make up only 7% of the overall population. Beyond race, the social disjuncture between the architect as professional and the majority of ordinary citizens is most clearly signified in the discrepancy between government gazetted minimum fees for professional architects, currently at R1 577.23 per hour (Republic of Namibia, Ministry of Works and Transport 2016), versus the minimum wage of a construction worker, currently at R14.59 per hour (*The Namibian* 2016). As this gap is furthermore spatially articulated in the apartheid geography of Namibian towns and cities, parallel worlds continue to exist and are seldom transcended[1]. Given these historical inequalities related to race and gender, the profession continues to retain western value systems related to elite interests. While professional architects largely thrive on public commissions for an expanding state apparatus (Maritz 2012), they hardly feature in critical debates on urbanisation and the housing crisis, and other developmental questions that are of prime relevance for the majority of the population. The question of diversity and representativity within the profession must thus be central to the endeavours of architectural education in this context, with a prime focus on enabling equal access to and success in education.

DURING THE FIRST 20 YEARS SINCE INDEPENDENCE, SPACE AND ITS RELATIONSHIP TO DECOLONISATION HAS NOT BEEN THE SUBJECT OF MUCH PUBLIC DEBATE, WITH GOVERNMENT FOCUSING MORE ON A "QUANTITATIVE THAN A QUALITATIVE APPROACH" TOWARDS UNDOING SOCIO-ECONOMIC DISCREPANCIES

MODELS OF ARCHITECTURAL EDUCATION IN SOUTH AFRICA

Architectural education has a long history, and has developed over centuries into some of the prevalent curriculum models that are widely used today and remain in transformation. Carter (2013) traces three different structures of knowledge, curriculum and pedagogy in South African architectural education and their historical roots in European educational practices of the 18th–20th century: a "fine arts" curriculum dominated by studio-based instruction and emphasising individualised creative exploration, a "building arts" (*boukunde*) curriculum where building science subjects are actively integrated with studio work and emphasis on theory is reduced, and an "engineering with arts" curriculum strongly embedded in humanities and building science courses. These curricula derive from the long traditions of the art academy ›

THE STUDENTS' DEMANDS FOR REPRESENTATIVITY AND DECOLONISED EDUCATION HAVE ONLY RECENTLY SHAKEN UP THE ESTABLISHED ORDER IN MANY SCHOOLS, AND THE DEBATE ABOUT TRANSFORMATION IS ONGOING

(École des Beaux-Arts) studio, the engineering academy (École Polytechnique) and the craft workshop.

With continuing professionalisation of architectural education, and the need for the state to regulate architectural education and the profession to safeguard public interest, some of these positions were synthesised into more structured curriculum models that were popularised through the RIBA and the Commonwealth since the middle of the 20th century. Carter distinguishes three such different types: a "compositional", a "mathematical" and a "constructional" curriculum model and suggests that in South Africa these are best suited to architectural education at the university, university of technology and the comprehensive university respectively. This brief overview is useful to locate the establishment of the Namibian curriculum, and shed light on some of the incoherencies implicit in its development.

THE QUESTION OF DIVERSITY AND REPRESENTATIVITY WITHIN THE PROFESSION MUST THUS BE CENTRAL TO THE ENDEAVOURS OF ARCHITECTURAL EDUCATION IN THIS CONTEXT, WITH A PRIME FOCUS ON ENABLING EQUAL ACCESS TO AND SUCCESS IN EDUCATION

Yet, the curriculum only provides structure to what is taught and in which particular sequence (Carter 2008), leaving out social dimensions, such as demographics and pedagogic approaches of teaching staff and specifics about content and the space within which learning happens. As a programme in development, the evolution of the latter aspects is ongoing, based on experiential learning. Here, we are concerned more specifically how the Namibian curriculum draws from the different lineages, and how it relates to more widely accepted practices.

LOCAL INSTITUTIONAL PARAMETERS

Namibia's first school of architecture was founded in 2010 as an independent department under the School of Engineering, at what was then the Polytechnic of Namibia. After the government approached the Polytechnic to establish an architecture programme, and pledged funding for its formation, including new teaching facilities, the Polytechnic approached the professional regulatory body, the Namibia Council of Architects and Quantity Surveyors (NCAQS), to determine the requirements and standards for educational programmes in architecture. While the regulatory body at the time, representing building industry interests, was primarily concerned with the training of much-needed technologists to keep up with the growing construction boom, the Polytechnic favoured a professional degree programme to educate future architects.

It was ultimately agreed to offer a three-tier professional degree programme: a three-year Bachelor of Architecture (B. Arch), followed by a one-year Bachelor of Architecture Honours (B. Arch Hons), and a two-year Master of Architecture (M. Arch). The first two degrees provide for the required architectural and senior architectural technologists, while the final degree permits registration as a professional architect after conducting a mandatory minimum two-year in-service training and passing a professional practice exam. The implications of treating the education of technologists as exit levels on the path towards educating professional architects remains a contested compromise (Wasserfall 2016).

An existing partnership with the Tshwane University of Technology (TUT) in Pretoria provided the basis to seek TUT's assistance in setting up the programme and led to the adoption of its four-year Bachelor of Technology (B. Tech) curriculum as a basis for further development (Wasserfall 2016). The B. Tech curriculum is rooted in the former Technikon model, aimed at educating technologists, and its structure was thus geared towards this aim. It included a semester of work-integrated learning as part of the first three years of study, as well as a large number of differentiated subjects, separate from architectural design studio. The first curriculum review in 2011 focused largely on the streamlining of courses and aligning them into a five-cluster structure, including design and environment, building technology, history and theory, professional practice and architectural communication and skills. Carter (2008) calls this process "recontextualising" of architectural knowledge from the field of practice with its inherent overlaps between building construction, design theory and precedent, design, documentation and presentation, and administration into distinct subject themes within the academic institution. This process

occurs both in the official sphere of statutory bodies concerned with the regulation of education and the profession, as well as in the academic sphere itself with its own institutional logic. He cautions that some of the discrepancies between practice and academia stem from this process and poses that interesting developments happen at the interface of these defined subject areas, opening up possibilities for rethinking pedagogy.

The NCAQS, faced with the situation to oversee the establishment of the first educational programme in Namibia, had submitted the TUT curriculum to the Namibia Qualifications Authority as curriculum framework, cementing its specific structure and content as the yardstick for any architectural programme in Namibia. This meant that the revised curriculum would be continuously measured against the TUT curriculum, limiting possibilities for introducing relevant knowledge fields to keep abreast with local and global dynamics. Proposed new courses, such as Housing and Everyday Life, African Urbanisation in Global Perspective and Environmental Technologies, were welcomed as relevant additions, but could only be assigned minimal space in the new programme thus minimising their impact on the overall education. In hindsight, many of these shortcomings can be attributed to the inexperience of various stakeholders in this process.

Furthermore, the founding team of teaching staff represented a wide range of architectural education backgrounds including from the UK, the Netherlands, Russia (Soviet Union at the time of studies), and a number South African universities adding another layer to negotiating the programme development.
In the first few years, additional support was received from visiting professors from Aachen University of Applied Sciences in Germany, which has proven instrumental in setting up the first year studio pedagogy. The staff contingent has since doubled to 12 with about two-thirds being young white academics in their 30s and for the largest part educated in South Africa. Students' demands for representativity and decolonised education[2] have only recently shaken up the established order in many schools, and the debate about transformation is ongoing. Efforts to elaborate a distinct approach to pedagogy in Namibia need to be advanced and conscious of these current debates[3].

Student intake for the programme is based on a three-step selection process, which focuses on academic performance (step 1), a selection test administered by the department (step 2), and final selection interviews (step 3). The selection test is designed to balance aspects such as geometric and three-dimensional understanding, technical understanding, freehand drawing skills, general knowledge, language and critical interpretation skills. This allowed the department to develop a balanced student body that is largely representative of the country's demographic and relatively balanced in terms of gender (figure 1), without the need to apply affirmative quota systems. Students also represent a broad socio-economic spectrum, ranging from children of high-level government officials to students from marginalised backgrounds, as well as hailing from urban and rural areas.

Degree	B. Arch						B. Arch Hons	
Year	1		2		3		4	
Students	No	%m/f	No	%m/f	No	%m/f	No	%m/f
2010	18	61/39	-	-	-	-	-	-
2011	19	63/37	14	71/29	-	-	-	-
2012	22	50/50	17	65/35	10	60/40	-	-
2013	23	61/39	20	45/55	11	75/25	4	25/75
2014	23	57/43	23	56/44	16	44/56	5	60/40
2015	23	57/43	26	59/41	13	54/46	8	37/63

Figure 1: Number of architecture students and gender distribution.

In 2016, and with a number of cohorts graduated at both exit levels, the programme underwent its initial validation by the local regulatory body. Aimed at more regional integration of architectural education, the NCAQS guidelines for validation were largely based on those of the South African Council for the Architectural Profession (SACAP), which in turn is aligned with those of the Commonwealth Association of Architects (CAA). The validation panel thus included academics and practitioners from South Africa and Botswana, besides NCAQS representatives and local architects. This comprehensive and critical external review of the undergraduate programmes confirmed many of the department's own views on shortcomings and opportunities for improvements. Specifically, the large number of courses needed to be addressed as it was seen as leading to work overload for students and an increased fragmentation of learning. Overlaps and duplications needed to be reviewed; progression of learning needed to be streamlined; and more integration between subjects was required. Course clusters and content required review to develop a strong, locally informed and distinct theoretical position for the school. Similarly, architectural design courses needed to be developed in terms of a clear pedagogical build-up of learning outcomes over the semesters and of explicit integration with other theory courses (NCAQS 2016). ›

STUDENTS ALSO REPRESENT A BROAD SOCIO-ECONOMIC SPECTRUM, RANGING FROM CHILDREN OF HIGH-LEVEL GOVERNMENT OFFICIALS TO STUDENTS FROM MARGINALISED BACKGROUNDS, AS WELL AS HAILING FROM URBAN AND RURAL AREAS

THEORY COURSES, RATHER THAN FOLLOWING AN IMPLICIT WESTERN HISTORICAL CHRONOLOGY, WERE REDESIGNED TO EXPLORE SELECTED MOMENTS OF ARCHITECTURAL HISTORY AS A RESPONSE TO PREVAILING ENVIRONMENTAL, SOCIAL, CULTURAL AND TECHNOLOGICAL CONDITIONS, WITH AN INCREASED EMPHASIS ON THEORY ROOTED IN THE URBAN CONDITIONS OF THE GLOBAL SOUTH

Despite the recommendation of unconditional validation for both programmes, the validation thus provided encouragement for further review of the curriculum, now based on more rigorous external and internal scrutiny. The validation of the undergraduate programmes also allowed for the implementation of the two-year M. Arch programme that the department had developed in 2015 to enable graduates to become fully registerable professional architects.

SPECIFIC FOCI WERE PROVIDED FOR DESIGN STUDIO COURSES THROUGHOUT THE SEMESTERS, BALANCING BETWEEN DEVELOPING TECHNOLOGICAL SKILLS AND CRITICAL ENGAGEMENT WITH SOCIALLY AND ENVIRONMENTALLY RELEVANT ISSUES

The above contextualises four thematic lenses that allow situating the transformation of the Namibian architecture programme: the question of an architectural practice in a post-colonial context; diversity and representativity within the profession; historical roots of different architectural education models; and local institutional parameters within which the programme was developed. These four lenses have informed the further review of the curriculum carried out in 2016 and implemented in 2017.

From the beginning, and based on the compromise between the university and the professional regulatory body, the department shared a strong vision of balancing design and knowledge of construction in its programmes, tending towards the university of technology curriculum model. This vision provided guidance for the development of didactic studio project work, especially in the first year of study. However, the political dimension of space, especially in the post-colonial context outlined above, was only dealt with in between the lines of certain theory courses that touched on the role of the architect and her or his possibilities to engage in socially-relevant critical spatial practice. Moreover, the question which epistemologies would form the basis of the necessary reorientation was not explicitly stated. During the recent curriculum review, theory courses, rather than following an implicit western historical chronology, were redesigned to explore selected moments of architectural history as a response to prevailing environmental, social, cultural and technological conditions, with an increased emphasis on theory rooted in the urban conditions of the global south. This aims to break out from an ossified, self-referential architectural and urban theory, and to explore a more situated understanding of architecture within a complex field of historical processes and their relevance to local and regional contemporary challenges. It also recognises the specific historical moment that Namibia finds itself in: namely, the turn from a largely rural population to a predominantly urban one. It is exactly this moment that allows for the re-evaluation of inherited socio-spatial paradigms, with questions of housing, urban livelihoods and increasing informalisation at its centre. It is these aspects that bear most potential for reviewing architectural practice, which in its conventional, consultant-based form is often not able to engage meaningfully with the needs and desires of citizens who find themselves outside of the established formal market economy. Actively engaging other audiences, others clients and other communities as part of the education will dismantle the notion of the architect as the expert problem-solver, and rather develop the notion of practices of spatial co-production. Specific foci were provided for design studio courses throughout the semesters, balancing between developing technological skills and critical engagement with socially and environmentally relevant issues. This topical focusing of semesters allows theory courses to be specifically directed towards supporting the concurrent studio course (figure 2), allowing assessment of elements of theory applied in the studio projects.

After starting out from didactic exercises on abstract space and structural understandings in semester 1, semester 2 explores the natural climatic and geographical context. Here, students are exposed to site and landscape, exploring the issue of elemental shelter informed by thorough exposure to a specific ›

Bachelor of Architecture					
SEM	DESIGN	TECHNOLOGY	THEORY	PRACTICE	ELECTIVES
1	**Architectural Design 1A** *Space & Structure*	**Applied Building Science***	**Architecture in Context**	**Graphics & Communication**	
2	**Architectural Design 1B** *Landscape & Environment*	**Construction Technology 1***	**Landscape and Context**	**Architectural Drafting**	**Vertical Studio 1**
3	**Architectural Design 2A** *Tectonics & Detail*	**Construction Technology 2***	**Architecture and Discourse**	**CAD and Visualization**	
4	**Architectural Design 2B** *Housing & Community*	**Building Structures***	**Housing & Everyday Life**	**Intro to Surveying & Mapping***	**Vertical Studio 2**
5				**Work Integrated Learning**	
6	**Architectural Design 3** *Urban Context & Building*	**Environment & Services***	**Principles of Urban Design****	**Computer Generated Imagery**	**Vertical Studio 3**
Bachelor of Architecture Honours					
7	**Honours Design Project 1** *Urban & Landscape Design*	**Environmental Design & Technology**	**Research Methodology ****	**Construction Economics and Works Estimation**	
8	**Honours Design Project 2** *Heritage & Construction*	**Integrated Construction Technology**	**Global South Urbanism ****	**Building Law and Contract Management**	
Master of Architecture					
9	**Integrated Design Studio 1**	**Adv. Building Construction**			• **Sustainable Materials Lab** • **Housing Design** • **Applied Urban Ecology**
10	**Integrated Design Studio 2**		**Appl. Research Methodology**	**Prof. Practice Management**	• **African Urbanism** • **Building Heritage & Conservation**
11	**Master Design Thesis**		**Critical Urban Theory**		
12					

Figure 2: The curriculum structure after the second revision of the undergraduate curriculum undertaken in 2016.

*Shared with Quantity Surveying
** Shared with Town Planning

WHERE POSSIBLE, STUDENTS ARE ALSO EXPOSED TO INDIGENOUS ARCHITECTURE THAT HAS EVOLVED IN RESPONSE TO THE OFTEN-SCARCE CONDITIONS CHARACTERISING LARGE PARTS OF NAMIBIA. SUCH ENGAGEMENT WITH TRADITIONAL SPATIAL PRACTICES IS EXPECTED TO DIFFERENTIATE STUDENTS' UNDERSTANDING OF SPACE AND DWELLING FROM THAT ARTICULATED IN MAINSTREAM, WESTERN ARCHITECTURAL THEORY

rural area of the country through field excursions. Where possible, students are also exposed to indigenous architecture that has evolved in response to the often-scarce conditions characterising large parts of Namibia. Such engagement with traditional spatial practices is expected to differentiate students' understanding of space and dwelling from that articulated in mainstream, western architectural

ACTIVELY ENGAGING OTHER AUDIENCES, OTHER CLIENTS AND OTHER COMMUNITIES AS PART OF THE EDUCATION WILL DISMANTLE THE NOTION OF THE ARCHITECT AS THE EXPERT PROBLEM-SOLVER, AND RATHER DEVELOP THE NOTION OF PRACTICES OF SPATIAL CO-PRODUCTION

theory. Semester 3 engages deeply with construction materials and their intrinsic architectural expression from form down to detail scale, as well as the resulting spatial experience. Semester 4 introduces more firmly the social aspects of dwelling, and the relationship between the privacy of dwelling and the public realm at the neighbourhood scale. Given Namibia's acute and medium- to long-term housing crisis (Lühl and Delgado 2013), students are introduced to the aspect of collective and adequate housing, rather than expanding on the ubiquitous model of detached suburban housing, or essentialist conceptions of the individualised dwelling.

EXPANDING BEYOND SPATIAL URBAN DESIGN, THIS STUDIO ENCOURAGES STUDENTS TO THINK STRATEGICALLY ABOUT HOW SPATIAL DESIGN, WITHIN A LARGER FIELD OF URBAN PRACTICES, CAN MAKE A CONTRIBUTION TOWARDS OVERCOMING CONTEMPORARY URBAN CHALLENGES

After students spend semester 5 in architectural practices for work-integrated learning, the B. Arch concludes with a studio focusing on public buildings in an urban context with an emphasis on technical documentation. Countering low-density development along sub-urban design principles common to Namibian towns, the imagination of denser and socially diverse urban environments is explored.

In the honours course, a studio introducing students to urban and landscape design follows on the introduction to the urban scale in third-year. This also provides a basis for students to explore opportunities for specialisation at masters level. Expanding beyond spatial urban design, this studio encourages students to think strategically about how spatial design, within a larger field of urban practices, can make a contribution towards overcoming contemporary urban challenges. The final studio of the honours course critically engages with heritage in the widest sense. Students are specifically encouraged to investigate heritage in a post-colonial context and its relation to the built environment. This aims to counter locally entrenched views that deem colonial buildings, and only those of German origin, as historically relevant. By prioritising one historical period over others, this view disregards pre-colonial architecture, more recent modernist heritage, developed mainly during apartheid times, as well as post-independence architecture. The prevalent focus on built heritage furthermore eclipses many forms of immaterial heritage as well as traditional spatial practices that continue to exist today.

CONCLUSION

Radical Pedagogies, a recent research project developed by Beatriz Colomina with PhD students at Princeton University School of Architecture, surveyed numerous cases of experiments in architectural education of the second half of the 20th century. The research team claims that architecture and architectural education have lost the radical touch of those years and that the best way to reinvigorate the profession is to revolutionise the way it is taught (Colomina et al. 2012). It is beyond the scope of this paper to dwell on the practical implementation of the ambitions contained in the curriculum described above, as those are still to materialise. Rather, the question was how does this new school position itself theoretically within its post-colonial context?

Clearly it is a work in progress, negotiating the structural constraints and the social incongruities stemming from the socio-economic stratification of the groups that are to effect transformation (i.e. students, staff, practitioners, regulatory bodies etc.). Yet, some aspects are clear. For architecture to become socially relevant to the largest number, it first has to recognise its current elite position. It needs to deconstruct its implicit value systems and actively engage with other views, communities and methods that are often regarded as external to the profession. A representative student body is only one, albeit important, step in this direction.

How do we educate young architects to be not only technically competent professionals, but also critical citizens able to question their role as professionals? While the work of deconstructing established bodies

FOR ARCHITECTURE TO BECOME SOCIALLY RELEVANT TO THE LARGEST NUMBER, IT FIRST HAS TO RECOGNISE ITS CURRENT ELITE POSITION. IT NEEDS TO DECONSTRUCT ITS IMPLICIT VALUE SYSTEMS AND ACTIVELY ENGAGE WITH OTHER VIEWS, COMMUNITIES AND METHODS THAT ARE OFTEN REGARDED AS EXTERNAL TO THE PROFESSION

of architectural and urban theory and rebuilding them from a situated understanding continues – and this itself is certainly the most long-term project – the type of projects assigned to students in design studios must reflect actual challenges that are relevant to society at this stage. Instead of seeing projects for informal economies, or housing upgrading and neighbourhood reblocking as developmental interventions, we have to realise that those will provide the mainstay of spatial practice in the future. Such projects require serious engagement with user communities and the development of methods and tools that go beyond the classical disciplinary and representational techniques of architects to co-produce spatial interventions with others within a complex field of social, cultural, economic and political dynamics. ■

[1]One of my first year students told me about his experience of studying first-year architecture while living in an informal settlement on the periphery of Windhoek. The realities of architecture school and the topics of studio projects could not be more removed from his own everyday life experience.
[2]For an example of specific demands, see the manifesto by the Black Student Caucus of the School of Architecture, Planning and Geomatics, University of Cape Town (2016).
[3]A group of Namibian students partaking in an annual architecture forum in Angola reported that their project for a housing intervention in an informal settlement in Luanda was criticised by the jury as "not African enough".

REFERENCES

AlSayyad, Nezar. 2004. "Urban Informality as a New Way of Life." *Urban Informality: Transnational Perspectives from the Middle East, Latin America, and South Asia*, edited by Nezar AlSayyad and Ananya Roy. Lexington Books.

Black Student Caucus of the School of Architecture, Planning and Geomatics (UCT). 2016. "Lekgotla - a Gathering Space: An Open Letter to the School of Architecture, Planning and Geomatics."

Blundell-Jones, Peter, Doina Petrescu, and Jeremy Till, eds. 2005. *Architecture and Participation*. London u. New York: Taylor & Francis.

Carter, Francis. 2008. "In between the Curriculum: Rethinking the Generic Framework of Professional Education in Architecture through the Recontextualisation of New Knowledge." *Journal of the Institute of South African Architects*, March/April 2008: pp 60–64.

———. 2013. "Structures of Knowledge and Pedagogy: A Conceptual Summary of Disciplinary Principles Which Inform Qualifications for Architects in South Africa." *Journal of the Institute of South African Architects*, May/June 2013: pp 36–45.

Colomina, Beatriz, Ignacio Gonzalez Galan, Anna-Maria Meister, and Esther Choi. 2012. "Radical Pedagogies in Architectural Education." *Architectural Review*. October 28. www.architectural-review.com/today/radical-pedagogies-in-architectural-education/8636066.article.

Conrads, Ulrich, ed. 1970. "CIAM: La Sarraz Declaration." In *Programs and Manifestoes on 20th-Century Architecture*. Cambridge, Mass.: MIT Press.

Delgado, Guillermo, and Phillip Lühl. 2013. "Financialisation and the Production of Inequality in Namibia: A Socio-Spatial Perspective." *Journal Für Entwicklungspolitik* XXIX (4).

Friedman, Fatima. 2000. *Deconstructing Windhoek : The Urban Morphology of a Post-Apartheid City*. London: Development Planning Unit, University College London.

Harvey, David. 2006. *Spaces of Global Capitalism*. London; New York: Verso.

Heynen, Hilde. 2005. "The Intertwinement of Modernism and Colonialism, a Theoretical Perspective." *Proceedings : Conference "Modern Architecture in East Africa around Independence."* Dar es Salaam, Tanzania: ArchiAfrika.

Lühl, Phillip. 2012a. "The Production of Inequality: From Colonial Planning to Neoliberal Urbanization in Windhoek." *Digest of Namibian Architecture* 10.

———. 2012b. "Visions for the Future Revisited. An Interview with Marley Tjitjo." *Digest of Namibian Architecture* 10.

Lühl, Phillip, and Guillermo Delgado. 2013. "Mass Housing in Namibia – A Chance to Transcend the Socio-Spatial Geography of Apartheid?" *Digest of Namibian Architecture* 11.

Maritz, Nina. 2012. "On the Challenges of Developmental Projects in Namibia." *Digest of Namibian Architecture* 10.

Namibia. 1990. *The Constitution of the Republic of Namibia*. Windhoek: Ministry of Information and Broadcasting.

Namibia Institute of Architects. 2015. "Namibia Institute of Architects Register." July. http://www.nia.org.na/members_individual.html.

NCAQS. 2016. "Report of the NCAQS Visiting Board to the Department of Architecture and Spatial Planning, Faculty of Natural Resources and Spatial Sciences, at the Namibia University of Science and Technology (NUST)." Windhoek: Namibia Council for Architects and Quantity Surveyors.

Republic of Namibia, Ministry of Works and Transport. 2016. "Notice to Consultant Firms: Minimum Fees Chargeable by Architects and Quantity Surveyors."

Roux, Hannah le. 1998. "Undisciplined Practices: Architecture in the Context of Freedom." *Blank : Architecture, Apartheid and after*, edited by Hilton Judin and Ivan Vladislavic. Rotterdam: NAi Publishers.

The Namibian. 2016. "Construction Workers' Minimum Wage Finally Gazetted." *The Namibian*. January 18. http://www.namibian.com.na/index.php?page=archive-read&id=146302.

Wasserfall, Jaco. 2016. Interview with Jaco Wasserfall by Phillip Lühl.

Watson, Vanessa. 2003. "Conflicting Rationalities : Implications for Planning Theory and Ethics." *Planning Theory and Practice* 4.