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ED'S NOTE

Professor Lesley Lokko

Lesley Lokko is Professor and Dean of The Bernard and Anne Spitzer School of Architecture, CCNY. She was the founder and Director of the Graduate School of Architecture, University of Johannesburg from 2015 – 2019.

Why Radical?
Why Noir?

NYC, July 2020

Follow-up acts are notoriously tough. Aside from the pressure of not wanting to repeat oneself, one is also (always) loathe to disappoint. *Volume I Pupae* was generally well received. Calls for subscriptions, copies, distributor rights and sales enquiries quickly saw our initial print run of 500 dwindle to two, one of which is glued permanently to my desk. (For those who didn't get a copy, it's available online at https://issuu.com/foliojournalofafricanarchitecture). When the call for contributions to *Volume II Noir Radical*, went out, the vast majority of questions centred around the term 'radical.' In this day and age, what do we mean by the term – indeed, what can be meant by it – and how, if at all, does this relate to Africa, to 'blackness', as the title Noir Radical suggests . . ? We were particularly interested in the term since is has a multitude of meanings, most of which either relate to something that is overtly or strongly 'different', or to the word 'root' (from the Latin, radice, which we find compelling.) A radical root, something 'different' at the origins and margins. Well, that's us.

We chose to divide the over-arching term, 'Architecture' into three categories: development, discipline and discourse, each signalling an important aspect of categorisation when viewed from either Africa or the global South more broadly. Unlike our counterparts in the global North or even East, architecture – understood here in its widest sense as set of built environment discourses – is poorly understood, both by the general public and, more worryingly, by city- and place makers. There are few outlets for discussion across the continent as a whole. Publications are few and far between; there has never been a significant African architectural biennial in any African country and although art and film are well-represented (thinking here of Dak'Art and Panafest in particular), only Design Indaba in South Africa has the power to attract global speakers and the conversations are rarely Africa-specific. Ghana's inclusion in the Venice Art Biennale in 2019 and current ambitious plans to host a pavilion at the architectural biennale in 2020 stand out, if only to highlight the fact that so many other African countries will not – and have never been – present.

But it's not all pessimistic. On the contrary, the roster of African architectural talent is growing all the time. The Graduate School of Architecture's GSA-Boogertman + Partners International Lecture Series, which began in 2016, has seen no fewer than 33/47 speakers hailing from the continent or its Diaspora. *Homegrown*, the School's social media campaign to highlight African architectural talent, has brought many

African architects and speakers to the attention of a local, African audience, as well as a global one. Many of the speakers also teach in the School and have taken part in myriad extra-curricular 'activities' over the past two years, solidifying the GSA's position as a credible and committed producer of architectural culture, as well as young talent. In this regard, FOLIO is both an extension of, and a product by, the School's wider 'community', including architects, academics and practitioners, some of whom we haven't yet met in person, but who are connected to us through this publication.

We have always understood the term 'Africa' to be expansive, generous and welcoming. In one sense, we are all African, having left this continent at varying times and in varying numbers over the past 65,000 years. However, we're particularly interested in those narratives (we eschew the word 'context') that find resonance with Africans either living in Africa, or with people of African descent living and working in the Diaspora, whose work shares our experiences, hopes, ambitions and concerns.

In this volume, we have selected work from students who may have only just graduated but who are already tackling pertinent issues in radical and innovative ways; we've chosen writers living outside the continent but who write (or make work) that's as relevant here as it might be in Brazil or Kew Gardens. There are allegorical pieces, speculative pieces, political pieces, environmental pieces and polemical writings. Michael Jackson makes an appearance as one of the most influential African Americans of all time; space is considered as a new 'frontier' and themes of travel and diaspora appear in almost every section. Some of the texts are conventionally 'academic', others less so. This second volume comes out nearly two years late, delayed by my move to the US and the global pandemic, not to mention the anti-racism protests, which, one hopes, will change architectural education forever. Nonetheless, it's here, it's larger-than-before and one hopes it lives up to the expectations that *Volume I* (unwittingly, of course) placed upon it. It's digital for now, but with the world slowly opening up, we hope to have printed copies available by the end of this year.

Prof Lesley Lokko
Dean of Architecture, The Bernard & Anne Spitzer School of Architecture, CCNY
Director, GSA (2015 – 2019)

We were particularly interested in the term 'radical', since it has a multitude of meanings, most of which either relate to something that is overtly or strongly 'different', or to the word 'root'.

KEYWORDS

Folio
kaleidoscope
southern
critical
platform

FOREWORD

Professor Tomà Berlanda

Tomà Berlanda is Professor of Architecture at the School of Architecture, Planning & Geomatics, University of Cape Town.

As obvious as it may sound, the existence of a journal is the manifestation of a community of intents. Indeed, it could well be of multiple communities – of authors; of readers; of critics. In successfully selecting, editing, and publishing 30 authors, the second issue of FOLIO is a testament to the existence of such a community, some kind of 'school of thought'. It's also evidence, if ever there was any doubt, that peer-reviewed research matter is present across many corners of the continent, as well as in the Diaspora, and should be celebrated.

In doing so the journal, true to its 'modern/African/critical' paradigm, has managed to intersect a desire to validate multiple – and alternative forms – of research, languages and experiments. The reader will undoubtedly cherish the opportunity to engage with the content and ask for more. But with this comes the responsibility of taking ownership of the platform, to disseminate it, and use it as means to construct new knowledge.

In an installation six colleagues and I recently co-authored for the current Oslo Architecture Triennale[1] we posited the possibility of installing a kaleidoscope as means to – quite literally – shift the lens of looking at the phenomena of de-growth in southern ecosystems. A similar (and indeed one must speak to an alignment of spirits) change of optics, away from the linearity of the colonial theodolite, is intrinsic to the entire project of FOLIO, and this particular second volume 'Noir Radical'.

Development, discipline, discourse: the headings that structure the three sections of this volume, are keywords that need to be ontologically defined in their locale, if they are to be of any use to communicate on, across, and outside the continent. In that sense the visual – and written – vocabulary of the learning tool that subverts established modes of conceiving architecture as an easily transported, translated, and imposed paradigm repository is dynamic, as this issue of the journal offers ample evidence of. Finding one's own way through the pages, in printed or digital form, annotating them, or simply indexing them for future reference, will be an experience worth recording.

Assuring the platform for such positions to be deposited and shared, is, though, only the beginning. If the success of the first volume has been important, any journal needs some form of continuity and direct participation. How the feedback loops are embedded in the project calls for further fine tuning, particularly now that the editor in chief is about to weigh anchor and relocate to New York, to ensure that the first two issues don't become stand-alone collector's items too soon.

[1] Hunguta design (T. Berlanda, N. Amoros Elorduy, K. de Klerk, T. Klitzner, S. Lloyd, M. Mutanda, S. Viking), Disruptive Degrowth: a Repository of Southern Ecosystems, 2019 Oslo Architecture Triennale, https://southernecosystems.com/

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AN page **163**
For ten years, Alex Ndibwami was based at the Faculty of the Built Environment of Uganda Martyrs University. In 2019, Alex went on to join the School of Architecture and the Built Environment as a Lecturer in Architecture and the Director of Teaching and Learning Enhancement of the College of Science and Technology at the University of Rwanda. His work and interests include: culturally responsive ethos of design, approaches to built environment education and; sustainability in the built environment. Most of this work has been cross (and) inter-disciplinary in nature, encompassing built environment pedagogy, urban policy, development processes and urbanising communities.

AO page **335**
Adam Osman is a candidate architect born and raised in Cape Town. He later moved to Johannesburg where he graduated from the University of Johannesburg, receiving a Masters with Distinction from Unit 14: Rogue Economies. His interests lie in how Johannesburg is shaped in dramatic ways by its economic practices, tactics and transactions. Following his Master's degree, he held a position at Urban Works Architecture, while also tutoring within Unit 14. At present, he works for Counterspace Studio and is completing his second Master's, as well as tutoring Unit 18: Hyperreal Prototypes. He also runs a practice called Six Degree Architects.

AR page **195**
Ángela Ruiz is a practicing architect, professor, multidisciplinary artist, researcher and mum. She holds a PhD from the Polytechnic University of Madrid and focuses her work on ecological and sustainable architecture with her company Atypical Architecture & Bioconstruction, analyzing sites with geobiology and focusing on health and emotions in design. She is an Associate Professor in Architecture, Design and Ecology at several schools of architecture in Madrid and Paris. She has been invited in universities in Russia, Greece, Serbia and France. She is a member of Innovative Higher Education and Hypermedia Research Groups. She created D'archis card game to foster creativity in education through drawing architecture

ATK page **251**
Alexis Tshiunza Kabeya is a practicing architect and PhD student at the University of Liège (ULiège) and the Université Libre de Bruxelles (ULB). He is working on the contribution of local traditions to Modernist architectural language in Congo. He teaches at the Higher Institute of Architecture and Urbanism of Kinshasa/Congo (ISAU).

BM page **39**
Baerbel Mueller is an architect and researcher based in Austria and Ghana, and an Associate Professor at the Institute of Architecture at the University of Applied Arts Vienna. She is head of the [applied] Foreign Affairs Lab, which investigates spatial and cultural phenomena in rural and urban Sub-Saharan Africa and the Middle-East, and founder of nav_s baerbel mueller [navigations in the field of architecture and urban research within diverse cultural contexts]. Her work comprises architecture, urban research, installations, scenography, and curatorial projects, and has been widely exhibited and awarded.

BdM page **49**
Bruno de Meulder teaches urbanism and is Vice Chair of the Department of Architecture, Faculty of Engineering Sciences, KU Leuven.

CWK page **21**
Caroline Wanjiku Kihato is a Visiting Fellow at the University of Oxford's Department

of International Development, and a Global Scholar at the Woodrow Wilson Center for International Scholars, Washington DC. She serves on the board of Mistra Urban Futures. In 2011, she received a MacArthur grant on Migration and Development and spent a year as a Visiting Fellow at the Institute for the Study of International Migration (ISIM), Georgetown University, Washington DC. Her career has involved both teaching and conducting research in the academy and the non-profit sector in Southern and Eastern Africa.

DC page **381**
Daniele Cronje is passionate about the relationship between architecture and technology. She holds a Master's degree in architecture from the GSA, University of Johannesburg. She is also working towards realising her dream of bringing affordable housing to the South African market as co-founder of a start up firm specialising in modular pre-fabricated units.

DA page **205**
Doreen Adengo is an architect based in Kampala, Uganda. Her practice, Adengo Architecture, is grounded in research and multidisciplinary collaboration. Much of Doreen's work is focused on communicating the value of design in African cities. In a context where non-designers often build their own homes and other structures, she believes that it is critical to make the case that architects and urban planners can improve people's everyday lives, helping cities develop sustainably.

DKO-A page **283**
DK Osseo-Asare is co-founder/principal of transatlantic architecture studio Low Design Office, based in Austin, Texas and Tema, Ghana. He is co-founder of pan-African open tech initiative Agbogbloshie Makerspace Platform. He is currently Assistant Professor of Architecture and Engineering design at Penn State University, where he runs the Humanitarian Materials Lab and serves as Associate Director of the Alliance for Education, Science, Engineering and Design with Africa. His research explores material assemblies optimised for massively scalable radical resilience.

FLL page **241**
Fernando Luiz Lara lived his life between Brazil and the USA, two large American countries that are more similar than both like to admit. In this journey he studied architecture at the Federal University of Minas Gerais and received a PhD from the University of Michigan. Prof Lara currently teaches at the University of Texas at Austin where he served as Chair of the Brazil Center (2012-2015) and now works as Director of the PhD Program in Architecture. Lara is the author of *Excepcionalidad del Modernismo Brasileño* (2019); The Rise of Popular Modernism in Brazil (2008); and co-author of Modern Architecture in Latin America: Art, Technology and Utopia (2015), among another hundred articles. Professor Fernando Luiz Lara is still struggling to decolonise himself.

FS page **205**
Finzi Saidi is the Acting Head of School and Unit 15X Larval Landscapes Unit Leader in the Graduate School of Architecture at the University of Johannesburg. His current research explores landscapes of public spaces in African cities through experimental and creative pedagogy.

GT page **349**
Gerald Titus is currently in his second year of the Master's programme at the Graduate School of Architecture at the University of Johannesburg. Originally from Namibia where he completed his

undergraduate studies, Gerald is interested in architecture as a transformative tool and is currently experimenting with drawing as a radical tool to expand the boundaries of the architect.

GC page **149**
Gustavo Crembil is an Associate Professor of Architecture at Rensselaer Polytechnic Institute. His work focuses on contemporary craft, initiating design studios on incremental housing, post- development contexts; hands-on workshops in contemporary craft (ceramics, weaving); and informal urbanism seminars.

GT page **227**
Guy Trangoš is a Doctor of Design Candidate at the Harvard University Graduate School of Design. He is a founding partner in Meshworks Architecture and Urbanism, and the co-editor of New Geographies 11: Extraterrestrial. His doctoral research investigates the infrastructural, spatial and political implications of large science projects on landscapes and society. Guy holds a MSc. in City Design and Social Science from the London School of Economics and Political Science, and a Master of Architecture (Professional) from the University of the Witwatersrand.

HT age **25**
Huda Tayob trained as an architect and architectural historian. She worked for SANAA in Tokyo and Rahul Mehrotra Architects in Mumbai before completing a PhD at the Bartlett School of Architecture, UCL. Her wider interests include a focus on minor and subaltern architectures, the politics of invisibility, and the potential of literature to respond to archival silences in architectural research. She is currently a senior lecturer and programme convenor for History, Theory and Criticism at the GSA, University of Johannesburg.

IL page **223**
Iain Low is Professor Emeritus at the University of Cape Town, where his research in the nomos of space and transformation is focused in the re-writing of architectural types for the decolonial state. After graduating from UCT, he moved to Lesotho before studying urban design on a Fulbright scholarship at Penn. He was Pew Fellow at the American Academy in Rome and is editor of the Digest of SA Architecture.

IM page **263**
Ivan Lopez Munuera is a New York-based scholar, critic, and curator working at the intersection of culture, technology, politics, and bodily practices in the modern period and on the global stage. Since 2015 he has been developing his dissertation at Princeton University on the architecture of HIV/AIDS.

JM page **205**
Jabu Makhubu is a lecturer, tutor and researcher in the Department of Architecture and the Graduate School of Architecture, University of Johannesburg. He is interested in the politics of space and in re-imagining urban public space in and around Johannesburg and the African continent at large. He holds a Master's degree in urban design from the University of Witwatersrand. He is interested in cities, people and politics, especially as these relate to issues around transformation in all its manifestations: physical, ecological and social.

JF page **125**
Joshua Feldman is originally from Johannesburg and has worked as a designer for offices around the world including Paragon Group in South Africa, Lekker Design in Singapore, and nArchitects and SHoP in the United States. He is currently employed as an architectural designer at Snøhetta in New York City where his work has focused on public projects. Joshua received his undergraduate

degree from Yale University and his master's degree from the Harvard Graduate School of Design, where he was the recipient of the 2016 James Templeton Kelley Prize..

KK page **71**
Kabage Karanja is an architect and cave enthusiast. He runs Cave_Bureau, a Nairobi based studio alongside Stella Mutegi, where they conduct research surveys into caves within the rift valley. Their work addresses the anthropological and geological context of the postcolonial African city, decoded through drawing, storytelling, construction, and the curation of performative events of resistance. Cave_bureau will be participating at the 17th International Architecture Exhibition, La Biennale di Venezia in 2021, recognised as the first recorded contribution from Kenya to this exhibition.

KM page **107**
Katlego Pleasure Mwale is a lecturer at the Department of Architecture, University of Botswana. Her research interests include the politics of heritage, the relationship of heritage to identity and everyday life practices. She is a registered architect with the Architectural Registration Board in Botswana (ARC) and an architectural heritage specialist.

KS page **49**
Kelly Shannon teaches landscape and urbanism and is Program Director of the Master of Human Settlements and Master of Urbanism at KU Leuven.

LL page **03**
Lesley Lokko is Professor and Dean of The Bernard and Anne Spitzer School of Architecture, CCNY. She was the founder and Director of the Graduate School of Architecture, University of Johannesburg from 2015 – 2019. She is editor-in-chief of FOLIO: Journal of Contemporary African Architecture and is on the Advisory Board of the London School of Architecture (LSA). She has been a on numerous international juries, including the Aga Khan Award for Architecture, the Venice Biennale, the Serpentine Pavillion and the RIBA President's Medals.

ML page **149**
Mae-ling Lokko is Assistant Professor of Architecture and Director of the Building Science Program at Rensselaer Polytechnic Institute. She is also the founder of Willow Technologies, a biomaterial technology company in Accra, Ghana that upcycles agricultural waste and emerging bioadhesives into high-performance, building material systems and for water quality applications.

MS page **327**
Mandy Shindler graduated from the Graduate School of Architecture (GSA) in 2018. After working in practice for two years, she began teaching at the GSA in Unit 15X, exploring her interests in gender, feminism, identity and architectural representation. Her work has been exhibited in New York and Johannesburg.

ML page **83**
Mark Lewis is an urban photographer based in Johannesburg. For the past ten years he has traversed the dense inner core and the constantly shifting edges of the City of Johannesburg. His images are an interplay between people and space. At root they are tales of lives carved in the search for economic opportunity and the stories of the impacts of those lives on the spatial fabric of the city. His work has been widely exhibited and published, and he has just completed the tenth book in the popular series of Johannesburg stories called 'Wake Up, This is Jo'burg' with writer and urban planner, Tanya Zack. This work formed part of the South African pavilion on the 2015 Venice Biennale.

MO page **145**
Mark Olweny is an architectural educator with a professional background in architecture and urban design. Mark completed his PhD at the Welsh School of Architecture, Cardiff University in which he explored the socialisation processes in architectural education. His current research interest is in the area of cultural environmental design, largely in the context of Sub-Saharan Africa.

MR page **173**
Mark Raymond is architect and educator. He studied at London's Architectural Association and has practiced, taught and lectured in the UK, Europe, the US and throughout the Caribbean. He completed his PhD through the RMIT invitational practice-based PhD programme in Barcelona and was recently appointed Director of the Graduate School of Architecture at the University of Johannesburg.

MS page **103**
Mark Shtanov studied architecture at the universities of Bath and Cambridge in the UK. Having also lived in Russia, France, Germany, Hong Kong and Nigeria, he presently works as an architect at TP Bennett, London and as a visiting professor at the SEK University in Ecuador. Mark's current research focus is on the overlap between architecture and waste management.

NJ page **355**
Ndumiso Jako is from the Eastern Cape. Through the hardships of his upbringing, moving from one place to another, he picked up a few things from the places his mother kept him while she was working — his love and interests of art and empathy for people drew him to architecture. This year he is currently taking a work internship to continue with his M2 in the future.

SdV page **97**
Sarah de Villiers has taught for three years at the Graduate School of Architecture, UJ, within Unit 14: Rogue Economies, concerned with emergent post-apartheid urban economies in Johannesburg. She currently leads Unit 18: Hyperreal Prototypes, together with Dr Huda Tayob ,which circumscribes notions of origins, truths and archive in architectural production. She has contributed as a founder and architect at Counterspace, an all-women architecture, installation and research firm in Johannesburg. Sarah's interests lie in spatio-economic practices, as well as elements which involve 'otherness' – particularly practices which embed themselves as unexpected systems, defying logics of surrounding scale, time, accessibilities, identity or broader policy environments.

SM page **363**
Senzo Mamba is a *bricoleur* and a graduate of the Graduate School of Architecture (GSA). His deepest interest is in material alchemy. He enjoys exploring with materials in a playful and innovative manner.

SS page **121**
Shahed Saleem is an architect and academic based in London. His book, 'The British Mosque; an architectural and social history', was published in 2018 by Historic England and is the first history of the mosque in Britain. Saleem teaches at a design studio at the University of Westminster and is an Honorary Research Fellow at the Bartlett School of Architecture. Both his design and research work centres on migrant and diaspora architecture and space-making, and he expands these to look at wider themes of heritage, significance and belonging in the urban environment.

SV page **97**
Sumayya Vally is founder and principal at Counterspace, an all-women architecture and research firm in Johannesburg. Her obsession for Johannesburg and her work around narrative, identity and memory in the city have admitted her into a host of conceptual and investigatory projects, including a position as assistant curator and film producer for La Biennale di Venezia 2014 (South African Pavilion). Sumayya has recently been selected as a finalist (top 3) for the Civitella Ranieri Foundation architecture residency prize (2019) and was a finalist for the Rolex Mentorship and Protege award (top 3), shortlisted to be mentored by Sir David Adjaye in the 2018/2019 cycle. She currently teaches at the Graduate School of Architecture, as Unit Leader of Unit 12, which focuses on finding design expression for issues of identity and contested territory. In 2020, Counterspace were announced as winners of the prestigious Serpentine Pavilion competition, the youngest-ever architects to be awarded the honour.

TZ page **83**
Tanya Zack grew up on the edge of inner city Johannesburg. She is an urban planner, writer and reflective practitioner who straddles the worlds of planning practice, policy, academia and creative writing. Her planning experience over 25 years in Johannesburg has included research and strategy development related to housing, informal settlement upgrading, community participation processes, the informal economy, migrant entrepreneurialism, and inner-city development. Tanya's curiosity and compulsion to collect stories have broadened the scope of her intrigue to personalities who inhabit the spaces not often exposed in literature about Johannesburg. She is the author of the series of ten photo books 'Wake Up, This is Jo'burg'.

TB page **07**
Tomà Berlanda is Professor of Architecture at the University of Cape Town. His research and practice focus on non-stereotypical readings of urban settings and landscapes in Eastern and Southern Africa. He has co-founded asa studio and astudio.space, two collaborative practices that have produced internationally recognised design work. His publications include Architectural Topographies (2014), and Interpreting Kigali (together with K. H. Smith, 2018).

TM page **371**
Tonia Murray is a Candidate Architect at Counterspace. Having recently completed her Master's in Architecture at the GSA, UJ (Unit 12) for which she is the current Research Assistant. Her work and interests surround theories of identity and liberation, stemming from her mixed-race background in a society obsessed with categorization.

WW page **49**
Wim Wambecq holds a PhD in Engineering Science, Architecture and combines his own design practice with research on the Zambezi River in Mozambique. He teaches design both at KU Leuven and ULisboa.

YL page **185**
Yashaen Luckan is an academic and practicing architect with a PhD in Architecture from the University of KwaZulu-Natal. His lived experiences have prompted a keen interest in the concepts of neo-humanism, humanistic urbanism and spatial transformation, which have added complexity to his position and attitude on the socio-economic role of architecture in the advancement of the potentialities of historically disadvantaged communities.

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radical
African cities
ingenuity
urban actors
story telling

Introduction

– Caroline Wanjiku Kihato

‘We, this people, on this small and drifting planet
Whose hands can strike with such abandon
That in a twinkling, life is sapped from the living
Yet those same hands can touch with such
healing, irresistible
Tenderness
That the haughty neck is happy to bow
And the proud back is glad to bend
Out of such chaos, of such contradiction
We learn that we are neither devils nor divines’[1]

[1] Maya Angelou. 1995. *A Brave and Startling Truth,* New York: Random House

This section explores what radical development might mean in contemporary African cities. Using fiction, allegory, ethnography, speculative and visual ways of story telling, the authors complicate typical representations of African cities. While disrupting dominant narratives of failure, they offer glimpses into the contradictions and complexities of urban life, and the fragile ways in which everyday survival is negotiated.

Taken together, these *radical* contributions depart from traditional ways of seeing African cities. All too often, urban scholars and policy makers discuss African cities as a manifestation of the failure of development where, unlike cities in the West, the evolutionary process of development has stalled, or been disrupted. To be sure, the dominant images that Africa's cities conjure are ones where the landscapes are rolling shantytowns; where rivulets of sewerage snake through cobbled-together homes, where the State has lost control and economies have failed. Africa's cities, it seems, tell a story of crisis. African cities do experience infrastructure, governance, financial and population challenges, but these are not the sum total of their experiences. Through their innovation, ingenuity and desire to survive, African urban actors are redefining the city, its artefacts and spaces, in ways that call us to rethink what we define as progress, development and success.

Through ordinary artefacts – the wall, building, infrastructure, plan, cave, and blueprint – the articles in this section pose critical questions about modernity, social divisions, capitalism, consumption, development and decay. For example, Zack and Lewis's *'They Eat Buildings: Revaluing a City's Carcass'*, uses the carcass as a heuristic to explore the ways ordinary city dwellers devour the city, sculpting it into a carcass that sustains and spawns life. Vally and de Villiers interrogate the wall, a ubiquitous architectural artefact that is imbued with multiple meanings. Using drone photographs, they explore the visible and invisible thresholds between classes, faiths, ethnicities and races in Johannesburg in ways that allow us to see how these are navigated, imagined and overcome. Wambecq, de Meulder and Shannon look critically at the devastating impact of development on the landscape of Tete – the largest city on the Zambezi river basin. Using a design research methodology, they reinterpret traditional practices, producing a landscape that recovers the city's ecology. Their development is not one of consumption, or devastation, but of recovery and the reproduction of space.

The articles in this section underscore the way creativity and multiple ways of seeing can present different ways of knowing the African city. From mosques to chimneys, infrastructures to caves, these stories explore the tensions between reality and imagination, present and past, aspiration and defeat in urban spaces.

Yet they do not judge. They leave the African city refreshingly open to successes and failures. In these narratives, to use Angelou's words, the African city is revealed as 'neither devil nor divine'.

KEYWORDS

infrastructures
informality
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Opaque Infrastructures

-Huda Tayob

Cape Town is frequently described in popular media as a racially white city that has seen minimal change since the end of apartheid. This is a view present in both local and international media. These descriptions range from anecdotes of the 'lily White' nature of the city, to more discursive accounts of the divisive relationship between the 'White' formal suburbs, and 'Black' informal peripheries (Polgreen, 2012c; Malala, 2012c; Wainwright, 2014c; Fikeni, 2014c). These popular depictions are mirrored by an academic discourse of Cape Town as a particularly divided city in contrast to Durban and Johannesburg, South Africa's other key urban centres. White areas are reiterated as spaces of wealth and possibility in contrast to black areas as spaces characterised by lack, immense poverty and informality; in short, the apartheid city is described as unchanged (Pieterse, 2009: 1-5; Heller and Ngqulunga, 2012: 198-214). This discourse was emphasised when I was a student of architecture at the University of Cape Town, along with the need for architects to respond to these spatial inequalities through design. Most notably, it was understood that the design and construction of urban spatial elements as public and architectural infrastructures were essential for the transformation of the city. This emphasis on infrastructure was to provide the essential urban building blocks for change, providing infrastructural services where previously absent[1] (Deckler et al, 2006; Dobson et al, 2009; Low, 2003: 223-246).

Projects considered exemplary included architecture *for* informality. Here, the discussion around informality refers both to upgrading informal settlements through strategic, cost-efficient public projects and the accommodation of informal traders in architectural infrastructures. In architectural practice, this largely takes the form of shading canopies, benches and ledges, and the provision of basic services such as water taps, sinks and electricity to accommodate and aid informal traders. This stripped down and minimalist architecture institutes an orthogonal geometry of pure primary forms into seemingly organic informal settlements. They are cheap to build, easy to maintain, and appropriated by users. However, many of these projects are simultaneously linked to the discourse on minimum standards and basic needs, where the infrastructure provided is largely about delivering the most basic physical provisions, and nothing more (Barac, 2007: 147-176). The user is a figure to be disciplined and formalised by this low-cost geometry. This general understanding of architectural infrastructure within the city is both limited and normative. It linked to the emphasis placed on built technical systems of transport, telecommunications, urban planning, energy and water

[1] Two projects considered particularly exemplary examples of public infrastructure are the Phillipi Public Transport Interchange in Cape Town and Metro Mall in Johannesburg.

– in other words, the infrastructure of modernist urban discourse (Chattopadhyay, 2012).

Through the ethnography of recent migrant markets in Cape Town, along with in-depth interviews, this essay argues for a broader understanding of both architecture and infrastructure in the city.[2] It suggests that the narrative of the divided and maintained apartheid city, lacking in infrastructure, has failed to recognise changes that have happened in Cape Town since the end of apartheid. It questions the forms of infrastructure in the city asking: what are existing alternative infrastructures? How do they operate at various scales? And what can they potentially offer both their inhabitants and the city as a whole?

This essay suggests that there are forms of infrastructure that operate at various architectural scales centred around migrant traders and their spatial negotiations, extending from the urban scale of the city down to the intimate spaces formed around the body. The use of the term 'infrastructure' offers a useful analytical lens for understanding the systemic spatiality of migrant traders, beyond a view of their localised setting in Cape Town (Xiang and Lindquist, 2014: S122-S148). It includes spaces and actors beyond national borders that facilitate, enable and necessitate mobility. These are rendered opaque as they lie outside dominant notions of both architecture and infrastructure in the city[3] (Spivak, 1988: 271-313), partially because they aren't seen through the dominant national lens. Furthermore, these are everyday spaces defined by the traders, not spaces designed by architects or professionals (Borden et al, 2000; Harris and Berke, 1997; Crawford et al, 2008). They extend beyond an infrastructure of people (Simone, 2008: 68-90) to draw extensively on existing physical infrastructures of electricity lines, water systems and roads, which they adopt, adapt and utilise beyond the ways that were initially intended.

Understanding the infrastructural spatiality allows an understanding of enabling and hindering systems at play. These infrastructures are largely invisible as a result of their informality. As a whole, this essay draws on Ananya Roy and Nezar AlSayyad's understanding of informality (AlSayyad and Roy, 2004) understood as a means through which differential spatial value is produced and managed by different actors This challenges the primary association of informality with slums or townships.[4] Consequently,

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[2] This essay is based on 11 months of extensive ethnographic research, with subsequent return visits between 2014 and 2016. This was in addition to 62 interviews and a review of newspaper and City of Cape Town legal records. Part of the ethnographic research involved drawing and mapping these markets and their socio-spatial manifestations.

[3] Following the writing of Gayatri Spivak, the subaltern 'cannot be heard' by intellectuals. As such, she lies beyond the limits of archival and ethnographic recognition and is present only as a disturbance in the archive.

[4] While the primary focus of this chapter is architectural infrastructures, the term 'informal' is used in various ways: it refers to the informal occupation of space along with informal trade, informal migrants, and informal networks. The fungible use of the term informal rests on the underlying premise that space is constituted through spatial practices, which includes inhabitation, adaptation, and trade within and of space.

this essay starts in the inner city of Cape Town. The ethnographic and interview-based research approach highlights the nuanced play between formality and informality as evident in everyday practices. This essay does not deny existing inequalities within the city of Cape Town, yet it argues that the spatial stories of migrant traders disrupt the metanarrative of the divided city. In contrast, this ethnography points to connections that are overlooked as new points of departure.

Black Bodies

Central to this essay is the figure of the black body of the migrant trader. Sarah Nuttall and Achille Mbembe have argued that the black migrant body is key to the formation of Johannesburg. They argue that southern hemispheric modernity, in general, is characterised by an 'underneath'. In the case of Johannesburg, this is the literal and physical underneath of the mining feet and drill holes which lie below the city, and are the spaces inhabited by the black body of the migrant worker (Nuttall and Mbembe, 2008: 1-33). This essay follows from this general premise. However, in contrast, I focus on the female migrant cross-border trader, a figure often absent from urban accounts. Informal trade in South Africa is primarily undertaken by women, particularly in survivalist and lower-end trade (Budlender, 2003: 4). Caroline Skinner argues that this is the case for the African continent and not only South Africa (Skinner, 2008: 1-38). Her view is shared by Caroline Wanjiku Kihato, who argues that current urban studies frameworks are not able to 'see' the critical role that women play on an everyday basis (Kihato, 2012: 349-362). This mirrors a wider trend of the feminisation of migrant labour (Lindquist et al, 2012: 7-19).

Here, I suggest that these women, as migrant cross-border traders, could be understood as a form of infrastructure operating at an architectural scale, and through the body. This is notable in that the various services offered and goods sold in migrant markets in and around Cape Town centre around the bodies that form part of broader systems. These cross-border bodies, largely female, facilitate the movements of goods across borders and render services as a result of their own movement. In writing about central Johannesburg, Abdoumaliq Simone argues for an expanded understanding of infrastructure to recognise that for marginalised groups an infrastructure of people is vital to survival. As an example, Simone cites the daily gathering of 'Ibo Nigerian-ness' where 'older men come to watch younger men, see what they are capable of' (Simone, 2008: 68-90). This performance is key to accessing jobs, trade networks and livelihoods, all of which are constantly negotiated and improvised. Following Simone's discussion of central Johannesburg, the processes of negotiation and improvisation undertaken by female migrants in Cape Town is a vital form of infrastructure of people. They draw on both formal infrastructures and on wider infrastructures of people related to histories of forced and circular migration. Yet through the personal and negotiated nature of the multiple crossings, these various forms

of infrastructures are rendered opaque. This is partly due to the informality of their trade and movement (they operate beyond city and national borders) and partly as a result of their transience. Their opacity is also related to the marginal nature of this population, doubly invisible as a result of being black and female (Spivak, 1996: 278-308). Thus, the central position of these women in trans-local trade, and as infrastructural, is belied by their opacity.

Cross-Borders

In January 2014 I undertook one month of preliminary research in Cape Town as a scoping exercise to gain an understanding of the urban and architectural negotiations of migrants, asylum seekers and refugees in the city. This initial exercise took me to various NGOs who work with these population groups. On one of these visits, I met T,[5] at the time a receptionist at a refugee support organisation. While waiting for my meeting, T was curious to hear more about my research interests. As I began to describe some of my initial research, she began telling me a bit about herself. I had spent the last two weeks visiting various organisations, and at that point was becoming particularly interested in market sites. T told me that she herself was a refugee. She claimed asylum in South Africa in 2008 as a political activist and worked as a seasonal street trader in Greenmarket Square in the city centre until 2010. This piqued my interest, and when I enquired further, she added that she used to be a 'cross-border'[6] and had taken over this trade from her mother. While the term is self-explanatory, this was the first time that I had heard it used to refer to a person who trades goods across borders, in most cases carrying these with her (T, 2014a).

In the previous weeks, I had been told that many of the market inhabitants were refugees or asylum seekers, and that almost all were from other parts of Africa. At that point, I was not aware that many of the goods were sourced through cross-borders. While I was beginning to realise the importance of informal market sites in general for new entrants, T clarified the centrality of cross-borders to these sites. Her narrative also helped me understand what porous borders mean in material and spatial terms and how these, in turn, have an impact on the markets in the city. Furthermore, apart from the centrality to livelihoods of these market sites, the importance and imbrication of these particular market sites in Cape Town with other cities and sites on the continent became evident.

Ananya Roy describes the process of what she calls the 'unmapping' of Bengal in describing the prevalence of informality and contestation in Calcutta. Through her research, she describes how a new set of questions emerged from her research such as *'what does it mean to have fluid and*

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[5] This research has received ethical approval from the UCL Research Ethics Committee (ID: 5505/001) and all data was collected and stored in accordance with the UK Data Protection Act 1998. Informed consent has been obtained from all participants in this research. In order to maintain the anonymity of interviewees, all names have been omitted or changed.

[6] She did not refer to herself as a 'cross-border trader', rather simply a 'cross-border'.

contested land boundaries; how does this establish the possibilities and limits of participating in such land games?' (Roy, 2004: 147-170). She points to how she began her research with an understanding of the centrality of mapping, yet how this was undermined in the field; in turn, new questions and concerns emerged relating to the 'unmapping' of the city. My conversations with T led to a similar series of new questions. Former discussions with Scalabrini and the Cape Town Refugee Centre had focused on the xenophobic violence against refugees and asylum seekers in Cape Town (Crush et al, 2015). T's narrative, by contrast, pointed to the more complex and longer temporality associated with being a refugee, asylum seeker or migrant in Cape Town. She led me to question assumptions about the nature of seemingly local informal trade and pointed to a new series of questions related to these localised and specific market sites, and to their broader networks and longer temporalities (Peberdy and Crush, 1998).

On this preliminary research trip, T took me on a tour around the city centre, introducing some of the market sites and traders. On returning for fieldwork, T showed me around again. These tours included some of the more visible street markets and openly accessible tourist markets, which I was somewhat familiar with, as well as the more inconspicuous wholesale markets, storage spaces and service spaces. Her two tours of these various sites, introductions, and numerous conversations were key to my access and understanding of migrant trade in the city (T, 2014b; T, 2015).

T's mother had been a preschool teacher. In the late 1980s, close to retirement age and in need of an additional income, she started out as a cross-border. At the time, she had family members who sold doilies and Java dresses (sometimes called 'Zambian' dresses which were made by David Whitehead) in the Eastern Cape. She joined these traders and began travelling from Mutare to Port Elizabeth. T's father had worked for the railways and her mother was therefore entitled to free travel by rail. This concession, reliant on the colonial infrastructures of the railway lines, arguably shaped the route of the journey and was essential for her initial mobility. Not long after starting out, she heard from friends who were cross-borders that Cape Town offered a new and better place of trade. This was the early 1990s and South Africa was changing rapidly; Cape Town in particular was experiencing a new surge of tourists interested in African arts and curios. Initially T's mother travelled to both sites, yet within months the curio and craft trade took over. In talking about cross-border work and her mother's earlier formal work as a teacher, T revealed the precarious nature of their situation in the late 1980s and early 1990s. The distance between Harare (where they moved in 1990) and Cape Town is at least one and a half days of travel overland. T noted that her mother spent at most one week in Cape Town before returning to Zimbabwe. T was in college at the time, but was having difficulty paying fees. She started helping her mother, initially travelling occasionally to provide assistance with transporting goods. Yet, following a particularly tiring trip to Cape Town, her mother, who was very ill at the time, was too weak to return and T was asked to travel in her place to help support her family. Her narrative points to the

lack of choice and precarity associated with becoming a cross-border. It was a form of trade that she began out of necessity, to earn an income and as a result of family responsibilities. In narrating this history, she also described how it is managed and maintained through generational family connections.

Larkin argues that infrastructures are the 'architecture for circulation' in that they provide the basis for modern societies to move things (Larkin, 2013: 328). In describing the process of travelling between Mutare and Port Elizabeth, and later Harare and Cape Town, T described the women as central to moving things between Zimbabwe and South Africa. This travel was initially by rail and later by bus. These cross-borders are central to particular sites, whether the markets in Cape Town where they provide goods or homes which provide the means of maintenance. When T took over the trade, she travelled to Cape Town once a month. She said, *'we could not stay long at home, because we were using the money, but there is no incoming money. So it forced me to come this side [to South Africa]. When I came, I would leave my mother without anything. Once I sold the first few things, the first bit of money I got, I would send back home, because they didn't have anything and they had used all their money for me to travel'* (T, 2014b). Here again, T's account reiterates the lack of choice in travelling back and forth, and simultaneously asserts the importance of being a cross-border to sustaining the livelihoods of her family. Through this narrative, she described the material, spatial and economic implications of her role. She told me that when she stayed in Cape Town for longer than one week, she would send money home regularly with those travelling back to Zimbabwe. She explicitly talked of the investment put into individual bodies to support whole families 'back home'. All of the family's savings were dedicated to her travel, on the expectation of returns. This is similar to Ash Amin's assertion that the urban poor invest both material and immaterial resources in the appropriation of formal infrastructures (Amin, 2014: 142). T was part of a larger system that relies on the formal infrastructure of the bus systems, trucks, roads, and border points, yet uses and manipulates these systems for the transportation of goods and to support a 'home'.

Malawi Market

On our second tour of the markets in the city centre, T introduced me to the Malawi Market and to E, a current cross-border. She too was from Zimbabwe and had worked in this trade since 1997. As with T's mother, she began selling Java dresses and doilies and later moved to curios and crafts. She began as a cross-border when she lost her formal, full time job in Zimbabwe in 1996.

The Malawi Market is in Cape Town's city centre. While the doorway stands physically ajar, this market is not usually open to outsiders. The space is a large open floor area, a former garage that is subdivided through occupation. This market primarily caters to cross-border women and their customers the many street traders who work in the various markets around the city. On a daily basis, the space hosts between twenty and thirty traders.

Figure 1: Malawi Market

Space is demarcated with a sheet of cloth or plastic on the ground, the goods and the presence of the trader. The women pay a daily rate of twenty Rands for access to their space, comprising of approximately two square metres. This minimal daily fee allows many of these transient women a base. There are no additional fees and no formal tenancy agreements. They can stay as long as necessary, which can vary from a few days to several months. Their occupation is flexible and they only pay for the days that they are physically present and using the space.

E had a regular, small space in this market every summer when tourists flock to the city. When I asked her how she managed the seasonal nature of the trade, she said that in winter she had 'other projects to do' (E, 2015) and that in addition to bringing goods to South Africa, she also returned to Zimbabwe with products. On every trip she took back several bags of second-hand clothes, blankets and buckets. She noted that key sites of her itinerary in Cape Town included Bellville and Nyanga Junction to buy these items. Since the mid-1990s Bellville has become a burgeoning site of pan-African trade, while Nyanga Junction is purportedly the largest second hand clothing market in this part of the country. During the winter, E would stock up on these goods and travel to Mashonaland in the north of Zimbabwe to sell the

items she took back with her. E's description of the various sites in her cross-border experience points to the broader infrastructural system which cross-borders are tied into across the city and continent, both formal and informal.

Filip De Boeck suggests that in the Congolese context, Simone's description of people as infrastructure is particularly relevant. Yet he asserts a greater importance should be placed on the body itself. He suggests that due to a lack of formal planning, infrastructures and built form, 'the body imposes its scale and its temporal relational logic onto the city. *The body's infrastructural importance becomes obvious, for example, through the ways in which private and intimate corporeal realms often reveal themselves to be the public stage par excellence'* (De Boeck, 2012). De Boeck is referring here to the visible importance of bodies in the absence of other physical forms. As such, he is referring to spatial practices and ways of using space. This is evident in cross-border trade, where there is a close physical proximity between the goods and trader throughout. It is also a central concern in Nyanga Junction, where built forms are minimal. Yet, I argue that despite the paucity of physical forms, the spaces and their materiality remain important to constructing an infrastructural space.

Nyanga Junction

Nyanga Junction is said to be the site of the largest second-hand clothing market in South Africa, and possibly Southern Africa. It is also one of Cape Town's informal peripheries mentioned at the outset of this essay. The market primarily occupies a large empty field, along with a pavement area to the northern side of the Nyanga Junction railway station. It relies on the accumulation of traders and is characterised by a density of multiple small spaces which are claimed and owned through their historic occupation. The material infrastructure of the site consists primarily of the field, along with bricks, plastic sheeting, mobile phones and movable plastic chairs. Unlike the Malawi Market, where materials can be stored overnight, these trading spaces are particularly transient. As such, there is a distinct temporality to these spaces. During the day, the field and pavements are transformed from empty spaces and passages for walking into a hive of activity, with traders selling their clothes to cross-borders and other customers. The field is primarily used for sorting clothes, while the pavement is largely used for selling to passers-by.

On the field, women put a piece of plastic or cloth on the ground and use this space to categorise the clothes into a series of large graded piles. In the late morning and early afternoon the space is filled with women sitting among these large mounds of clothes which are sometimes bigger than themselves. The importance of these women's bodies in creating this trading space echoes De Boeck's emphasis placed on the body. While there is a materiality to these sites, they are marked by a close proximity between the women and their goods. When they leave the site in the evening, they leave few traces.

The women selling clothes here are mostly South African, and they

Figure 2: Nyanga Junction

collect their items from around the Western Cape. While some are survivalist traders, interviews revealed that others have managed to put their children through university with their income from this site (V, 2015; M, 2015). Their customers, in turn, are largely cross-borders from Zimbabwe, Malawi and Namibia.[7] These include women such as E and T. There are also a sizeable number of West African traders and those who transport goods to other parts of the country and, they claim, the continent. The extent of these trading networks is striking when considering the low level of formal infrastructure evident in the market itself. A limited definition of the term 'infrastructure' has resulted in the representation of the area of Nyanga Junction as a site of urban decay and run-down. These cross-border networks instead suggest an alternative view, as they mirror other migrant networks evident in the city.

Opaque Infrastructures

In discussing the importance of people as infrastructure, Simone points to the process of what he calls incessant convertibility, *'turning commodities, found objects, resources and bodies into uses previously unimaginable or constrained'* (Simone, 2004: 410). The process, he says, can generate a coherent platform for social transaction and livelihoods. Following Simone, Nyanga Junction could be understood as operating through an infrastructure of people. While it is tentative and precarious, it is similarly a market that is created through second-hand resources, along with minimal materials of plastic sheets and bricks. It may be primarily serviced by a localised infrastructure of people, yet it is simultaneously and intimately linked into systems which extend throughout the city, the country and to parts of the continent.

In this discussion on cross-borders, infrastructure centres on the bodies

[7] For an earlier study of cross-border trader sites see: Peberdy, S. and Crush, J. 'Trading places: Cross-border traders and the South African Informal Sector', *Migration Policy Series, South African Migration Project*, vol 6, 1998.

Figure 4

of black female migrants. However, it is important to recognise the normative forms of infrastructure that are also drawn on. The individuals discussed in this chapter draw on high levels of formal and physical infrastructure that the city offers – running water, electricity, phone lines, and existing road and rail transport networks. They all cross legal border posts and frequently move between Cape Town's informal and formal sites. They operate in the city which offers good overland, air and sea connections. Therefore, while Simone's work emphasises the immaterial connections between bodies, this essay instead suggests that these networks extend into the manipulation of the physical architectonic fabric, particular materials, and spatial sites. Following Ash Amin, seeing these women as a form of infrastructure enables us to see how they enable and facilitate access to urban space. Through the concept of 'lively infrastructure,' Amin similarly calls our attention to the importance of infrastructure to other aspects of life, such as the right to the city. He draws our attention to the social and political aspects of all forms of infrastructure (Amin, 2014: 137-161). In a related yet contrasting approach, Swati Chattopadhyay too argues for an expanded understanding of infrastructure for subaltern populations by looking at the material and visual street cultures of Calcutta (Chattopadhyay, 2012). For these authors, infrastructure is not only about use, appropriation and manipulation, but the very real exchanges and changes that take place in cities.

In viewing these trade networks at various scales, from the intimate space of the sheet of plastic on the ground to the city wide network and continental spread, their infrastructural importance becomes apparent. A topographical reading of these sites independently might reveal local spaces of degradation and crisis. For this reason I suggest these women are rendered

opaque as infrastructures.[8] However, cross-scalar ethnography enables an alternative view: of various markets, storage spaces and residential accommodation in the city which have been appropriated, remade, reused and manipulated in ways that support and enable access for marginal populations to social mobility. Beyond an intra-urban comparison within Cape Town (McFarlane et al, 2017: 1393-1417), this infrastructural approach reveals the differences within the city, yet also points to how these spaces are crossed in everyday practices.[9] For Cape Town, these lines of mobility further question the narrative of the divided city, suggesting instead a story of negotiation between formal and informal and, perhaps most importantly, of possibilities for a different future.

Perhaps more significant, is the transnational nature of this trade, which points to the limits of city and national framings. Jennifer Robinson draws our attention to a bias within urban studies, where certain cities and spaces are 'off the map'. She notes that her *'primary concern, then, is with the persistence of a split between accounts of cities in countries which have been labelled "third world" and those in the "west"*. Put simply, the segregation is between cities which are captured through the rubric of 'developmentalism' (not [yet] cities) and cities which are thought through to produce (un/located) theory' (Robinson, 2002: 532). This assertion suggests that the local is not

Figure 5

[8] An International Labour Organization report from 2003 argues that over 70% of informal traders in South Africa are women; See Budlender, D., 'Street traders and their organisations in South Africa', *International Labour Organization*, Geneva, vol. 4, 2003.
[9] This understanding of everyday architecture draws most notably from the following anthologies: Borden, I. et al. *The Unknown City*. Cambridge, Mass, MIT Press, 2000; Harris, S. and Berke, D. (eds.), *Architecture of the Everyday*, New York, Princeton Architectural Press, 1997; Crawford, M. et al. (eds.), *Everyday Urbanism*, New York, The Monacelli Press, 2008.

necessarily more elementary. This essay reasserts this critical position, at various scales. Informal trade is primarily understood as both survivalist and localised in South Africa. Yet, as this essay illustrates, many of these sites exhibit a greater degree of complexity and entanglement. Many extend beyond the local, connecting to sites around the city, country and continent. At a city scale, this essay therefore questions the dominant narrative of limited change in post-apartheid Cape Town.

These opaque infrastructures offer us an alternative spatial understanding of Cape Town. They point to the importance of recognising the inventive and creative ways that people use, construct and adapt infrastructures within constraints; these infrastructures, while opaque, are in opposition to an imposed framework of minimum needs discourses. Importantly, they challenge and call into question the dichotomy of the formal and informal. Instead, they point to the need for a more nuanced understanding of everyday realities of cities, at various scales from the local to the transnational.

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KEYWORDS

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Maybe It Is By Sinking Into Gravity That You Can Fly

– Baerbel Mueller, in conversation with Faustin Linyekula

Reflecting on the theme of 'Radical Development' (in African cities), one name comes immediately to mind, one space, one city: Faustin Linyekula, *Studios Kabako*, Kisangani. Living, working, loving, inspiring and changing Kisangani – as a son of the city, an artist, a visionary, a dreamer, a strategist, an environmentalist, a father, a leader, and a collective. Some ten years ago, Linyekula outlined his presence in Kisangani as 'a dream to come true.' Today, he talks about 'an exercise of extreme will.' Over the last decade, *Studios Kabako*'s approach to Kisangani has resulted in a subtle but radical re-imagining of the ways in which a cultural institution might encounter and shape its host city. To do this, Linyekula has turned away from the traditional role and persona of the 'genuis' artist in favour of setting up alternative spaces and *modi operandi*, generating alternative futures, and in the process, alternative (urban) development. In conversation, it often appears that Faustin is echoing a certain reading of the DRC as a state that has 'lost control', and of African cities such as Kinshasa and Kisangani, that 'tell a story of crisis.' He has his own reasons for this, which are further covered in the conversation that follows, but at the same time, *Studios Kabako* counters this trope through its work and projects. Its urban, spatial, and social practices also imply a radically different understanding of 'development', which is rare within the fields of architecture, planning, or the development sector. Based on the notion of 'continuity', human and environmental topics and social challenges are addressed, powerfully asserting the idea that change and development should occur internally and through artistic processes.

Baerbel Mueller: *FOLIO is positioned within the fields of architecture, urbanism, and critical spatial discourse. When I thought about having this conversation with you, it felt inspiring to me that although you work from a different point of view within a different disciplinary context, there is, at the same time, a very strong urban, spatial and environmental component to your work. I would like you to talk about what the notion of 'radical development' means to you. I would also like to talk about* Studios Kabako *and its evolution in Kisangani: you went through an intense decade, and your interests and ambitions have changed as a result.*

Faustin Linyekula: When you look at what we are doing in Kisangani, you might say or think that it is part of a strategy – or rather, a grand plan – but actually, it is not. It's really a question of just responding to my needs at that particular moment and so everything grows out of personal necessity. If there is one question that could sum it all up, it would be: How do I make it possible for myself and for those I care about to live and work here? All this really

grows out of a sense of responsibility. So here I am in this space, which is mainly in ruins – physical ruins of course – but that is not the most tragic part of it all. For me, the real tragedy is the ruin inside us, inside the people. So of course I can point fingers, and that is a necessary step to take, because we need to name those who are responsible for these ruins. But the next question is: What can I do about it? How do I make it possible from within these ruins for me to continue dreaming, to continue working, to continue living, without feeling like a victim?

And along the way, with this question of taking responsibility and inventing my own answers to our context, maybe that is where the notion of 'development' would come. In this part of the world when we talk of development, the model that has been in place for the past 130-plus years has been that development means being like the West. So, somehow, it has led to an entire people giving up their own sense of responsibility towards themselves, and towards the space around them. The very model of whom we are supposed to become is not invented, it is someone else's vision of us that we have internalised, and we want to reproduce that. Therefore we always feel that we don't have the tools, because we don't really know what those are or how to use them, so we need NGOs to come and tell us what should be done. And if not NGOs, or the UN, we need the government to come and tell us; so decades of dictatorship have led to that total alienation of our sense of responsibility towards ourselves.

When I say inventing our own solutions, it is about understanding deeply what led to the solutions that were developed elsewhere and seeing how these answers, which are only answers to certain questions in specific contexts, can help me to think about my own context and to figure out my own answers. It is the same thing I say about dance technique: I look at any dance technique as only an answer to a physical problem. For instance, when confronted with the question of how to deal with gravity, the answer from the inventors of classical ballet in Europe was to defy it, with attempts to fly. So they go on pointe, they lift themselves to become light. And there are other parts of the world where the answer was just the opposite, as if sinking into gravity. And maybe it is by sinking into gravity that you can fly.

BM: *I don't feel comfortable with the word 'development' itself and would rather use 'processes', 'transformation', or 'change'. Development per se occurs over time, therefore the notion of 'continuity' is so crucial, which I strongly see in your work, but which is hardly applied to the term 'development'. And when I criticise the imported or imposed Western model of development, it is also because it implies a judgment. Solutions are brought to a particular context, implemented and monitored for a while, and then those responsible invariably depart, leaving behind a solution that either cannot be adequately maintained or wasn't wanted in the first place. So, again, it is this top down, outward, neoliberal, even neo-colonial approach that has been shown to fail time and time again. Since the turn towards a more (so-called) 'socially responsible' approach in architecture, paradoxically, this approach appears to be blossoming.*

But you came to Kisangani as an artist, as well as a citizen, and had the intention to work in your medium of expression. And then there were urgent social needs in your immediate context and you began using your discipline to support and drive change. Your projects became catalysts to empower people to make changes in their lives, and to open up sustainable perspectives. So, you generate artistic work, knowledge production, and a social impact from within and for your specific context.

FL: In 2001, when I decided to go back to Congo, it was because I realised that the stories that I need to tell are not from exile. Definitely it was clear that what I needed was a space that I could share with others, making work as a way of being with others, dreaming with others, doubting together, imagining things together. But the human, as well as the physical infrastructure to support this work simply did not exist. So I took responsibility for that and started training people. But immediately I realised that if I approach this the way dancers' training is organised in Europe, it cannot work. The socioeconomic context is so fragile that for people to believe in this thing, they need to see that they can make money out of it. I have chosen the people I work with because of their strong personalities; they didn't have the technical tools for doing this type of work. So it means accepting to embark on a long-term journey, to create a context for them to believe in and to invest a few years of their lives. From day one, there is nothing stronger for showing respect, than proposing to someone a clear contract with a clear remuneration. Okay, I'm a dancer, how much do I make? Maybe at the beginning they didn't care about dance. But we set this mechanism in place to shift the approach of making work. It is really about the people – we make work as a way of getting around the technical deficiencies of my collaborators, but as we are doing that we are building the technical ground.

Soon I realised that I cannot generate enough work to sustain them all the time. What do we do? Well, we need to encourage them to make their own work under the umbrella of *Studios Kabako*. How do we fund this? We use the money we make from touring co-productions. But as we are doing that, there are examples of projects that started and couldn't continue because of the funding situation. How do we make sure that we don't rely on this funding? So it becomes all about living within our means and making it possible for us to work with what we have, without sacrificing artistic or aesthetic ambition. We really have to rethink our relationship to the economy of art making. As an example, *Le Cargo* is the piece that probably made the most money for *Studios Kabako*: it cost 2,500 Euros to produce, that's all. But it's not because it 'only' cost 2,500 Euros that I cannot be as ambitious as any of my colleagues in the world. We need to understand where we are and to work within our economic reality and dream from that. You don't wait for the day you will have: you live your life with what you have, you dream with what you have.

BM: *And it all turns out to be part of a real socioeconomic life cycle, your dance is not an extra, and the clean drinking water is not a surplus, but it is embedded.*

FL: Definitely, because my dance is my life and my life is my dance. So it is just not possible to separate what I do as an artist from my space as a citizen, and these need to work together for it to make sense. Solutions started really going beyond the artistic interventions, beyond making work and sharing it with an audience. How do we live together, how do we share space without oversharing it? Is it possible to dream together in today's world? Maybe every piece is just an attempt to answer some of these questions in a poetic manner. It's endless. It's tiring. But it is also exciting because the whole project is a constant shifting proposition to find a way of living, working, dreaming in a specific place.

BM: *And if you want to decolonise that whole situation and the notion of development, then you really need to start from identifying who I am and what I want. And if you say 'no, we refuse to repeat what is there on the market, and we don't accept that just raising funds is enough to implement a project,' then you cannot start on a purely infrastructural level, but on a much deeper one, which is the arts.*

FL: Yes, we only do that. And how can we share that incredible body of knowledge that artists have developed, as strategies to answer needs, while still maintaining very high ambitions? Ambition not in terms of career, but in terms of vision, and how can we share more of that with our societies?

BM: *Later in Lubunga you wanted to connect to the community and you felt that the most urgent question was that of clean drinking water, which is an infrastructural and very down-to-earth necessity. So there the need or lack was the starting point. You read the water topic as a vehicle some five years ago, and then, watching what you have done there, it went from a kind of authorship to authorships and then to real participation, which has led to some kind of empowerment.*

FL: Even in Lubunga, it was first of all about arts: art as a space where we can face our fears, our hopes, our dreams . . . where we can re-imagine who we are, imagine whom we want to become, and renegotiate with ourselves. But that is when I started really getting interested in this notion of 'development', for lack of a better term, Lubunga being the most neglected part of the city where you have almost no public investment in anything. It's probably in such a place that we need the biggest leap of imagination to even dream of changing our lives. And I'd like to show my work everywhere, but it is really a necessity to

show it in this place, more than anywhere else, because it is the most fragile. *Studios Kabako* is meant to be a physical space in Lubunga. And we need to have some basic comfort to be able to work there, we need to have some electricity, and we need to have clean water for ourselves, because it's not economically viable to be buying water all the time. But it can be shared, and then maybe it can begin to provide some income to *Studios Kabako*. So everything is connected: being independent, being autonomous, financially as well. When we started researching these questions, the smallest scale of experimentation has always been my own house in Kisangani. We have tap water in that part of the city, but it is definitely not clean. I can't give that to my children. So you research and you find solutions, such as microfiber filtration and all that. Could this be replicated on a larger scale in Lubunga? And before getting there, should we look a bit more at what is really going on here? That was the mapping project we did together five years ago, which really helped us understand the drinking water situation in Lubunga with its population of about 200,000. We realised that actually producing clean water is not necessarily the most expensive. We may not be able to give water to 200,000 plus people, but maybe it would be possible for us to produce water for 10,000 people. You get to the point where it doesn't make a big difference whether you produce water for just 200 people, or 10,000 people. So you would spend twice as much, but not 50 times as much to produce. But this is a service, it costs money, it is not a gift from an NGO.

What would be the model? That is when I started researching the social entrepreneurial movement which is in an interesting relationship to the so called development work, in that you start a project not primarily for profit, but because you feel there is a need that needs to be taken care of. But for it to be sustainable, people have to feel that what they pay for it is very fair. They should actually see that the primary motivation is not to make money, but that making money is necessary to sustain the project. We took time to talk to people; we had a lot of meetings to explain what we wanted to do, but also to just ask them how much they could pay for such a service. It led to heated debate amongst themselves, and this debate made it part of the end consumers' concerns. So, we got to this price together, to that middle ground.

Gradually, we start looking at ourselves as social entrepreneurs and then ultimately, it's all about how we look at ourselves and how we imagine and invent solutions to our problems, which we always do as artists. When I look at how artists on the African continent deal with their problems, it's exactly the opposite of the NGO mentality. So, maybe, if artists shared a bit more of their practice with the rest of the population, not to make them artists, but to help them imagine solutions with what they have, this could be the first step, really. Knowing that no solution is permanent because people change and contexts change and we need to be ready to adapt and to anticipate the changes sometimes.

With that in mind, and given the poor state of our educational system, *Studios Kabako* is also meant to be a resource place with educational material. So at first it was just supposed to be an arts centre but I want to have meaningful conversations with my audience, so let's create a platform where

they can deepen some of their own questions and they can have tools to help them devise answers. So if we work with young people, and they have digital technology in their own hands and they learn how to question their own image of themselves and are able to answer 'why do I want to portray myself in this way and not that way,' that could be a first step already.

BM: *I found something interesting reading through the Universal Declaration of Human Rights (www.un.org). Article 25 is 'a right to standard of living adequate to the health and well-being ,' Article 26 says that 'everyone has the right to education,' and Article 27 is 'everyone has the right freely to participate in the cultural life of the community, to enjoy the arts, and to share in scientific advancement and its benefits.' So I was really surprised to find access to basic infrastructure, to education, and to the arts and sciences in a row, because they are related. And that is exactly what you do, that is somehow your circle now. It was only in 2010 that the UN General Assembly and the Human Rights Council explicitly recognised the human right to water and sanitation.*[1] *They are all violated anyway, but when we talk about such big topics as 'radical' development, they should at least be mentioned.*

FL: I can't remember who said that without a minimum of material wellbeing we cannot really dream of becoming more human. Because if we are starving we spend all our energy just trying to get food. It's impossible to lift ourselves out of this animal-like condition. So we need to establish a basic degree of wellbeing, which again will be different from one context to another, but at least I know that if I have access to water that will not make me sick; I can have access to food which will help me build my immune system, and I can get treated for malaria if I'm confronted with that. And I can send my children to schools where they will learn to think for themselves and not just reproduce things and then again have spaces to share this world of imagination, the world of the arts; I think that's the most important. Do they learn under a tree? It doesn't matter. Do they have to go to get that water? If they don't have water inside their own home, do they have to walk for ten minutes to get it? Maybe that's secondary. It's a long, step by step process, but you need to have a certain degree of comfort, material comfort, and wellbeing to begin projecting yourself to another level.

BM: *When we started working together I was really interested in the notion of time in architecture, in temporary structures, mobile interventions, and then you gave this sentence to me, which, ever since I have in mind when starting a project. It was: 'If my frame is not solid enough it cannot withstand all the winds coming from outside.' This was a long time ago, but your work is based on continuity somehow, so how do you see this statement now after 10 years?*

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[1] United Nations Department of Economic and Social Affairs, *International Decade for Action 'WATER FOR LIFE' 2005-2015* [website], http://www.un.org/waterforlifedecade/human_right_to_water.html

FL: It's still very topical. Maybe also because everything is so shaky and fragile in the DRC and in our city that sometimes we just feel the need to have something we can hold onto. But at the same time it doesn't mean that these solid structures cannot shift. So it's about making structures that are solid enough to resist this outside pressure, but open enough to evolve as well. And again, I take as a model my own processes as an artist. The moment I start a new piece, I've worked really a lot alone before inviting my other collaborators to come on board, and I've worked a lot to prepare the ground and to anticipate problems and questions and all that. So by the time I begin the rehearsal process, I'm really standing on solid ground – solid enough for me not to be shaken by the crises that are inevitable in any process. But at the same time, if I'm listening enough, I can see how the material I am dealing with – the space and, above all, the human material – can help me actually go beyond what I'd imagined. And so it is about preparing really solid ground, but remaining open to shifting this thing.

BM: *As a dancer you always start from the human body. In Kisangani you became interested in the scale of the city. And later you've been also working in other cities – like here in Lisbon – on an urban level, but from the individual. You've been interested in this notion of urban acupuncture. If we look at scale: in your work, you start from the individual and the human body and go from there to the urban scale, approaching it in this direction, rather than the 20th century, top-down, urban planning perspective. It has been somehow provocative that I, as an architect, started projects from the human body and not from the scale of 1:200 already some 16 years ago. I have been thinking about spatial and programmatic waypoints which do something and radiate, with catalytic effects on the urban fabric, but what you talk about mostly is the tension between them, doing something somewhere that affects the other edge of the system or the organism.*

FL: Approaching all this from the perspective of a dancer has been my guiding compass. Dance is about creating space for the body, or with the body, and this space begins within the body. How do I connect an impulse that goes from my knee to my shoulder and be very clear about how it circulates? So, when I'm dancing, if I take care of this space and this channel, I can start sculpting the space around me and open it up. It is the internal architecture of the body and then how my body relates to other bodies. What is the space between us? How much space do we create? It keeps shifting and moving. It is about finding your space and shifting it, morphing it, being aware of the space between your body and other dancers' bodies, but also your body and the audience's body, and sculpting with that to provoke a journey. Therefore, I think I'm approaching all this work really from that point where it's about clarifying the circulation within myself and then seeing how I can relate to the world outside there. It can be the small stage but it can also be a city. And when we talk of shifting from the building into that of a relationship, if every courtyard in the city is a potential stage, how do I inscribe my body in

there? And because we were talking about acupuncture, I also think in terms of the city, and how this courtyard could eventually connect with that other one there, through the circulation of the bodies? So it's about making spaces, creating spaces, finding spaces.

Is it possible to dream of impact at the scale of a city? The first five years *Studios Kabako* were based in Kinshasa. But that city is too big, and I started reflecting on the hyper centralisation of public life in that country – it seemed as if outside of Kinshasa there was no possible salvation. Would it be possible to work from Kisangani? And then, in Kisangani, how would we have an impact on the scale of a city? What I used to repeat was that *Studios Kabako* is first of all a mental space, but maybe having a physical space was really important to house all these dreams that had been developed, but also for this city, for the people in the city, to connect with us through a physical space. Then the two of us met and when I first heard you talk of architecture as acupuncture, I thought that this is the right way to approach our presence in the city. It gave me a possible answer to this risk of centralisation, which led me to leave Kinshasa and go to Kisangani to de-centralise. It would be a shame to go to Kisangani and re-centralise, so let's make life difficult for ourselves and develop *Studios Kabako* as a network of several spaces within the larger urban space, where the work is actually getting people and ideas to circulate.

BM: *Is there a word for development in Swahili or Lingala?*

FL: In Swahili we say *mindalayo*, but literally I translate *mindalayo* by 'continuation,' *koandelaya* means 'to continue.' I never thought about it like that, but right now, I realise *mindalayo* means continuation — that's the word that is used for development!

BM: *I spoke of 'development through continuity' in regards to your work, and now the Swahili proves it!*

KEYWORDS

Tete
Zambezi
open canopy forest
landscape urbanism

Settling with and within an Open Canopy Forest: a Landscape Urbanism Proposition for the Semi-arid Savannah of the Lower Zambezi River Basin around Tete (Mozambique)

– Bruno de Meulder, Kelly Shannon, Wim Wambecq

Tete is located in the interior of Mozambique and is embedded in a majestic semi-arid savannah landscape with scrublands and thin, open canopy forests that constitute two ecotones (Figure 1). The miombo woodlands (dominated by the *Brachystegia* and *Julbernardia genii* tree species) occupy areas of higher precipitation and altitude while mopane woodlands (with *Colophospermum* mopane trees) are found in lower elevations (Sedano, Silva et al, 2016). Monumental *baobab* trees *(embondeiro, Adansonia digitata)* regularly dot the territory as vegetal markers - usually not more than 20 meters high, but with trunks up to 10 meters in diameter. They can live for 2,000 years and store up to 120,000 litres of water in their massive trunks; they are places where the spirits of ancestors *(mhondoros)* are called and therefore considered sacred (Figure 2). During the country's war-torn past, they became known as places of sanctuary, offering protection to those fleeing persecution and violence (Isaacman and Morton, 2012). Settlements blanket the semi-arid acacia scrubland leaving almost no place untouched, while at the same time there is the deceitful impression of a pristine landscape. This is largely due to a way of living with and within the landscape. Landscape transformation results from incremental appropriation rather than from intentional intervention. The low density (28 inhabitants/km2) is remarkable in relation to its sheer omnipresent occupation of the landscape. In hindsight, this is logical considering the thin distribution of resources. Livelihoods simply require large surfaces (Figure 3).

Foundational Logics

Tete is as a commercial transit town along the Zambezi River, serving both small to medium-scale inland water transport and through the main landbound trade routes towards the *Monomotapa* in the interior (Newitt, 1995). In Tete, the bridges over the Zambezi are the last crossings for hundreds of kilometres upstream. The bridges are relatively recent, the first dating from the end of the Portuguese colonial regime (1972) that was unsuccessfully legitimised by large-scale development projects. A substantial part of Tete's modernist patrimony dates from the feverish era of artificially induced development. The second, Kassuende Bridge, was completed in 2014,

Figure 1

in the wake of the large-scale coal mining operations that fuelled renewed expectations of development.

The Zambezi has been a symbol of development potential since the times of exploration and colonialism. Ever since then, development has been inherently conceived as a mode induced by exogenous forces, whether colonial or international. In reality, the Zambezi barely affects the semi-arid region it traverses, leaving it relatively unaffected by modernisation. Despite its role in the independence war, *'Tete remained (…) a kind of periphery within the periphery. After independence in 1975, (…) the province continued to reside on the edges of postcolonial modernity'* (Kirshner and Power, 2015). Independence quickly turned into civil war, ending only in 1992 with a peace agreement between Frelimo *(Frente de Libertação de Moçambique)* and Renamo *(Resistência Nacional Moçambicana)*. Peace was followed by sweeping economic restructuring, which was soon dominated by international agencies (Jenkins, 2003) and a strong market orientation. The African socialist policies of the seventies indeed quickly lost precedence.

From 2004 onwards, large-scale coal mines, run by international corporations, such as Vale and ICVL, reached operational status (Figure 4). The new industry catalysed infrastructural development (the Kassuende Bridge, asphalted roads, railway lines) mainly to export coal, and induced a massive labour influx and regional growth. At the same time, the infrastructure opened up the region and the pseudo pristine region suddenly found itself at a crucial turning point. The increased and ill-considered exploitation of natural resources distorts the environment. Forests are not merely used to collect wood for fuel and charcoal production, but explicitly cleared at an industrial scale for export (and hardly replanted). Water quality is substantially reduced. Waste disposal is absent while, at the same time, urbanisation is exponentially increasing. Subsistence agriculture and indigenous settlement in the region are threatened

Figure 2

Figure 3

Figure 4

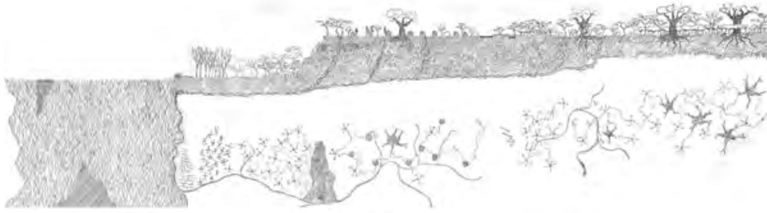
Figure 5

Figure 6

Traditionally, settlements loosely aggregate extended family compounds and are embedded within the thin open canopy forest. Recent investments in housing enclaves, asphalted roads and superimposed street grids create a strong contrast, as if endogenous and exogenous development inherently results in oppositional forms (Figure 5). Large engineered interventions such as the late colonial Cahora Bassa Dam (1974) radically transformed the landscape and significantly altered the Zambezi's flow regime. The river basin lost its rhythm of the usual rainy season flooding which brought nutrients and sediments and now experiences longer dry seasons and extended droughts. It simultaneously suffers from periods of intensive flooding related to tropical cyclones. To add insult to injury, from time to time and without notice, the dam discharges large water volumes. Unsurprisingly, this has all severely affected local livelihoods of farmers and fishermen (Isaacman and Morton, 2012). The Cahora Bassa, a *'colonial security project disguised as development'* (Isaacman and Morton, 2012) is one of the ecologically most devastating dams in Africa. It displaced 30,000 rural inhabitants from their homelands into strategic hamlets *(aldeamentos)* during its construction and the region's rural population has not profited from it. Production is simply exported to South Africa. Since then and until today - as with speculative mining operations, for example - modernisation projects are identified with large-scale displacement, depressing resettlements, livelihood devastation and environmental destruction. Nonetheless, the Zambezi compulsively dominates all 'imagineering' of future development (Figure 6).

In summary, until today, the promise of development, at least from the viewpoint of most of its region's inhabitants, remains a *fata morgan*a. Development objectives and achievements are mainly defined by international agencies, such as the extractive industry and its external, international operators, with the support of the State and do not trickle down to the local population. It is easy to understand that the disruption of landscape structures, destruction of livelihoods and displacement of populations has devastating effects.

Contested Territories

Population growth increases pressure on scarce resources in the already stressed open canopy forests of Tete province which, in turn, fuels urban migration. In this sense, Tete exemplifies the current situation in Southern Africa. Its post-colonial heritage includes widespread economic instability, heightened struggles over resources and a tense political context. The majestic, thin and open canopy forest at first sight radiates peace and quiet. In reality, it is full of life and marked by the dramatic shocks undergone by the society it hosts: colonialism, liberation war and the late colonial interventions, including the Cahora Bassa Dam with its massive dislocation, post-1975 socialist land policies and rural villagisation (1977-83) and protracted and low intensity civil war (1977-92) (Figure 7). Most recently, the region has suffered from the consequences of the commitment to privatise State assets — the

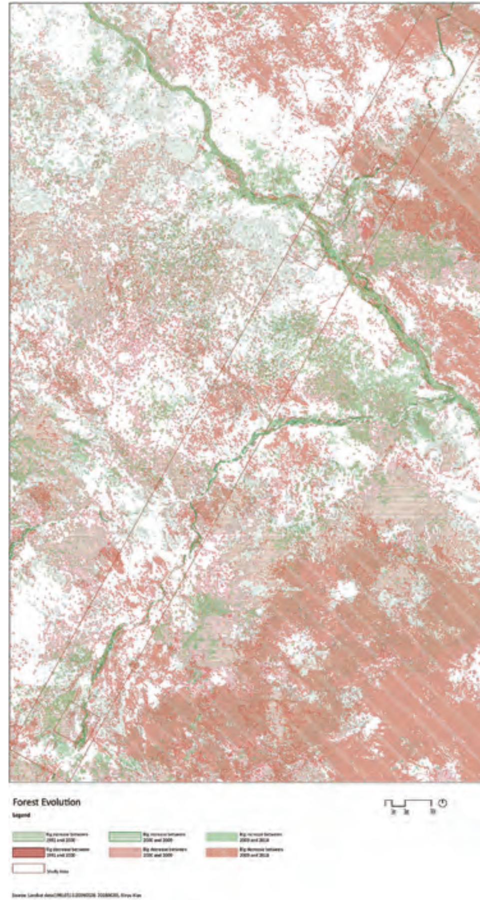

Figure 7

neoliberal expropriation sold as integration into the global market. Tete province counts more land given in concession for mining than not.
In the Tete itself, indigenous traditions of living with the land have been juxtaposed with urban legacies of Portuguese colonisation which, in turn, are overrun by contemporary mining staff enclaves that appear as a hybrid of camps and bungalow parks. In the slipstream, spontaneous urbanisation runs rampant. There is no balance between the local tradition of compound building amidst trees and contemporary aspirations of modern bungalows in concrete. Oscillating between communal and socialist land nationalisation on the one hand, and expropriation and privatisation on the other hand, land tenure and its physical articulation has a major impact on urbanisation and

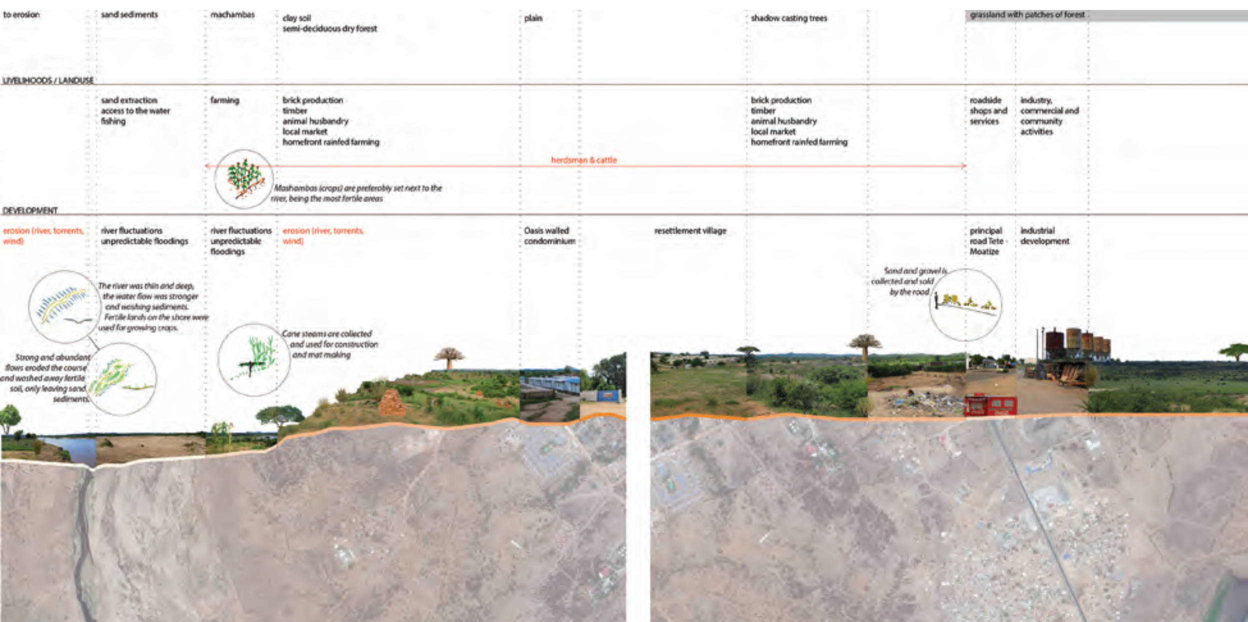

Figure 8

its forms. Contemporary plots are more often than not fenced and walled. Traditional homesteads settle in the open canopy forest landscape. The city becomes an idiosyncratic assemblage that mixes both systems in the maelstrom of construction that overwhelms the territory.

Almost without exception, exogenous investments in enclaves colonise the plateaus between the Zambezi's tributaries. New developments usually organise grids (but seldom pave the roads), erect fences and walls, connect (sometimes partially) to hard-engineered but often intermittent water supply and electricity grids and install air conditioning that may function only sporadically. In many regards, they are zero degree reproductions of the colonial European city, the *cidado de cimento* (without the asphalted roads). Local development cannot afford the regulated city-in-the-making on the plateaus and consequently overwhelms the slopes between plateaus and river-beds, absorbing original settlements along river embankments, disrupting thin forests and opening new routes to ever increasing erosion. Erosion carves smooth passages to the riverbeds that remain the daily water resource for settlements on the slopes. Boundaries in the rural settlements are mostly dynamic, blurred and defined by trees and other vegetation rather than by built elements, although watering places for cattle are significant markers; fences are an exception in the landscape. The urban settlements on the slopes are commonly labelled as *bairros* (informal city) (Diamantini, Geneletti et al., 2011). Density on the plateaus is low and development relatively slow (remaining 'emergent' urbanity for a very long time) while on the slopes it is

higher and rapidly increasing (Figure 8). Most households attracted to Tete, with the expectation of development, can indeed not afford the formal plateau grids. Services on the slope are only a very vague expectation for the faraway future. In this way, colonial disparities are reproduced.

Throughout the region, there is a growing disparity of living conditions between the city and the countryside, as well as within the city between the *cidade de cimento* and the *bairros*, and in the countryside itself, between the plateau enclaves and the settlements on the slopes. In general, poverty reigns. Most of Mozambique's smallholder farmers rely heavily on rain fed agriculture and have limited use of irrigation, chemical fertilisers and pesticides. They tend to produce enough food to feed their families for less than eight months a year; they are 'deficit producers,' selling quantities after harvest and buying food when prices are higher (Cunguara and Hanlon, 2012). Upland hill farmers grow sorghum and maize in the rainy season and many raise cattle and goats. Those near the Zambezi can harvest maize and vegetables as well in the dry season if the unannounced flash floods from the dam do not intervene.

Framing the Territory by a Transect

From February-June 2018, 15 international post-graduate students and Mozambican graduate students[1] tackled the vast array of contemporary challenges in the Tete region. The landscape urbanism investigations were co-conducted by Universidade Zambeze (Mozambique) and OSA-KU Leuven (Belgium). Design research was carried out on a representative transect (a 10 km x 125 km strip) of the territory, stretching from Luenha (on the Revuboe River), passing through Tete (on the Zambezi River) and reaching Moatize (on the Revuboe and Moatize Rivers and site of the Vale mining concession) (Figure 9). There was a nuanced reading of the landscape followed by projections of possible future occupation (Figure 10). The transect crosses the semi-arid savannah landscape and exemplifies natural and cultural landscape dynamics: persistent drought, massive erosion and recurrent flooding events that all are predicted to increase under the influence of climate change. The emerging, but already omnipresent and highly disruptive coal mining industry, new hydroelectric dams and other development projects place the ecology of the Zambezi Basin at further risk of compromise (Kirshner and Power, 2015).

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[1] The project discussed in this paper has been elaborated as part of the South Initiative initiated by OSA-KU Leuven in cooperation with Universidade Zambeze (Mozambique). Major input was generated by the landscape urbanism studio co-organised by the Master of Human Settlements and the Master of Urbanism and Strategic Planning on Tete (Spring semester 2017-2018) directed by K. Shannon and studio instructors E. Barbosa, B. De Meulder and W. Wambecq. The studio participants were Maher Nimer Moh'd Al Abed, Marlies Aerts, Rayan Al Ghareeb, Alfredo Manhota Antonio, Xavier Ordoñez Carpio, Nathan De Feyter, Clara Medina Garcia, Elis Locia Matchowani Mavis, David Djenga Muiruri, Nadia Nusrat, Julia de Souza Campos Paiva, Thuy Nguyen Thi, Valentina Tridello, Xinyu Xiao, Huazhou Ye and Vincent Van Praet who developed a separate track as an undergraduate thesis.

Figure 9

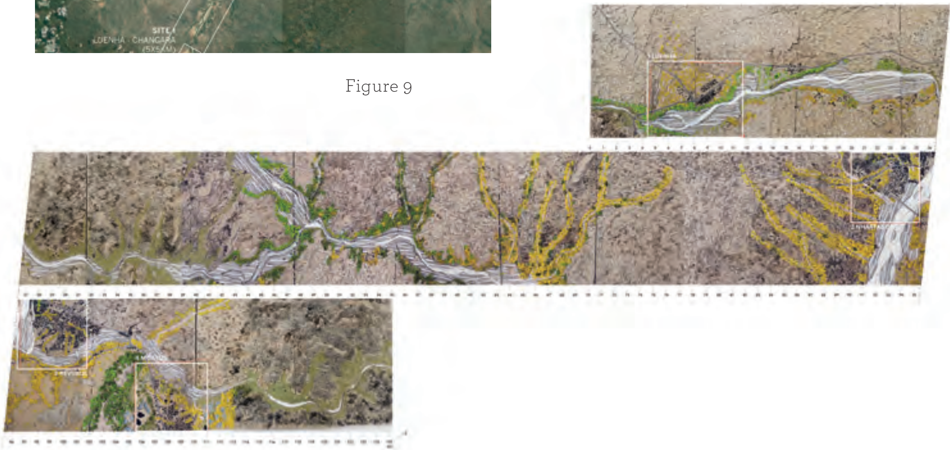


Figure 10

The design research investigated the modes of occupation in the dynamic landscape that oscillate between condominiums for mining technicians and nearly complete immersion of village life within the natural environment for the mass of the population. Traditional settlements are inscribed within the dynamics of self-renewing ecologies that the savannah forests of the region offer. The largest part of the population is highly dependent on the resourcefulness of the landscape (self-reproducing, but nowadays very stressed). The aforementioned dynamics imply that living conditions will become significantly harsher in the future. Livelihoods are fundamentally disrupted by factors such as climate change, overgrazing and other effects of intensified use, massive deforestation and invasive mining industries, including the dramatic erosion that is generated through these processes, beginning with major impacts on water security.

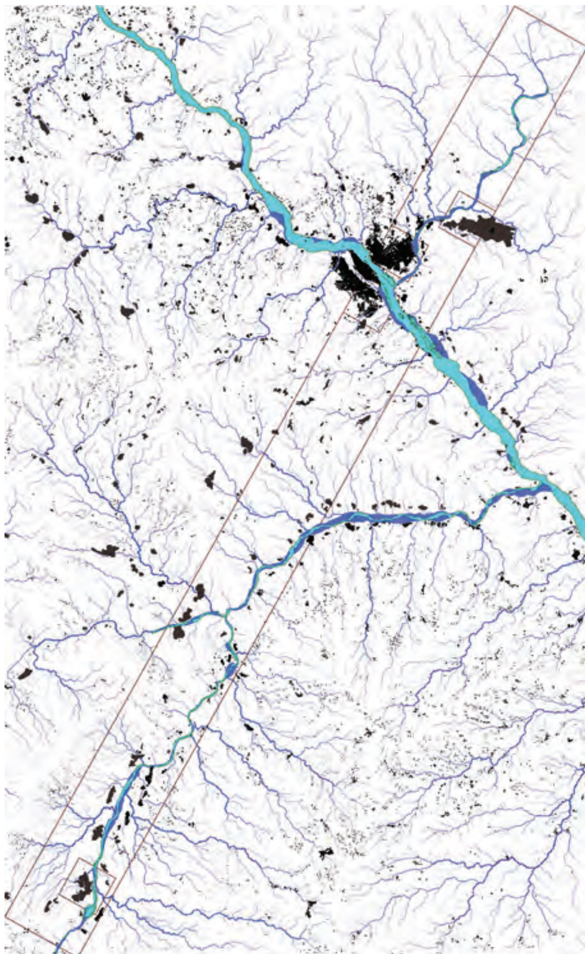


Figure 11

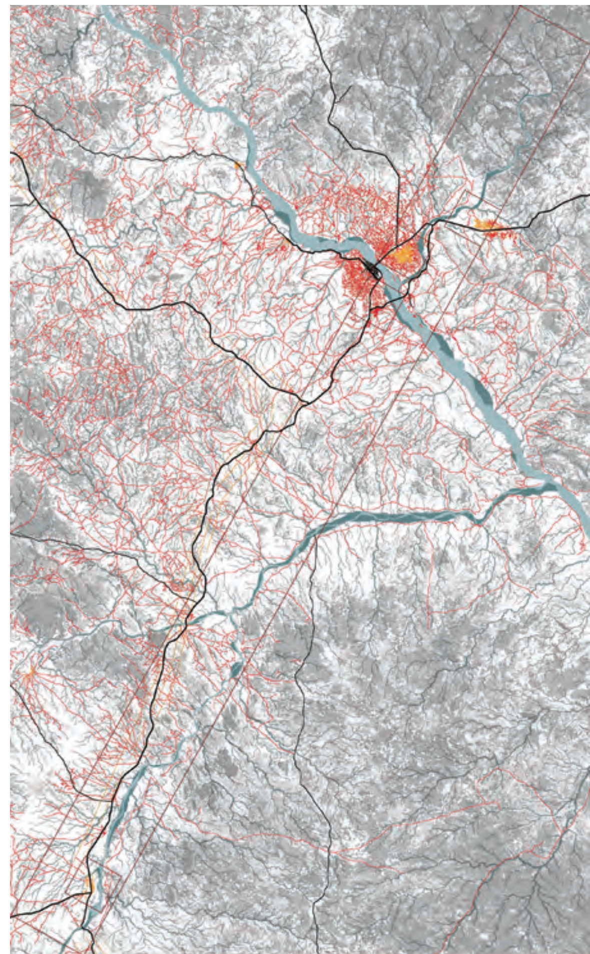


Figure 12

Figure 13

The design investigation aimed at generating landscape urbanism strategies that critically reinterpret and reinvigorate local settlement practices, through clever and respectful use of resources along with adapting to the challenges and expectations of contemporary life with new techniques and innovative alternatives to the status quo. Resisting the flattening and destructive forces of globalisation in such vital backrooms of the modern economy, could imply inverting development from the consumption to the production and reproduction of the landscape.

The transect includes the complex system of tributaries of the Zambezi, which not only evacuate runoff from Tete province but also have a structural role in local livelihoods and lifestyles. The Luenha and Revuboe rivers are arguably two main lifelines of the province. They flow throughout the entire year with seasonal fluctuations and are, more than the Zambezi River itself, accessible for all kinds of water-related activities. The settlement pattern showcases a tremendous consistency in its spatial occupation: settlements follow the lifelines, the generally seasonal riverscapes (Figure 11). Access to water is a precondition for occupying the territory. The modern, mostly orthogonal grids, from colonial origins or postcolonial neoliberalism, occupy the higher, safe plateaus - those eternally in-the-making *cidade de cimento*. The slopes in between house the *bairros* (Figure 12). The Mozambican part of the East African region is also known for its *inselbergs*, or rocky promontories (Jenkins, 2003). These volcanic outbursts are spread throughout the region

in isolated or group configurations. All urban concentrations in the transect are related to these isolated mountains that exacerbate the water runoff and consequent erosion.

The transect covers a range of scales of settlements that hook onto the different water lifelines, both rivers of continuous flow, as well as dry rivers (digging for water, pumping water, etc.) of all sorts (small scale paths to large, wide flash-flood riverbeds) (Figure 13). The framing of the transect affords working with different topographic conditions (soft and hard slopes, height differences), soils (hard rock soil, sand, clay, etc.) and settlements in order to re-establish a self-sustaining landscape. The territorial vision sought to counterbalance large-scale development interventions that, while bringing volatile development, ultimately prove disruptive and unsustainable. The alternative is a systemic design approach towards these environmental resources and their dependant local economies to ensure a sustainable, self-renewing landscape.

Leapfrogging Development: Iterating Between Site and Technique

The strategy of revisioning the territory was, on the one hand, to iterate between the systemic use of local practices, inherent relation of landscape (resources) and settlement (needs) and, on the other hand, to leapfrog the modernisation wave in order to build a collective system that spatially determines the region. The whirlwind rush of so-called development can be tempered by an understanding of and capitalising on the region's assets. As the world finally wakes up to the devastating effects of modernism, the Tete region can literally leapfrog over the pitfalls of development and adapt settlement and occupation of the land to the qualities of the landscape while simultaneously making use of advanced technologies and techniques. Systematically shifting and exchanging hard-engineered, centralised and hierarchical paradigms for decentralised, heterarchical systems opens up interesting perspectives. Solar and wind energy do not necessarily require vast interconnected grids — which are often difficult to complete in this context. Instead, new technologies could allow the region to skip the phase of centralised infrastructures and the systematic gridding of the territory and move directly to punctual infrastructures that embed themselves in the landscape based on the location of assets (sun exposure, wind, soil, orientation, etc.). As such, they would extend the resourcefulness of the landscape rather than superimpose conventional large-scale infrastructure on it.

The design investigation explores the hypothesis that some modern technologies can naturally align with strategies that are based on clever and sustainable use of self-renewing local resources. Local practices embody

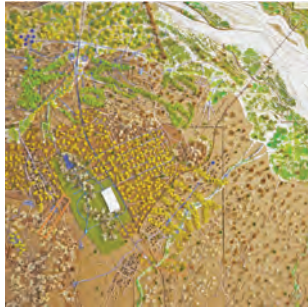
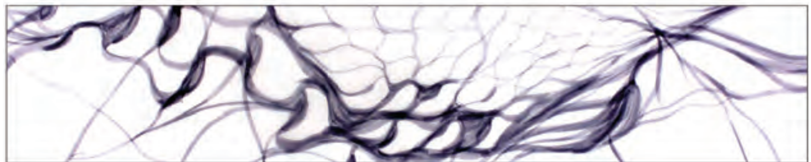


Figure 14

Figure 15



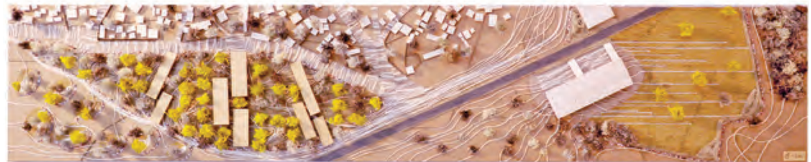


Figure 16

local experience and knowledge of the territory's resources. This underpins the paradoxical position of the design research: combining cutting-edge technology such as wind and solar power, with (often considered) archaic approaches.

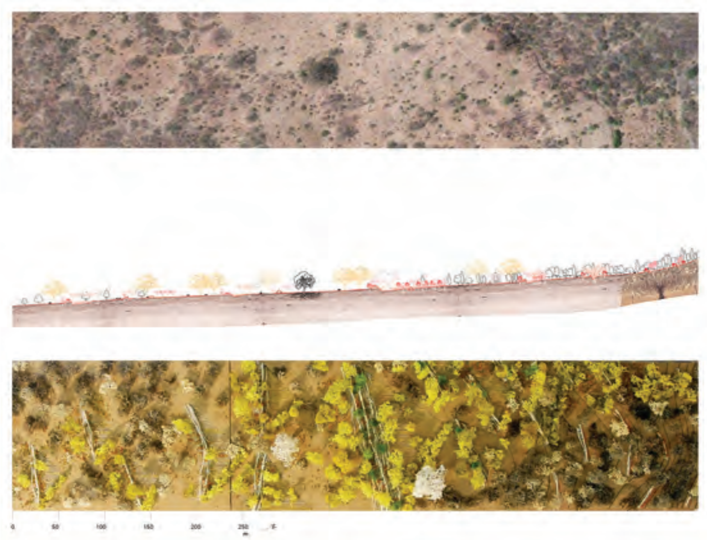


Figure 17

Intensifying the Open Canopy Forest

The design research sought to anchor local development on the landscape (understood as a container of renewable resources). The resourcefulness is premised on the soil(s) and the water that gives life to the environment of thin, open canopy forest. Nothing is abundant in the semi-arid savannah; everything appears vulnerable, which explains the dispersion of activities and people in the landscape — always oscillating between the riverbeds below and the plateaus above. Regardless, all is always in an open forest; it is the main characteristic and quality of the environment. As in all forests, it is an entity within itself and, at the same time, contains a multitude of interdependent elements. The territory's loose, dispersed settlements are inscribed within the open forest. Settlement and forest are intimately intertwined. The one does not dominate the other or vice versa.

Therefore, a premise of the design proposal was to not construct a settlement in isolation or to concentrate on settlement; on the contrary, it was to (re)construct the open canopy forest as a polyvalent host environment — as a fundamental landscape structure in which settlement could be embedded. The forest is then designed as a multitude of elements, a polytechnic whole, as Lewis Mumford would argue (not just conventional, mono-functional infrastructures like roads and pipes), capable of hosting a multitude of activities and providing a multitude of performances, i.e. delivering products of all kinds and generating various microclimates, environments and atmospheres.

Figure 18

Most importantly, the design proposal's reconstruction of the open canopy forest intensifies, densifies and diversifies the quality of the territory in relation to the local soil and water conditions and safeguards the openness of the forest, not only in the sense of ecological capacity, but also open to practices and uses of various kinds, centuries old and brand new.

There is an inherent ambiguity – a looseness in the design strategies – which teeters between unity and variety, monotony and specificity. Reforestation (intensifying the forest) on the countryside's vast plateaus is approached quite differently from the planting schemes in various urbanised areas of Moatize, Tete and Changara/Luenha. Planting on slopes where spontaneous urbanisation occurs requires different strategies from increasing canopy coverage on gridded plateaus, where planting schemes can also contribute to wastewater treatment and recycling (Figure 14).

Afforestation strategies on sites that are vulnerable to soil erosion will differ from those that stabilise and cover erosion gullies into sun-protected, cool passages between plateaus and riverbeds (Figure 15). Creating a natural canopy for the market in a dry riverbed (Figure 16) is not the same as productive tree planting aimed at mitigating the impact of climate change on declining moisture levels in the soil.

Squaring Water Cycles

The open canopy forest strategy aims to recuperate and intensify a self-renewing landscape. An essential condition for the strategy is water. However the shortage of water for domestic, livestock, agricultural and industrial use is generally recognised as the region's primary development obstacle. The Zambezi River is difficult to access and too monumental in scale to allow simple, affordable and intensive use of it. Hence, the Zambezi River itself

Figure 19

only plays a peripheral role in the Tete region. Traditional settlements are not accidently concentrated on tributaries. During the rainy season, massive quantities of water come as quickly as they disappear. Waiting for sufficient water supply from public agencies is like waiting for Godot. At the other end of the spectrum is soil erosion. Changing water tables, overgrazing and drying out of soils together with more intense rainfall patterns all contribute to the endemic erosion in the region that gains dramatic levels in places like Luenha in Changara. Consequently, the reconceptualisation of water management as an integral component of the complex water cycle is the second base line of the design strategy. Climate change is shortening the rainy season and increasing rain intensity. There is an urgent need to harvest water everywhere, particularly in dispersed locations.

Therefore, design strategies concentrate on water harvesting and the prolongation (in time and space) of (rain) water trajectories. The design proposal deploys water spreading systems from the foothills onwards in the form of stone contour bunds or so called 'contour ridges' (Ietc, 1998). Applied as a device, they generate a bund constellation in the landscape that partially diverts water, partially absorbs it and partially stimulates water infiltration and groundwater recharge. It allows the intensification of tree coverage (that combats the drying out of soils) and other vegetation (Figure 17). Over time, the strategy to slow, store and infiltrate water would operate as if it was one large-scale drip irrigation system that extensively covers the plateaus, between hills and riverbeds. The interventions are low tech and adapt to the local conditions of the site. They would spur incremental gains in soil fertility, retain humidity and regenerate the environment. The strategy relies not so

much on interventions, but rather on the insertion of an element that then catalyses a chain of natural processes to recreate the environment. It is a strategy that directs natural development, rather than the artificial creation of an environment.

Consequently, new habitats, lifestyles and economies can emerge, all embedded in a richness and diversity of vegetation, indigenous to the savannah and based on the multiple resources the open forest environment produces. Where water passes, infiltrates, accumulates or is directly harvested, there would be different intensifications of the forest. Grassland vegetation would be vastly recovered regionally, strengthening the traditional livestock economy of goat farming. Forests would be regrown to fix soils, grow fruits and for charcoal production. The reintroduction and valorisation of the *baobab* would reveal the long term objective, namely that the wettest zones, close to the systems that guide the water, become community *machambas* (from Swahili and meaning family agriculture units) (Figure 18). In other words, the project is focused on the region's diverse forest environment to provide for the over 75% of the rural and urban population that depends on it for essential resources (Salmão and Matose, 2007).

Luenha is developed as a showcase for this strategy. Luenha in Changara suffers grave consequences from drought. Its location on the plateau approximately forty meters above the Luenha River, a tributary of the Zambezi, means that water accessibility is an ever-increasing problem. Erosion gullies are literally eating their way into the formally occupied plateau. The rainfall on the higher elevation mountain belt and deforestation results in powerful seasonal torrents that aggravate the situation. The relocation of families close to the unstable steep edge was planned by the municipality on the opposite side of the main road, but quickly became subject to land speculation. Many plots have been bought by migrating Zimbabweans. The design intervention is located uphill from the village and small, linear cut and fill operations (contour bunds) create a system of long infiltration dams. The system is devised not to stop and hold the water, but instead to spread water over the barren, deforested land. Downhill, erosion is countered by a mixture of hard and soft engineering strategies to allow the threatened landscape to become productive. Embedded in the strategy is safe access from the plateau towards the riverscape. The forest is stretched from the river to the mountains and takes in the village. Reintroduction of water and forest in the village creates a shift towards a new rural-urban interface, no longer based on eternally unfinished grids but on natural water structures, agricultural production and walking paths that seamlessly lend themselves to a productive, self-renewing landscape. Centuries-old water storage systems are rethought, wherein design strategies make creative use of the new urban materials that recent urbanisation generates (such as walls demarcating plots in urban environments). New, domain defining walls in urban settlements are upscaled to optimise water harvesting (Figure 19).

Figure 20

Repurposing Erosion

Closer to rivers and whenever urbanisation is encroaching slopes near riverbeds, erosion gullies are stabilised with planting, while simultaneously manipulated to catch and channel rainwater and develop smooth passages between water and land, river and plateau. These wide, planted passages covered with canopies simultaneously host new patches of agricultural land which are closer to the water table and protected from the harsh sun, with their soils gaining fertility through the sediments brought by the water flows that are gently slowed down.

As such, soil is the third central point of attention in the strategy to rebuild landscape vitality. There are two points of entry: firstly, strategies to mitigate erosion and secondly, design intervention for existing areas of erosion. Local rural practices are proposed to be upscaled and optimised to accommodate ongoing urbanisation, such as the *machambas* that recycle previous brickmaking sites. The existing shallow pits are generally more humid (since they retain water) and cooler and are consequently repurposed as kitchen gardens. They are an open invitation to anticipate intensified production and plan their reproduction (Figure 20). On a much larger scale, but in the same line of thought, the design research proposes a similar anticipation and transitional logic of land with regards to mining operations. Vast plantation schemes preceding mining operations can protect the surrounding environment from inevitable air pollution (extreme dust), incrementally enrich soils and build a more resilient, intense and productive landscape. The intelligent disposal of sterile mining material would allow the construction of large-scale water storage facilities that are protected from evaporation and can drastically extend water availability. In other words, mining operations can also be repurposed to complement rainwater harvesting. In fact, such a proposition merely upscales the ancient practice of water storage techniques for semi-arid and arid environments.

All in all, the design research couples the insertion of new technologies like solar and wind energy in the landscape with construction strategies that concentrate on forest, water and soil. The aim is to rehabilitate and establish a base structure for the landscape which can, in turn, sustain human settlement. The strategies are primarily anchored in local practices that build upon their rationality by upscaling and optimisation.

Note: A shorter version of a piece of the text concerning the analysis of the environment (settlement in an open canopy forest) has been published as one of the cases within a study of promiscuous landscape occupations (De Meulder, B., Shannon, K., 'Intensive and Promiscuous Occupation of Landscapes' in Urban Landscapes in High Density Cities, B. Rinaldi, P. Yok (eds.), Berlin: Birkhauser (2018, forthcoming) served as a base for this contribution.

Figure Captions

Fig. 1: Tete's recent dispersed urbanism envelopes the open canopy forests of the dry, semi-arid savannah up to the nearby rocky promontories. (Huazhou Ye, 2018)

Fig. 2: The majestic *baobab* holds a symbolic and central position in the open canopy forest, including its relation to settlements. (Xavier Ordóñez Carpio, 2018)

Fig. 3: The thinly spread resources of the territory result in nomadic lifestyles. Cattle, for example, are moved through large swathes of territory for grazing and access to water. (Alfredo Antonio Manhota, 2018)

Fig. 4: Vale is currently the largest coal mine operator in the region and its extraction processes are systematically destroying ecologies, radically altering the landscape and disrupting local livelihoods. (Clara Medina Garcia, 2018)

Fig. 5: A section through Luenha, Changara, exemplifies its challenges. Between the rich riverscape, the eroding slope and the scarcely inhabited semi-arid savannah lies the formally occupied urban tissue, in deep crisis due to creeping erosion, water scarcity, forest clearing and consequent soil depletion. (Xavier Ordóñez Carpio, 2018)

Fig. 6: Caricature of the lower Zambezi River Basin in Mozambique, from the Indian Ocean. Four landscapes can be distinguished: the artificial environment of Cahora Bassa Dam and Lake in the mountains, the semi-arid savannah landscape around Tete, the flat flood plains of the Zambezi, and the majestic delta. (Vincent Van Praet, 2018)

Fig. 7: The forest evolution over the last decades reflects different and sequential moments of disturbance and recuperation of the vegetation, following societal changes. (Xinyu Xiao, 2018)

Fig. 8: A section over Moatize-Revuboe illustrates the occupational logics from riverscape, slopes and plateaus. (Nathan De Feyter, Clara Medina Garcia, Nadia Nusrat, Julia de Souza Campos Paiva, 2018)

Fig. 9: Indication of the transect of the design research investigation. The transect deliberately crosses the Zambezi River perpendicularly, focussing on its tributaries, the Luenha and Revubue, as the most important lifelines of the territory.

Fig. 10: A modelled vision of the transect produced at the scale 1/20,000 (625 x 40cm). A nuanced depiction and renewal of the open canopy forest frames future occupation and composition in the regional vision. Pervasive riverscapes bind together settlements on plateaus stretched between water and rocky promontories. (OSA-KUL, 2018)

Fig. 11: Rivers are the lifelines of the region. Settlements mainly follow rivers that flow throughout the year or dry rivers whose beds allow easy access to groundwater. The scale of settlements is proportional to that of the waterways. (Xinyu Xiao, 2018)

Fig. 12: Formal occupation on the plateaus *(cidade de cimento - orange)* follows gridded infrastructure, while the rural, organic settlement patterns on the slopes (*bairros* - red) are anchored to the territory's fine-grain maze of unpaved paths, which are intertwined with the water network. (Xinyu Xiao, 2018)

Fig. 13: The Revuboe River is a water source and hosts numerous daily life practices, including cleaning, praying, playing, etc. Similar to the open canopy forest, the region's waters foster a multitude of uses and meanings. (Wim Wambecq, 2017)

Fig. 14: The 5x5 kilometre model for the Nhartanda project at the scale 1/5,000 (100 x 100cm). The project includes the reestablishment of a water harvesting system and a continuous, yet diversified open forest canopy from plateau, to tributaries, to slopes to the Zambezi. (Xavier Ordóñez Carpio, Elis Locia Matchowani Mavie, Xinyu Xiao, David Djenga Muiruri, 2018)

Fig. 15: Luenha is requalified with diverse planting techniques, from the erosion gullies to new open canopy forests towards the rocky promontories. (David Djenga Muiruri, 2018)

Fig. 16: The existing flood prone market of Nhartanda is reconfigured as an archipelago in the braided dry riverbed. Small vending islands are inserted in the valley forest that provides a shaded canopy. (Valentina Tridelli, 2018)

Fig. 17: Low-tech contour bunds are dispersed over the devastated region to recover vegetation by slightly intensifying surface water presence and groundwater recharge. A wetness gradient would allow for a variety of productive landscapes under the forest canopy, from agricultural fields to grazing grasslands. They would also structure new settlement. (Xinyu Xiao, 2018)

Fig. 18: Overview of the agriculturally productive Nhartanda dry river, a dry branch of the Zambezi that lies between the *cidade de cimento* and the more recently settled *bairros* on the slopes (Huazhou Ye, 2018). The collectively organised agriculture could become systemic places of production, based on low tech landscape interventions.

Fig. 19: The only partially completed orthogonal occupation of the Moatize plateau could be transformed into a water harvesting machine by inserting retaining walls. Small water reservoirs would allow both individual production and collective landscape creation. (Thuy Nguyen Thi, 2018)

Fig. 20: A new vision for Moatize and the Revuboe River activates creeks as productive spaces, based on the characteristics of working with different soils and extraction processes (clay extraction for brick, sand extraction etc.). (Nathan De Feyter, Clara Medina Garcia, Nadia Nusrat, Julia de Souza Campos Paiva, 2018)

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KEYWORDS

Waa'
Western Architectural Africanism

Vaa'
Venerated African Architect

Naa'
Native African Architect

An Allegory of Urbanism in Africa

– Kabage Karanja

In the end, it is not the character of the architecture of these wild speculations but the architecture of the characters that fascinates (Lai, 2012: 9).

This story is as phantasmagorical as it is true, a version of Plato's allegory of the cave, with Demas Nwoko, Khadija Saye, Frantz Fanon and Wangari Maathai held captive in the Rift Valley. It takes place in Suswa's Baboon Parliament, a tubular cave where the geological geometry of Rome's Pantheon was fashioned in nature, and where a congress of baboons convenes to curate the entrapment of their captives to strange ends. The captives can only sit and debate, dreamily telling stories of their prior worldly conditions, a time when their mental and spiritual faculties seemed intact. They are able only to gaze upon stone carved structures, grains of city markings on the walls, made, it seems, by the large primates. One of the captives, who will remain unnamed, finds his constraints loosened and leaves the cave, only to return to the rest with tales of light and dark in a state of perpetual imbalance.

In Swahili, the storyteller begins his or her story by saying:
'Hadithi hadithi' . . . (*'Stories, stories . . .'*)

And the Listeners say:
'Hadithi Njoo . . .' ('Stories, come . . .')
'Uongo Njoo . . .' ('Fantasies, come . . .')
'Utamu Kolea . . .' ('Enrich the Sweetness . . .')

The Article of Captivity

We exist in the marriage of physical and spiritual remembrance;
it is these spaces that we identify
with our physical and imagined bodies.
Khadija Saye (Saye: 2017)

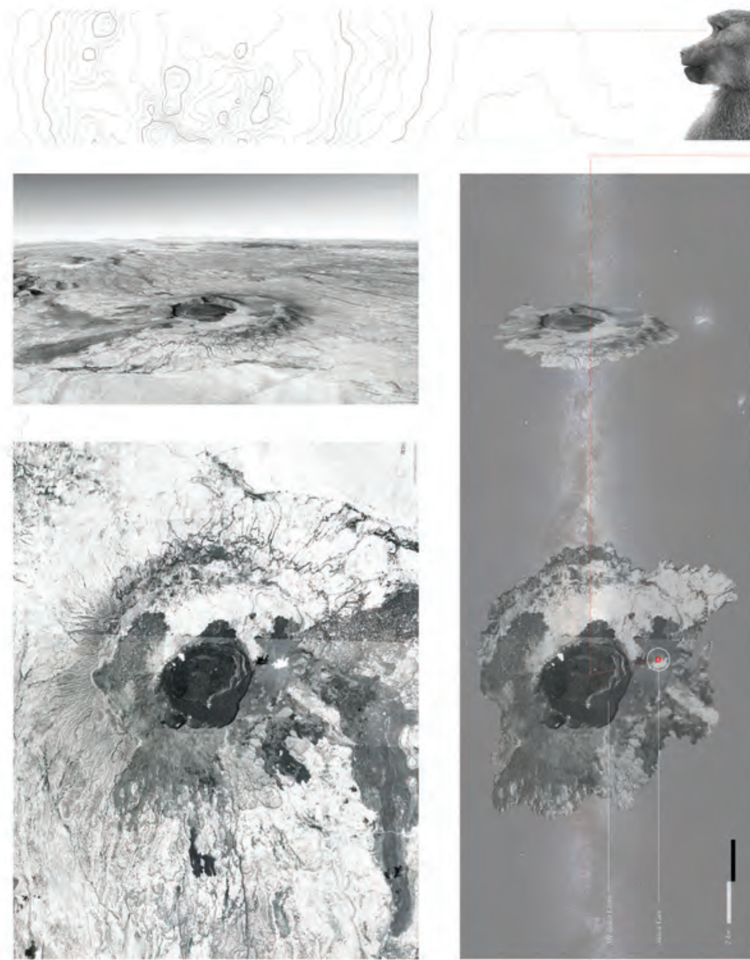
I recall that they sat quietly along the inclined and chamfered rock face, inhaling the humid air that seemed bearable for some more so than others. Their faces were washed with flickering flames from the fire in front of them, occasionally revealing the shackles on their heads. Bamboo *culms*[1] were tied beside their ears with weaver bird spun reeds, knotted around their heads and down their spines. The small black and yellow birds would occasionally swoop over them, tending to their constraints.

[1] *culm*: the hollow stem of a grass or cereal plant, especially that bearing the flower.

Baboon Parliament

Demas sat next to Khadija, while four fathoms away, on the same extended rock formation, Wangari and Frantz sat together. I noticed that Khadija kept looking nervously around her, gazing at Wangari, whose skin colour was similar to her own — a rich, dark, velvet brown. Frantz's skin was coarser, older, and Demas', in contrast, refracted the light, casting a sheen which was familiar to 'those who inhabit the space we breathe', (Saye, 2017: 42) as Khadija once called it.

A coming into consciousness and awareness would often be preceded by a fluttering of breath and a cold chill running down one's spine, as the hair on the back of one's neck would rise, unlike any dream. Demas sat quietly,



gazing at Frantz's lips, moving silently as if in prayer. But did the departed pray, I wondered?

Suddenly, behind them, a figure appeared out of the shadows. It was a large animal, walking on all fours, dragging a heavy object. It approached them slowly, heavily, as though it were fatigued. A pungent smell of animal and urine filled the cave. Wangari's eyes pressed tightly shut as the oversized primate began to sway back and forth. She opened her mouth and the words tumbled out.

'Nitwagucokera Ngatho Ngai, nigutukinyia haha. Turi ugwetini wa nyamu eno. Tugitire Ngai tume haha thayu.'

Suswa Site

'We return to you Almighty God for being with us here. We find ourselves in danger of being attacked by this animal, protect us and help us find refuge from this place.'

The captives were stunned by her voice that echoed all around them, drifting away into the darkness. The beast stumbled, sending up clouds of guano dust into the air, and then scampered away into the furthest corner of the cave, no longer quite as threatening as they'd first imagined.

'It's just a baboon.' Demas said, sounding relieved. 'A very large one, I grant you, but still a baboon.'

Khadija suddenly let out an explosive sneeze. The baboon immediately shrank into the corner of the cave.

'Bless you, Khadija,' Demas whispered. She smiled but seemed puzzled that he knew her name. The captives glanced nervously at each other, clearly torn between wanting to laugh at Khadija's loud sneeze but afraid of the baboon.

'I doubt it will forget you, Wangari, nor will it forget *your* thunderous sneeze, Khadija,' Frantz said, somewhat tongue in cheek.

'Are you all right, Dr Maathai?' Khadija asked respectfully.

'Yes, my dear. Thank you for asking. And do call me Wangari,' she added. 'It's a strange place we find ourselves in, Khadija, is it not?'

'Er, yes, Wangari,' Khadija said awkwardly, clearly wondering how on earth Dr Wangari Maathai knew her name as well.

All of a sudden, without warning, the object that the baboon had dragged in began to crackle and flicker, as though it were on fire. Its shape began to shift, resulting in strange shadows that danced across the walls of the cave, pulsating with light. Small living beings appeared on the walls, rushing through the shadows, back and forth, back and forth. The captives were transfixed by their movements. They appeared to be running from the wilderness into the shelter of the cave but as soon as the wind inside the cave began to change, they disappeared back into the wilderness. The object was like an aperture, controlling the amount of light coming through its many cracks and crevices. Behind them, deep in the wilderness outside, the wind began to whisper and moan, speaking of mankind's age old relationship with nature.

'See the stretched out canopies off earthen walls risen, roofs floating but yet lifted by women. They build to let warm air elevate the red dusts of time and space. Clay gourd light wells to wash the little souls rank and file, when they wake. Let them play headmaster, let them stay, beneath the section line, through hot weather and rain they play. These are the footprints on the soil of Gando's Kéré, an architecture of the people he found and crafted there.

'And look, beneath are shadows emerging, a reflective bronze filigree, crafted in motifs conjuring, shapes of distant labourers toiling, broken, but rebuilding, not forgotten. Three pyramids in transgression hold staggered

collections, digesting whole artefacts of memories nearly lost in translation. African and American souls begotten, see here a well-refined veneration. Sir Adjaye and his craft duly noted, perched on the Mall of the brave new America, what a mighty nation.'

Abruptly, Frantz reacted to the howling voice. 'So tell me, Wind,' he said disdainfully, 'In the midst of all this meaningful neurosis, where are we with dismantling the troubled postcolonial African state? Is our Marxist analysis stretched enough, if at all?' (Fanon, 1968: 53)

Sparks of fire flew up into the air. The captives flinched. The smooth rock face was alight with dancing shadows. 'I apologise for casting a hazardous shadow of impotence over such poetic and omnipotent words,' (Koolhaas, 1995: XIX) Frantz said sulkily.

'For indeed we shape our buildings and they shape us in return (Churchill, 1944). These works are among many that reside in an ever-expanding consciousness, however few they have become.'

Frantz rolled his eyes. 'Indeed, Wind, we have been shaped,' he said crossly, 'But, given the condition we find ourselves in, it's not entirely sure how we could have escaped. I'm not disputing your words, Wind, but I do take issue with the author. Churchill's bloody phrase propagated an egregious architecture of so-called "progress" that allowed the colonial project to continue unhindered.'

'Oh, let's leave Churchill out of it,' Wangari interjected. 'In my culture, we have a saying, *"angimituiria na umirite ndangimiona rikii."* It means, *"He who seeks his goat with the man who ate it, is certain not to find it"*.' (Barra, 1939: 3)

A large *dorper*, a cross breed, half sheep, half goat, walked across the wall, with horns tugging at a railway line, a snaking train approaching. The captives stared at it in fascination. Frantz recovered his poise and continued.

'The Western city is a strongly built city, all made of stone and steel. It's a brightly lit city, the streets are covered with asphalt, and the garbage cans swallow all the leavings, unseen, unknown and hardly thought about (Fanon, 1968: 39). The Westerner's feet are protected by strong shoes, although the streets of his city are clean and even, with no holes or stones (Fanon, 1968: 39). Yes, the Western city is a well fed city, an easy going city … its belly is always full of good things (Fanon, 1968: 39). The Western city is a city of white people, of foreigners . . . but the African city, on the other hand, is a hungry city, starved of bread, of meat, of shoes, of coal, of light (Fanon, 1968: 39). The African city is a crouching village, a city on its knees . . . a city wallowing in the mire.' (Fanon, 1968: 39)

Demas inhaled sharply, as though he'd heard it all before. His voice was calm. 'The African city is indeed in the mire, but you have been away for some time, Frantz. We who live here have tried everything. But all the options

thrown at us or sought out by us have failed because there's no fertile soil on which our ideas can grow. We have to go back to the basics, to the roots of our cultures, to rediscover what we've had all along . . . back to our own aesthetic and philosophical traditions. I would definitely say Kéré, among others, explores this (Ajeluorou, 2016: 1). No doubt you will go on to ask the question: what is culture really? If you pick up something that you don't understand, how will you use it? You won't (Ajeluorou, 2016: 1). That's the problem, that's *our* problem. I don't entirely know how it all fell out of place. For the most part, I believe we Africans took off, but eventually hit the wrong direction and we're ending up in the wilderness (Ajeluorou, 2016: 1). A wilderness we no longer recognise, but it's a wilderness of our making . . . or should I say, our own *breaking*.'

Wangari shifted uncomfortably. 'Well, as you all know, it is too broad to speak of the African *city*, let alone African *nation*, as though Africa were one country. However, what we can say is that during the thirty-year dash by the Europeans that begun in 1885 (Maathai, 2007: 7), they simply renamed whatever they came across (Maathai, 2007: 6). They renamed and redefined everything such that it created a schism in our minds. And that schism has now been translated onto our African urban synapses (Maathai, 2007:6). We are still wrestling with the realities of living in two worlds. In colonial Kenya, for example, it was common for the British to establish rules that meant you could be arrested if you were caught loitering in town. (Maathai, 2007: 34) Today, that condition has shaped the city. Ironically, because you weren't allowed to loiter, the town looked organised, clean and "orderly." But that order was not in tune with the city's inhabitants because it was not really an "order" created by the people for the people, but for the settlers instead.' (Maathai, 2007: 34)

A Diagnosis of Dark Dysfunction

Frantz huffed, nostrils flaring, and said, 'I agree with you, but I do have to say, your words seem to me to be dead, worthless . . . they have nothing to do with the concrete reality in which the majority of Africans are living.'

'Hold on,' Wangari interjected, causing the dust on the cave walls to float in the air. 'What are we really talking about here, Frantz?'

Frantz looked at Demas before responding to her. 'As you well know, Wangari, there exists a sort of detached complicity between capitalism and the violent media forces that exonerate and raise a select few over others (Fanon, 1968: 65). Much as their words and work might have merit, there are others whose time and significance are measured differently on the African continent itself . . . and not entirely by "Africans", whoever the proverbial African might be.'

'Yes,' Wangari conceded. 'You may be right. But excellence isn't limited to any one race, industry or profession.'

'Still,' Frantz continued, 'when all is said and done, what exactly do you mean by "foreign veneration"? I'm not disagreeing with you but I am

interested in finding out from whose cultural context this idea of excellence originates?' He smiled at Demas, instinctively seeing the humility in Demas' poised appearance. 'So when the *Venerated African Architect* (let's call him or her *Vaa'* – though, unfortunately, more often "him" than "her") says, "architecture on this continent is done for," it is emotional talk, full of love and fury. What he means, to my mind, is that we cannot make mistakes, we cannot experiment . . . we have to follow the rules of architecture to the letter and if not, then architecture on this continent will come to its end.' (Fanon, 1968: 9)

'But what "end" does the Vaa' speak of?' Khadija interjected. 'Is he speaking of an apocalyptic end, like in the Judeo, Christian and Islamic traditions? Fourteen hundred years ago, the Prophet Muhammad stated that the end of days – or, as it has been called, Judgement Day – would arrive when barefoot, unclothed Bedouins start living in tall buildings.' (Al-Bukhari: 37) 'But now,' she continued, sounding puzzled, 'it seems as though the *Vaa'* is actually speaking of Mother Earth, our beloved planet. Our rivers are sick and our oceans are filled with silt and plastic and our trees cannot grow. Just as Wangari told us.'

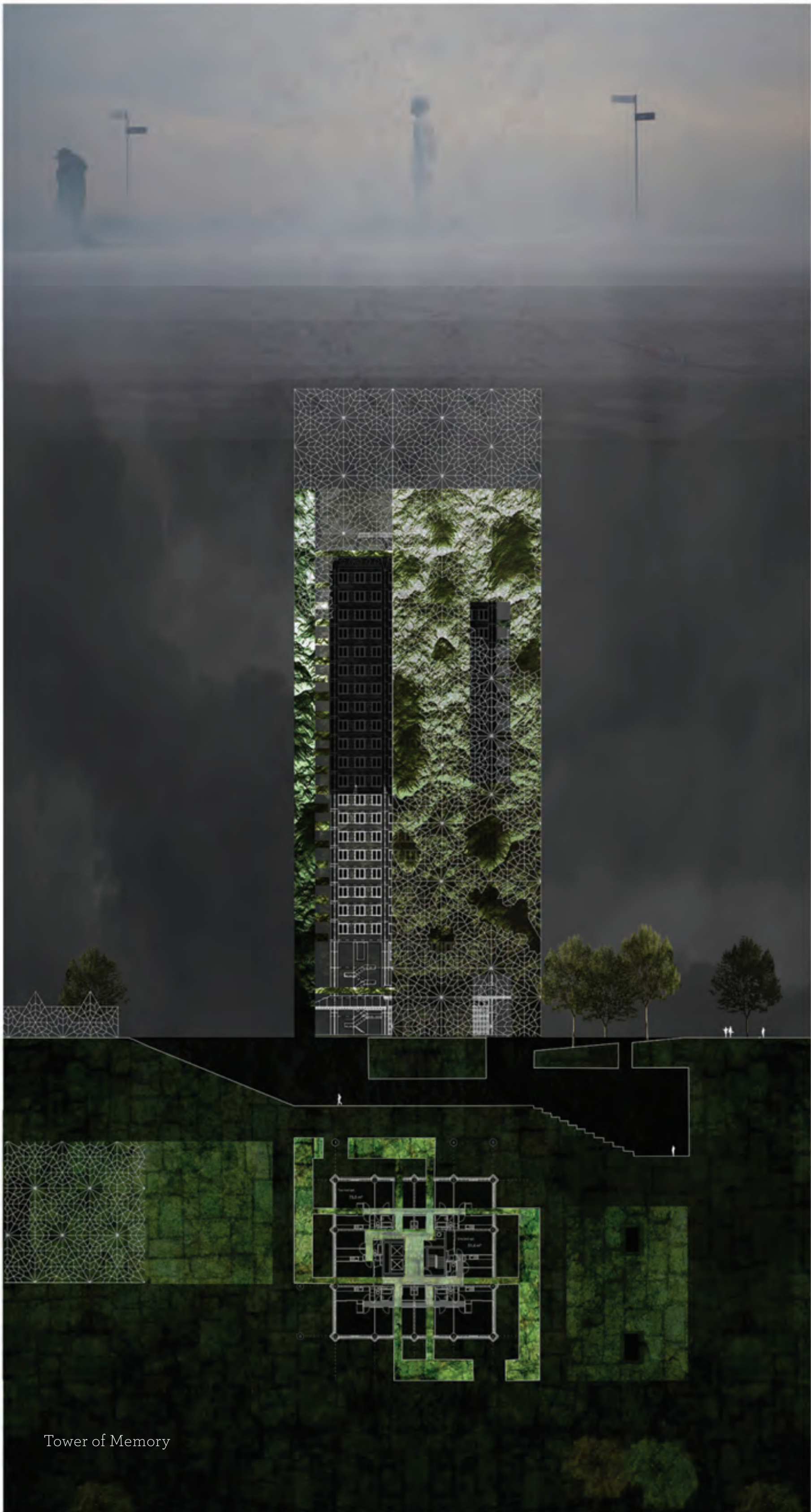
'In truth, you speak like the Wind, Khadija,' Frantz conceded. 'But, coming from the *Vaa'*, it is a threat, followed rapidly by a piece of advice. But when Demas says that architecture is rushing to her doom, far from sounding an alarm, he is merely setting out a humble diagnosis (Fanon, 1968: 9). He neither claims that architecture in Africa is a hopeless case, nor does he give architecture a means to cure itself . . . he simply certifies that it is dying, on external evidence, founded on symptoms that he can see (Fanon, 1968: 9). As you have said in the past, Demas, we are where we are today because we have lost something.' (Ajeluorou, 2016)

'You are quite right, Frantz,' Demas agreed. 'All my life, I've tried to propose how things should be done. In the end, however, I decided that the only thing worth doing is to produce work. My work will outlive me.' (Ajeluorou, 2016)

'Thank you, Demas. Allow me to now present my diagnosis. I see the lost but driven *Native African Architects*, or the *Naa'*, as I call them, who are not immune to this dual psyche we speak about. Many of them have been plucked unripe from the African soil and are unwittingly being pressurised into adopting the regalia of the *Western Architectural Africanism* — what I call a *Waa'* condition. This condition is fuelled by radical free capitalism and its close cousin, socially "responsible" and "impactful" practices. Indeed, I would go so far as to say the *Vaa'* and *Naa'* relationship is a damaged relationship (Fanon, 1968: 53). The *Vaa*' is an exhibitionist but this pushes the *Naa'* to develop his own authentic African intellectual content, that is bold, ancient and contemporary in nature (Fanon, 1968: 54). Whereas the *Naa*' is trapped in a neocolonial relationship with the "Other," the *Vaa'* runs the risk of petrification. They are both a hysterical type.' (Fanon, 1968: 56)

'You appear to know only too well the hysterical type,' Wangari interrupted him. 'Tell us, what type are you?'

The captives all burst into laughter, eyeing one another warily.



Tower of Memory

The Loosening

The mood of tranquillity in the cave was short lived. The large baboon, now accompanied by other baboons, began to edge towards them. They grunted, thrashed and shifted the earth in the cave, reminding the four of their captivity. I realised the baboons had been there all along, listening, watching, waiting, and only now emerging from the shadows, agitated by Frantz's ramblings. The commotion stopped suddenly. Just as before, the captives heard the sound of something being dragged along the ground. This time, however, it appeared to be much heavier and its shadow engulfed the entire cave.

When the dust had settled, to their amazement, one of them appeared to be free. Demas was standing upright. His bonds had been loosened. Two baboons flanked him, sniffing him warily, disturbed by his *homo erectus* stance. They watched him intently.

'Are you all right?' Wangari asked him. He nodded reassuringly.

'Why don't you just walk away?' Frantz asked. 'Just walk to your freedom.'

'No,' Wangari insisted. 'Walk on all fours instead, just as they do.'

Following her logic, Demas began to crawl away. The baboons looked at him, intrigued.

'Keep going,' Khadija urged. 'Just keep going.'

Tower of Memory

'We remember the seventy-two pillars strong, family orders, a year ago still gone. May they sleep still where there is rain and dew, (Maathai, 2007: 37) as we remember that day great difficulty came from homes they grew. May they rest well by the fig tree that taps its roots into waters clear, (Maathai, 2007: 42) above the darkness on Thames, whose powers sleep on capital pillows near. The odd ones in parliament, the odd one in ten, do they not listen and do they not fear, that which will be meted out and that which we must mend. What then for this matter, what then for this tower? Will it just be brought down to hide the shame of the few in power? The same sun that melts wax hardens clay, let its blackened veil remain that we can remember them that day. A day when the care for many was sacrificed for the care of a few, not long will it remain, not long until we are all awakened new.'

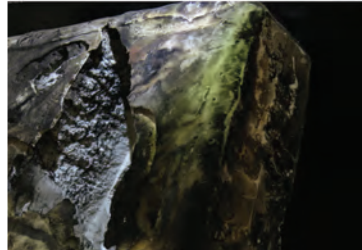
They approached the structure gingerly. Waves of heat pulsated through the air. They stood, transfixed, until Wangari broke the silence.

'What are you doing, Khadija?' she asked as Khadija reached out to touch the structure. 'It's burning hot!'

'It is cool, Wangari. I'm fine,' Khadija responded, touching it lightly.

Frantz stood behind them, holding his hands close to his chest. He

Wax Plaster 01



Wax Plaster 02

reached for Khadija's right hand. It was indeed as cool as the walls of the cave. He looked at her questioningly.

'Frantz, this rock is from whence I came. How can it hurt me again?'

'Indeed, Khadija.' He smiled at her. The wind began to pick up again, clouds of dust streaming into the air.

'We relive the hours, we recite the power, when architecture begot faults spreading up and not just down the tower. We listened as so many lost calls to leave, and other many lost calls to stay, no one really knew as so many cast their hopes to stay. Many escaped down desperate flights with smoky sight, no pressurised air, no clear stair in sight. Inquiry upon inquiry can you hear the thunder as we custodians of architecture are pulled down asunder? Was it just the boroughs that ignored the complaints that loosened the saving safety constraints? Or was it much deeper, much darker, and much more plain, like the system we live in, where there is no financial gain in care, and no spiritual care in gain?'

Frantz's demeanour suddenly changed, flaring up into an indignant rage.

'I am tired of you, Wind. I know you are trying to provoke me into anger. Anger about the state we are in. What could be more preposterous than designing a system that disadvantages millions and then puts them through the indignity of proving they need your help? (Smith, 2018: 51). Affordable housing is not the solution! It is a symptom of an egregious failure (Smith,

2018: 51). We are truly lost, carrying the yoke of our own undoing, for every day, the wounds of private and public debt are patched up with the madness of the idea of unending economic growth, leading us towards environmental catastrophe.'

'What of this matter, Demas? What of this dangerous riddle? Our cities are rising, our cities are crying to end this greed, to end the desperate buying.'

'I wish indeed that Demas was here,' Khadija said. 'I wish his wisdom was near. I believe he knows what to make of all this devastation.'

It was not long before a large cracking and grumbling sound could be heard from the roof of the cave. A rock oculus, fifteen fathoms across, was forming. Wangari spoke as the sunlight drew over the blackened structure. She held Khadija with one hand and Frantz with the other.

'In my mind's eye I can envision the structure now,' Wangari said. 'I can see clear water washing over pebbles and grains of soil, silky and slow moving. I can see life in the water and the shrubs, reeds and ferns along the banks swaying as the current of water sidles around them (Maathai, 2007: 46). The roots of the fig tree burrow deep into the ground, breaking through the rocks beneath the surface soil and running underground. The water travels up the roots until it hits a weak place in the frame and gushes out. This structure stands where there were once streams. The reverence the community had for the fig tree helped preserve the building in their memories, like a dream. The structure healed the land, brought back birds and small animals to generate the vitality of the broken earth.'

'After a few steps into the darkness you will see strangers gathered around a fire; come close and listen for they are talking of the destiny they will mete out to your trading centres, to the hired primates who defend them. They will see you, perhaps, but they will go on talking among themselves, without even lowering their voices.' (Fanon, 1968: 55)

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KEYWORDS

informal
insurgent practices
survivalist
entrepreneurial
bad buildings
infrastructure

They Eat Buildings: Revaluing a City's Carcass

– Tanya Zack & Mark Lewis

Reinhabiting the Bare Bones

Three men walk out of the building known as Standby – its local name capturing reams of academic texts about transience and waiting in this city where claims to shelter and infrastructure are contested and tentative. Each man is carrying a few buckets, performing the socially organised water distribution that has replaced the municipal service at Standby. One man leans into the open manhole cover on the sidewalk and levers a valve. The municipal storm water that gushes from it is a life source for occupants of this building where electrical wiring and plumbing fittings have long been stripped for resale and where, if any rentals are collected, they are not servicing the municipal account. Even where the State's reach is truncated, water is not to be taken for granted in this city. In this case the informal economy may well extract payment for servicing the artificial water scarcity in many buildings where infrastructure is no longer hidden in walls and floors, but is delivered by hand in buckets. And the glimpse of a livelihood opportunity is not delinked from the fissures of scarcity that disrupt this well-appointed modernist city's metropolitan ambitions.

At transport interchanges hawkers peddle plastic water boilers – so necessary where access to hot water for cooking or washing can be tight. These, and other accounts of intersections of particular lives, livelihoods and spaces that comprise the 'Wake Up This Is Joburg' photo book series, render a Johannesburg supported by modernist infrastructure that is replete with informality. It is a city in which the bare bones of discarded and decayed infrastructures can be repurposed, reinvented and reinhabited in new ways. And where informal infrastructure provision might take place in the very shadows of modernist skyscrapers.

Without electric cables, Standby offers no chance of hot water. It's a building about which ex-resident Daniel Shabalala's comment is: 'If I was president I would close those buildings like Standby' (Zack and Lewis, 2016: 13) … I was staying in lots of different flats before, but Standby was the worst.'

Daniel's account of the building he felt lucky to get a bed space in (his aunt let him take over the room she shared with five others) rattles like gunfire. 'There were criminals, robbing us, kicking doors down, there was killing there. There's no toilet, no water, no electricity. People shit in plastic bags inside buckets and throw it in the streets. Last year they raped a woman and threw her over the balcony. She died ….' (Zack and Lewis, 2016: 14).

Now Daniel lives at Birthial Gxaleka's place. From her bed in a small Hillbrow apartment, Birthial runs an NGO and shelter. Her tenants all share her one-bedroomed space, sleeping and living on a large raft of beds. At any one time, there are up to thirty-four residents, because it is rare for Birthial to turn anyone away. Tenants can come and go and they pay R200 per month, if they can afford it. It's an apartment originally designed for a single person or a couple. Like many Hillbrow apartments it succumbed to the flight of white owners and residents in the late '80s and '90s and to exploitative tenancy practices that encouraged overcrowding of flats as people struggled to meet rental payments, even as building management was breaking down. Like

many other buildings it has no legally supplied basic services, as municipal water and electricity to individual units have been cut and the infrastructure to supply these services has decayed or been stripped out. Now the basic structure of this apartment has been revalued as the combined payments of thirty-four people make it possible for each of them to occupy a small part of this stripped shell. How do they navigate the basic infrastructure and lack of privacy in this living space?

Noluthando Jojo is interviewed as she fills a kettle from a large plastic drum (Zack and Lewis, 2016). When it has boiled, she pours the water into a green plastic basin and squeezes past Wellie Hankombo who is carrying his basin of used water out of the bathroom. 'Those who need to leave early for work or job hunting go first,' says Jojo, 'and some wake at three a.m. to wash and then go back to bed.'

In the bathroom there is no water flowing from the taps. The boarded-up windows offer neither light nor ventilation; the cracked basin is a surface for soap or face cloths. Black streaks of mildew are ingrained in the once white tiles. The equally blackened bath is not used for washing – its reservoir of brown water is bucketed out for flushing the toilet in the adjacent cubicle. When she emerges from the bathroom, Jojo explains, 'You have to hide yourself to dress. We ladies hold a sheet for each other.' She opens her suitcase and places it and her clothing, mirror and toiletries on one corner of the bed she shares with four women (Zack and Lewis, 2016: 8-9).

Jojo is from Lusikisiki. She trained as a healthcare worker and when she could not find work a friend told her about Birthial. In Johannesburg she worked whatever jobs she could, as a street sweeper, a data capturer, a volunteer in a surgical ward, and a night nanny. (Zack and Lewis, 2016: 9)

'The problem is unemployment,' explains Birthial. 'Even with a grade twelve you can't find work. But if you are also homeless it's impossible. My plan is to give accommodation. With that stability they can try find work.' (Zack and Lewis, 2016: 12-13).

As they navigate the labyrinth of everyday routines in the congested flat, the disparate job seekers are bound by the same concerns. 'Have you tried?' is what they ask, and it opens another infrastructure question: 'Have you typed your CV, improved your CV, prepared for interviews, enlisted for piecework, applied for courses, volunteered? It all requires internet access. Jojo says, 'The clerks at the Internet café charge us R10 a page to type our CVs. I have an account there, but I don't have money now so I can't check if someone has responded to my email applications.'

Internet is a luxury beyond the possibility of (this flat) where even the most basic services are improvised. The water source is a red fire hose that snakes into the building from the drain on the sidewalk. Each day it is unrolled from its reel on the fourth-floor corridor and fed through the kitchen window to fill twenty-litre containers. The electrical distribution board is a spaghetti of wires. A cable hanging out of it leads to a fan of taped cords that snake into each living space. Mobile phones hang like barnacles from multiple adapter plugs on a corner bed (Zack and Lewis, 2016: 13).

They Eat Buildings

Both buildings that Daniel has lived in, where precarious housing is being supplied to the poor by the poor and through the repurposing of residential and other spaces in ways they were not designed for, stand in view of the Angel of the North. This is a public art piece described by the City as: 'A concrete angel (that) looks after Hillbrow and its residents, standing opposite Constitution Hill with its arms widespread, reminiscent of the Christ the Redeemer statue overlooking Rio de Janeiro in Brazil'

(Zack and Lewis, 2016: 18).

George Sithole is an armed security guard whose employer is hired by building owners to secure their high rise inner city apartment blocks from 'hijacking' – that ubiquitous Johannesburg term that can signal the takeover of a building by criminal gangs, or vandalism or overcrowding of apartments. He says he and fellow guards also shield the remains of buildings that have been progressively destroyed through arson and pilfering of their resalable infrastructures. 'Because, you know, they eat buildings,' he says.

George is gesturing towards the pounded frame of a building from which he has assisted the eviction of non-paying residents to enable the owner's planned renovation to proceed. The structure's enlarged cavities provide a full view from the street to the battered concrete staircase and half-shelves weighed down under rubble and discarded clothing. Clothing, rags, cigarette stubs, shreds of plastic and scraps of paper that include handwritten notes, receipts and train tickets, are all caked together, midden-like. They are the only traces of the self-employed figures in the city's scavenger economy who sheltered here while chipping a maze of channels into the walls and floors of the building. First they excavated the electrical wires, then the casings, then the pipes, and finally the metal scaffolding of the structure.

Livelihood in a Condemned Structure

It's the same in other spaces. All over Johannesburg leftover land and redundant buildings are appropriated temporarily or irregularly for living space, places of religious worship, gambling or for survivalist income generation. That space may be threatened or criminalised or ignored by the authorities. But these are often the only remaining places of opportunity for new entrants to the saturated informal economy of the inner city. In this way the places of neglect and decomposition are freshly choreographed. Amongst the most marginal of these activities and spaces is that of informal butchers who chop cow heads in a disused parking garage in the heart of the inner city.

The condemned building in which these men work abuts highly formalised inner city structures and is within view of banking head offices and the cultural precinct of Newtown. It is in the shadow of the city railway station and is the backdrop to the city's premier public art sculpture, the Firewalker. The building was once a parking garage for suburban shoppers coming to the inner city in their private cars. In the 1980s suburbanisation of commercial space rendered this use redundant and the garage became instead a parking space for long distance taxis ferrying shoppers from outlying provinces and from sub-Saharan African countries to buy clothing, homeware, groceries and electronics. The building fell into disrepair both from municipal neglect and its inadequacy as a rank – with no facilities, signage or storage. Its commuter services ceased and it became a leftover place in the city. The five-storeyed building with its circular ramp was soon stripped of its resalable wiring and metal and in the early mornings groups of people could be seen huddling around fires on several floors, their washing hung on the remaining louvres around the building perimeter. The remnants of the lives of these people, of taxi grease and of commuters mingled with hair, skin and bone in the building basement, provided a dense carpet that crunched underfoot in the darkened cavity. It was there – shortly before the entire building was demolished, that informal butchers were observed, slamming their axes into fresh cow heads. The heads were placed on industrial spools, upended to form butcher blocks where men worked, three at a time, eight hours a day, with only short breaks for a communal cigarette, a beer, a piece of braised meat with pap served from the large cooking pots nearby (Zack and Lewis, 2014).

The removal of flesh from bovine heads is an informal but regular activity that supplies meat to the equally informal meat preparation on braziers set up at many transport interchanges in the city. But it's a normal daily activity, demanding heavy labour and long hours of the butchers. The economics are tight. In the case of the operation in this basement of the

former Kazerne taxi rank, the heads were bought at nearby formal butcheries and delivered in shopping trolleys. The trolleys with dripping cow heads weaving through the city traffic represented a fragile stitching of the supply chain between the formal butcheries – where customers bought the cow heads for R10 per head – and the informal butchers of Kazerne. Every part of the cow head was commoditised in this marginal economy. Each by-product of the butchers' labour was for sale. Once the flesh was stripped off the skull the bones were set aside, to be taken to a factory where they were to be crushed as bone meal. And the skins entered a unique processing operation that occurred in remote bushes on the side of an old mine dump that skirts the city centre. There men cauterised the skin, burning and scrubbing and washing it to remove its hair and to reveal its edible form. The freshly cleaned skins were sold to eateries in Yeoville and Hillbrow where they were used in various Nigerian dishes (Zack and Lewis, 2014a).

Revaluing the Remains

In Johannesburg's informal economy, it is common to maximise extraction from a resource while inserting multiple layers of minute income-generation in the chain of supply. And the creation of livelihoods from what might otherwise be discarded is most familiar in the work of waste reclaimers.

No infrastructure provision, either in the form of safe lanes, water points, rest points or storage is provided for these productive workers whose separation of the residue of a consumptive city is in many cases suburbanites' only role in mitigating climate change.

The daily routine is arduous; reclaimers might walk up to 30km a day

collecting resalable plastic, paper and glass from suburban waste bins, and pulling this waste in hessian bags loaded onto carts fashioned from the bases of shopping trolleys. Equally arduous is the process of packing and transporting the waste to recycling depots (Zack and Lewis, 2014a).

'Lucas Ngwenya, Given Mattatiele and Livingston Sekunda have lined up. It's 6am … the temperature is four degrees as the men begin their second trip to the recycling depot in Newtown. It's a 5km journey but it will take two-and-a-half hours to drag their gargantuan loads over the top of the Witwatersrand.

Lucas seemingly has the lightest burden. He has a double trolley whereas the others have three articulated trolleys. His three bags are outnumbered by Livingston's five bags and the metal objects sticking out of Given's bags add considerable mass to that load. But Lucas points out that the cardboard that occupies more than twice the capacity of the blue plastic quilted bag it is loaded into and on top of, will weigh in at over 150kg. And the plastic bottles and white paper will bring this to 265kg. His body mass is 61kg. When he arrives at the depot he will be asked for R10 'for cool drink' from the cashier as he cashes in his load. Because, she says, she has been generous with the amounts she has recorded' (Zack and Lewis, 2015: 12-13).

Lucas lives in a cavity of the M1 highway underpass. The living circumstances of reclaimers vary and include rough sleeping or shared accommodation in warehouses that host informal settlements. The makeshift rooms in these are known in court papers and media releases for their danger, for the lack of basic services, for refuse and human waste littering the communal spaces and for being apparently unfit for human habitation. These pronouncements rarely detail the neat interior of people's private living space within the warehouses. Or of those social relations that facilitate livelihood, childcare and survival.

South of the CBD, in the nondescript working class suburb of Turffon-

tein, an inventive, aesthetic valuing of waste is underway. In a neighbourhood where Johannesburg's high walls and electric fences are notable by their absence and where churches, shebeens, hair salons and spaza shops occupy the front yards of residential plots. One man is quietly building a castle – from waste. Tony Martens is a veritable outsider artist who collects discarded items. He repairs some of the old furniture he finds at landfill sites, scrap yards and second hand shops. But mostly he stockpiles enormous amounts of waste on the entire top floor of his house. It is a house he has converted over twenty years, from a modest two bedroomed home to a fairyland castle with murals of Madeira and Stellenbosch, magical staircases created out of discarded tennis racquets and wheel rims, and a rooftop sporting a turret, wigged and bespectacled manikins, an antique motorcycle, a traffic light, a windmill, a boat and a train track (Zack and Lewis, 2014b). In this near inner city suburb – where a new logic of living and making a living does not correspond with a municipality's logic of control, regulation or compartmentalisation of land use – new possibilities are imagined by entrepreneurs, survivalists and even dreamers.

Tony's outrageous quiet aesthetic outsider art that revalues waste in a beautification project is not performed for an audience. It exists purely for his personal delight.

Fleshing Out the Carcass

Elsewhere, vibrant regeneration is burgeoning in the remains of the city's commercial heart. A shadow city of thousands of small-scale fortune seekers is giving rise to a radical new architecture as the city carcass is revalued. Over the same twenty year period, the incremental repurposing of space has transformed the nature of retail in the inner city. Here in-migrants are carving a livelihood in buildings that have outlived their usefulness as office towers

and medical suites. The excess infrastructure of the city blocks centering on Jeppe Street – once the Harley Street of Johannesburg – has been repurposed. The cavities of abandoned commercial buildings have been re-detailed into thousands of cubicle-sized shops serving a trade that stretches through Africa. A new city form is being laid out, one shopkeeper at a time. And a hitherto unknown retail model of wholesale and retail trade is operating from tiny shop fronts and even from single walls and loose counters that stretch up to six floors in buildings that read to the onlooker as office space. Now the area that political asylum seekers and refugees from Ethiopia and elsewhere

have appropriated and transformed into the 'Dubai of Africa' hosts over 3,000 shops, servicing a trade from sub Saharan Africa and accounting for a turnover – unrecognised by the City or national economy – of over R10 billion. No formal political, financial or infrastructural support has accompanied this endeavour. Incrementally and using light architectures, it has increased the property value manifold. Now formal property investors are recognising the new value that has been carved by thousands of small entrepreneurs and are buying buildings and converting them. Their conversions mimic the footprint established by informal actors who seized the potential of Johannesburg's abandoned, excess infrastructure and laid the foundation for a new city form and massive globalised micro economy (Zack and Lewis, 2017).

Johannesburg is a city that is plugged into the forces of capital, but one that provides different avenues for accumulation. A place where everything is commoditised and where different value chains attach to the flesh, bones and skin of a single cow head. The carcass is a veritable metaphor for a city that is continually made and remade. And where excess or abandoned infrastructure is reused in ways that beckon a different way of measuring value enhancement.

The endless variations of carcass in this city are being revalued, contesting old ways of living with infrastructures that were designed under premises of full employment and modernist ideals. And it is generating new transactional relations around reconfigured infrastructures and new micro economies in the fissures of decay.

It is in these cracks that Johannesburg's marginalised inhabitants – excluded through lack of income or documentation – are responding to their crises of poverty, unemployment and lack of shelter through individual and collective actions of appropriating, adapting and generating infrastructure for living and working.

These adaptations of infrastructure occur in the shadows of formal regulation and planning. They might be survivalist, or aesthetic or entrepreneurial. They are creative innovations through which people are resculpting the city carcass to reproduce and represent themselves, and at times they forge an entirely new city-ness.

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KEYWORDS

rituals
Johannesburg
mine dumps
wall
funambulist

A Blurry Line on the Plan: Johannesburg's Rituals on the Edge

– Sumayya Vally & Sarah de Villiers

'The essential thing is to etch movements in the sky, movements so still they leave no trace. The essential thing is simplicity. That is why the long path to perfection is horizontal.' Philippe Petit in Man on Wire (Marsh, 2008)

It is in the fleeting act of precariously straddling a no-man's land that an awareness of two sides is created. The isolation on each side of the boundary is not understood until one moves across the threshold to a vastly different environment on the other side.

This dividing line separates *here* and *there, this* and *that, us* and *them*. Buffers and walls are tangibly divisive devices between races, ethnicities, faiths and belief systems, economic brackets and ideologies. In a seemingly innocent and neutral zone (though nothing is ever innocent and neutral), that of the sky, the drone view captures glimpses of people and goods clustering, shifting, and traversing expansive left-over territories at the seams of the city. We are looking for moments of suspension of the boundary. In this series of eight drone images, we find Johannesburg funambulists': people and systems which navigate and circumvent its divides and thresholds.

Walking a line on the plan, the funambulist subverts the line of the border or buffer, which divides two sides. Lambert (2013) argues that the line is a legal diagram, instantaneously denoting a dichotomist political arrangement, as soon as the pen marks the paper in a stroke, representing the wall. In Johannesburg, spaces are divided with 'walls' of varying thicknesses, sizes and gradients, and varying degrees of perceptibility and visibility. Physical walls and dividing infrastructures include golf courses, mine dumps, cemeteries, and retail conglomerates – often intended as non-traversable expanses, appendages to their adjacent hosts.

Documentation of ritual practices (both everyday and extraordinary) which, in almost all cases, involve a large-scale framing of terrain in an attempt to portray the full logic of the divide, invites an in-between scale. Between the zoom-out map of a planner and a zoom-in map of an anthropologist, a shift in gaze takes place. This phenomenon is interesting when contemplated through Walter Benjamin's concept of *trace* (the pursuit of nearness) and *aura* (feeling or experience of that which is apart from the subject) (Benjamin, 1999: 47). It is true: seen from Google Earth's perspective, expanses are rendered flat, equidistant, separate – nothing is necessarily foregrounded or biased, an analytical and perhaps not an especially felt experience. In an attempt to *trace* that which is normally hidden from plain sight to the pedestrian, the *aura* of the space becomes somewhat elusive. One could argue that this is both an act of seeing more (seeing objects usually hidden from the view of the pedestrian, for example, on rooftops or mine dumps) and

seeing less, removed from the ground and not experiencing things that may be inaccessible from the drone view – smell, sound and touch.

Yet in the creation of these images, the camera operator certainly undergoes turbulent 'feeling' of another kind. The images are captured with less pervasive, generically-timed satellite photography (as in the case of Google Earth imagery) and the drone photographer acts as a street photographer, drawing and working with her interpretation of local event, light conditions and weather. The result, we argue, is imbued with event and emotion. From this perspective, we are able to perceive people's trajectories, pauses or groupings – an odd moving dot on a great sea of toxic colour, a car dropped off for repair in an informal mechanic's yard, or a stark white centipede of followers making their way from an unclaimed territory in a cemetery up to an adjacent hill top to pray on Sunday. We are able to see these within a larger system or spatial conglomerate, where relationships of certain spatial phenomena become measurable.

Ritual and residue create a new landscape on the host territory; the in-between becomes inhabited in the photograph, occupied both in an instant and forever. As Tuan remarks, the border or fuzzy line offers a political quarantine as a space itself, escaping the rules of its bordering zones (2005: 120). All sorts of strange things emerge here, but not without a lesser sense of status, as they are declared neither 'in' nor 'out.' And so, apart from the gaze of some nosey celestial being, these phenomena remain largely unrecognised as sites producing fascinating, context-specific mutants of cultures, ecologies and political arrangements. Mine dumps, originally used as a divisive urban tool between privilege, in small moments become loophole pedestrian thoroughfares, or a site for illegal informal retrieval of precious metals, or a place to conduct a baptism.

It is interesting that, in some cases, the images reveal that the occupation of the 'line' reverses the role of 'host' and 'parasite'. Where before, these practices were informed or produced by a set of phenomena of different attributes lying on either side of the line, the occupied in-between now becomes host to new functions to the territories outside of it – such as a bustling sidewalk of informal trade in a Johannesburg township, adjacent to a strip mall; or light manufacturing and recycling retailers adjacent to a conglomerate of informal recyclers on the edges of Maboneng.

The give and take: gentle and violent forms of 'hustle for the *uitvalgrond*'[1] remain relentless. As an open project, we continue to trace this oscillating membrane of transaction of the land in our city, in a visceral pursuit of its shifting geographies and conflating, spatialised crunch of need and ever more unsecured resources.

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[1] *Uitvalgrond*: Original piece of triangular ground at the centre of eight farms claimed for mining diggings in 1886 Johannesburg. *Uitvalground* translates to 'surplus ground' in Afrikaans, given by the ZAR as a word to describe land leftover between farm portions whose perimeters were defined by the distance a Boer farmer could ride in the day from his or her farmstead (Weizman, 2014: 184).

01
Monday
06h08

Intersection at Nugget Street – traders, travellers and children cross into the city.

02
Tuesday
10h12

Next to the M2 'Old Kaserne' off-ramp, economic opportunists walk across and underneath the highway into an occupied yard to sort bales of goods collected for recycling.

03
Wednesday
08h18

Music, braai smoke and the incisive taxi-toot waft across the fenced edges of Pan-African Mall in Alex.

04
Thursday
17h30

The mine water sleeps next to the city at the site of the old Top Star drive-in cinema.

05
Friday
15h22

Drive up through the cemetery, and slip through a forgotten hole in its fence to reach a demarcated Shembe sacred space, an elevated clearing in a thicket.

06
Saturday
12noon

It is believed that God directs the worshippers to the space to be prayed in. An exercise in place-making — preparing the space for ritual prayer.

1. Chase former evil-dwellers
2. Remove dirt
3. Dig a hole, place salt in the hole
4. Add a sheep's tail to the hole. Sheeps' tails act as good amulets against witchcraft
5. Cover the hole with soil
6. Draw a circle of hot ashes within the limits of the cleared space
7. Have priests gather with a bucket of water in the middle
8. Mix coarse salt in water
9. Pray over the water, simultaneously sprinking it around

07
Sunday
09h37

Over the M2 interchange and the Mai Mai traditional market, adjacent to the Maboneng Precinct.

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KEYWORDS

modernity
identity politics
Gaborone
nation-building
capital

Envisioning a Postcolonial Capital City: a Tale of Gaborone's Design Proposals

– Katlego Mwale

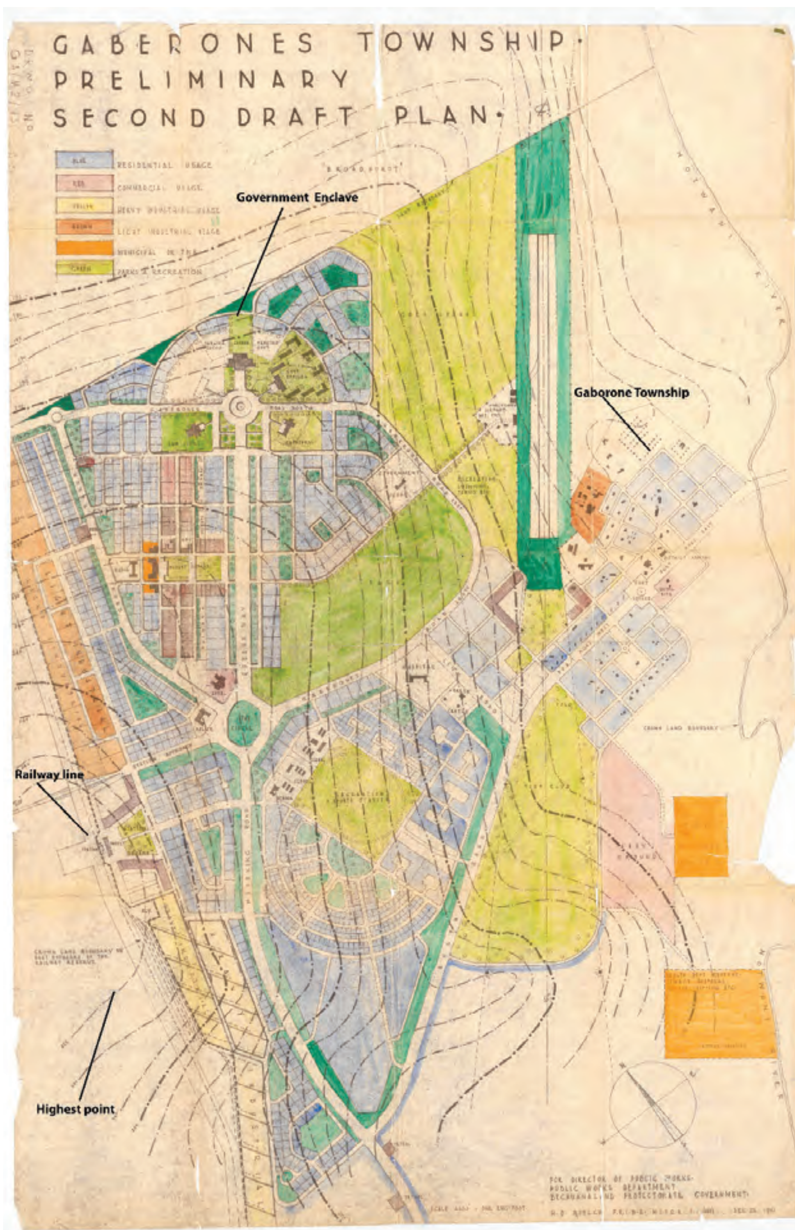
In 1965, during the preparation for independence in Botswana, a new capital city, Gaborone, was built with input from the departing colonial power and the extant Tswana political elite.[1] The city was envisaged as a modern and racially inclusive capital city, representative of the new national identity. It was also presented by the stakeholders as a departure from the existing 'traditional' patterns found in villages in Botswana.

This essay gives an account of the design of Gaborone as a capital city. Existing literature on Gaborone focuses on urbanisation, sustainability and urban growth rather than its design context. Horatius Ikgopoleng and Anthony Kent suggest that Gaborone is a *'quintessential modern city and, it has to be said, quintessentially bland'* (Kent and Ikgopoleng, 2011: 480) because of its lack of distinct 'African motifs.' Similarly, Branco Cavric and Marco Keiner argue that the modern city forms were imposed on the citizens who were used to the traditional form of settlement (Cavric and Keiner, 2006). These studies, like many others on the architecture of Gaborone, do not take into account the socio-political considerations of designing a postcolonial capital city. Recent scholarship on non-Western cities has emphasised the need to move beyond the interpretation of these cities as a linear imposition of modern architecture by Western countries or colonial identity representation. These studies call for a more nuanced reading of space and modernity (Bhabha, 2006: 8). In this regard, it is argued that we need to consider the process of designing the capital city as a political and national identity construction as well as nation-building by both the political elite and design professionals. This is because architecture is often employed in the service of identity construction, particularly during a political transition.

The essay revisits archival documents including drawings, planning minutes and design reports to explore how the political elite, colonial administrators and urban planners envisioned the city. It begins by outlining how the notion of national identity and nation building was imagined by the political elite and colonial administrators. It is argued that the notion of creating a 'non-racial' city (as outlined in the official design brief) was an attempt by the political elite to address how different racial groups would be accommodated in the city, as well as the need to define the city as modern.

It does so by reviewing the three main design proposals – the radial plan, the Beaux Arts-inspired plan by the Public Works Department (PWD)

[1] The Tswana political elite was made up of members of the Legislative Council. The Legislative Council was formed after the dissolution of the two racially-composed councils - The African Advisory Council and the European Advisory Council. The role of the Legislative Council was to advise the Executive Council.


GABERONES TOWNSHIP·
PRELIMINARY
SECOND DRAFT PLAN·
RESIDENTIAL USAGE
COMMERCIAL USAGE
HEAVY INDUSTRIAL USAGE
LIGHT INDUSTRIAL USAGE
PARKS & RECREATION
Government Enclave
Gaborone Township
Railway line
Highest point

and the linear plan by the Architectural Association School of Architecture (AA). The first design proposal (1961) by the PWD was a 'semi-radial town' inspired by the first generation of planned capital cities such as Washington and New Delhi. It evoked the notion of a monumental city and it was framed by the PWD architects as an interpretation of a 'classical city.' The second PWD plan (1962) envisaged a Beaux Arts inspired city with a tree-lined boulevard terminating in a focal point with government buildings. These two design proposals focused on creating a miniature monumental city, driven by the desire for a city with the qualities and identity of most planned capital cities (Vale, 1992).[2] The third design proposal by the AA was for a 'modern linear city' with houses arranged in residential units located alongside the central urban core. None of these plans were built, but the resultant city was somewhat an amalgamation of the three proposals. The essay concludes by illustrating how the different design traditions were appropriated in the final plan.

'Modernity' versus 'Tradition': the Political Elite's Imagined Capital

Botswana (formerly known as Bechuanaland) is located in the centre of Southern Africa. It became a British protectorate in 1885 and remained so until 1966. For the British colonial government, it was important to extend its rule to Botswana given its strategic location in the centre of Southern Africa – and to protect its interests from the neighbouring colonial powers – the Germans in Namibia and the Portuguese in Angola. During the colonial period, the country was a sub-colony to the Cape Colony and administered extra-territorially from an administrative town built in the Imperial Reserve in Mafikeng. It was ruled through a system of indirect rule where the traditional system of governance was integrated into the colonial administration and the resident commissioner represented the colonial government. By then land tenure was divided into tribal land based on the Setswana speaking tribal groups, owned and administered by the tribal chiefs who reported to the resident commissioner, while crown land belonged to the colonial government (Schapera, 1934). Settlements were organised in a two-tier urban system of town or 'townships'[3] with modern functions, and tribal villages built by individual indigenous tribes. This system ensured that the majority of the tribal population lived in villages and were able to maintain their sense of identity.

Gaborone was built as a military camp in 1870 and later became a sub-administrative centre in the early 1940s. In comparison to other colonial towns in history, which were built as power and identity representations of the colonising powers, Gaborone Township was a modest and pragmatic town.

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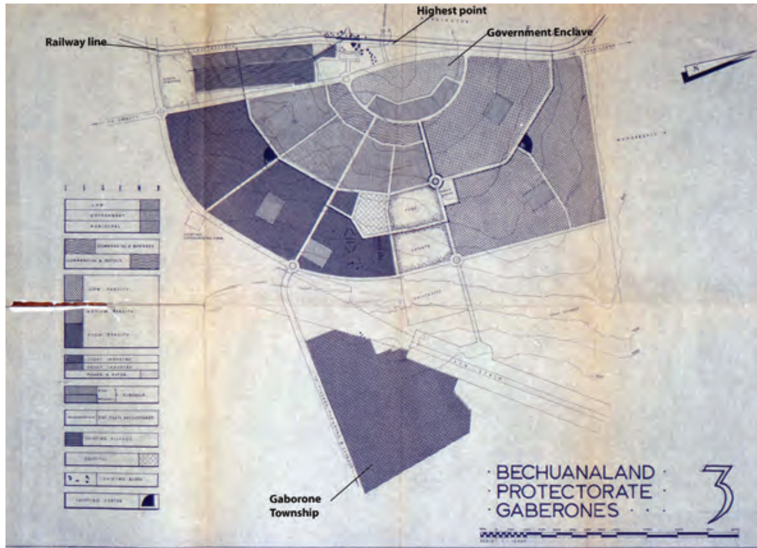
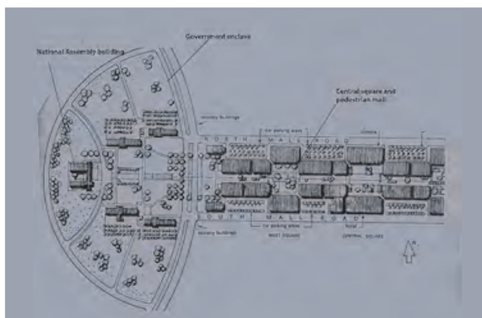
[2] Lawrence Vale makes an important distinction between planned capital cities and cities which evolved to become capital cities.

[3] In Botswana, townships meant small towns with administrative and modern functions. A town was declared a township to introduce planning regulations.





It initially comprised basic modern infrastructure with the main settlement located on the eastern part of the railway with administrative offices, the house of the resident commissioner, civil servant houses, a prison, a police station, a shop, an air landing strip and a hotel. The architectural character of the township reflected an influence of both European culture and indigenous culture (a mix of vernacular architecture and modern building materials). Consequently, the decisions on how the city was to be designed were based on two main concerns. Firstly, the choice of the location of the city was seen as an opportunity to address how different racial groups' interests would be accommodated. Secondly, there was a desire to define a modern capital where ideas on modernity versus traditional were considered.

The decision on where to locate the city revolved around the availability of crown land (i.e. colonial government-owned land) and the need to balance the interests of different tribal and European communities by choosing a 'neutral' and centrally located site. For the political elite, crown land was viewed as a 'neutral site' with no tribal associations (Headquarters Development Committee, 1962). The search for the so-called 'neutral site' entailed the consideration of several existing towns and villages such as Francistown, Gaborone, Lobatse, Bokaa/Pilane, Mahalapye, Tuli Block, Shashe and Manyane. Lobatse Township and Francistown Townships were rejected because of unavailability of crown land. Other sites were rejected because of being owned by tribal communities and would, in the end, render the nation building agenda unattainable. Gaborone Township was chosen as a preferred site because of its proximity to the main Tswana-speaking tribal groups, yet it is not the centre of the country but in the south-east. As Edward Schatz has argued, the choice of Gaborone had nothing to do with a central location, but rather it *'promoted broad identification with a large aggregate, national community'* (Schatz, 2003: 1-26). In the end, the location of the new capital was seen as the opportunity to perform a unifying symbol for the imagined 'non-racial' nation and to promote modernity. These ideas were espoused during the height of decolonisation in Africa when the notion of nation building and the construction of national identity were increasingly becoming popular. In Botswana, the task of nation building depended upon what Neil Parsons terms the 'Tswanafication' of the nation, which meant that different tribal identities were shaped by the major Tswana speaking groups (Parsons, 1985). In this regard, the notion of 'non-racial' city served the purpose of nation building given the existence of different races and tribal groups.

Debates on the design of Gaborone were considered within the political community during Legislative Council debates and PWD planning correspondences. As previously highlighted, these debates revolved around the consideration of 'modern forms' and 'traditional cultural forms.' Most of the official documentation and planning reports presented this dichotomy of modernity and tradition, as one report suggests: *'Africans generally live a normal tribal life in one of the eight Tribal territories under strict tribal control . . . From this, it will be appreciated that the advantage is on our side in so far as we can endeavour to guide the African urban way of life'* (Bechuanaland Protectorate Government, 1962: 2-3).

For some members of the political elite, modern planning was the answer to define a new city aesthetic that would be different from the existing traditional village architecture which was viewed as backward. As one proponent of modern planning suggested *'we need properly planned villages and cities rather than half African and half European fashion houses we see today'* (Bechuanaland Protectorate Government, 1964: 10). The PWD planning correspondences also furthered this argument, echoing that a modern city would guide the citizens to a modern way of life (Bechuanaland Protectorate Government, 1962). It was argued in the planning brief prepared by the PWD that there was no significant architectural inspiration and identity to

draw from, therefore the 'best examples of modern architecture' should be considered (Bechuanaland Protectorate, 1962). Gaborone's inhabitants were also imagined by the political elite as modern, non-racial, egalitarian – all of which were not only political views but were ideas to be incorporated into Gaborone's planning proposals.

Despite these ambitions, Gaborone was designed during a period that lacked technical expertise and funds. Botswana relied on financial aid from the British Ministry of Overseas Development and Colonial Office Development grant. Consequently, the planning proposals were prepared by the PWD office in Mafikeng and the AA as part of the 4th year studio 'live project' under the leadership of Otto Königsberger.[4] The PWD prepared a planning brief in which the main requirement was the idea of a non-racial city, although it was not clear how this was to be addressed. The brief also called for a monumental and symbolic city that would combine both 'classical' and 'modern' city planning (Bechuanaland Protectorate Government, 1962).

The Elitist and Monumental City

The PWD submitted two design proposals in 1961 and 1962. Both proposals illustrate an ambition to design a monumental city drawing inspiration from the Beaux Arts. The 1961 plan focused on designing what the PWD referred to as a 'classical' city, an abstract, semi-radial scheme with the government precinct located at the highest point of the city towards the eastern side, to enhance the monumentality of government buildings. The rest of the city cascaded the natural slope in concentric zones separated by 120ft wide ring roads and comprised commercial area, low density and high density residential areas to the north and south respectively (Figure 1). The industrial area was kept to the west towards the railway for easy transportation access. This highly abstract scheme was to accommodate an estimated 15,000 inhabitants, the majority of which would be government works employees (Public Works Department, 1961). It emphasised the need to design dominant government buildings as one of the ways to reinforce the city's beauty and a sense of hierarchy as these building would be *'the material and visible manifestations of the concept of ordered Government law and justice and should overlook the town'* (Bechuanaland Protectorate Public Works Department, 1962). The plan aligned the most important government building – the Legislature – to the main planned processional avenue, where it was intended that visitors leaving the airport from the west of the city would be presented with 'a view of the town's best feature' (Public Works Department). To complete this symbolism in the cityscape, the PWD director argued that the placement (location) of the government buildings should reflect the hierarchical structure of the soon-to-be-formed government.

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[4] It was initially intended that Otto Königsberger would be appointed as a consultant but due to shortage of funds, the proposal was reviewed and seen as an alternative possibility. Königsberger was the head of the Department of Tropical Studies in Architectural Association School of Architecture.

In this sense, it is clear that the formal qualities of the Beaux Arts planning traditions in Gaborone were appropriated for both aesthetic and political reasons. The plan can be interpreted as an elitist idea of what the architectural identity of the capital city should be. Here the so called 'classical city' took on the significance of monumental and formal qualities of the first generation of planned capitals like Washington and New Delhi. For the PWD the geometric qualities of the plan represented a civilised city, nation and state.

The residential areas were organised based on an economic basis rather than on a racial basis. Lower density areas were for highly valued properties for the middle class and high class communities. These houses had generous plots of land. High density was for lower paid public service workers with smaller plots of land. At the time, the Tswana political elite was in a position of power, the European government officials and business leaders in Gaborone could afford to live in low density areas while the majority of the African community of migrants and low paid workers lived in high density areas.

In 1962, a second preliminary planning scheme was prepared by the PWD and submitted to the Building Research Station in London. It was not much of a departure from the first proposal. It employed Beaux Arts principles. It shows a city approached by a 'tree-lined boulevard' named the Queen's Way, terminating at a government complex. Here again, the Legislative Council building was aligned to the main avenue flanked by the Law Courts building and other government offices (Figure 2). It differed from the first proposal by locating the government precinct on the northeast, away from the highest point of the city. The processional avenue was now shifted from the airport aligned towards Mafikeng road. An open public square was located in front of the government precinct to accommodate future public monuments. The spatial layout described here was curiously similar to the design of New Delhi by Sir Edwin Lutyens, although it was a miniature version of it. Lawrence Vale has demonstrated that in New Delhi *'the placement of Government buildings would do more than form the heart of the city'* (Vale, 1992) but it was also designed to reflect the structure of the then government whereby the Government House was flanked by the Secretariat's buildings.

The rest of the city was organised according to the industrial area located towards the west alongside the existing railway line. A separate municipal area located local government functions such as the City Hall and a local market square. Residential areas were distributed around the city. Yet again, the notion of a non-racial city was overlooked; instead, there was a preoccupation with inscribing a particular monumental identity, despite the arguments of the PWD architects that *'every attempt has been made to provide a town plan which postulates no particular political or economic ideology'* (Bechuanaland Protectorate, 1962: 3). It embeds a distinct social and political identity of a neo-colonial city in its clear symbolism of the state in the spatial hierarchy. The proponents of the two Beaux Arts-inspired schemes made an argument in support of the aesthetics and monumentality. The

PWD's approach was very much shaped by their exposure to political debates about what a capital city should look like. As a result, their approach idealised the political elite's vision of a city, given that the Beaux Arts was by then under heavy criticism in Britain in professional and academic circles. More importantly, the 1960s planning in Britain was anti-classicist and anti-Beaux Arts (Higgott, 2007).

The Modernist and Egalitarian City

The AA proposal was a counter approach to the two PWD plans. It envisaged a linear city orientated on an east-west axis with a central urban core comprising national, local government and commercial areas. Residential areas were located along the flanks of the linear core in smaller 'residential units' with communal facilities such as shops, schools, library, service hall and post office in the centre within walking distance. It was expected that the city would in the future expand along the east-west axis (identified as growth points) to incorporate the existing Gaborone township. It was planned for 20,000 inhabitants in the first year but could expand to 30,000 inhabitants due to rural to urban in-migration (Figure 3).

According to the design report, each residential unit was to accommodate 350 families of different economic classes as a way of encouraging the development of a community and to address the requirement of a non-racial city. It was argued that the housing would also cater for in-migration to avoid the development of slum areas on the fringes of the city (Architectural Association, 1962: 6). The use of residential units echoed the reformist modern planning associated with post-World War II planning. In Gaborone, this modernist planning was appropriated to address very different problems (congestion, reconstruction and adequate housing) to those associated with post-war planning in Britain. There was an attempt to address the principle of a non-racial city based on the assumption that the integration of different economic classes in one residential unit would make for an egalitarian city (Figure 4). As the design report mentioned, *'The city is intended as a multi-racial community and a place for all income groups which has an obvious bearing on the types of accommodation provided*' (Architectural Association, 1962: 6).

However, the residential units were criticised by the political elite in Gaborone arguing that it amounted to universalist modernist social engineering, and hence not culturally acceptable in the context of Botswana. In this case, the idea of a non-racial city remained underexplored because, at the time, the interrogation of race remained a central idea of the politics of nation building rather than a creative and experimental architectural design approach.

According to the design report, the aim of combining the national government functions and other activities in the urban core was to subvert the spatial hierarchy associated with medieval cities in Europe. The central precinct was pedestrian-friendly, with spaces for the public to gather in markets and other cultural activities. These activities were juxtaposed with

more official functions such as the Legislative Council, Secretariat, Local Government, and other commercial activities. It could, therefore, be argued that the creation of a civic precinct combining both the everyday activities and government functions is a powerful representation of the nation (Figure 5).

The Amalgamated Final Plan

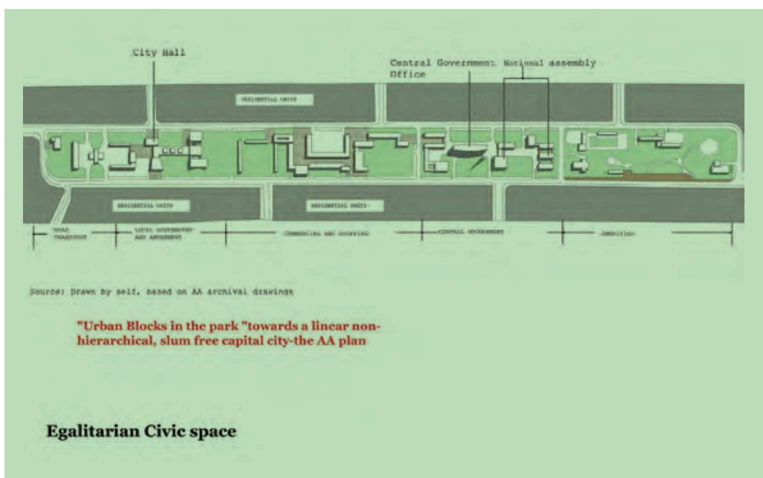
As previously emphasised, none of these schemes was realised, but it is argued that they contributed to the discussions of identity in the city. The rest of this essay examines the process of arriving at the resultant design and illustrates the ways the three proposals contributed to the present form of Gaborone which is a combination of neo-colonial and 'New Town' design traditions.

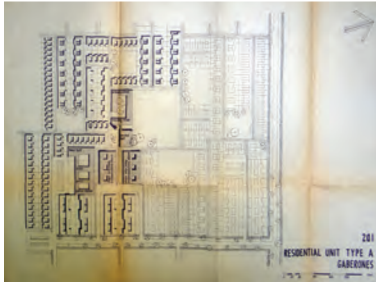
Gaborone was envisioned at a time when there was a lack of technical expertise; as a result, the three proposals were submitted to the Building Research Station in London to either approve the design or offer more architectural advice. Critics of the PWD proposals include the administration in London who argued that schemes were too grandiose and did not reflect the planning approach in Britain at that time. Andrew Higgott has highlighted that post-war planning in Britain was *'concerned with the inclusive of whole cities rather than the simpler Beaux Arts intention of making the city beautiful'* (Higgott, 2007: 89). The wide ring roads and the monumental character of the proposals were seen as expensive. The AA proposal was criticised for lack of character and monumentality by the colonial administration in Gaborone and Mafikeng. It was argued that the absence of certain key features such as the processional avenue made for a monotonous city associated with new towns in England. (Headquarters Development Committee, 1962).

Consequently, the final plan was prepared by the PWD architects and was to a greater degree an amalgamation of the three designs (Figure 6). The central core proposed in the AA plan was retained but reduced significantly in size to cater for a population of up to 25,000 inhabitants rather than the 30,000 suggested in the AA proposal. The central linear core was built as a pedestrian-friendly mall. It was architecturally modest and covered an area of 8.3 hectares (Figure 7). Two rows of buildings were kept to the edge of the Mall towards the main roads and created a central open space and three civic squares used for temporary markets and other everyday life activities. The majority of these buildings were designed by the PWD architects and followed the late 1960s modernist architecture characterised by two or three storey buildings with shops on the ground floor and offices on upper floors (Figure 8 and 9). The government precinct was adopted from the 1961 PWD plan and located on the highest site towards the railway, separated by a road from the Mall. It took a semi-radial form with a modest assembly hall and four ministerial buildings built in the precinct, which was also a modest example of modernist architecture. The industrial area was kept towards the railway. The City Hall was located on the other end, opposite the government precinct.

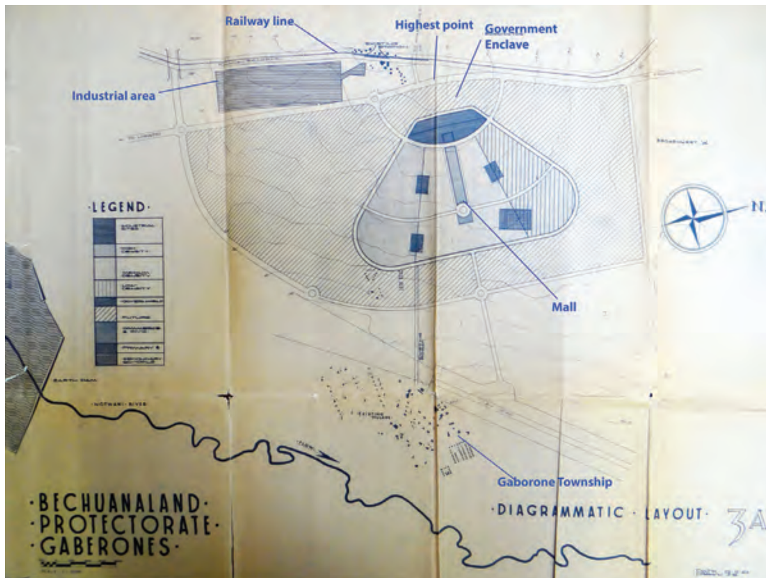
Residential areas were organised based on economic class adopted from the PWD proposals. Low density areas for high income earners were located to the north with two to four houses per hectare. These were inhabited by highly paid government workers, the political elite and the business community. This area had bungalows or flats with front and back gardens. Medium and high density areas were kept to the southern part of the city with five to twelve houses per hectare and twenty to twenty-five houses per hectare respectively. These were inhabited by lower paid government workers. Watts suggested the partial application of the Garden City planning principles (Watts, 1963) within the residential areas. Some of the morphological features that were selectively applied from the Garden City movement included the location of schools and shops within walking distance, pedestrian networks and a few cul-de-sacs.

In the end, it is clear that the initially intended monumental city was not realised in Gaborone (Figure 10). As urban planner Gerald Bennett Dix commented in 1965, concerning the architecture of the government precinct, *'The Assembly building is not large enough and though it stands on the highest ground there was a danger that it might be lost to the beholder'* (Dix, 1965: 295). The commitment to design a city with a particular political identity has meant that there was a missed opportunity to explore how the ideas about creating a non-racial and egalitarian city would translate in Gaborone. For example, in 1971, the low density residential area was criticised by Sir Seretse Khama, who was President at that time, for creating what he termed an 'economically segregated city' and 'little England' (Republic of Botswana, 1976) because plot sizes were viewed as symbols of social status. He argued that this design approach based on economic class did not fit the values of an egalitarian society. Furthermore, there was no attempt to address housing needs for rural





to urban in-migration; as a result, an informal settlement developed in an area opposite the railway. A proponent of the egalitarian city, Richard Sennett has argued that the city should be a place of diversity instead of social class enclaves (Sennett, 1977) which Gaborone, to some extent, became. Stephen Marr has extended this argument in the case of Gaborone by arguing that the decision to organise residential areas along economic lines was because the political elite in Gaborone did not want to be associated with the poor (Marr, 2009: 7).



shopping plaza, when completed, will contain general and specialty shops, a cinema, the post office, consular buildings, apartments, and parking areas.

Conclusion

Envisioning Gaborone as a capital city is an important event in Botswana's urban and architectural recent history, which has not yet been fully explored. This essay has suggested that the process should be viewed within the context of the transition to independence, which envisioned a city that would promote a sense of national identity and embody the values of a non-racial and egalitarian society. By responding to scholarship which views the city as part of negotiation of space by different actors, as well as part of defining a collective identity rather than looking at the themes of cultural subjugation or resistance, I have argued that architecture and planning were to play a key role in the construction of national identity in the creation of Gaborone. For the political elite, modern architecture was to be appropriated as a sign of a well ordered government; most importantly, it was a departure from the 'traditional' village architecture viewed as unappealing. The idea of what a non-racial city meant and how it was to be achieved was not fully explored; nonetheless, it allowed the political elite to appropriate it as part of nation building. For the most part, the meaning of a non-racial city was an attempt to balance the interests of all racial groups and tribal groups in the country. The three proposals represented different design traditions but each influenced the final plan. The form of Gaborone is thus a negotiation between different urban visions from the stakeholders – an amalgamation of neo-colonial and New Town modern design influences.

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KEYWORDS

mosque
folly
eclecticism
empire
contemporary

The Mosque in Britain as a Contemporary Folly

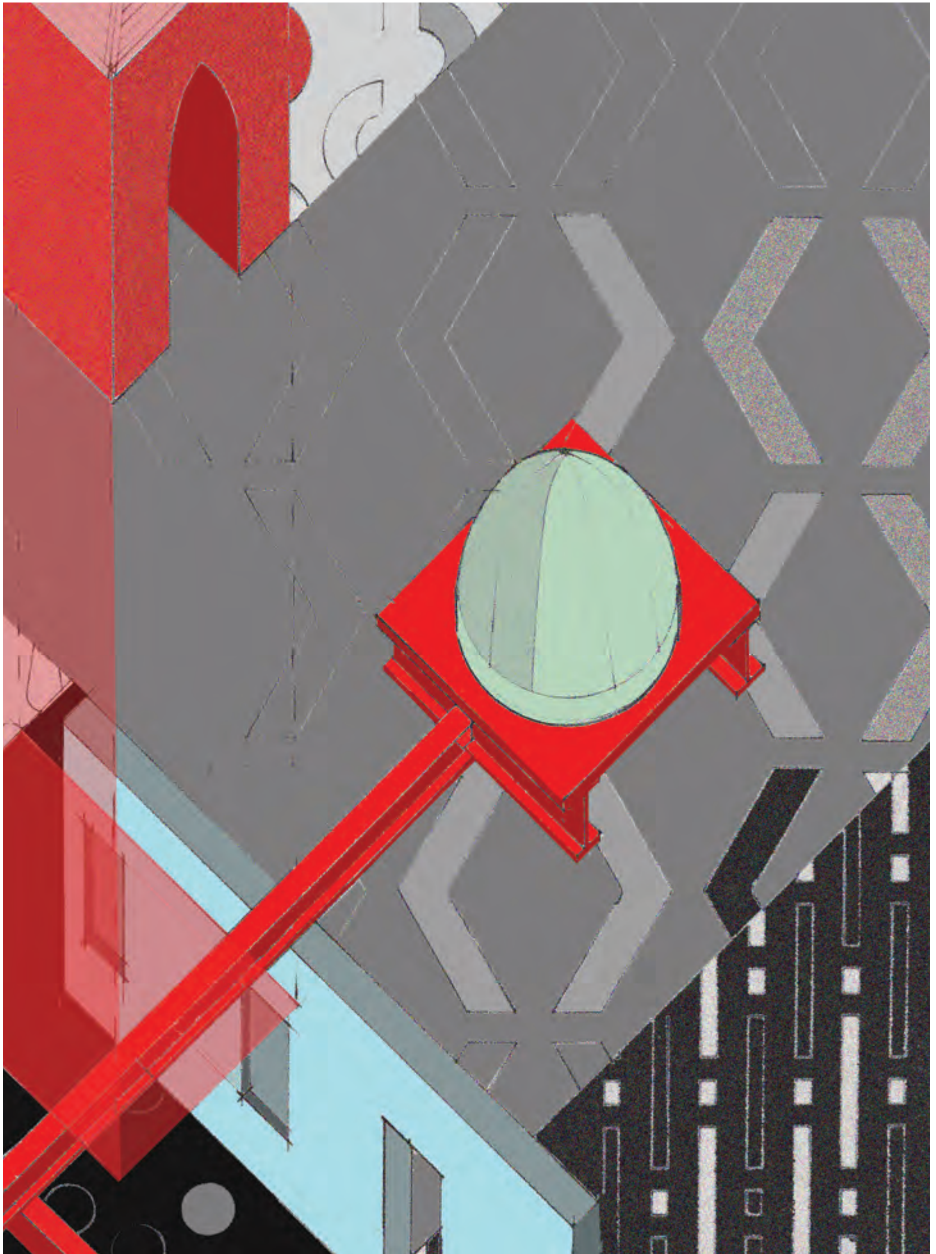
- Shahed Saleem

The first mosque in Britain appeared in Kew Gardens, London in 1761. However, it was not a place of worship but rather a folly, built alongside a series of 16 other symbolic buildings in a 'royal circuit', each representing architecture from 'around the world'. These constructions were visual representations of the way the world was imagined, and colonised, for the enjoyment and consumption of the domestic and imperial audiences. This 'folly mosque', with its central dome flanked by minarets, was an exotic image; the distillation of the Muslim world as seen through the European imagination.

The next mosque in Britain was built over a century later in 1889 at Woking. This time, although it was a 'real' building and place of worship, it was nonetheless again a product of the European fascination and experience of its colonies, an exuberance of late Victorian eclecticism. Over the next 130 years, colonies were unshackled from European direct rule, and global shifts altered the relations between nations and people. Populations were uprooted and migration from the former colonies into Britain steadily transformed the nation's social and cultural character. As well as cultural practices, new architectures emerged across the country. One of these was the mosque: established in converted buildings or new builds, by the end of the twentieth century, there were around 1,500 mosques in Britain. An architectural and aesthetic language of the mosque in Britain had taken root. This was largely a language of improvisation and appropriation, where idealised architectural symbols from Islamic history were replicated and combined with local domestic and vernacular architectural idioms. The mosques that the Muslim diaspora built in Britain were iterative, fragmented buildings, constantly changing with the fluidity of the Muslim population and their evolving place in the nation.

Drawing on the eighteenth century 'folly mosque' in Kew Gardens, this project is a proposal for a second 'folly mosque,' this time for the twenty-first century. Just as the Kew 'folly mosque' represented the exotic, the new proposal reflects the contemporary imagination of the postcolonial diaspora. It symbolises the colonial rupture that creates disjointed histories for diaspora communities, where culture and tradition are imagined and remembered. Here, the Muslim world, as embodied in architecture, is disassembled and recombined with local architecture to create a hybrid, disintegrated composition of parts, held together by new and precarious narratives.

A location for the folly is currently being sought; its 'natural' and obvious location should be the same site as the 1761 mosque at Kew.



KEYWORDS

heterotic
waste
urbanity
hybridity

Heterotic Architecture:
Stacks, Chimneys and Chutes

- Joshua Feldman

Hybrid vs Heterotic Architecture

In 'Pamphlet Architecture: Hybrid Buildings' by Joseph Fenton, editor Kenneth Kaplan posits the difference between 'Hybrid Sterility' and 'Hybrid Vigour' and contends that the distinction between the two 'dares our mastery' (Kaplan, 2000: 4). Kaplan describes 'hybrid sterility' as *'the mutual disturbance of parental chromosomes which causes infertility in a hybrid individual'* (Kaplan, 2000: 4). For example, the offspring of any cross between a zebra and a horse or a donkey, known as the 'zebroid,' (which is not to be confused with the now extinct South African Quagga) is rare and typically sterile. In contrast, 'hybrid vigour,' also known as 'heterosis,' was first put forward by the German geneticist Kölreuter as a description for *'the tendency of cross-breeding to produce an animal or a plant with a greater hardiness and capacity for growth than either of the parents'* (Kaplan, 2000: 4). As in genetically modified maize, for example, the cross breeding of different corn strands results in a crop with the most agriculturally desirable traits. This contribution to FOLIO suggests that the concept of 'heterosis' operates beyond the realm of agriculture and genetics. It equates 'hybrid sterility' with 'hybrid architecture' and 'hybrid vigour' with 'heterotic architecture', with the difference being that in the latter, the whole is greater than the sum of its parts.

Buildings, to some degree, have been bred, like the Zebroid, to produce hybrids, which in this context refers to the unproductive pairing of multiple functions within a single building or envelope. Fenton explains that combining programmes in a single structure is historically common practice: the house over the store and the apartment above the bridge are early examples of merging two disparate programmes. Fenton further argues that more recent hybrid architecture is the product of economics, responding to *'metropolitan pressures of escalating land values and the constraint of the urban grid'* (Kaplan, 2000: 5). With horizontal movement restricted, buildings grow vertically, bringing about enormous volumes unable to be occupied by individual usage, resulting in the combination of functions. The Downtown Athletic Club in New York, for example, described by Rem Koolhaas in *Delirious New York*, combines a full spectrum of urban facilities into a vertical 'Constructivist Social Condenser' (Koolhaas, 1994:152). Similarly, in *Made in Tokyo*, the authors describe 'Da-me architecture' (no-good architecture) – highly economical and efficient solutions that bring together two different functions, such as the department store/expressway, where a shop nestles underneath a motorway, to form 'cross categorical hybrids' (Kuroda et al, 2001: 30).

Heterosis, on the other hand, productively pairs multiple functions. Unlike hybrids, the specific pairings produce constructive synergies. Take, for instance, a few contemporary allegorical examples: the cronut, a pastry filled with flavoured cream, is arguably more delicious than either a doughnut or a croissant; the grolar bear, a naturally occurring yet indirectly man-made crossbred species that has arisen as a result of global warming has the appearance of a polar bear but the large claws of a grizzly bear; and even Neil Harbisson, the first officially recognised cyborg, who exhibits transpecies qualities that combine both human and non-human identities.

Heterosis in architecture can also be likened to mutual symbiosis, which describes the harmonious union of two dissimilar organisms. Interspecies relationships, such as between the crocodile and the plover, while often jarring are ultimately beneficial to both species. Perched inside the crocodile's gaping jaws, the plover feeds off scraps stuck between its teeth, thereby cleaning the crocodile's mouth and keeping it free from infection. While hybrid architecture is concerned with the mere colocation of functions generally stacked vertically, heterotic architecture prioritises the interbreeding of disparate programmes that result in mutually symbiotic relationships.

The Rise of Waste

Given increasing urbanisation rates, global solid waste generation is accelerating, presenting a looming crisis in the treatment and management of waste. Solid waste generation has far exceeded our current global waste management systems, which has led to astonishing and extreme waste disposal measures. In 1987, a garbage barge known as Mobro 4,000, hauled over 3,000 tons of trash from New York to Belize and back again, until it was finally incinerated in Brooklyn. Thilafushi Island, a municipal landfill site in the Maldives, is an artificial 'trash island.' It has become an emerging real estate platform where an estimated 330 tons of trash are dumped every day, eventually to be used to reclaim more land for industrial purposes (Bremner, 2015). Waste statistics alone are astounding. In 1900, the world had 220 million urban residents who produced fewer than 300,000 tons of waste per day. By the year 2100, solid waste generation rates will exceed 11 million tons per day – more than three times today's rate (Hoornweg et al, 2013). Much of this increase is expected to come from fast growing cities in developing countries, such as South Africa, which currently sends 90% of its waste to landfill (Department of Environmental Affairs, 2012: 14).

Johannesburg, South Africa's largest city, produces in excess of 1.5 million tons of waste per year of which about 20% is collected from illegal dumping and litter on the streets (Chisadza, 2015: 16). With the vast majority of all waste going to landfill sites, the city's four existing landfills are expected to reach their capacity within the next ten years (Chisadza, 2015: 16). As a signatory to the Polokwane Declaration, which maps South Africa's transition towards zero waste, the City of Johannesburg has recognised the need for new waste management strategies. One such solution is the

implementation of waste-to-energy projects at the city's landfill sites. South Africa's first independent landfill gas generation plant became operational in December 2016 at the Robinson Deep landfill. The plant is one of five facilities in Johannesburg which are expected to produce a combined maximum of 11MW of renewable electricity – enough to supply more than 20,000 homes (Anon, 2016). However, not all waste is collected in Johannesburg; it often piles up on pavements, in drainage systems and in public spaces where it is frequently burned to offset its stench.

Waste on Site

Given the impending waste management crisis in Johannesburg, this essay proposes a radical alternative waste management solution in the heart of the city's high density residential neighbourhoods, adjacent to the iconic Ponte tower in Berea (Figure 1). With the formal end of apartheid in the early 1990s and the influx of formerly marginalised populations into the city centre, single apartments became occupied by multiple families to share the cost of exorbitant rentals. Consequently, population density in these neighbourhoods skyrocketed (Morris, 1999). Together, Hillbrow and Berea grew to have a combined density of 67,500 people per square kilometre, far exceeding Hong Kong at 25,000 and New York City at 10,000 and thus the source of a huge volume of waste (Silverman and Zack, 2007: 22). Furthermore, during this time of transition, Ponte's central light well became used as a giant trash chute, with waste building up numerous floors high, and Hillbrow became notorious for a New Year's Eve tradition of throwing one's unwanted furniture straight out of the window as a form of 'spring cleaning' (Anon, 2011). At

Figure 1: Johannesburg Skyline

the same time, the urban poor initiated the practices of urban recycling, collecting and manually pushing waste to recycling centres for meagre profits.

Within this context, this project proposes to mobilise the idea of heterosis to turn waste management into a spectacle, an urban precinct and a way of life through the combination of housing with a waste-to-energy facility. The housing offers relief to overcrowding, and a waste-to-energy plant serves as an effective infrastructural link in the management of the city's urban metabolism. Like the crocodile and the plover, this pairing seems jarring at first, but is nonetheless mutually beneficial.

Centralise

As with most industry and infrastructure, waste incineration plants are typically located on the outskirts of cities – out of sight where land is cheap. This proposal's central location in a dense urban environment, however, increases the waste plant's effectiveness by reducing travel distance for garbage trucks, increasing the efficiency of energy production and supporting the local waste picking economy. To date, this is a largely unexplored pairing and the location of even a standalone waste plant within a city centre highly unusual. Tokyo is unique in its practice of locating waste-to-energy facilities in the heart of the city; nonetheless, buildings like the Toshima Incineration Plant stand alone and apart from their surroundings. The project also supports the principles put forward by Nina Rappaport in V*ertical Urban Factory*. Rappaport embraces the factory, *'once inspiring in its architectural innovation, to be considered equally significant today'* (Rappaport, 2016: 32) and advocates for manufacturing to be made visible and to take root in the city. By effectively turning waste into a spectacle in the heart of the city, this project brings a greater awareness of waste management to the general public. Given its central location, the plant could be expected to process on average 362,000 tons of waste and provide electricity and heat to support 400,000 people annually. As indicated on the site plan, three concentric circles show the reach of the project – one each to express the areas of waste catchment, district cooling/heating and electricity (Figure 2).

Waste-to-Energy Process

Before continuing with a description of the project, it would be helpful to first review the waste-to-energy process. The typical waste plant is organised linearly. Trucks deliver waste to the 'tipping hall' where it is held in a waste 'bunker' until transferred to the incinerator. Waste is ultimately processed

Figure 2: Johannesburg Site Plan

Figure 3: Basement Plan

into two end products, electricity and high pressure steam (which is used for district heating or cooling), and by-products which include water vapour from the stack, bottom ash which can be used in construction, and a small amount of fly ash which is sent to landfill. A common misconception is that the large stacks that emerge from these plants release pollutants into the air. In fact, these stacks merely exhaust clean steam from the flue gas cleaning process.

In contrast to the typical linear layout, this proposal has a radial organisation, with three large incinerators, waste processing and flue gas filtering components arrayed around a central waste pit in the basement (Figure 3). Garbage trucks enter the plant at the south west corner of the site where they veer off Joe Slovo Drive and slip under the housing units to approach the tipping hall (Figure 4). From the waste bunker the claw drops the waste into three separate incinerators (Figure 5). Steam from the incineration process

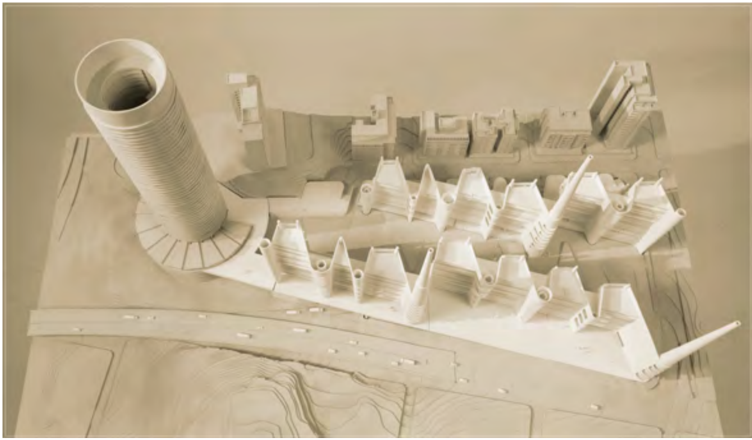


Figure 4: Arial View

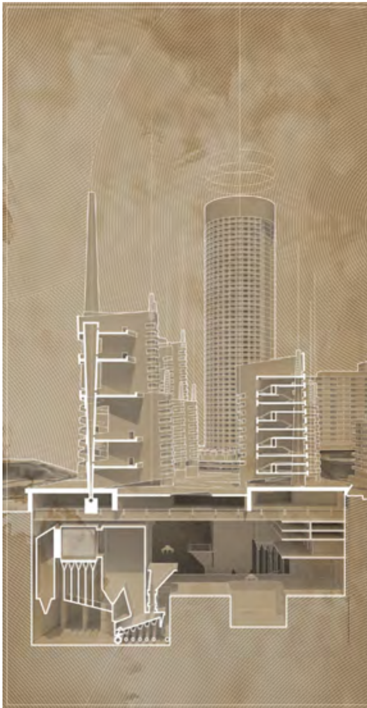


Figure 5: Cross Section

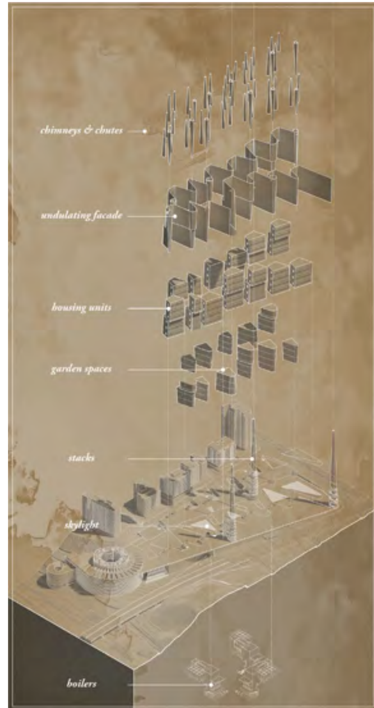


Figure 6: Exploded Axonometric

then passes through a turbine which generates electricity, after which it can be used for district heating/cooling or diverted to the building's chimneys to aid in ventilation.

Design Synopsis

Symbolically and programmatically the project is balanced across four vertical shafts, three large stacks within the design of the project itself, with Ponte tower comprising the fourth. Additionally, the project is made up of elevated green spaces and housing units, an undulating façade and a series of chimneys and waste chutes, all of which sit on a podium level connecting to Ponte (Figures 6 & 7). The presence of the waste plant is referenced most visually above ground through the stacks, chimneys and chutes that punctuate the elevation (Figure 8). These elements serve three primary functional roles. Conical stacks exhaust water vapour from the combustion chamber below, pointed chimneys facilitate ventilation through the housing units above, and inverted tapering garbage chutes carry trash towards the waste bunker below. But, in pairing housing with waste incineration, these three elements take on multiple uses in their role as public spectacle, foregrounding waste management in the city imaginary

Figure 7: East Elevation

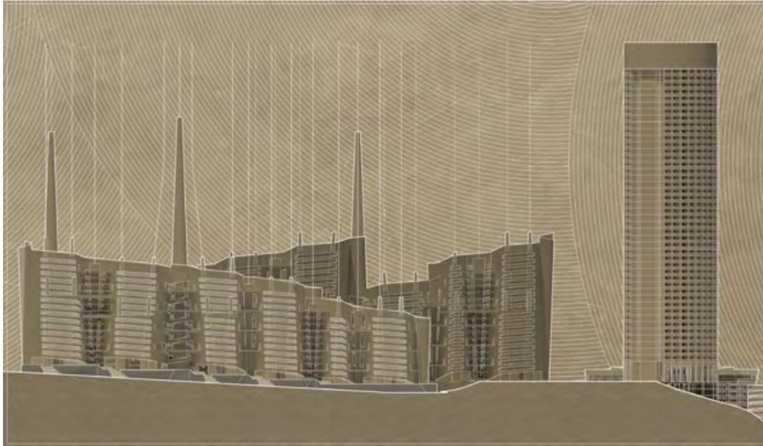


Figure 8: West Elevation

Heterotic Dimensions

In order to understand the synergistic impact of this speculative project, the design will be discussed along three dimensions, social, formal and thermal synergies: social synergies realised in terms of both the socioeconomic and urban impacts of the project; formal visual synergies achieved from crossbreeding and integrating distinct programmatic requirements; and thermal synergies attained from the high pressure steam captured from the waste incineration process. Fundamental to the project is the symbiotic relationship between the housing units and the waste plant. Both programmes benefit from their amalgamation. The waste-to-energy plant receives a consistent and substantial supply of waste from residents above, aiding in its production of heat and energy, while the housing units prosper from the by-products (heat and steam) of the incineration process as well as the added convenience of waste disposal.

Social Synergies

The design of the project began with a strategy for achieving social synergies between housing and waste management. In order to achieve this, the waste-to-energy plant is located below ground with the housing units raised up above ground level to maintain the site as a public park, adding to (or rather not reducing) the limited amount of public leisure space in the neighbourhood (Figure 9). The ground plane, which features select viewing zones into the

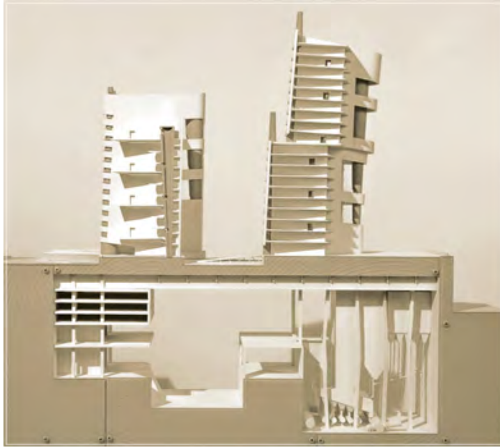


Figure 9: Section Model

Figure 10: Waste Bunker

waste facility below (Figure 10), is connected to Ponte via a continuous platform that runs from Ponte's podium to the two opposite corners of the site. The ground level has three different programme areas: a recreation and sports area on the east, a public park in the middle, and a promenade and recycling centre along the western edge (Figures 11, 12, 13). The recycling centre serves as a centralised drop-off point for the city's informal waste pickers who comb the city's dustbins and sidewalks looking for items with resale value. In so doing, the project aims to facilitate the vertical integration of this segment of the population into the formal recycling economy.

Furthermore, garbage chutes, the inverted conical forms, forefront the social synergies at the core of the project. The chutes are dispersed between each unit, located within outdoor elevated gardens (Figure 14). It is here, in full view, that residents discard their household waste down the chutes to the waste bunker below (Figure 15). By locating the chutes here in these places of communal gathering and recreation, the project seeks to reduce the stigma around waste disposal. In this way, the project reclaims the act of waste disposal, and reframes it as a productive, not destructive, activity.

Formal Synergies

The design of the project continues with a strategy for achieving formal synergies. The large stacks rising from the ground serve three main functions. First, as already mentioned, they release steam from the waste plant below. Second, they serve as vertical circulation points for the housing units above. Spiral staircases originate at the ground floor and rise up through the elevated garden spaces wrapping around the conical stacks (Figure 16).

Figure 11 (top, left-hand): Ground Level Plan. Figure 12 (top, right-hand): Central Park Avenue
Figure 13 (bottom, left-hand): Aerial View

Figure 14: Unit Level Plan

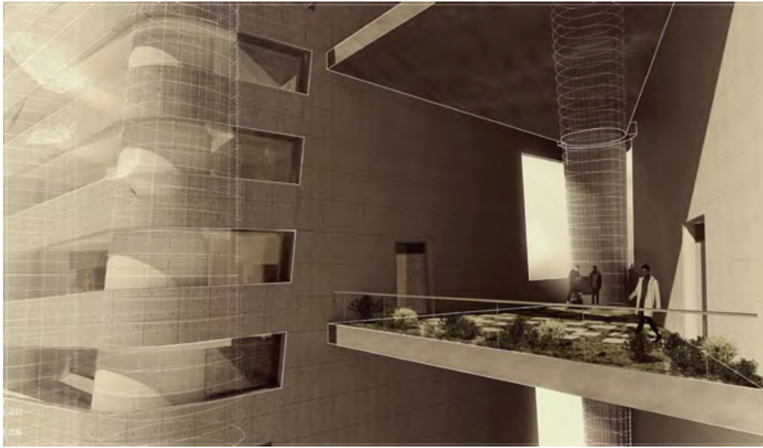


Figure 15: Waste Disposal

Figure 16: Vertical Circulation

The stacks also act as urban beacons located at strategic points on the site. One, on the north east corner at the intersection of Abel Road and Joe Slovo Drive, and two on axis with Soper and O'Reilly Roads which terminate along the western edge of the site. Embracing the industrial aesthetic advocated by Rappaport, the project redefines associations of industrial imagery, as once imagined in the drawings of fictitious power plants by futurist artist Sant'Elia and strives for the harmonious integration of programmes as depicted in

Paolo Soleri's imagined mega structures. In this way, the stacks become an iconic image of the project, which are further echoed in the presence of the other similar formal elements. The stacks ripple through the project and seemingly manifest themselves in the chimneys and chutes as a kind of visual reverberation, blending together housing and waste plant. The imagery of the stacks, chimneys, and chutes becomes a defining visual feature of the project, which situates the building not only in reference to Johannesburg's industrial gold mining past, with its smoke stacks and mine shafts, but also in reference to a future where the full range of urban collateral is embraced.

Thermal Synergies

Similarly, chimneys in the housing units are employed for both their formal and thermal attributes. In response to Johannesburg's primarily warm climate (with wet, hot summers and dry, moderate winters) and poor air circulation inherent to a dense urban context, this project employs the stack effect to improve ventilation through the building (Figure 17). The arrangement of the nested units around central corridors ensures that each unit has an east facing façade opposite a solar chimney. Given that air velocity increases when it flows through a constricted section, in the same way that liquid accelerates when passing through a tapering medium, the units angle towards a pointed chimney, thereby increasing air movement through the units from east to west. Most importantly, after the high pressure steam from the incineration process has passed through the turbine, it is diverted to the housing units where it spirals around the exposed chimney tops. By increasing the difference in indoor-outdoor air temperature in this way, air buoyancy is enhanced, which in turn draws air into the housing units

Figure 17: Housing Chimneys

Figure 18: Unit Plan

and up through the chimneys with greater velocity (Figure 18). Thermal synergies are thus achieved through a continuous, cyclical transfer of energy between the two programmes. Energy, in the form of waste, is transferred from the housing units to the waste plant below, which in return transfers energy back to the housing units in the form of heat and steam.

The 'Behind' of Architecture

By forefronting these architectural elements, this proposal addresses the 'behind of architecture' as put forward by Slovenian philosopher Slavoj Sizek, who states that *'there is always an excess, a third space which gets lost in the division of inside and outside. In human dwellings, there is an intermediate space that is disallowed. It remains ignored and mostly unsayable'* (Korody, 2014). This space is significantly dedicated to excrement and waste disposal, but it is also the space of air conditioning, wiring and cables. This 'behind of architecture' was further explored at the Venice Biennale in 2014 by Rem Koolhaas and his curators who suspended a dropped ceiling from the ornate rotunda at the Arsenale. Explicit in this installation is Koolhaas's idea that the ceiling, a place once invested with intense iconography, has been replaced by 'an entire factory of equipment that enables us to exist, a space so deep that it begins to compete with the architecture' (Wainwright, 2014). In this radical proposal for a new thermally motivated housing development, urban and residential metabolism are brought forward in the form of stacks, chimneys and chutes – which are themselves valued for their rich architectural significance.

Smooth Differences

Like the art of MC Escher or Gordon Walters, heterotic architecture exists in a state of 'in-between' within which it is difficult to discern one programme from the other. Building on ideas put forward by architect Ben van Berkel, heterotic architecture should convey a cohesive identity in order to strengthen the union and amalgamation of disparate programmes. Van Berkel argues for hybrid architecture to approach a single gesture like the *Manimal*, a part lion, part snake and part human creature whose image does not divulge any concrete information about its complex parentage (Van Berkel and Bos, 1999: 383-388). Van Berkel encourages the use of a simple singular surface to negotiate multiple programmes. In this proposal, as a way to integrate the stacks, chimneys and chutes, an undulating wall is used as a device or tool for both wrapping the building and offering a new spatial order. The project explores the degree to which this wall can become seamlessly forged with the overall project or stand independent (Figure 19). Per Kirkeby's brick sculpture in Antwerp perhaps best exemplifies the seamless transition, which this project attempts, between discrete yet connected objects. The wall also imparts fluidity on the project, which rises up in elevation to acknowledge the greater mass of Ponte and neighbouring structures, while avoiding direct

oncoming views from Joe Slovo Drive (Figure 20).

Conclusion

In summary, this proposal develops a socially, formally and thermally motivated housing typology which radically recasts the way in which we live and rid ourselves of waste. 'Heterotic Architecture: Stacks, Chimneys and Chutes' reclaims the act of waste disposal for architecture, reframing it as a productive activity, thereby redefining waste not as a social deterrent but as a social facilitator. Without this type of radical action and reimagination, population growth and urbanisation will outpace current waste management strategies. It is critical that we begin to depart from conventional approaches for the management of the city's urban metabolism and begin to integrate and centralise our efforts. It is with this conviction that the pairing of two seemingly opposing entities, housing and waste incineration, can lead to a

Figure 19: Undulating Façade 1

Figure 20: Undulating Façade 2

beneficial and symbiotic relationship.

'Heterotic Architecture: Stacks, Chimneys and Chutes' departs from a traditional understanding of development and offers a radical response to poor waste management, power supply and overcrowding. It achieves architectural heterosis through its social, formal and thermal synergies. Social synergies are realised by maintaining the site as a public amenity and by integrating the informal activities of the city's waste collectors into the recycling economy; formal synergies are achieved through the crossbreeding of programmatic requirements and integration of form, blurring the distinction between waste plant stacks and housing chimneys and chutes; and thermal synergies are reached through the thermal exchange between the housing units and waste plant. In so doing, the project offers a radical, vigorous, hybrid solution to inner city development.

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RADICAL DISCIPLINE

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KEYWORDS

radical
decolonisation
plurality
sub-Saharan
African architectural
education

Introduction

– Mark Olweny

It has been a privilege to work on the Radical Discipline section of FOLIO Vol. 2, dedicated to endeavours that inform and (re)define architecture as a discipline in the context of sub-Saharan Africa. 'Radical', in this context, concerns explorations that challenge the status quo, and seek to define 'paths of change'. The lens of enquiry is through architectural education, appreciating that 'if you wish to understand why professions develop as they do, study their nurseries, in this case, their forms of professional preparation.'[1] It is through these explorations that we address the types of education necessary to ensure architects are prepared for the myriad challenges across the region.

Radical explorations are not alien to architectural education in sub-Saharan Africa, and were a core element of the establishment of the architecture programme at the Kwame Nkrumah University of Science and Technology (then the Kumasi University of Science and Technology), the first postcolonial school of architecture in sub-Saharan Africa. Responding to the aspirations of newly independent Africa, John Lloyd, inaugural Dean of the School, suggested that, for architecture to '. . . truly contribute to the future of the [African] continent, [it] must drastically redefine a new the task of an "architect"'.[2] Similarly, at the University of Nairobi, South African-educated Selby Mvusi, was an advocate for the decolonisation of the programme there. According to Magaziner, *'Mvusi theorized what would happen if Africans' contemporary "thought-processes" were taken seriously instead of being dismissed as either inauthentic or archaic. Contrary to those who saw only binaries such as developed/underdeveloped, rural/urban, African/Western, or traditional/modern, Mvusi insisted, "Underdevelopment is not monolithic. Neither is it exclusive nor static. It is itself active and dynamic, and is forever pacing development." To be poor and rural and African was not to be behind, but rather to be.'*[3]

The papers in this section collectively reveal a range of conversations aligned to the ideals put forward by these early advocates of a radical discipline for Africa. Papers confront the hegemonic approach to architectural education, while showcasing approaches to educational pedagogy that seek to break from the stereotypical mould of what constitutes architectural education. The post-apartheid transformation and decolonisation process in South Africa have been key drivers of this, growing out of recognition that archi-

[1] Lee S. Shulman, 'Signature Pedagogies in the Professions', Daedalus, 134 (2005).

[2] Lukasz Stanek and Ola Uduku, 'Post-Independence Modernization', in *Radical Pedagogies: Reconstructing Architectural Education* at the 7th Warsaw Under Construction Festival, ed. by Beatriz Colomina and Evangelos Kotsioris (Warsaw: Warsaw Faculty of Architecture: 2015), pp. 16-17 (p. 16).

[3] Daniel Magaziner, 'The Foundation: Design, Time, and Possibility in 1960s Nairobi', Comparative Studies in Society and History, 60 (2018), 626.

tectural education is less about educational uniformity than it is a culture phenomenon.[4] Sadly, this reflected the reality that architecture has failed to embed itself into sub-Saharan Africa,[5] and suggests an absurdity that instils in students values that often do not reflect their lived experiences.[6] Contributions tackle cross-cutting issues that address the needs of architecture and architectural education, challenging educators to think beyond tried-and-tested approaches.

In the first article, Mae-Ling Lokko presents a North-South partnership that simultaneously explored the value of design research partnerships, while also interrogating the role of architecture (and architects) as producers of new knowledge. This collaboration between the Rensselaer Polytechnic Institute (New York), and Ghana-based Ecofibers, takes advantage of technology as a driver for a proto-architecture up-cycling project. This is a similar thread in the paper by Ángela Ruiz, whose hypothesis speculates on the need to take a radical approach to solving the environmental crisis through pragmatic experimentation, and the creation of 'techno-artisans'. Also engaging with cross-country collaboration, are investigations by Finzi Saidi and Doreen Adengo, who explore informality within the wetlands of Kampala, Uganda as part of a collaborative studio between the Graduate School of Architecture, University of Johannesburg, South Africa, and Makerere University, Uganda. This 'radical landscapes' studio placed students in an unfamiliar landscape (as far as architectural education is concerned), explored through radical approaches, and presentation techniques.

Still in Uganda, Alex Ndibwami reflects on architectural education in Uganda, presenting an alternative to mandatory industry placement courses required by professional programmes across East Africa. In his paper, Ndibwami explores the cultivation of empathy among students, by building their awareness of the human condition across the region. This theme also features in the paper by Yashaen Luckan, who suggests that current approaches to architectural education in South Africa (and dare I say across much of Africa) perpetuate hierarchical and hegemonic practices. Luckan suggest architectural education could benefit from transactional approaches between academia and society; a means to dispel myths and break down silos not only within education, but wider afield as well.

Mark Raymond, seeking to decolonise architectural education knowledge and research, interrogates the idea that architectural education serves to delink young minds from the cultural context in which they live. Raymond

[4] Hermie E. Voulgarelis, 'Non-Traditional Architectural Studies: What Might Influence the Development of a Successful Model? A Review of Literature', in Design, Development & Research, (Cape Town, South Africa, 2011), pp. 396-404.

[5] Joe Noero, 'Invited Presentation', RIBA Education Series - Education in Architecture: Global Difference, (2011) <https://vimeo.com/30021019> [accessed 18 October 2019].

[6] Nicholas Coetzer, 'Towards a Dialogical Design Studio: Mediating Absurdities in Undergraduate Architectural Education in South Africa', South African Journal of Art History, 25 (2010); F. Jegede et al, 'Designing to Meet Indigenous Needs: Place of Traditional Studies in Architectural Education', in 11th International Technology, Education and Development (INTED) Conference, (Valencia, Spain, 2017), pp. 2331-36.

reflects on his own research experience at RMIT University, Australia, in his proposal to scaffold architectural research through a practice-based approach, acknowledging that practice is a key part of the cultural production of architecture.

Through these articles, we can appreciate that the process of untethering postcolonial architecture and architectural education in sub-Saharan Africa from the dominant paradigm is a long-term project. This nevertheless is necessary for the development of the African architectural canon. These explorations are a key part of this developing trajectory, engaging with the theories, practices and research engagements that fittingly position architecture as a radical discipline and to appropriately embed architecture into sub-Saharan Africa.

KEYWORDS

design-build studio
design research
agro-waste
academic-industrial partnership
dialogic design

Brown is the New Green: The Role of Design Research and Design-Build as a Platform for Exploring the Role of Architects in Global North-South Upcycling Ecosystems

- Mae-ling Lokko & Gustavo Crembil

Since the turn of the century, the design-build studio model in architecture schools has proliferated widely, and been practiced in 80% of NAAB accredited schools in the United States (Yusuf, 2015, p. ix). It is also widely recognised as a robust research and teaching methodology across leading European schools. Pedagogical innovation in design-build studios has historically constituted participatory engagement with marginal stakeholders, which offers a clear perspective on the centre and existing 'alienated' components in all its forms: labour, environment, technology and clientele (Canizaro, 2012). Ranging from the design of affordable housing for marginalised communities as seen in Rural Studio's 20K Houses, to high-performance residential design embodied in Solar Decathlon's prototype houses, design-build has become a powerful simulation of new architectures with desired clients and a growing mixture of soft and hard capital to fund the construction process.

Relative to Global North-South design-build studio models that typically involve non-profit actors as clients or partners, the experimental model proposed here originates in a design research partnership with early-stage start-up industries[1] in the Global South and North. The rationale for grounding an agro-waste design-build studio in research partnerships within African and North American early-stage start-ups are twofold: firstly and most obviously, academic-research partnerships offer early-stage start-ups an otherwise financially risky research operation that they are typically not able to invest in, but which remains important for mitigating risk through recognising opportunities in their value chain. Secondly, the agro-waste industrial context offers the design-build studio a framework for identifying critical upcycling performance criteria for design research. Design research, described as a diverse field of research methodologies used to drive and inform the design development process (Sanders, 2008: pp. 13-17), has undergone substantial growth in the last two decades. In her mapping of emerging approaches to design research, game theorist Liz Sanders identifies two organising features in terms of mind-set, based on how the designer views the user as an informant or co-creator (x-axis) and approach, based on a research or design-led perspective (y-axis) (Sanders, 2008: pp. 13-17).

[1] Early-stage is used to describe a start-up business with modest financing from investors focused on the early development of a viable product.

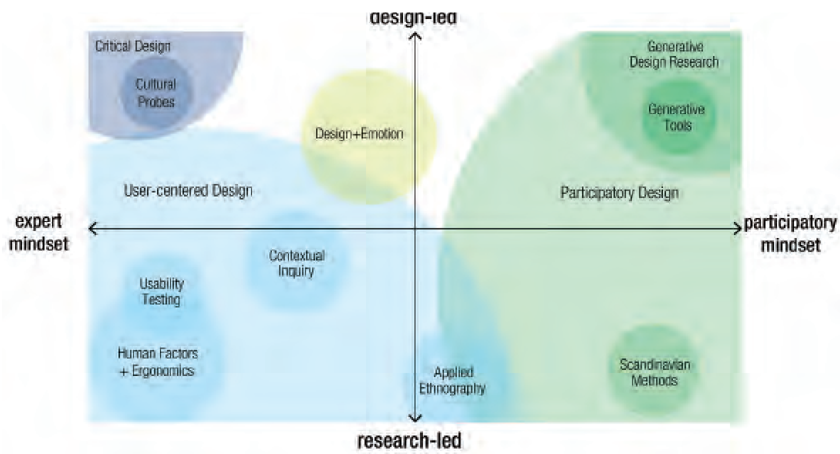

Figure 1: Sander's Map of Design Research

The focus of this paper explores the productivities in the relationship between the design-build studio and design research in the Global North and South, in which a diversity of outputs is used to sustain and drive both research and industrial innovation. As shown in Figure 1-3, the model of design research and its relationship to the design-build studio, shifts throughout the life cycle of agro-waste upcycling projects in both Ghana and New York.

Brown is the New Green: the Agro-Waste Upcycling Context for Academic-Industrial Symbiosis

After the food sector, today's global building sector represents the second largest consumer of raw materials (Berge, 2009). As global quantities of waste by-products from increasing food production as well as the range of their applications are continuously being recognised, researchers in industrial science, composite engineering and design are realising critical opportunities to transform the burden of such under-utilised wastes into ecological profits through upcycling. Not only can the leveraging of renewable agro-waste resources as building material feedstock play a pivotal role in 'closing' material life cycle gaps, but it brings typically marginalised stakeholders within sectorial material life cycles to the same table. In Ghana's coconut industry, for example, the upcycling of coconut husk waste cannot be effectively developed and managed without the coconut farmer, distributor, husk waste collector, and the design team as 'upcycling actors' in direct cooperation. Notwithstanding the history of institutional structures of production within many young African industrial economies

that have enabled extraction of low-value commodities from Africa, which lie outside the scope of this paper, the strategic design of described stakeholder frameworks aims to subvert the centralised, top-down creation and distribution of capital (Lokko and Eglash, 2017).

1. Design Research within Agro-Waste and Bio-Adhesive Industry

1.1 Design Research at an Agro-Waste Recycling Facility: Research-Led Approach with Participatory Mindset

The research was conducted in 2012, as part of a doctoral co-op semester[2] at Ecofibers Ghana Ltd, a small-scale factory based in Ashiaman.[3] Much like other businesses in Ashiaman, Ecofibers leverages the surrounding industrial resources – metal fabrication, equipment recycling, labour services – to process coconut husk waste from Ashiaman's largest food market about 7.5 km away. The factory's processing operations include the open-air drying of husks, mechanical milling and pressing of the pith/fibres into peat blocks and fibre rolls for high-quality agricultural soil conditioning or soil-substitute applications. While the company had investigated the production of building materials from the coconut waste, the scope of design research at Ecofibers centred on the substitution of synthetic adhesives required in coconut fibreboard manufacturing with naturally occurring pith in the coconut husk itself. While environmental criteria along the material life cycle formed a critical part of the research goals, including health and well-being improvements in the production environment, the substitution with natural coconut pith was driven by significant cost-saving implications for its supply chain and manufacturing operations.

Funded by the Common Fund for Commodities (CFC), the feasibility and technical requirements of producing high-strength coconut boards using the coconut pith binder was already demonstrated in a factory in the Philippines using coconut husk native to that region. Approaching the research from a participatory standpoint shifted the goal of manufacturing at Ecofibers from reproducing proven characteristics of the precedent Filipino factory, to understanding the capacities of the existing manufacturing set-up for multiple product pathways.

In contrast to a design-led approach which privileges the design development of an upcycled product towards a set of desirable attributes, a research-led approach was critical at this stage to develop a matrix of multiple products based on governing manufacturing parameters and agro-waste properties. Given the overwhelming diversity across material composition and properties of biomaterials, key hypotheses linking the constituent proper-

[2] Mae-ling Lokko, then a doctoral candidate at RPI's Center for Architecture, Science and Ecology, spent a year in Ghana working with Ecofibers Gh. Ltd to develop upcycled coconut fiberboards.

[3] Ashiaman is a peri-urban settlement on the border of Ghana's capital city Accra and its industrial base, Tema.

ties of Ghanaian coconut husk and their impact on resultant mechanical properties of coconut husk products were investigated. Research-led methodologies, practised widely in engineering, privilege the identification of dependent and independent variables within the localised manufacturing processes and conditions at Ecofibers. While a 'proof-of-concept' prototype of coconut fibreboards using pith binders was achieved using Ghanaian coconut husk and the manufacturing conditions at Ecofibers, further development relative to cost of production and product performance was necessary. In this sense, the comparative performance testing of Ghanaian coconut fibreboards with similar technologies was explored through developing similar research initiatives with biocomposite start-up companies in Upstate New York (Lokko et al, 2016).

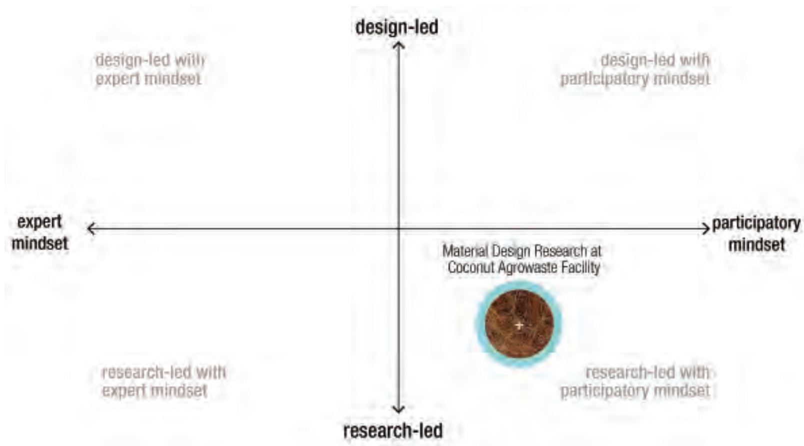

Figure 2: Material Design Research at Coconut Agrowaste Factory, Ashiaman, Ghana. Research-led with participatory mindset.

1.2. Design Research in the Bio-Binder Industry: Design-Led Approach with a Participatory Mindset

Funded by a NEXUS grant,[4] a business incubator programme in Upstate New York aimed at accelerating the commercialisation of sustainable energy research, the performance of pith-bound coconut fibreboards was compared

[4] Mae-ling Lokko and Joshua Draper (faculty at RPI's Center for Architecture, Science and Ecology) won a NEXUS grant for Upstate New York supported by NYSERDA that supported market research and the development of a proof-of-concept prototype from upcycled agro-waste products.

with emerging bioadhesives from two companies, Ecovative Design[5] and e2e Materials Inc.[6] Using a soy protein binder, consisting of cross-linking agents and defatted soybean flour obtained from extraction in soybean oil production, e2e Materials manufactures biocomposite products for a diverse array of furniture and reconstituted wood product applications. Ecovative uses a proprietary fungal mycelium binder that is fed with agro-waste, to provide structural binding in an array of packaging, building, furniture and custom product applications.

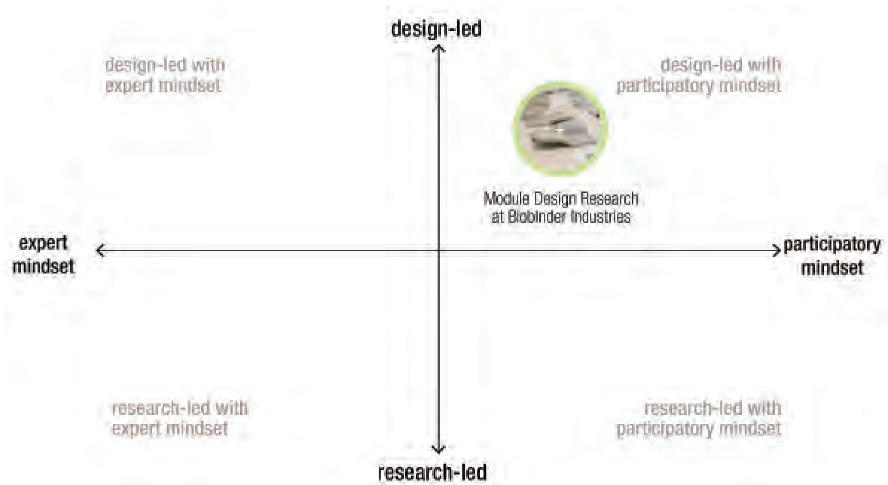

Figure 3: Module Design Research at Biobinder Industries in Upstate New York. Design-led with participatory mindset.

Given the strong business and commercialisation goals of the funding grant, the design research methodology used was largely shaped in response to market research with potential clients. The use of 'customer discovery' interviews, conducted over three months with potential clients in both Ghana and across North America, involved understanding the core 'value-proposition' of agro-waste fibreboard material technologies.

5 Ecovative is a biomaterials company founded in 2007, with over 80 employees and headquartered in Green Island, New York that provides sustainable alternatives to plastics and polystyrene foams for packaging, building materials and other applications by using mushroom technology.

6 e2e Materials Inc., founded in 2006, is a small company based in Ithaca, NY, that develops, designs, engineers, and produces sustainable biocomposite replacements for high-volume wood composite products, such as cabinetry, furniture, and automotive components.

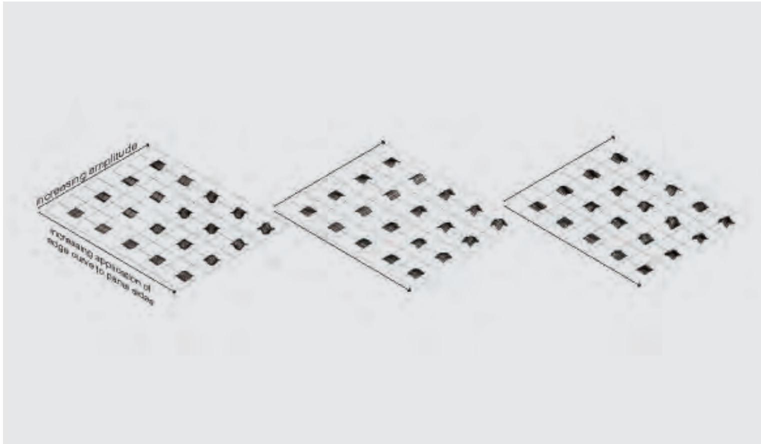

Figure 4: Geometry and Surface Texture Matrix

While clients valued the non-toxicity performance of upcycled, bioadhesive materials, the design criteria around material customisation finishes, as well as unique panel or surface texture geometries, came to the forefront of what clients would be willing to pay for. Therefore in partnership with the two bio-binder companies, a design-led research model for exploring customisation options – panel geometry, surface texture, colour and finishes – was investigated.

2. Relationship between Design Research and Design Studio

The design research conducted with agro-industrial collaborators both in Ghana and Upstate New York informed the basis of the agro-waste design-build studio in terms of its technological approach and its impact on design performance criteria. Over the course of the coop at Ecofibers factory in Ghana, two limitations came to the forefront of production: control of pressing through target pressures and temperatures were highly difficult due to the lack of a reliability of electricity supply and a lack of consistency with older equipment controls, such as the pressure gauges and press thermostats. Thus, at the onset of the studio, the decision to investigate and employ modes of production that were not reliant on an energy-intensive infrastructure and that were already in place in Ghana's building manufacturing sector was paramount.

Secondly, relative to other agro-waste derivative products like structural components or building insulation products, the decision to design a customised agro-waste panel as the basic unit of assembly was informed by the market research and customer discovery interviews. Another critical barrier to the adoption of upcycled agro-waste building products in Ghana, was the negative cultural perception associated with the performance of

Figure 5: Crembil/Lokko "Golden Cube" Studio Installation at RPI School of Architecture, Troy NY.

indigenous technologies relative to imported building materials. While a larger study on the complex factors affecting this pervasive social perception is recommended, it falls outside the scope of this paper. However understanding how these barriers were overcome in other successful upcycling projects in Ghana formed a strong area of investigation for the design-build studio.

3. Pedagogical Structure of the Architectural Studio

Funded by a Travel Studio Grant from the Rotch Foundation, proposed by Gustavo Crembil[7] and Mae-ling Lokko, the Crembil/Lokko studio was set up as a six-credit, semester-long, vertical studio of twelve students at Rensselaer Polytechnic Institute.[8] The studio was charged with the design of a 'proto-architecture' structure for the Chale Wote Festival in Ghana. Proto-architecture is used here to refer to a basic structure, akin to a pavilion, canopy or shelter assembly, with relatively simple programmatic requirements.

From a technological standpoint, the design of the basic panel unit for the proto-architectural structure was based on forms that could be pressed. In this sense the technological choice also articulated its relationship closely to a grassroots socio-political production infrastructure, aware of its relationship

[7] Gustavo Crembil is an Associate Professor at RPI's School of Architecture and an Argentinian architect, whose work focuses on contemporary craft, and developing design studios that explore incremental housing in post-development contexts.

[8] Participants in the Spring 2016 Vertical Studio include: Melissa Donnelly, Haley Hahn, Jenna Kulek, Miguel Lantigua-Inoa, Flavia Macchiavello, Amy Masie, Briana McLoughlin, Alex Rench, Elizabeth Robison, Abby Speight, Kristen Van Gilst, and Benjamin Wojcik.

to capital, various levels of skilled labour and resources in its host context. Paramount to the technology chosen for fabrication was to demonstrate the feasibility of on-the-ground production through the physical simulation of building in the studio under the same constraints. In this sense the goal of the studio was not to develop new technological infrastructures for agro-waste upcycling but to leverage the efficacy of existing social, institutional and technology infrastructures to support an agro-waste upcycling operation.

As outlined in Figure 5, the phasing of the studio design process began with the charetting of broad panel forms, independent of formal influences from the studio's brief and site context. The decision to limit the initial design of panels and forms to formal architectural logics in terms of their aesthetics, mechanics of production, and assembly innovation was essential to allow students to develop an understanding of the technology's 'hardware'. In this light, the studio developed, primarily through the physical prototype, an autonomous vocabulary of forms informed by the material technology and fabrication prior to travelling to Ghana and the actual programming of the proto-structure.

3.1. Travel to the Global South: Understanding the 'Software' of Upcycling Technologies

The programme of the studio trip to Ghana was structured to provide students exposure to the institutional framework surrounding upcycling initiatives, and not so much the agro-waste material technology itself, or to document the site of the installation, as is common procedure in architectural studios. Participants in the Crembil/Lokko studio were introduced to two critical projects and leading figures in contemporary Ghanaian art, Ibrahim Mahama and Serge Attukwei Clottey. They use hemp commodity sacks and plastic oil gallon containers, respectively, in their art. While the final utility of such upcycled materials as artworks ultimately differs from that of agro-based building materials, their inherent process of waste collection, nature of processing and value creation became integral to the studio's understanding of success within an upcycling enterprise.

Firstly, despite the large-scale nature of such artworks, particularly in the case of Mahama's building draperies, the production requirements allowed the lone, small-scale producer to generate the unit component. More importantly, the intricacy of craft assembly and chosen scale of the final product, which included hundreds of units, required cooperative labour groups. Relative to a modern factory and its mode of supply chain and processing logistics, which prioritises the use of large-scale equipment and standardisation of human labour, the studio participants were exposed to an upcycling economy in which the mastery of production and repair was embedded in the repetitive and subjective nature of production.

Influenced by Ghana's flourishing masonry infrastructure, the wide proliferation of modular block production was observed as a key influence

Figure 6: Studio Press in the Crembil/Lokko Vertical Studio for Pressing Panels

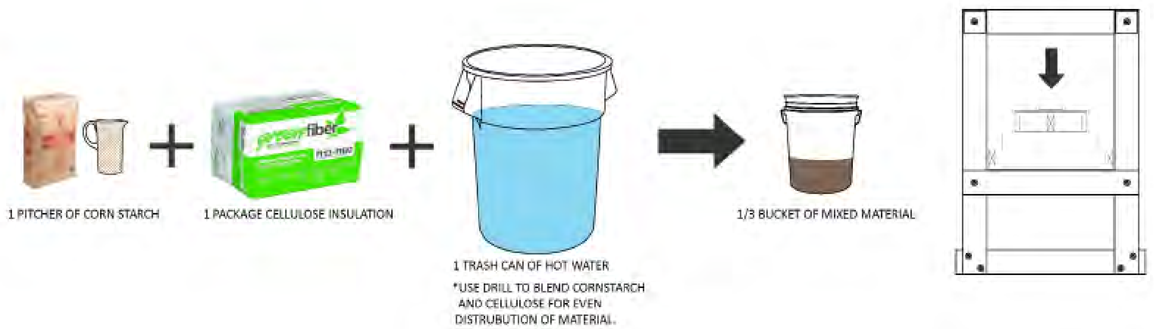

Figure 7: 'How to Press a Panel?' Guide

on hand-operated block-making pressing machines, typically operated by a two-man, low-pressure hydraulic press. Notable too was the ability for such machines to be manufactured locally and affordably using simple frame components. The students constructed three hand-operated presses, made with 2x4 and 2x6 bolted wood components and a (30-ton) car-hydraulic press (Figure 6). Much like the open-air drying of modular masonry blocks in the daytime at the roadside, the students made use of open-air drying for all the pressed panels.

Throughout the documentation of the production process, the influence of appropriate technology concepts was evident in the DIY methodology and use of layman terms in the measurement metrics for the production of panels: one *pitcher* of corn starch, one *trash can* of hot water and one-third *bucket* of mixed material (Figure 7).

3.2 The *Adinkra* Truchet: Employing Anatsuian Tactics to Engage Culturally-Situated Design and Subverting Questions of Appropriation

The adoption and local acceptance of any building material technology, much less a low-tech one, is less a technological challenge than a sociocultural one. In the work of perhaps Africa's most successful commercial artist, El Anatsui, the challenge of value creation from waste materials has resided in the tactical use of small-scale components to embody high-value material assemblies, recognisable at a larger scale. In his use of flattened metal bottle caps in the form of expensive 'kente' cloth worn over the body, Anatsui uses

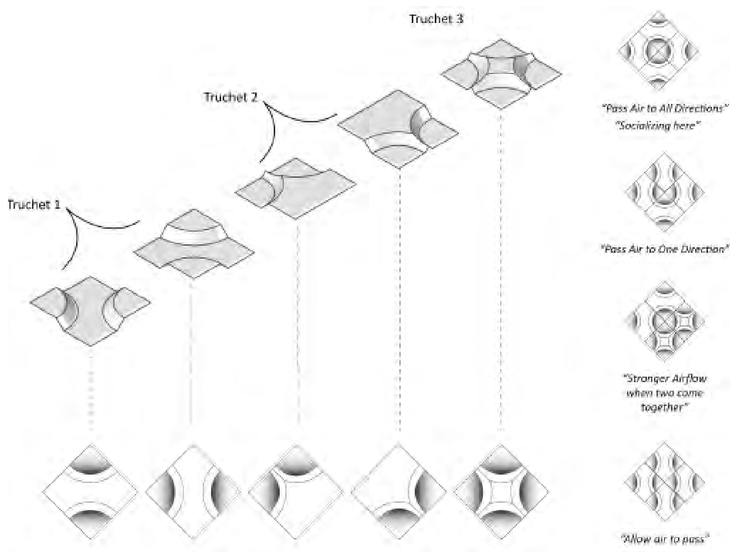

Figure 8: Adinkra Truchet Vocabulary.

the colour, reflectance and ductility of waste material to transform the humble processing and scale of the discarded metal cap into powerful masterpieces.

The chosen base panel geometry was based on the concept 'truchet' pattern, used widely in graphic design. However, inspired by the use of Ghanaian *adinkra* ideographs for 'storytelling', two derivative truchet panels are added to the basic truchet base tile to communicate social and environmental functions occurring on the inside of the building.

Originally used in funeral clothing to communicate social and religious value and then as gold weights used in trade, *adinkra* symbols are known for their integration of social, religious, environmental and political meaning through sophisticated mathematical principles of rotational and reflectional symmetry and logarithmic spirals. Over the last five centuries, the initial function of *adinkra* symbols for religious and ceremonial purposes to communicate specific socio-political identities and moral values has proliferated widely in indigenous and modern architecture, fashion and art in controversial ways. As opposed to the actual use of culturally-loaded and valued *adinkra* forms in the panel design, it was the formal principles of organisation and function of *adinkra* that were employed in the *adinkra* truchet vocabulary.

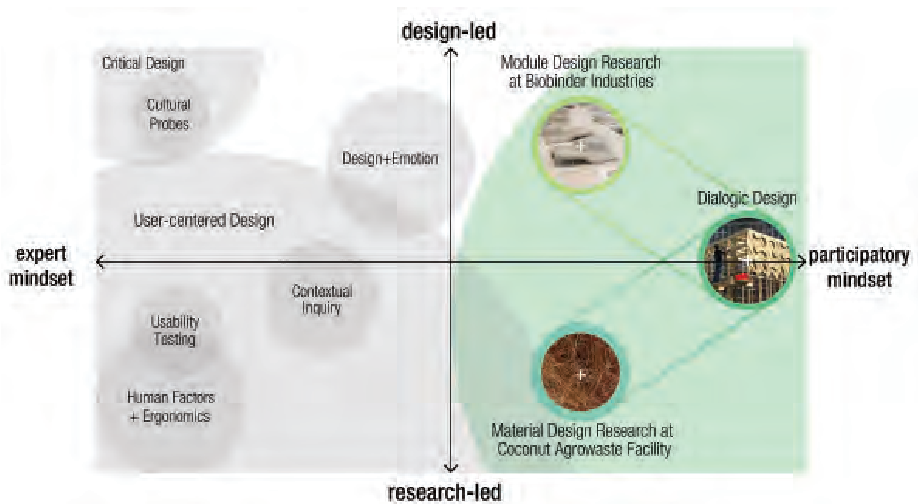

Figure 9: Positioning of Dialogic Design Model of Participatory Design in Crembil/Lokko Studio.

4. Key Architect/Designer Roles within the Upcycling Ecosystem

Across the design research framework outlined, we see a shift in the role of the architect as an end-user of upcycled technologies towards an active catalyst and integrator across *inter*-sectoral material life cycles.

The role of the architectural researcher within the outlined design research methodological framework is primarily that of an effective integrator of disciplinary-specific methodologies for data collection and analysis. Within the industrial setting of agro-waste and bio-binder companies, the use of a 'dialogic' approach in which the design researcher was in constant dialogue with industrial stakeholders was key to refining upcycling performance criteria and understanding key performance trade-offs during the processing stage.

From a research evaluation standpoint, the architect's role was critical in designing a 'mixed-method' feedback loop that allowed all stakeholders to evaluate and match upcycling performance to business opportunities. For example, while the production of flat coconut fibreboard sheets constitutes a viable upcycling pathway, given the market research, such a product does not justify the costs of production nor respond to the full economic opportunity for coconut fibreboard products. In this sense, both the architect's cultural capital and design skills are critical in framing the market opportunities for customised fibreboard products towards high-value upcycling outcomes. This iterative and reflexive role is critical to anticipate and maximise upcycling profits per unit volume of agro-waste.

In the design-build studio trip to Ghana, the students' use of dialogic design tactics, which employed the use of physical 3D-prototypes and architectural renders, was a critical tool in activating discussions and gathering different viewpoints from multidisciplinary Ghanaian students, from the Ashesi University Design-Lab. During such exchanges, the physical panel design artefact and associated renders of the panel assembly enabled a multi-perspective dialogue around the formal logic and programming of the proto-architecture structure.

Throughout the four-week production of panels and the construction of the structure for the Golden Cube, the impact of the subtle dialogical participatory approach embedded in the studio's structure produced unexpected positive by-products in the form of the group dynamics and a sense of ownership over different stages of the construction process and final outcome. Firstly, the role of the individual as the sole author in initial design charrettes during the first weeks of the studio was gradually eroded as individual students began to pair up in the second stage of panel iterations. At this stage, the capacity of the pairs to find common ground or productive tensions came to the forefront of the process. In each subsequent stage of narrowing down

the proposals to the final design, the strength of the dialogic approach was its process of incremental contamination across designs. In this sense, the very act of collaboration evolved through a series of concerted contamination of singular ideas, disparate systems and perspectives. It is in this very spirit of contamination that the ethos of upcycling succeeds and is sustained, and new roles for architects can be imagined.

Acknowledgements

In addition to all the industrial partners and funding bodies mentioned, the authors wish to thank Anna Dyson, Director of CASE-RPI for the academic-industrial foundation and engine for this work. We are also indebted to collaborators in Ghana, including the faculty and students of the Ashesi Design Lab as well as the organisers of the Chale Wote Festival. In parallel to this design-build studio, thank you to the CASE Chale Wote design-build studio taught by Demetrios Comodromos and Josh Draper. The studio was funded by the Rotch Foundation and the NEXUS-NY grant. Lastly, to the students of the Crembil/Lokko Vertical Studio, thank you for your dedication, energy and sustained commitment to the very end.

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KEYWORDS

travel
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community
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Education for Being: Nurturing Empathy through Travel Narratives

- Alex Ndibwami

There is precious little available discourse to unpack in East African architectural history and theory with a broader goal of overcoming biases that suggest there are no worthwhile architectural precedents or artefacts in the region. This bias has led to a disassociation between architecture and the notion of 'place' – a myth that the Faculty of the Built Environment (FBE) at Uganda Martyrs University (UMU) seeks to dispel through raising awareness of communities both large and small, and revealing an appreciation of what the 'local' can offer. Key here is the opportunity to promote architectural education as a worthwhile engagement beyond merely the professional education of architects, encouraging an appreciation of culture and heritage as concepts that have the potential to generate meaningful discourse about the goals and objectives of the profession and the wider society it serves. As such, testing the benefits of travel via related learning outcomes early on in the education process could expose future architects to knowledge, skills and values that are grounded in the potential of their realities.

Almost from the outset, the FBE at UMU deliberately set out to be at the forefront of architectural education in the region. This is a key value for the faculty, which seeks to enable an understanding of architecture beyond just 'a building', embracing the wider environment and associated context as part of the complexity of contemporary society, and a fundamental part of its research and teaching engagement. The explorations presented as part of this essay are a significant aspect of the philosophical approach of the faculty, which seeks to build a wider society alongside its core mission to promote innovation in architectural education. This discourse, and its associated reflections and conversations, becomes a core element in educational transformation that incorporates radical pedagogies as a means of promoting awareness of the human condition, as a prerequisite to effecting change. Students are thus viewed as a core of the broader educational mission of the faculty in effecting this shift. In evaluating the intentions and outcomes of one course in the curriculum (Bachelor of Environmental Design), the article offers some insight into how teaching and learning can be enriched in an effort to cultivate empathy. Empathy here is understood as the unconscious process in which the individual uses his or her own body as a template that enables him or her to 'feel' into another's experience (Gallese, 2001, as cited in Modell, 2006).

Travel as a Pedagogical Tool

One recognised 'transformational' paradigm is travel. However, entry interviews over the years at FBE have revealed that students have neither the awareness of the value nor sufficient opportunities to travel. As a strategy to gauge and build interest, this course gives them the independence to select from a list of eight categories (of destinations or sites) that they would be interested in visiting.

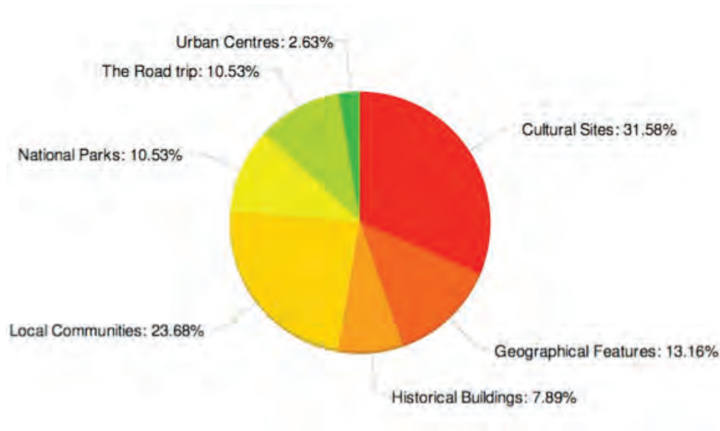

Figure 1: Destinations/Sites Identified Out of Interest

Results (Figure 1) show that students were mostly interested in visiting local communities and cultural sites, affirming the expected interest in new encounters. They also suggest the need for specific enquiries on what other travel interests might be.
The notion that students recognise the importance of people and the environment (Figure 2) implies that the education process ought to hone this interest at an early stage, as Lapadula and Quiroga (2012) suggest, by helping them assign value to the wider context of the social and environmental milieu.

This would help address the perception in many students' minds that architecture is primarily about buildings, effectively encouraging them to ignore the inhabitants and what often happens outside buildings, as well as inside them. Foregrounding other considerations is a way to establish a critical link between people and their environment, which I would argue is a

Figure 2: Students Identifying Key Themes of Interest

base design challenge. An important point to note is that this course is not undertaken in isolation. It is a precursor to *Field Experience II – Building Site and Practice Workshops* that complements key technical, theory and design courses on the programme. Both *Field Experience* courses have since enriched the programme in as far as justifying design-build electives undertaken as feeders to larger design studio programmes.

The Theoretical Rationale Behind the Experiment

The discussion in this article is grounded in two related schools of thought. The first is the work of Pierre Bourdieu (1971) whose writing on socialisation in education sustains the discourse around how and why education is pursued, and the role of educators in this pursuit. The second is the Jungian epistemological balance, where an opportunity to harness the functions of thinking, feeling, sensing, and imagining, both individually (introverted) and collectively (extroverted), is emphasised. Generally, teaching and learning in higher education is organised around three themes – knowledge, skills and dispositions. In the context of architectural education, three themes of equal merit and importance include the intellectual, technical and intuitive

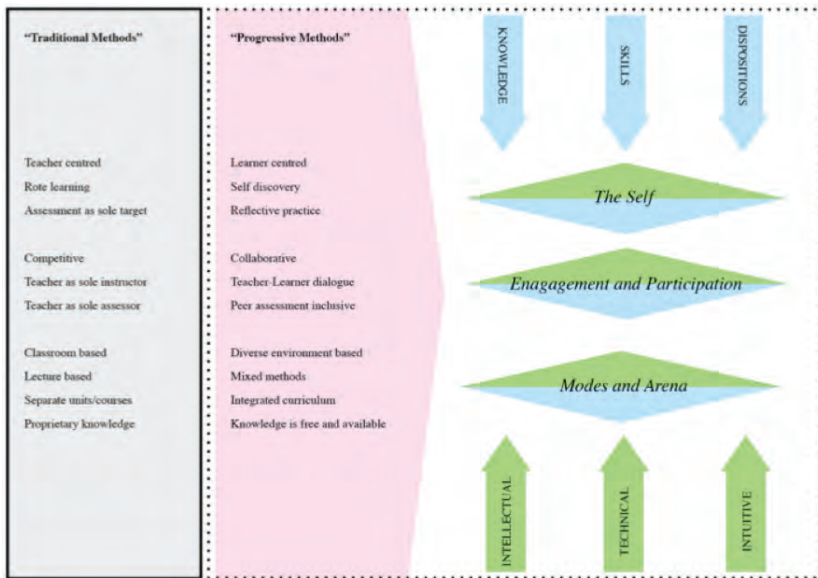

Figure 3: Conceptual Framework on Broad-Based Teaching and Learning Pathways Developed Further from Biggs and Tang (2011) and Angélil (2003)

dimensions of thought. These six dimensions are expounded in Biggs and Tang (2011) and Angélil (2003) (Figure 3).

With increasing calls among architectural educators to cultivate empathy through the education system, seeking more inclusive environments, it has become essential to engage students in this vital but neglected area. This can become a powerful pedagogical tool allowing engagement with everyday life, and enhancing an understanding of the environment, people and, most importantly, oneself.

Building on Juhani Pallasmaa's ideas around the harnessing of seven senses in architectural production, (Pallasmaa, 2011) and Neil Leach's argument that architecture allows human beings to feel at home in the world (Leach, 2006), I would further argue that the narratives and visual imagery that arise from travel encounters have the potential to impact our world view. When applied to architectural education, this has been revealed as a key element in engaging with the meaning of architecture. In this regard, helping students build their individual narratives based on journeys they took on their own or with their peers, facilitated their transformation from mere bystanders to participation in a more active engagement in the critique, conservation and development of meaningful built environments.

ENDS 2361 Field Experience

The pedagogical experience this article attempts to address is radical because it questions the narrow boundaries within which architectural education is typically taught. Certainly in East Africa, it is common to see more focus on the technical, aesthetic and design theory aspects; and less on the socio-cultural, socio-economic and environmental aspects. This gap sustains the narrative that architecture is elitist, further raising more questions about the sociology of the profession.

'. . . if we want change, we do not need a revolution of systems or institutions: we need a revolution of human relationships. And one of the best ways to bring this about is to develop empathy on a mass scale through the education system. (. . .) empathy has the power to produce mass social change.' (Krznarich, 2007)

A study by Mark Olweny (2015), who is based in Uganda, has since expounded on the importance and context of socialisation in architectural education. It builds on the contribution made by Cuff (1991), Boyer and Mitgang (1996), Nicol and Pilling (2000) and Ostwald and Williams (2008) in the critical evaluation of the educational process. Other studies by Olweny (2010) and Oyaro (2011) highlight the shortcomings in architectural education in the region, including: static-crowded curricula, a teacher-centred approach, and a substantial hidden curriculum that present a challenge for students and instructors in architectural education.

Teaching and learning therefore become strategic fora to influence future practise. On the one hand, there is a need to increase the interaction across education, research and practice. On the other, more rigour needs to be applied in the interrogation of environmental and societal needs (Dabaieh, Lashin and Elbably, 2017; Dessouky, 2016; Olweny, 2015; Farahat, 2011; Salama, 2009/2010). The process though, ought to be mindful of a reality: Shuell (1986) shared that, *'what the student does is actually more important in determining what is learned than what the teacher does.'*

Previous editions of the course under study, ENDS 2361, focused on travel, followed by a report and an exhibition, while a new addition to the three editions (2014/15, 2015/16 and 2016/17) emphasised sketching, photography, writing, and the use of social media (Instagram and WordPress) to engage a diverse audience. Subsequent editions (2017/18 and 2018/19) maintained the same format. The three selected editions involved a review of students' feedback by comparing the decisions students took by themselves and the review of the course (insofar as its delivery impacted their learning and awareness of the wider context of their travels).

At the centre of this engagement, and geared to making a contribution to the appreciation and understanding of the work of architects beyond drawing and plans, other materials were also uploaded such as short narra-

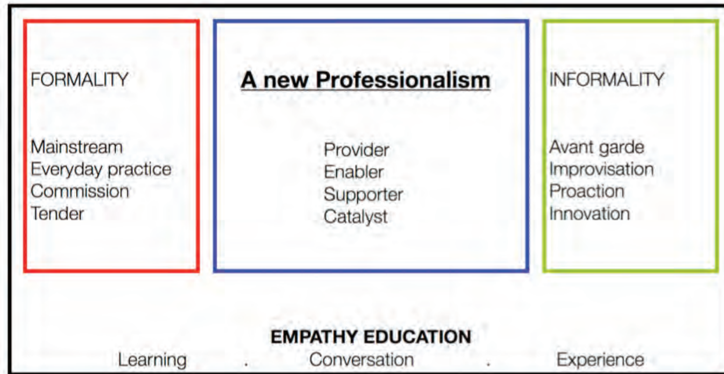

Figure 4: Scoping the Contribution Empathetic Education can Make – Developed from Krznarich (2007); Schumacher (2002); Tovivich (2009)

tives, poetic verses, sketches, insights and documented building typologies by the students. As contributions from students, they highlight unfiltered views of spaces and places, an important viewpoint often missing in architectural discourse. These viewpoints are useful in framing educational endeavours and deriving questions that contribute to architectural discourse, largely by exposing stories concerning the local, and building on oral tradition.

This endeavour is the first of its kind in the region and has been significant in engaging with a diverse range of stakeholders (local communities, travellers, peers, faculty, online communities) through the journeys, images, narratives and resulting conversation that it has since sought to provoke. Further, this experiment also speaks to the limited appreciation of personal narratives as a pedagogical tool in the generation of ideas and in conversations about architecture, spaces and places, fuelled by a predominantly teacher-centred approach to teaching, where the voice of 'the other' is effectively silenced. The monologues derived from a teacher-centred approach do not allow critical discourse, and have effectively created a bias against the local as a basis of architectural endeavours, giving preference to foreign influences. Over the past few years, the course has sought to present a counter narrative to this situation, dwelling on students' personal narratives, intertwined with the discoveries and encounters from often naïve explorations of a country, revealing stories that inform and help bring forth the essence of being.

Through unpacking these engagements, the annual encounters provide key points of reference that contribute to defining the essence of architecture in the local context, from the eyes of *aspiring architects*. While there are a number of such fora internationally that present student work, only a few are derived from Africa or, more specifically, from African schools of architecture.

The target audience (online and at exhibitions) is the general public across Uganda, and East Africa, with the goal being to expose them to the architectural profession and its broad activities. This is even more important in our context due to the general lack of awareness – across the board – of the architectural profession. The blogs also act as pseudo-travel guides of places of interest through the eyes of architecture students.

In conclusion, this article provides some insight into the numerous teaching possibilities for educators in higher education to have an impactful education process. By discussing the intentions, observations and outcomes of one course at the FBE at UMU, the article has revealed that it is possible to purposefully tweak teaching in a deliberate effort to inspire learning. Key in this process is an understanding of the tripartite classification of teaching and learning in: the self, engagement and participation, and modes and arena – in as far as they offer a flexible scope within which to define tasks, scenarios and courses.

In particular, ENDS 2361 *Field Experience* I reveals that teaching and learning have a great deal of potential to contribute towards cultivating empathy. The article recognises the key challenge is the belief that this process cannot be taught directly. In reality, it is about what we say and do that can make a difference, engaging students in discovery through an understanding of who they are, and how they might re-think the future.

This discussion therefore re-emphasises that by investing in learning that prompts conversation and reflection over lived experiences, transformational architectural education thus becomes one that engages in alternative pedagogies (Figure 4). It engages with research, values and ethics as an inherent part of understanding the human condition. It promotes the radical and pushes the envelope, while actively challenging the status quo: it is reflective and critical, and allows students to dream and to solve problems. It learns from the past to better address the challenges of the future, and does not seek to merely replicate the past. Most of all, it promotes awareness, personal growth and efforts toward change. Luckan, in his paper, *Decolonising Education: an Ethical Response to Society*, provides a succinct position in this regard that: *'Research cannot therefore be predominantly abstract or generated in the comfortable silos of laboratories and studios, but must rather emanate from active engagement with all people affected by such research'* (Luckan, 2017). As such, in addition to the essence of field-based activities in terms of learning about the 'other', getting students to engage with society and unfamiliar environments early on in the education process is key in expanding the research arena.

In attempting to test some of the proposed changes, there has been one key observation specific to engaging with people. On one level, the comments/conversations on the online blogs are not critical enough, often stopping at 'likes' and applause emojis. On another level, within the academic setting, there is even louder applause for and expressions of surprise over how architecture could/should be engaging such issues, since it is understood as typically a science and drawing course. The challenge here, therefore, is

how such boundaries can be broken and a critical attitude sustained in order to raise the quality of discourse across disciplines and social settings. This is only a starting point for delineating how teaching and learning can be organised to close the gap between the hitherto rigid classroom environment to a discovery-based field experience as a key driver for cultivating empathy.

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KEYWORDS

research
design research
practice-based
creative practice
strategy

Making Sense:
A Case for Practice-Based Research

- Mark Raymond

A central concern of my research has been the identification of the parameters and measures that frame the distinct conditions that constitute the Caribbean condition through architectural and urban production. The Caribbean presents a cultural condition that has been largely overwhelmed by the historically dominant narratives driving architectural discourse. While post-colonial, cultural and regionalist studies offer unique critical insight into how we might observe or conceptually engage with this and other comparable conditions, they are vehicles that have ultimately disappointed in their capacity to support any enduring position that might significantly inform production. This is a dilemma that also appears to bear comparison to the context of African architectural and cultural production. I would like to share how practice-based research has not only served to clarify the motivations, preoccupations and concerns underlying my own architectural practice in Port-of-Spain, Trinidad & Tobago, but how it has also provided me with a responsive means of investigating the complexity and opportunities presented by the broader cultural context that I occupy as a practitioner. I am interested in the intersection of creative, practice-based research with not only architectural and cultural production, but other aspects of contemporary discourse as well. How as an educational model it might serve to advance architecture through its innovative and radical conversion of research into practice, and the value, relevance and potential it might have as a model for other practitioners.

In an effort to articulate the value of design research, and in particular creative practice-based research, and how this emergent type of research might be usefully engaged, this essay is presented in three discrete parts. The first outlines what I understand design research to be, with a focus on creative practice-based research. The second outlines my own engagement as a PhD candidate with the RMIT University model of creative practice-based research through reflective practice. The third addresses why and how I believe that practice-based research might inform a radical and transformative strategy in the context of both the Caribbean and Africa. The three sections are linked, but can be read separately or independently.

Design Research and Practice-Based Research

Creative practice-based research is an emergent form of academic research that offers potential for the advancement of practice in creative disciplines. As the regulation and qualitative assessment of academic programmes becomes more sophisticated, universities increasingly require university teachers to hold PhDs. However, orthodox scientific research methodology

is not so readily reconcilable with those dimensions of academic learning that characterise creative practice education, such as the studio, design crits, study tours, exhibitions and the iterative honing of technical and craft-based skills through which many creative practitioners have developed their knowledge and expertise and conceptualised their practices.

Conventional paths of research, graduating through Master's degrees to PhDs, are charted by methodologies that are often perceived by creative practitioners as rigid and over-regulated, and therefore limiting in scope. The nature of creative production has evolved, for the most part, through active making or doing and not through the traditionally evolved progressive hierarchies that determine the structure of conventional scientific research. However, design and design thinking, from the scale of the architectural and urban to industrial design, is now central to environmental concerns, technological development and innovation, and the academy is becoming more widely recognised and accepted as a critical site for the advancement of design-based knowledge.

Consequently, together with its core educational objectives, the work of developing creative practice-based research has also been the work of advocacy and experimentation, aligning emergent research methodology with the orthodoxy of prevailing scientific academic research sensibilities without sacrificing or reducing the special and distinct nature of creative practice.

Design is increasingly integrated into mainstream academic culture and the lingering perception of creativity as soft, subjective, non-scientific, thus lacking legitimacy and credibility, has been challenged. Design research brings to the academy – and to society – new, broader and intersectional domains of previously uncharted knowledge.

In his seminal essay 'Research in Art and Design', Christopher Frayling qualifies the position of design research within academia and posits instructive distinctions between different modes of design research:

i) Research *into* art and design; referring to historical and theoretical research

ii) Research *through* art and design, into materials, innovative approaches or techniques documenting a particular design activity or process

iii) Research *for* art and design in which the research is embodied in the work of the creative practitioner whose practice output is seen as a contribution to knowledge (Frayling, 1994).

The RMIT creative practice-based research model is recognised as one of the current leading proponents of design research and is based around Frayling's 'for' mode.

In this model, practitioners are invited to reflect on and investigate

their own practice working independently through a broadly prescribed path of research. The research methodology is constructed around a range of ideas or notions that have evolved and continue to evolve over the course of the twenty-five years during which the programme has developed. These ideas have been most recently identified as:

- Case studies
- Communities of practice
- Transformative triggers
- Public behaviours
- Tacit knowledge

Richard Blythe and Marcelo Stamm provide expanded explanations of these terms in their essay in Practice-Based Design Research (Blythe and Stamm, 2017, 55-60). These notions do not constitute a curriculum or prescriptive methodology, but collectively constitute what is referred to as 'scaffolding' for the research. The research methodology has evolved to map and align the protocols and conventions of traditional academic research. It is a model that advances an entirely new mode of architectural education and research, and affords practitioners a uniquely structured, uncloistered and supportive community facilitating the development of new, practice-based knowledge.

My experience has been gained from the pursuit of a PhD with RMIT, through the Barcelona campus. Consequently, this is the model with which I am directly engaged and acquainted. The model was originated in the 1980s and developed by Leon Van Schaik at RMIT, and further developed and expanded by Richard Blythe and Marcelo Stamm. While this process began with architecture, it has subsequently expanded to embrace a diverse range of creative disciplines. It is a reflective process that requires the practitioner, while still fully engaged in practice, to broadly reflect on their practice through past and current work, on the context in which they operate (the community of practice), to identify themes and motivations driving the work and finally, with this new knowledge, to speculate on how the practice might now evolve or position itself.

The work is developed and presented at Practice Research Symposia (PRS), events held over four to five days at which candidates present their work to peers and invited guests in a similar setting to an architectural school jury. The PRS also serves as a nexus for the interaction of the community and is built around a range of activities, including guest lectures, book launches and social events. It is an intense event and candidates are typically required to present at six of these biannual PRSs before the final exposition of their work in the form of a public exhibit and presentation to external examiners and the PRS community. Throughout the process, candidates work with primary and secondary supervisors. The supervisors function as guides or supporters rather than in the conventional instructive role of design tutors, and the candidates operate largely independently in their research. The durable record of the research is typically captured through an extensive

and comprehensively illustrated text together with a filmed recording of the exhibit and presentation.

Van Schaik has written extensively on the RMIT PRS model, describing its philosophy and evolution, but I am particularly interested in his account of the genesis of the practice-based research model through his encounter with Australian architects after his arrival in Australia to head the architectural school at RMIT:

'I began to work in Melbourne and saw this really quite remarkable work being produced by architects there – all of whom regarded their work as extremely peripheral . . . these same architects were enthralled by visits from relatively distinguished architects from the rest of the world, but did not regard themselves as equal partners in the pursuit of architecture . . . I wanted to get them to look at the work they were actually doing' (Van Schaik and Blythe, 2014: 54).

My interest in this motivation resides in my own circumstances as an architect whose work has been predominantly based in Port-of-Spain, Trinidad. I recognise in van Schaik's observation a very similar condition to the current context of my own practice and those of my peers in the Caribbean. It is an observation that acknowledges critical issues of diversity and inclusion in broader architectural culture, and how the forces of globalised culture and the hyper-mediated operation of global architectural culture often overwhelm and inhibit important work. Van Schaik challenged architects to respond by developing their own individual and collective discourse, not through the elaboration of theoretical positions but through active dialogue, on, in and through their practice, and offered the school as the forum for this reflective research.

An RMIT Practice-Based Research Experience

The RMIT practice-based research model offered me a means of transforming reflection on my own practice from an entirely different perspective than the thrust of my previous research. I would like to share the path of this research and the outcomes as a means of demonstrating the nature of practice-based research and how it is integrated into practice and experience. The title of my PhD is 'Making Sense: Reconciling Architectural Intent and Desire'. I am concerned with how in my practice the iterative process of design navigates pragmatic requirements and operations (intent) with aesthetic aspiration (desire) in order to reconcile a range of perennial architectural, as well as nuanced, preoccupations. Earlier research prior to the PhD had entailed efforts to locate the work within the context of historical and theoretical frameworks, and was undertaken typically through writing on modernism, regionalism and post-colonialism. The research at RMIT was built around the architectural design work of my practice and directed my focus to its reflective, productive and operational modes: how and why I produced

the work in the manner that I did. The methodology allowed for reflection on the work with the support of peers and supervisors, and encouraged wider discourse. It also encouraged the view of the work as existing within a continuum of production: a continuous evolution of what van Schaik describes as the architect's *'spatial history'*.

Prior to my work on the RMIT PhD, my reading of Kenneth Frampton's seminal essay, 'Towards a Critical Regionalism: Six Points for an Architecture of Resistance', while a student at the Architectural Association, was a significant influence on my position (Frampton, 1983). The broad framework of Frampton's thesis challenged the capricious vicissitudes of post-modern architecture that prevailed at the time (1980s). It presented a position that appeared to assert the familiar relevance and ethical value of modern architectural ideology through an interpretation of what Frampton describes as the *'peculiarities'* of place. When confronted with the need to translate or recalibrate my approach to practice after establishing my practice in Port-of-Spain, the conceptual framework of critical regionalism was an important touchstone in determining how a critical approach might evolve that was both responsive to found circumstance, while also retaining a relevance to larger discourses. Frampton's critical work on the tectonic also encouraged me to explore and examine my own approach to materials and the techniques of construction.

Over time and in the context of the increasingly complex and contested interpretations of modernity and globalisation, the allure and relevance of critical regionalism has diminished. Conventional notions of the local, the regional and the global have been disrupted and displaced by an expansive range of speculation and conjecture. Consequently, the relevance and appeal of the local as a conceptual site for practice has also diminished, creating a conceptual lacuna. My research expanded to investigate the discursive intersections between architecture and other disciplines, including anthropology and sociology, and a reassessment of modern architectural production. I investigated how, through the studied exploration of my own creative operation and production, and the themes and preoccupations that drive and motivate them, I might seek to hone a clearly-defined position rather than rely upon formulaic or theoretical models. This served not only to inform the process of design, but notably amplified the possibility of identifying my work independently, and in direct and specific relation to other work, rather than in relation to meta-concepts or theories to which architects are frequently prone to revert in post-rationalising their work.

At the outset of the RMIT research programme, I presented a range of work that I had produced during the course of my practice. This work was presented in the context of a wide range of preoccupations that essentially revolved around generic, perennial architectural themes, such as light, context, materials, topography and structure. I explained how I had over time sought to conceptually align my interpretation of these issues with the location of the practice in Port-of-Spain. I indicated my desire and intent to identify greater coherence and clarity both in the work that I produced and in the operation and positioning of the practice.

I began through the process of investigating past projects and identifying themes or interests that emerged from this review. This revealed a number of underlying interests and motivations. These included, the importance of the topographic conditions of projects, the programming or choreography of spaces, the relationship between interior space and the landscape, the range of scales at which the landscape and context for production was perceived, and the manner in which the architectural propositions are formulated through drawing and photography. I became very interested in the role of the photographic image in the context of my practice, identifying it as a significant element of how I work and how I interpret the landscape/context.

I explored the processes of other cultural practitioners and their methods of production, the relationship between my architectural intentions when designing and my interest in the work, and working methods of certain realist painters. This enquiry developed to include photographers, sculptors and writers. I identified that the work I was drawn to, in seeking to establish relationships between my own work and that of others, could be classified as non-abstract, non-fictional, realistic work. This, together with recognising the importance of the role of photography in the practice, was an important realisation emerging directly from the research.

Cultural production in which issues such as time, space and action were measured and recorded in 'real time', and where realism formed part of the motivation, appealed to me and I explored this intent in my own work. I am aware of the contested philosophical value of concepts such as truth and objectivity in art and cultural production. However, the idea of a non-fictional approach to production and the idea of triangulating ideas through various means of qualitative 'measurement', such as photography, resonated strongly with me and made sense. When identified as a strategic position within architectural production it also appeared to present valuable and relevant opportunities for a form of validation and authenticity in a world where architectural value appears diminished, increasingly circus-like and often predicated on caprice and novelty. I also considered the idea of time and memory, and the observation that architectural production often becomes caught up with ideas about the future with a great deal of contemporary work being consciously formulated as if it were for, or located in, the future, or alternatively work produced to evoke notions of the past. This temporal placement – the representation of the present in my work – is also an important counterpoint to both nostalgia and the compulsion to privilege graphic virtuosity. I am as interested in the idea of an existing place or space – architecturally designed or not – as I am in a modern, or finely designed space. I also explored how the idea of the provisional could be equated with this idea of the present. This was an observation that prompted me to recall Walter Benjamin's compelling maxim of architecture being experienced in *'a state of distraction'* (Benjamin, 1969: 18). Over time, aesthetic experience is modified and transformed by everyday use and encounter.

In pursuing this idea of the present and in collating past work – which has come to incorporate photographic work in parallel with architectural work

‘Architecture has always represented the prototype of a work of art the reception of which is consummated by a collectivity in a state of distraction’ (Benjamin, 1969: 18).

– I considered how architecture is experienced, how buildings and spaces are acknowledged at a range of scales including the figurative, the domestic, the urban, and the scale of the open and natural landscape. These scales can be understood in terms of not only relative measurement, but also as fields of architectural operation.

Listening to the critical evaluation of the research over the course of the PhD process, I realised how my explanation of the work was being interpreted as a desire to create framed views or mise-en-scènes; however, this is not my intention. The notion of framing as it has emerged in my research has less to do with a conventional understanding of visual framing, as in 'a framed view', but is rather concerned with what might be understood as the framing of experience – spatial experience. The image (photographic, painted, sculpted, architectural representation, etc.) is employed in cultural production as an eidetic medium of experience or what Walter Benjamin refers to as the *'reception'* of the work.

'Architecture has always represented the prototype of a work of art the reception of which is consummated by a collectivity in a state of distraction' (Benjamin, 1969: 18).

I reference Walter Benjamin to illustrate that the sensibility, the quotidian experience, our habitual occupation of architecture, the city and the landscape, while witnessed or evidenced through moments of sensory clarity or evoked through poiesis, are received or experienced not primarily as observed phenomena, but over time and through temporal (habitual or momentary) physical and sensory occupation.

So, in designing, in 'making' this experience, we must be sensitive to this temporal dimension and not simply defer to the seduction of the purely visual. My interest in the work of photographers and painters, and my interest in the image, is not in the *visual framing* of *mise-en-scènes* per se, but is concerned with the construction and design of what precisely is being framed in terms of the intended or desired experience; what can be described as the 'reception' of the work; the sensory reception of the architecture and the moment over time.

I am interested in the experience and the manner in which the qualities of specifically photographic or framed images might be directed to convey particular and peculiar figurative, architectural or landscape values, and how the value and quality of architectural experience are interpreted and constructed through such sensory and temporal reception and projection. This is how I now understand architecture: as a frame and not as a visual device; a material and temporal frame that embraces, contains, facilitates and anticipates experience and memory, constructed through an iterative process of both wilful intent and desire. I recognise the significance of the eidetic idea as the conflation of the image, with the temporal distracted experience of the architectural moment, as a means of making sense.

Practice-Based Research as a Design Strategy

A major motivation for my interest in the practice-based research model was stimulated by Leon van Schaik's description of the community of architects he encountered in Melbourne in the 1980s, and his challenge to them to transform their practice through reflection and exchange. This transformation has had a major impact on the development of the city, and created a generation of architects deeply invested in practice-based research that has a direct bearing on practice.

It was specifically van Schaik's description of architects that resonated with me in the context of my architectural practice in the Caribbean:

'all of whom regarded their work as extremely peripheral... enthralled by visits from relatively distinguished architects from the rest of the world, but did not regard themselves as equal partners in the pursuit of architecture... I wanted to get them to look at the work they were actually doing' (van Schaik and Blythe, 2014: 54).

It reminded me of a discussion with a senior member of staff at the Caribbean School of Architecture (CSA) in Jamaica, where I was teaching a studio a number of years ago. The school had been established in the 1980s in Kingston, Jamaica as the first and only school of architecture for the numerous territories of the English-speaking Caribbean. A curriculum had been developed that encouraged the generation of research that would focus on the particular conditions of the Caribbean architectural and urban landscape, and foster exchange and understanding between the students from the various territories. A critical component of this initiative would be study tours to Caribbean cities as a mandatory annual requirement in the final two years of the undergraduate programme and the two years of the Masters programme, the research and outcomes of which would contribute to the formation of a valuable research repository in the absence of very little published and documented research in this area. This idea was and remains a means for the CSA not only to develop a unique body of research, but also to deepen understanding and provide opportunities for new knowledge. The study tours were and continue to be enormously successful in many ways; they are a universally important feature of architectural education. In recent years however, a trend had developed in selecting destinations such as Miami, New York and Chicago for these tours. I took issue with the CSA on this trend as it appeared to conflict with the original intention of a Caribbean-focused curriculum. A senior staff member responded by suggesting that by visiting these cities, students would be exposed to *'real cities'*. My objection was not that the cities weren't appropriate for academic study (of course they are) but that an opportunity was being missed in avoiding cities that had not been the subject of research. More significantly, the orientation and perception of the North American cities as 'real' revealed, reinforced and

perpetuated the erroneous notion that Caribbean cities were secondary and that the 'real' issues of architecture and urbanism lay elsewhere.

This attitude of authentic architectural knowledge residing elsewhere is prevalent in the Caribbean: things foreign are often without question deemed superior, and local and regional culture is seen as residing purely in craft traditions and rituals and modes of expression that are idiosyncratic. This is a perspective that is accentuated by a defaulting reversion to what is already known or established, and a consequent, inordinate preoccupation with, on the one hand, colonial architecture and conservation and the belief that 'real' value lies in the artefacts of colonialism and, on the other, frequently banal emulations of architecture from elsewhere. Architecture proceeds in an ad hoc manner with no exchange or progressive discussion about its contemporary cultural value and with little regard to the consequences. Thus, as time moves on, the opportunity for advancement, and for addressing both the need and desire for well-designed environments and the social, cultural and economic benefits that this represents, is missed. In the absence of discourse, a mediocrity and adhocracy prevails.

It is a condition that appears to intersect with comparable conditions in many other parts of the world. I have personally observed comparable architectural/cultural conditions in both Nigeria and Ghana. Caribbean and African culture share post-colonial cultural trajectories and intersect on many levels. Architects after graduating are launched into a market for their work that is often completely misaligned with their education and training, and one in which the professional bodies, whose role might otherwise be to advocate for the cause of greater sensibility to design, are often neither capable of nor disposed to advancing. Little research is undertaken in academia, as the funding for this is beyond the range of the fragile finances of universities and there is little political will to support any 'project' that does not offer tangible monetary return.

Perhaps one remedial strategy to address this condition and to advance the value and benefit of architecture might therefore be the development of a practice-based research model that could build upon the model of the RMIT practice research symposium (PRS), an itinerant PRS driven by the Graduate School of Architecture at the University of Johannesburg, calling in at various diasporic locations – a roving nexus. This could initially attract practitioners from architecture but expand to include other creative practice disciplines, all at different stages of their careers, and provide an opportunity to expose their work and research in a supportive environment as a contribution to a broader collective spectrum of research and knowledge. The PRS would provide a space in which to test new ideas and expose them to constructive critique, to sensitise other interests (industry, other academic disciplines, etc.) to the value of design. It would function as a model that would allow creative practitioners to interact and formulate new and resilient communities of practice.

What is compelling about such a model is the generation of new knowledge and the formation of a community built around this new knowledge, one that distinguishes itself from the conventional, tired and

ineffectual professional organisational models. It is a model built around diverse interests and practice. A successfully operated, itinerant PRS could become a nexus for professional, practice-based research and knowledge, and provide a robust and dynamic link between architectural schools (students and staff) and professional practice (practitioners), and could create a new mode for the development of both architectural and research-driven knowledge programmes and communities of practice.

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KEYWORDS

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Critical Inquiry within the Paradigm of Rapid Social Transactions

- Yashaen Luckan

Background and Context

Access to web sources and online platforms is readily available and widely utilised by architectural students. However, these have generally led to a proliferation of copied images and forms, without a depth of understanding of the underlying principles or complexities of the processes of inquiry embedded within. This statement is based on the author's experience as a lecturer, practitioner, mentor and examiner of architectural theses at various universities. It is a statement similarly echoed at various architectural learning sites, i.e. that the level of critical inquiry in the written and design work of students reveals a general lack of inquiry in favour of hasty production. The intrinsic value of architecture as a manifestation of the needs and aspirations of society has been lost – time required for perception, analysis and reflection, which are required to develop meaningful and responsive solutions, through a process of critical inquiry, has virtually disappeared. However, it is affirmed that critical inquiry also requires deep engaged thinking through connection across domains, disciplines and socio-economic contexts.

While academics are heavily critical of the way in which students engage with their projects and written work, and the assumed negative effects of technological devices, the disconnection of the critical process of architecture from society may be historically entrenched within the curricula and pedagogic approaches of the respective architectural learning sites. In this case, the misuse of information technology merely exacerbates the problem. The progressive disconnection of architectural education from society can be traced as far back as the emergence of formal, discipline-focused education at the academies that emerged during the Renaissance period (Cret, 1941: 3-15).

Hegemony, canon and linear modes of teaching defined the academies, thereby inhibiting critical inquiry. At the root of this problem was an epistemological imbalance whereby the egocentric individual/introverted modes of architectural production had taken precedence over the real worth of architecture as a critical process in response to people, place and time.

It is asserted that information-age virtual-learning platforms can actually afford great potential to advance critical inquiry through connection with a broader learning community in society. This essay frames a critical position against behaviourist, hegemonic and canonical approaches to architectural education, arguing that critical inquiry into situated learning problems is vital to transformative architectural practice in culturally diverse, challenging and dynamic contexts. The information age has enhanced collaboration and mediums of expression between different socio-economic

and cultural groups within a paradigm of rapid social transaction. It is argued that the virtual learning environment can be interpreted as a democratic mode of twenty-first century education: it allows various possibilities for deep critical inquiry by connecting a wider range of domains, attitudes, values and lived experiences.

Methodology

The methodology for this essay is fundamentally rooted in the philosophy of interpretivism, as the crux of this work is focused on a critical architectural process in response to place and time, allowing for multiple interpretations, narratives, experiences and perceptions. Significance and meaning of phenomena are value-bound, reflexive and indeterminate. An inductive approach sought to develop an understanding of the complex problem within a complex context, defined by constant interaction between the individual and the collective within the physical and virtual domains. The nature of the research and argument developed was further contextualised within a radical humanist approach which highlighted the intentions of redress and social reconstruction through critical inquiry and practice. The life experience of the researcher formed a vital part of the position developed in this essay. An auto-ethnographic enquiry defined the primary research strategy, owing to the experience of the author as a practicing architect and academic involved with legislative bodies governing higher education and the architectural profession. Qualitative analysis of secondary sources sought to understand the various influences that shaped architectural education and the impact of technological innovation on learning and learning space development. Literature review further provided an understanding of the role of person, place, time, culture and technology in the critical process of architectural design inquiry.

The Impact of Historical Modes of Education on Critical Inquiry

Critical inquiry is posited as a consequential process that interconnects cognitive process with the domain of the collective, defined by multiple experiences, perspectives, attitudes and intelligences rooted in context. This position challenges the dominant modes of knowledge production still prevalent today. What are these dominant modes of knowledge production that define the state of architectural education in the twenty-first century?

The paper briefly discusses the various influences of general curriculum perspectives and pedagogic modes in order to understand the nuances of architectural education within a broader paradigm of higher education.

Shubert (1997) refers to the hidden curriculum whereby the social relationships between participants in learning – students, teachers and members of society alike – construct and refine the character of students. He defines four perspectives on curriculum aligned to character types: social

behaviourist, intellectual traditionalist, experientialist and critical reconstructionist.

The historical evolution of architectural education since the mid-seventeenth century presents a strong correlation with social behaviourism and intellectual traditionalism. Social behaviourism in architecture can be best related to the early eighteenth century system of articled pupillage in Britain, while intellectual traditionalism and, to an extent, behaviourism, most evidently correlate with the Beaux Arts studio *(atelier)* pedagogy established in France during the mid-eighteenth century (Howarth, 1959: 25-30). The Beaux Arts studio, characterised by the production of external images of social success and the behavioural observation thereof, would form the basis of learning. This would lead to the architectural studio as an intellectual silo, disconnected from society.

The intellectual traditionalist approach, on the other hand, relied heavily on the great intellectual works located within the logic of disciplines. It exposed the learner to ideas that would transcend historic eras, geographic locality, culture, race, gender, and class, among others. These two perspectives – social behaviourist and intellectual traditionalist – would shape the evolution of education over centuries and clearly define the most dominant discourses and approaches of architectural education in South Africa today.

The experientialist approach poses a major and valid challenge to the two preceding approaches, highlighting the importance of the broader learning context by bringing into play lived experiences and informal learning. Within this approach the learner would define what is worth knowing and actively contribute to the development of the curriculum. The approach includes diversity and multiculturalism by placing high value on contextually situated learning and shared experiences. The essence of an experientialist perspective is democracy.

Educational philosopher, John Dewey, promulgated this kind of approach, promoting an engaged learning paradigm which placed high value on real life experiences. Dewey notably criticised schooling for being exaggerated rather than supplementary to the ordinary course of living (Dewey and Dewey, 1915, cited in Krutka et al., 2016). Dewey (1938, cited in Krutka et al., 2016) strongly proposed the value of education in advancing democratic forms of social life by improving access and participation, in order to improve the quality of human experience. Inclusion, participation and connection are critical to this approach.

The critical reconstructionist approach relies on life experiences and the promotion of democracy through social justice, redress and reform. It builds on reflection of lived experiences to conscientise students to the hierarchies in society, which manifest in unequal privileges, power, dominance and social injustices, and which define the realities of the broader social context. The promotion of activism against injustices stimulates critical engagement and inquiry into social injustices towards effecting redress and transformation through action. It is based on praxis, relating inquiry and action for effecting change in society.

The preceding discussion presented four different perspectives in the curriculum, which highlighted the value and shortcomings of the prevalent dominant approaches, namely social behaviourist and intellectual traditionalist, which tacitly disregard lived experiences – severely compromising critical inquiry, as education is disconnected from one's own lived experiences and socio-economic realities. The experiential and critical reconstructionist approaches importantly place high regard on lived experiences, connection and inclusion.

Gibbons et al (1994) presents two modes of knowledge production – mode 1 and mode 2 – widely referenced in higher education, which would be used to further critique architectural education, with particular reference to critical inquiry and engaged pedagogy. The disciplinary-specific mode 1-type of knowledge hinges around scientific methodology, norms and judgement of what constitutes sound practice – controlled within institutions of learning and research.

Mode 2, on the other hand, accommodates trans-disciplinary practice, heterogeneity and transience; it is not bound within institutions, thereby bringing a wider range of participants into the process of inquiry. This mode is rooted in context and is essentially problem-based: knowledge is not strictly based on universal norms nor regarded as free of social, cultural and geographic influences. This essay affirms that critical inquiry is a process of deep thinking through connection with people, place and time.

The twenty-first century has realised unprecedented advances in technologies and new industries. However, it simultaneously highlights the injustices of dominance, power and privilege; crises of the ecological environment; world economies; and gross social injustices. Architectural education cannot continue pretending that the world is equal for all people. It has an ethical duty for the advancement of society through knowledge transfer and contextually relevant knowledge production. Knowledge and knowledge production may be considered dialogical, whereby critical inquiry is founded on democratic processes which draw on the inherent cultural knowledge entrenched in society. While knowledge is transferred to society for its advancement, the cultural context constantly generates knowledge – it is part of the knowledge society. Bussey (2010: 1) affirms this view by stating that education is a function of all cultures and society.

Contemporary architectural education, however, continues to be dominated by the convenience of a mode 1-type of education which implicitly undervalues society and culture. Inquiry and knowledge generation are characterised by a predominant focus on industry and technological production; limited to product-driven knowledge. I refer to this as 'industrial pedagogy', which emphasises product over process – compromising critical inquiry for societal advancement. Bussey (2010) attributes the shift in education from the social/informal settings to an instrument of the State, to the rise in institutional modernity during the eighteenth century, which shaped the nature of early nineteenth--century schooling whereby education assumed a form of social engineering focused on skills advancement for the citizenry of industri-

alising states. As such, the inherent value of culture, society and locality were disregarded in favour of the convenience of universal norms and standards within an industrialised pedagogic approach.

The industrial pedagogic approach limits critical inquiry and suppresses human potentiality for the benefit of industry – widening socio-economic disparities between privilege and disempowerment, accentuating dominance, control and injustices. Bussey (2010) refers to this as a paradox at the heart of contemporary education; while it achieved many great things, it simultaneously failed to prepare students for a future that asks very different and constantly changing questions of humanity. How can education prepare students to engage with ever-changing/indeterminate social contexts, for the advancement of humanity?

While the advent of humanism during the European Renaissance sought to liberate the mind from conditioned thinking, challenging the ideals of the Church, Da Vinci's Vitruvian Man emerged as a scale for the universal measure of all things – a metaphor of universal order, taxonomy and harmony. The reality is that human behaviour within the contemporary context is rather unpredictable and cannot be clearly defined nor classified or finitely controlled. Given the complexities of the developing world, a universal order, taxonomy and harmony are nearly unachievable.

Across the globe, however, the dynamic balance of the Indian Nataraja would, for centuries, define a complex world of multiple forms, dynamic fluid and transient – a contingent order bound by chaos and possibilities (Bussey 2010). The precise balance and order which promulgated the single futures ideals of humanism would be reinterpreted by the philosopher Sarkar (1998), who promulgated *eupsychia*, a multiple-futures approach, founded on connections via infinite networks of interrelationships and possibilities (Bussey 2010). Sarkar's theory of neo-humanism extended further to include material, intellectual and spiritual realities, wherein human unity could move beyond the social level to include various interdependencies such as human-ecological existence. An interdependent systemic complexity of human existence, as a democratically engaged process, forms the basis for critical inquiry wherein individual cognition and experience is inherently connected to the collective/societal context.

Critical Position

Education and society are naturally interdependent. However, segregation and disconnection sever this vital interdependency. Perhaps the most severe consequence of apartheid legislation, segregationist laws and attitudes, is an apartheid mode of thinking about the built environment/society. Architectural thinking, in this context, remains shackled within ivory towers or silos of practice, in disconnected disciplinary domains and communities of practice. The design studio, as the core architectural learning space, continues to draw young minds from culturally rich and diverse socio-economic and geographic backgrounds into controlled modes

of exploration within an intellectual and spatial silo – the design studio. The lived experiences of students from disadvantaged communities are generally disregarded in the process of architectural design. Critical discourse is generally confined to literal sources and the position of the lecturer/tutor/master. The ultimate consequence of such a system is that historically marginalised communities continue to be ignored by any kind of architecture that expresses contextual identity and cultural narrative. In this system the supporting curriculum progressively colonises the intellect within a paradigm that effectively excludes lived experiences, multiple cultures, multiple intelligences and the possibility of multiple futures. Students who do not fit the norm generally compromise their own contextually interdependent experiences in favour of the generally-accepted and promoted attitudes and perspectives of their respective institutions. How can critical inquiry be promoted when a critical component of the student cohort has no medium to express its existentially acquired attitudes?

Democracy is a process of intellectual interdependence, participation and contribution which cannot be exclusive or self-referential. It rejects seclusion; it is about including multiple experiences and intelligences within a paradigm of participation and critical engagement.

This essay affirms that the essence of critical inquiry is precisely about engaging within a broader paradigm of interdependency between the individual and the collective, the immeasurable, the indeterminate and the unpredictable. Through such a process, architecture may be able to reassume its critical position as a critical interface between culture and technology, for the advancement of society. Bussey (2008) emphasises the role of education as interface between culture and technology, as bridges of ideas between subjectivities and realities – this is the inherent nature of responsive architectural practice.

One of the greatest hindrances, however, to the interdependencies of ideas and contextual realities is the geographic distances between learning sites and communities in need, especially in the spatially segregated context of South Africa. The challenge of geographic distance compromises inclusion, connection and collaboration, severely hindering critical inquiry and, therefore, the socio-economic advancement of marginalised communities. This formed the basis of the primary question of this essay: how can twentieth century technological advancement aid critical inquiry through connection with marginalised communities?

Is it not time to accept that the higher education landscape in South Africa cannot continue to perpetuate historic modes of learning? The very learning environments and learning spaces that have historically defined education have inevitably been reformed through the advances in information technology and technological devices. Technological devices have become increasingly accessible and widely utilised across communities, regardless of socio-economic disparities. People of different ages are much more socially connected, albeit on virtual platforms. The virtual learning environment has broken down historic barriers to access, and mitigated geographic distances

Architectural education in South Africa has missed many opportunities afforded by technological developments that have broken down bureaucratic barriers, allowing for free and democratic collaboration across societies, economies, cultures and regions. The need for critically reforming architectural education in response to technological advancement is therefore beyond urgent.

across cultures and economies. The virtual space has become a new space which allows for rapid social transaction.

This essay affirms that social engagement via Web 2.0. tools has catapulted education into a paradigm that could reform curricula, pedagogies and learning spaces. This paradigm, however, inherently poses serious challenges to any model of education that may be based on hegemony, power and canon, as it naturally overcomes hierarchy, dominance and control. What possibilities does this new paradigm of rapid social transaction offer to the twenty-first-century curriculum?

Bass (2012) posits the concept of *disruption*, which initiates a rethinking about how teaching and learning occurs and the position of the student within an effective curriculum that promotes deep critical inquiry. Linked to this notion is the power of technologies and social media tools in integrating learning across domains and learning spaces; facilitating an integrative social pedagogy. Within this paradigm, learning impact occurs beyond courses, factoring in life experiences and broader communities of practice – post course consciousness strategies which acknowledge the fluid boundaries defining the larger context of learning experiences. These experiences include a sense of community, mentorship, support, and relevance – a collective investment in the learning process.

The participatory culture of the web and informal learning experiences are particularly relevant in this regard (Bass 2012: 27). Bass affirms that the re-centred curriculum with a re-centred core, facilitated by integrated social pedagogies, promotes deep learning which would enhance critical inquiry.

While web tools feature in architectural education, these have been implemented primarily for information sharing or in the form of learning management systems. It is argued that there are many untapped opportunities, via web tools, that afford unprecedented platforms for collaboration across cultures, economies and regions across the globe. Architectural curricula, pedagogies and learning spaces, however, generally continue to defend historic/habitual pedagogic practices within territories of formal learning spaces.

Architectural education in South Africa has missed many opportunities afforded by technological developments that have broken down bureaucratic barriers, allowing for free and democratic collaboration across societies, economies, cultures and regions. The need for critically reforming architectural education in response to technological advancement is therefore beyond urgent.

Students today favour collaborative learning environments, both built and virtual, as much more inclusive and contested spaces for creative thinking and inquiry: coincidental learning spaces (Luckan 2017). This essay reaffirms that curriculum-directed learning and self-directed learning will continue to miss opportunities for deep critical inquiry if coincidental learning is not valued, embraced and promoted. The paradigm of coincidental learning requires that the hierarchical counter-positions of teacher and students be underplayed to transform learning spaces, which Brown & Long

(2006) refer to as a shift from information commons to learning commons, in order to deepen critical inquiry through collaborative learning environments that embrace rapid social transaction.

The virtual domain exposes architectural education to a new dimension of reflexivity and response to context while vastly enhancing engagement and contribution in the global knowledge society. At the same time, the virtual domain has reconfigured learning spaces, extending beyond built pedagogic spaces, wherein learners can connect and engage despite the historically entrenched socio-economic and geographic barriers.

Rapid social transaction has redefined the nature of architectural learning spaces, which has raised challenges while affording new opportunities for transformative pedagogies. Technological devices and virtual learning platforms advance social interaction across domains and boundaries. This naturally stimulates the emergence of a complex hidden curriculum, rooted in place and time.

The pedagogic values embedded within the mode of rapid social transaction, founded on a paradigm of coincidental learning, may certainly enhance critical inquiry and advance the development of communities by way of responsive knowledge transfer and knowledge generation. Ultimately, a new paradigm of ethical education and practice, founded on deep critical inquiry, will emerge.

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KEYWORDS

sustainable
development
oases
low-cost
empower
cooperation

Inhabiting the Desert in the 21st Century: Radical Low-Tech Strategies

– Ángela Ruiz

Introduction

This research project presents the radical hypothesis — how to inhabit the desert in a sustainable way, from a pragmatic and experimental attitude based on low-cost strategies of evolution. But why inhabit the desert?

First, because 2,000 million people in the world live in desert environments (MEA 2005), 80% of them in developing countries. Fifty-million people currently live in oases – inhabited islands in deserts. Second, the estimated figures on climate change point out that one-third of the earth's surface is under threat of desertification. With these statistics in mind, there is clearly a need to ensure that environments that are currently deserted may be adapted to sustain life in the future, more so as deserts are considered environments with great potential (Chelleri, et al 2014: 17-33). This paper demonstrates a pragmatic and experimental attitude towards intensifying the relationship between productive architectural action and the social, political, economic and natural context.

This specific case study focuses on the extreme conditions in the oasis of M'hamid El Ghizlane, Morocco, where a process of disintegration and abandonment is evident. This is due to an accumulation of external and internal circumstances and multiple factors, natural and anthropic, which affect the oasis, taking climatic conditions to extremes and causing a shortage of natural and artificial resources. Such factors include: climate change, drought, changes in water policies, the threat of desertification, social conflicts, ecological imbalance, economic scarcity, the global energy crisis, architectural obsolescence, the destruction of built heritage, and a social and cultural misunderstanding of the role and purpose of new architecture.

M'hamid was chosen as an authentic case study, allowing for in-depth analysis, including a subjective evaluation of the oasis environment, together with wide-ranging cartographic and direct observation documentation. With this choice established, the first dichotomy immediately arose: the oasis of M'hamid encompasses an almost medieval way of life, where nature is in a state of threat – albeit in an area of great natural beauty – and with an almost total destruction of the built heritage. In such a scenario, the radical question is to conserve or foster? To elaborate, is the appropriate strategy here one of conservation, working in tandem with the oasis's current evolution? Or might it be to subvert the trends (which we already know will lead to its destruction) and to attempt to sustainably develop and maintain the oasis's global panorama and way of life? With extremely limited resources, M'hamid has mounted a brave resistance to the forces of extreme climate change that

Figure 1: Panoramic View of Ksar Bounou, Oasis de M'hamid. Photography: Ángela Ruiz

threaten its survival. For the most part, life is lived at subsistence level but the result here is progressive abandonment: from the ksur, the spatial roots of which lie in the Middle Ages, to the new contemporary (although disintegrated) city, M'hamid Jdid (New M'hamid). Citizens are leaving for other big cities in the region or for Europe. Many ksur lie abandoned and invaded by the dunes, such as Bounou or Ouled Mhaya. Undoubtedly, the landscape and land architecture of the ksur is of great beauty, and an architectural heritage that is worth keeping, but what is the use of conserving an architectural heritage if it becomes empty scenery, a ghost town that recalls a past life of prosperity and dignity without hope of renewal? Much of the attraction of the oasis's current architecture stems from this attitude – the evocation of a glorious past that fades under the dunes, swallowed by the desert, disappearing silently, slowly succumbing to the passage of time. It is a unique experience to visit a ghost town where you can walk freely through its streets, houses, towers and courtyards – or even temporarily inhabit it – but is it not more sustainable to allow the town to die than to invest in its touristic conservation? What is the point of mummifying the architecture? Why preserve or rehabilitate a ghost town?

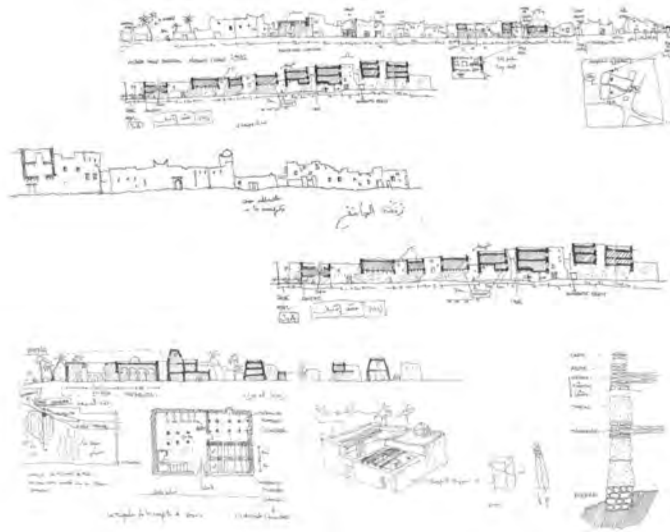

Figure 2: Elaborated Graphic Documentation of the Oasis of M'hamid. Drawings: Ángela Ruiz

In contrast, in other nearby towns, such as the Ksar of M'hamid, the rate of habitation grows every year. The inhabitants of the oasis want to live in it – they love the desert, they claim – but they do not want to be stuck in the past. They look for a better future and are attracted by the current technological society. The massive influx of tourists seeking to experience the desert brings an awareness of the outside world and its technological culture to those still living in the oasis. Young desert nomads now have access to the contemporary world via the Internet and social media, yet barely know how to write by hand. This process of modernisation differs from the Western model of modernisation. According to Asher, in his book 'The New Principles of Urbanism' (Ascher, 2001), the model of a contemporary city is derived from the three 'modern' revolutions that have happened in history: from the community or medieval market society, to the industrial society, and from the industrial revolution and the introduction of the machine in everyday life, to the hypertext society based on new technologies, communication networks and the Internet. Industrialisation never came to M'hamid, yet the hypertext society is being implanted in the context of an existing market society. In everyday reality, however, hybridisation is already taking place: the prevailing social bonds of the market city, the predominantly local culture, the self-controlled and closed social territories, and the dominant paradigms of tradition and hierarchies of power are still maintained, but this combination of forces is generating an evolution of economic activity and a multiplication and mediatisation of social ties.

Figure 3: Photograph of the Town of Bounou, Invaded by the Dunes. Photography: Ángela Ruiz

From Analysis to Hypothesis

Looking at the case study analytically allows us to understand the available resources and the latent potential of the oasis of M'hamid, which in turn allows us to subvert the prevailing involutional dynamics. The initial drawings of contextual appropriation and critical analysis form action maps and diagrams, themselves formed by a system of objects and the definition of transversal strategies, deconstructing the past and reconstructing the future, incorporating alternative systems that are defined in seven strategic lines of action formulated from the three areas related to the ecosystem: ecological, socio-economic and architectural.

Starting with the environment, in many cases it is important to preserve the ecological balance. However, due to the process of natural desertification (droughts and climate change) and anthropogenic desertification (depletion of resources and poor water management), it is not possible to conserve, in the sense of maintaining the management of the palm grove and existing

Figure 4: Diagram of Proposed Strategies for the Sustainable Development of the M'hamid Oasis. Author: Ángela Ruiz

agriculture. A sustainable development approach happens to solve a new equation, establishing the matheme[1] that recovers the climatic function of the ecology and the balance of the binomial nature–architecture equation.

A re-reading of the natural environment of the oasis is done to rediscover its potential, seeking specifically to: (a) create a micro-climate of the palm grove, planting native species that resist arid conditions of the oasis (xeroscape), such as medicinal or aromatic plants (saffron, for example); (b) to establish crops-without-soil (hydroponics, aquaponics and aeroponics) or crops-without-water; and (c) to establish the possibility of using organic waste to generate energy or implement agro-ecological and permaculture techniques inherited from experiences. These would include 'greening the desert', or in-situ empirical research, such as that developed by Michael Wüst in M'hamid, with agriculture, electromagnetism and soil fertilisation systems. Similarly, nature has the potential to face this type of threat through re-forestation (e.g., with acacias or tamarisks, which slow the advance of the dunes) or through ecological restoration that allows lost soil the chance of recovery.

In Morocco, social and economic forces are already undergoing transformation. It is unproductive to pretend that a mutating or transforming state can be indefinitely preserved. There is a clear need to evolve, developing tools that build on universal values (equality, respect and tolerance, for example) which may go some way towards addressing or resolving the social conflicts that arise from a rigidly gendered and hierarchical society with clearly defined axes of power. Communities or societies that employ negotiation as a tactic to resolve conflict produce much greater shifts in prevailing social paradigms (Felber, 2012).

These negotiations are understood as the establishment of systems of economic reactivation, such as the economy of the common good, or alternative financing systems that use technology and its global reach capacity to promote local entrepreneurial actions. 'Social action' systems, such as transition movements that incorporate the management of exchanges through time banks or local currencies, or new management systems, such as the custody of the territory, allow an improvement of the environment at the same time (Al-Hamameh, 2006: 18-21). Such tactics increase the ability of inhabitants and society to empower themselves to defend their own future and to be active agents in the process. The origin of the impulse that initiates global action towards sustainable development and the agents that intervene are defined according to this premise. That is why the hypotheses of 'bottom-up strategies' are defended so robustly, such as the policy of custody of the territory and the transition movement within the socio-economic sphere, as well as the proposals of low-cost, self-constructed and economically assumable systems. As for the urban-architectural sphere, it is evident that traditional architecture adapts to the extreme climate of the context, but not to a society that seeks new forms of housing (Bouchair et al, 2013).

Thus, the dilemma of whether to conserve or foster reappears in the two differentiated urban realities: the ksur, land settlements with traditional structure, compact and adapted to the climate but in demographic decrease; or the new town of M'hamid el Jdid, with an urbanism of 'widening'. Here a false idea of modernisation has led to the proliferation of industrial construction techniques (concrete block and cement), unadapted to the natural context, forgetting everything learned from the traditional form of construction – the compactness of the cities, the inertia of the construction system, adapted morphology, passive architecture and urban spaces that allow community life, the sustainability of the material, and the perpetual cycle of the earth that returns to the earth.

The misinterpretation of constructive techniques or their maladaptive extrapolation threatens the quality of life and is unsustainable, economically and environmentally (Baglioni et al, 2008). In each of these two situations a different action is proposed: in the urban context of M'hamid Jdid, urban and architectural strategies of densification are proposed by means of urban patios or the introduction of an urban acupuncture of use. In empty urban spaces, innovative, critical and progressive proposals are drawn up, which turn them into productive spaces or spaces for communication. In the ksur, empty spaces correspond to the unoccupied spaces of the residential habitat (empty dwellings) where other alternative uses of work and production are considered. In both cases, inhabitation has to be reconsidered and reconfigured to allow a sustainably inhabited future, one that neither allows places to disappear nor be conserved as ghost towns – both scenarios that belong only to the past.

Figure 5: Photograph of the New M'hamid Mosque in front of the Ksar's Land Architecture. Photography: Ángela Ruiz

Hypothesis Becomes Action

This thesis defends architectural action as a driver of sustainable development, supported by three key elements: the production of 'techno-artistic' objects as energy resources from the re-use of waste, architectural manipulations to reformulate the habitat in terms of contemporaneity, and the drive of everyday actions that redefine social relationships by creating cooperative and collaborative environments.

It is an architecture-action defined by the will to activate, generate, produce, express, move, exchange and relate; to shake events, spaces, concepts and inertia; to promote interactions between things rather than interventions within them. The strategies and action systems are established

according to criteria of adaptability and within the methodological framework. Dynamic provisions, systems and more open and flexible structures are produced from an intentional reading of overlapping information destined to generate linked, variable, multiple and heterogeneous events.

The knowledge of the context reveals the common, the private, the vitality of the imagination, immaterial values, and the natural potential, all of which are present in the oasis. Analytical maps are made that transform into action maps – effective and precise and, at the same time, necessarily receptive and open to the unforeseen, the contingent. In this way, the architectural action behaves as a catalyst for processes, and the thesis a means of disseminating and promoting alternatives to the current dominant model, which explores new models and ideas for collective forms of production, construction and relationship.

Thus, from the borders of the architectural discipline, it is possible to create a series of objects, conceived from the design and technological research, and with them, to propose process dynamics, experimentation and learning, as a set of elementary variables that act in a local way about the global paradigm.

The architectural manipulation for the creation of scenarios proposes other forms of construction, such as the systems of light structures of cane and straw for public spaces or buried homes with green roofs, integrated in the palm grove. It is also proposed to transform architecture to improve its adaptation to climatic and social conditions that affect the quality of life. These include, improving ventilation; increasing humidity; or protecting from excess radiation through the contemporary re-reading of elements such as malkafs or wind towers, patios, haimas on deck, masharabiya or lattices, taktabosah or buried conduits; eco-cooling systems; and systems for improving the envelope and lighting.

The construction materials to be used present a dichotomy: concrete or earth. In the oasis, concrete is read as progress and modernity, and earth as the traditional, poor and obsolete way of building, or as the architectural heritage to be conserved. But the use of industrial techniques in the context of the oasis is unsustainable, maladjusted and economically unfeasible. So the position defended in this thesis is to understand the earth as a material of contemporary construction, through the introduction of new construction techniques on land (Lopez-Ossorio et al., 2014).

This re-reading of the land has different levels of ambition in its transformational dynamics: from the most basic that involves the use of natural additives (liquefied prickly pear, lime, soap, manure or palm fibre), through mechanised methods (BTC), hybrids (PET bottles filled with earth), to the most ambitious, which require research (bio-mineralisation processes for construction, finishing or soil improvement, through the bacterium Bacillus Pasteurii). In addition, it is proposed to introduce other more sustainable construction techniques, from the recycling of materials, such as plastic BTCs or bottles filled with earth.

Conclusion

In short, it is proposed to reverse the process of decay and destruction of the oasis through the joint action of recovering environmental balance, thanks to its innate resilience, and reinvesting in the development of the economy through architectural actions that are formed by the creation of techno-artisan objects, experimentation scenarios, and through daily societal actions that drive sustainable development.

In the end, the only possible solution for developing the oasis is one which allows the needs of reality and the imagination to co-exist, establishing links, systems and/or strategies that transversally relate to all the positions and elements in play. In this way, a new habitat is created from the ability of self-management, experimentation and the freedom of the oasis population to decide their own future. This research gathers systems, strategies and experiences to function as a stimulus or dynamic impulse, weaving a dense documentation network that contains the emancipation tools for the oasis of M'hamid

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KEYWORDS

latent potential
radical possibilities
radical landscapes
wetland settlements
representation

Exploring the Nakivubo and Kinawataka Wetland Settlements

– Finzi Saidi, Jabu Makhubu & Doreen Adengo

Context: Kampala Wetlands

Wetlands are transitional ecosystems that form transient boundaries between land and water. These boundaries also provide a range of goods and services that are often exploited for economic reasons, resulting in the degradation of the wetland. This is evident in the city of Kampala where migrants flock to the city and see the wetlands as the only available area on which to settle – settlement that authorities deem illegal. This encroachment has led to a steady decline in wetland coverage from 15.6% in 1994 to 10.9% in 2008 (MWE: 2008). It is this decline that has been a rallying call for city authorities to eradicate settlements within wetlands.

The Nakivubo wetland, located in the vicinity of site 1 and 2 in Figure 2 below, is the largest of the wetlands in Kampala and forms part of a tributary system through which water flows south towards Lake Victoria (Gumm, 2011:9). Similar to the other wetlands in Kampala, the Nakivubo wetland has been heavily encroached on by informal settlements that have come to rely on the wetland to thrive economically. Another major wetland is the Kinawataka wetland, which is slightly smaller and is not as heavily encroached on.

Three sites were selected for students in Unit 15(X), one of the six post-graduate Units at the Graduate School of Architecture, University of Johannesburg, in the academic year 2018-19. These were Namuwongo in Site 1, Kitintale in Site 2, and Kirombe in Site 3, as shown in Figure 2. All three sites experience flooding during the rainy seasons. Understanding how people respond to the environment in this dynamic natural boundary between water and land is key to speculating about future solutions for the settlements. These communities experience harsh living conditions and are vulnerable to health risks. Deemed illegal by the authorities, wetland settlements constantly face the threat of forced removals. There is therefore a heightened sense of apprehension in the communities when surveys of any kind are being conducted. All three sites are characterised by dense settlement, a high incidence of informal economic activity and reliance on resources from the wetlands for survival. Sites 1 and 2 are on either side of the Nakivubo channel, which is one of the largest drainage channels linking the city of Kampala to Lake Victoria. Site 3 is in the Kinawataka wetland.

Figure 1: Aerial view of the urban wetlands in Kampala, Uganda (Doreen Adengo, 2015)

Figure 2: Satellite map of Kampala indicating the three sites of investigation (KCCA, 2018)

Pedagogical Approach: Collaboration and the 'Actor' Narrative

Unit 15(X)'s approach is to understand the human and natural interactions within the wetlands through the lives of 'actors' – identified as influential individuals within defined n*iche-areas* in the wetland settlements that enable them to thrive. The collaboration between Year Four students from Makerere University's Department of Architecture & Urban Planning and Unit 15(X) students was a key component to this immersive approach to site analysis. The students formed groups of four and each group then selected an individual – an 'actor' within the three sites, who played a key role in shaping their environments. Through interviews, observation and drawings the students began to generate information about the dynamic relationship between these 'actors' and the community, and how they utilise opportunities, space and resources in the wetlands – information that would have otherwise gone unnoticed (Hester, 2008, Wolff, 2009). Through interrogation of their findings, the students began to speculate and imagine new ways of articulating the processes, products and spaces in wetlands.

The Sites

Site 1:
Namuwongo, studied by Groups A & B

Site 1 consists of a linear development along an abandoned railway line that once linked the city of Kampala to Port Bell on Lake Victoria. The informal settlement stretches on both sides of the railway line, with a bustling market, business and housing structures that transform from permanent dwellings to

more temporary structures as one gets closer to the wetlands (Figure 3). Actor A (all 'actors' remained anonymous throughout the study) is a property broker in Namuwongo and a father of two. He uses his rental income to support his family, since he is currently unemployed. The rental property is located towards the lower section of the settlement, which is more prone to flooding. He has therefore built a two-storey structure to compensate for the flooding in the wet season. All his building materials are found within the wetlands (Figure 4). Actor B is a restaurant owner and sells food in the market along the existing railway tracks. She grows and harvests the food, which includes yams, cassava and fish from the wetland.

Figure 3: Site Section of Namuwongo
(Nina Coe, Nthabiseng Mabena, Ronald Kamogma & Arnold Ahumuza)

Figure 4: Site plan of Namuwongo showing location of Actor's home - photo of Actor A
(Nina Coe, Nthabiseng Mabena, Ronald Kamogma & Arnold Ahumuza)

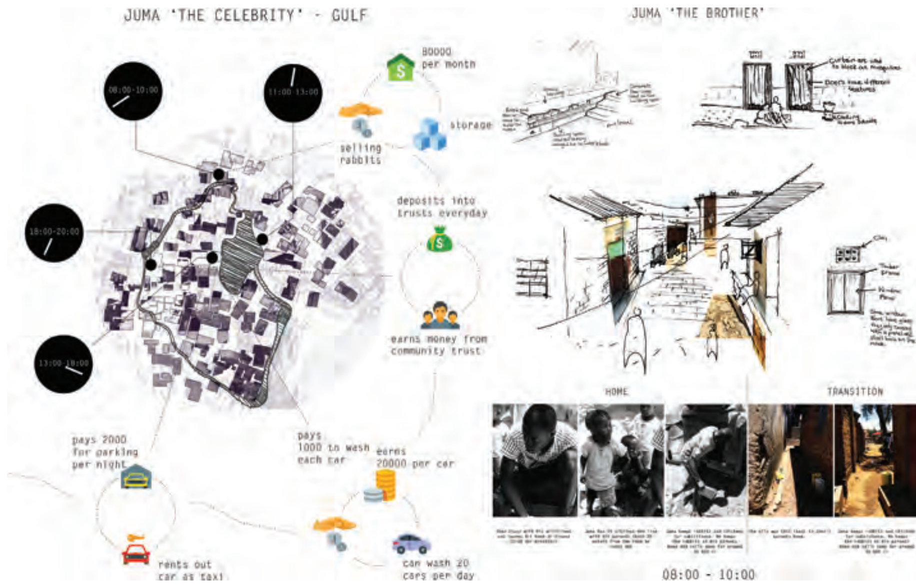


Figure 5a: Site plan of Kitintale showing Actor C's timeline during one day (Groups C & D)

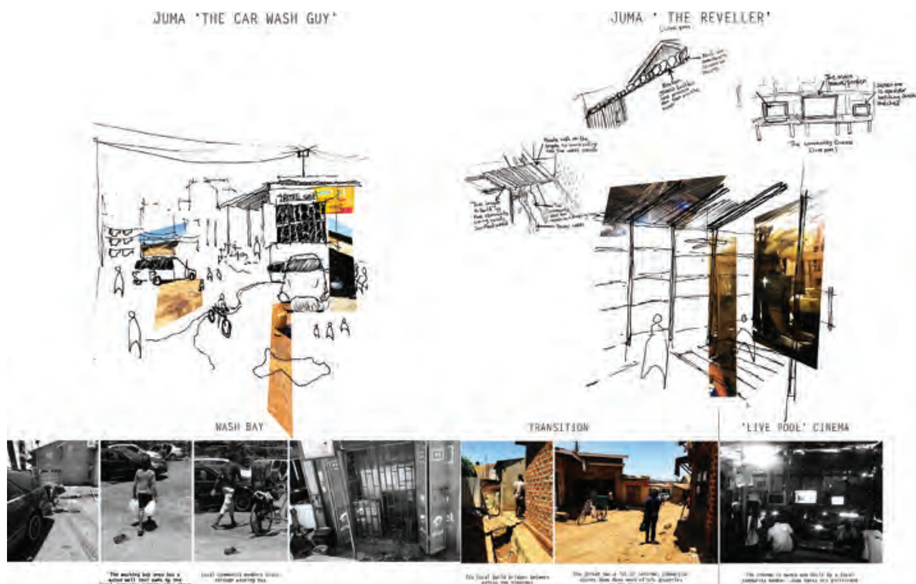


Figure 5b: Site plan of Kitintale showing Actor C's timeline during one day (Groups C & D)

Site 2:
Kitintale, studied by Groups C & D

Site 2 is located in Kitintale, along the Nakivubo Channel wetland. It is densely populated, with narrow winding streets. Most structures are housing with a few neighbourhood shops and a series of open spaces for activities such as car washing, water collection and brick-making. What is unique to this site is its diversity of uses, from religious spaces, makeshift cinemas, shops and open public spaces, to various housing typologies designed to respond to recurrent seasonal flooding. The settlement is bordered by light industrial development on the south side.

Actor C is a housing broker. He makes a living from renting various house types, mostly one-room structures in the area for which the pricing and occupation is determined by the flooding during the rainy season. Housing located on the drier higher ground commands a higher price and more stable tenancy. Actor C also owns a car that he rents out as a taxi, while he works at a car wash in the settlement. Figure 5a below outlines Actor C's economic activities with the Kitintale settlement.

Site 3:
Kirombe, studied by Group E

Site 3 is a settlement named Kirombe and is located within the Kinawataka wetland. It borders a high-income development on the northern higher edge and wetlands in the south. This site is surprisingly orthogonal in planning,

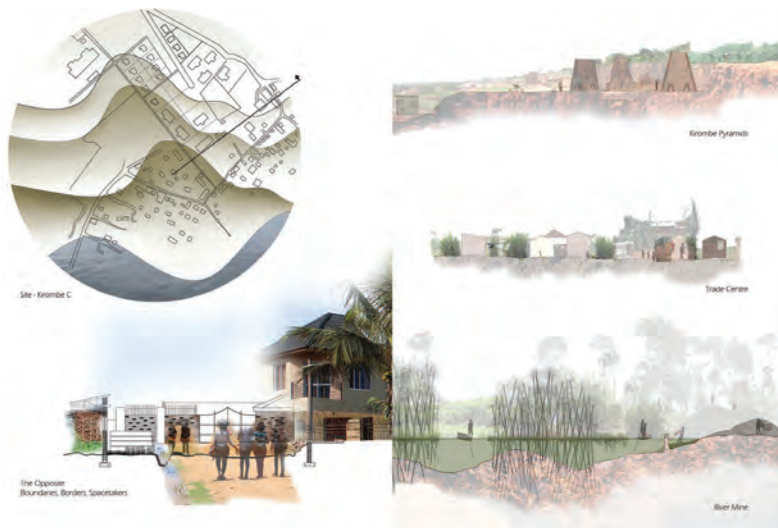


Figure 6a: Site plan, site sections and collage on site 3 (Group E)

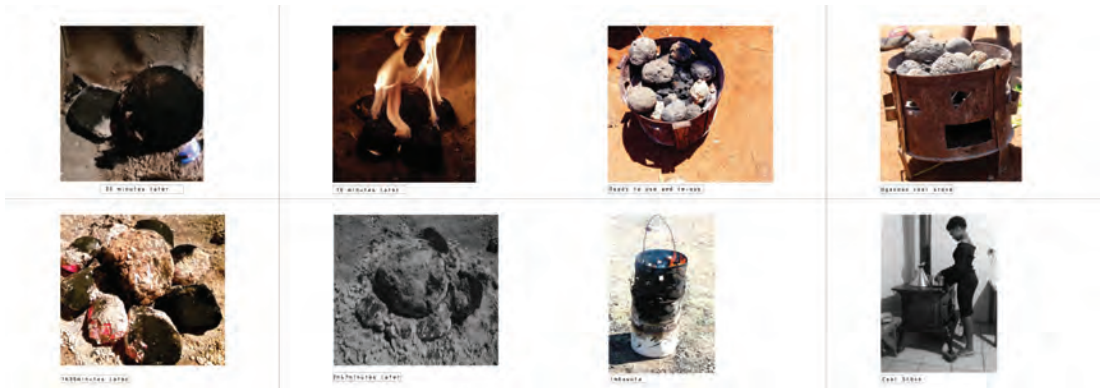


Figure 6b: Briquette-making by Actor D on site 3 (Group E)

perhaps due to its proximity to formal high-income housing, whose layout is on a formal grid pattern. The main economic activities for the inhabitants of Kirombe are brick making and sand mining activities (Figure 6a). Actor D in site 3 is a briquette-maker (reconstituted charcoal), whose business involves extraction moulding and drying of clay to produce briquettes – a process that scars the landscape, but at the same time provides a source of income for the wetland communities. Other activities at this site include sand extraction from the wetlands edges and papyrus reed gathering (Figure 6b).

In summary, the following broad themes emerge from analysing the lives of the 'actors' in the wetland settlements of Namuwongo, Kitintale and Kirombe. These are that:

- Wetland settlements are 'arrival cities` for migrants; places where those with minimal economic means can initially settle when moving from rural areas to Kampala, in search of opportunities for a better life.
- The various individuals ('actors') living in the settlements show resilience in finding ways to make an income within their communities.
- Wetlands provide the basic necessities: food security, water and materials needed to build shelter for the inhabitants.
- Informal infrastructure in the wetlands generates innovative opportunities for activities such as recycling, or those with low-tech energy requirements.

Representing the Wetlands: Imagining a Radical Future

Unit 15(X) students were challenged to imagine projects that argue for a change in attitude towards wetland settlements through two assignments

entitled *Latent Potential* and *Radical Possibilities*. In *Latent Potential*, students explored the potential through a point of intervention within the wetland community. In the *Radical Possibilities* assignment, students responded to the challenges on site by suspending all reductionist architectural representational conventions (plans, sections, elevations and perspectives) and were asked to explore radical drawing representational techniques. In these two processes, interesting projects and methods of representation emerged. The following are examples of the student work:

Dickson Adu-Agyei: *Playscapes, Learning from Kirombe, Kampala, Uganda*

This Major Design Project explores two main ideas about the wetlands that emerged from the stories of Kirombe, as narrated by the 'actors' on the site. Firstly, the wetland is a machine that sustains its people. It is also a space of play for the children within it. Adu-Agyei's project investigates ways to protect the wetland by educating the children of Kirombe on the importance of preserving wetlands through play. The project proposes a number of programmes that enable children to harness play to learn, explore and protect the wetlands, using the redesigned informal infrastructures and the in-between spaces (Figure 7).

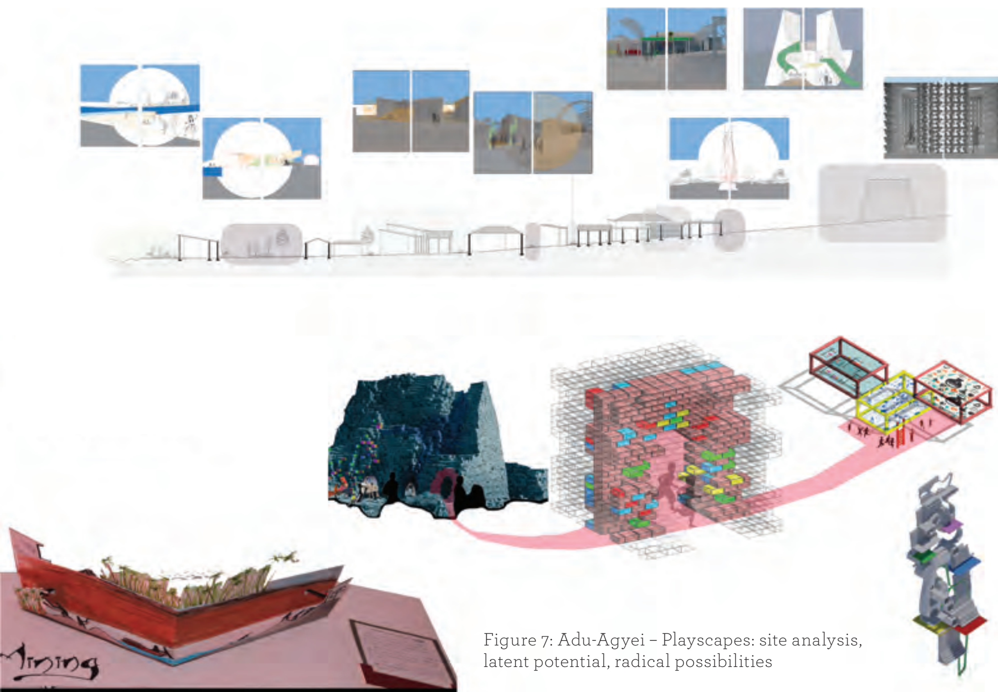


Figure 7: Adu-Agyei – Playscapes: site analysis, latent potential, radical possibilities

Ndeshipanda Iita: *Informal economies and spatial landscape of Kitintale, Kampala Uganda*

This Major Design Project explores the spatial design of informal small-scale business enterprises in the social spaces in Kitintale. These spaces, which support economic activities and facilitate the movement of money through transactions, are a result of money-making activities provided by the ecosystem services found in the Nakivubo wetland, i.e. fishing, animal husbandry and agriculture. Iita's investigation into the movement of money provides a comprehensive understanding of the existing financial landscape in wetland settlements and this information could be used to design effective, financially-active public spaces. The main assumption is that public spaces in wetlands, whose design is based on financial transactions around the trading of goods sourced from wetland ecosystem services, can provide sustainable spaces for banking activities and other public functions. Iita explores possible links of informal wetland economic infrastructure, to formal businesses in Kampala, as a means in which the informal sector could be recognised as a legitimate business sector, to afford wetland dwellers equitable participation in the economy (Figure 8).

Jody Van Aswegen: *Exploring Water Purification through Baganda Mythology*

'. . . *it is the spirits that determine where to settle, where to grow food and where to bury the dead. In the Baganda culture, these beliefs ensured functional landscape processes that protected water sources. With the rapid development of informal settlements, these water purifying processes have been compromised'* (Namuganyi, 2018).

This Major Design Project explores the design of organic waste water treatment systems that are imbued with spiritual meaning in the informal settlement of Namuwongo. These waste water treatment systems would assist in decreasing the level of toxicity in the water of Kirombe. Van Aswegen's installations will be designed to improve the purification and access to the existing well-water system through spiritual sanctity (Figure 9). This proposal is explored with the use of drawings as a tool to interrogate new relationships of water-purifying processes and their spiritual meaning in the wetlands.

Elao Martin: *Reimagining the Informal Landscape of Kitintale through Clay Brick-Making*

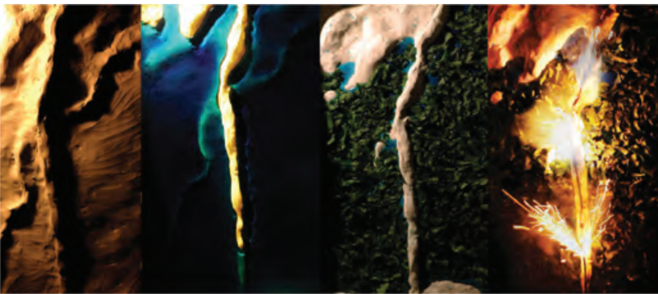
This Major Design Project explores the potential of brick-making, a common activity in the informal wetland settlement of Kitintale. Currently, the

Figure 8: Ndeshipanda Iita – Latent potential: site analysis and possible links of informal sector economies to the formal sector in Kampala

characteristic scene of smoke rising from a firing kiln in the wetland not only represents a growing community; it also represents the depletion of resources and pollution. However, this project looks at the latent potential within the brick-making process, and how it can respond to the delicate balance that exists between the Kitintale settlement and the wetland, in order to create scenarios in which communal activities and services, such as recycling, can be enabled to develop sustainable living environments around the brick-making process. Martin's project explores the harnessing of heat energy – a by-product of the brick-making process – to produce goods from recycling of waste that is harvested in the wetland area (Figure 10). The project envisages that, through such processes, the wetland settlement of Kitintale will develop recycling strategies that will ensure healthy ecosystems to support both human and natural systems.

Nkoane Makutu: *Perpetual Infrastructures: Redesigning a Railway Node for Social-Economic Exchange in Namuwongo Informal Settlement*

This Major Design Project explores the design of a railway node in



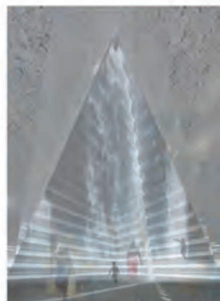


Figure 9: Jody van Aswegen – Spiritual Landscapes: latent potential and radical possibilities

Namuwongo that would create an international connection through the railway line and Port Bell, linking Uganda and Kenya. The project speculates on the spatial impact of formalising the relationship between an existing dysfunctional railway infrastructure and the informal settlement as a means to argue for better livelihood for the wetland dwellers. This transport node would offer the people of Namuwongo the opportunity to trade food products grown locally in the wetland. Makutu uses graphic beadwork (Figure 11) to imagine the impact of the railway on the settlement through time and space.

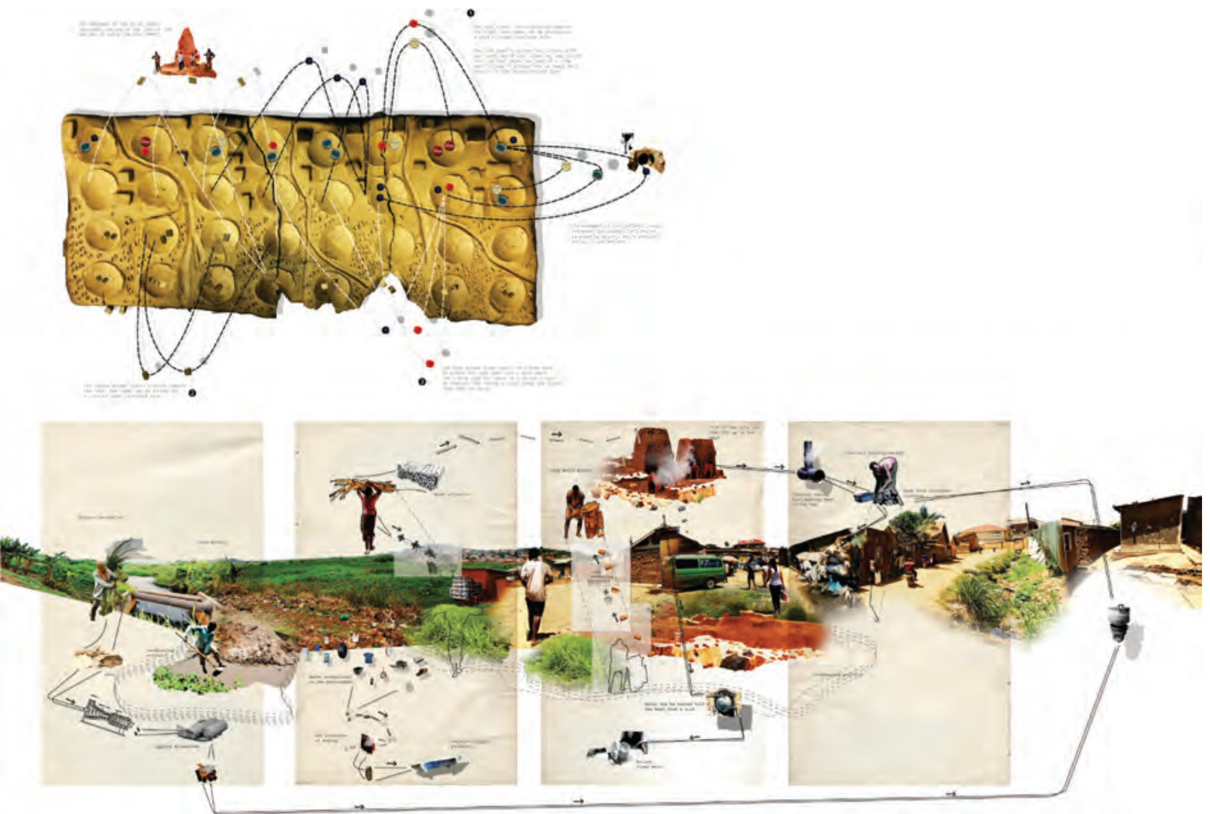


Figure 10: Elao Martin – Brick-making: latent potential and radical possibilities

Figure 11: Nkoane Makutu – Perpetual Infrastructures: latent potential and radical possibilities

Conclusion

Unit 15(X) argues that the wetlands in Kampala form an 'arrival city', places where migrants initially settle before moving to the urban centres in search of opportunities. Unit 15(X) argues that attention needs to be devoted to these places; that they hold important lessons for schools of architecture as sites of transformation from rural settlements to urban settings in Africa. Engagement with wetland settlements as legitimate sites of study transforms the study of architecture from an aesthetic exercise to an in-depth study that responds to contextual problems in African cities, like Kampala. Further, this exercise contributes to the dialogue of settlements within wetlands; that their eradication, as advocated by city authorities and policy makers, may not be the only legitimate response. The students' survey and investigation of the Nakivubo and Kinawataka wetlands sites of Namuwongo, Kintintale and Kirombe revealed many challenges faced by the migrant communities

who come to cities, like Kampala. The investigation through the use of 'actors' revealed the many opportunities that people created for themselves by utilising the resources of the wetlands.

By following an 'actor,' students began to explore design projects built on an understanding of systems that operated within the wetlands. With this unique approach, their designs evolved through the process of discovering the real issues experienced by people in their environment. Such an approach, coupled with the ability of the students to self-select their projects, provided the additional motivation and confidence needed to complete the design proposal. This approach empowered the students as they were given the confidence to influence their learning experience. Equipped with this, and through the use of explorative methods of representation, Unit 15(X)'s projects address multiple systems and open up discussion on wetlands settlements to wider audiences: communities, designers, technocrats and politicians.

The collaboration between the University of Johannesburg's Unit 15(X) and Makerere University brought another issue to the fore: expanding and creating more meaningful dialogue among academic institutions on the African continent. This has proven to be an invaluable experience for the students from both institutions. It has impacted the way they view themselves, the 'other' and the spaces around them. Within a short space of time, students formed bonds with each other while on the trip, which has resulted in a healthy and collaborative environment in the studio.

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RADICAL DISCOURSE

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KEYWORDS

radical
decolonisation
architectural education
black voices
protest

Introduction

- Iain Low

The advent of the second volume of FOLIO bodes well for the future of architectural discourse in South Africa and beyond. Not only is this publication managing to hold its own in a difficult academic and economic environment, but it has demonstrated a capacity for growth through what might be termed strategic expansion. This is well reflected in an expanding yet emergent content bandwidth, which stands significantly counter to the narrow and exclusionary discourse that has characterised the architecture of the colony in general and the apartheid state in particular.

In this sense the editorial decision to elevate the topicality of 'radical' for the second edition has offered valuable currency for both the publication itself, and perhaps most importantly, to the cadre of predominantly young authors. Evolving directly from the events at South African universities during the 2016-18 period,[1] this edition demanded an acute response to a movement whose initiative found resonance with the riots of '68, and has subsequently provoked responses across the globe, sponsoring reaction notably in contexts where the legacy of colonialism's divisive exploitation still resonates in the everyday lived experience of the colonised. Consequently Noir Radical, favouring decoloniality, seeks to locate difference(s) in context of the fullness of what many seem to consider as a contemporary yet unique African moment.

The substance of these articles demonstrates hope through reflective forward glances, anticipating radical change to arise out of individual and collective struggle within practices that exemplify the contemporary context of highly located difference. Their context is that of historical marginalisation, where 'radical' translates exclusion to inclusion. From the contents page it is evident that the scope of personal experience predominates in defining the authors' interpretations of the word. Many of these essays overlap and there are crossings of both the disciplinary and geographic boundaries. This is no doubt common to the 'undisciplined' nature of architecture, yet it also directly reflects a recognition of the global entrenchment of critical tropes that afford a certain commons across our domain. Nevertheless, as may be expected in

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[1] #RMF: Rhodes Must Fall; #FMF: Fees Must Fall - fostering the student protest movement across South Africa

any open system, certain phenomenon – climate, education, for example – can easily be overlooked or simply underrepresented.

Notwithstanding the above, the corollary to critical difference in the context of discourse has to be the privileging of the black voice. Whereas the project of democracy has been hard fought to provide a platform for the coexistence of difference, the onus placed on those of us operating in the post-colony is to establish grounds for the constructive inclusion of the previously marginalised. The Graduate School of Architecture at the University of Johannesburg is founded on a similar premise and, as such, has established a home from which to deploy design thinkers to engage with the weight of a yet transforming post-apartheid society.

The voices within this section reflect on this reality. They suggest the existence of critical differences across the cohort – speaking from their embodied engagement as participants in this post-national globalising world, while also exposing the depth of their personal history and memory – and as emergent from the lingering practices of a sustained and exploitive coloniality that inevitably inform their *becoming* within our so-called new world[s]. I am convinced of the real possibility that some of these authors will eventually come to occupy positions wherein their evolved *beingness* translates into the new forms of leadership required to provide the necessary governance required to radically change societies. This is the power imbued in architectural design thinking – that of the synthetic assimilation of vastly different and often competing knowledge sets.

I would also like to believe that the production of this section has contributed to shifting the predominant socio-spatial default in architectural discourse towards a critically pluralised and motivated subjectivity as the basis for the framing of discourse. Capable of productively engaging the fluidity and uncertainty of our contemporary moment, I believe this will mark the emergence of FOLIO as an original publication, with an exceptionally invigorating and healthy life, *yet to come*.

KEYWORDS

space
colonisation
representation
territory
Mars

Space for Sale: the Territorialisation of Outer Space

- Guy Trangoš

Colonising Space

Space has long captured our imagination as a realm constructed in the 'beyond'. The heavens were mythologised as the domain of the gods, the ethereal world of ancestors past, or as a prophetic palimpsest offering answers to our very human concerns. These constructs all depict space in the 'beyond', but also entrench space as a part of our earthly world. The early seventeenth-century invention of the telescope and its prolific use by Galileo in the proving of heliocentrism, unseated Earth from the centre of the universe and made the planet simply another celestial body orbiting in space. Astronomy has deepened this disconnection: as the true extents of space are surmised, celestial objects are discovered and exoplanets are found, our own insignificance is heightened. However, within the human imagination of space exists a persistent need for exploration – to seek out knowledge and meaning from its depths and in doing so, better understand the universe and our existence. Space is socially imagined and constructed, but is also a spatial and scalar condition. Space thus exists as an almost unlimited zone. The 'space' of space is better defined as a 'territory', as this paper seeks to establish. The term productively denotes a space of control and contestation.

The political nature of space is constructed within the framework and rhetoric of colonialism, intentionally or otherwise. As a territory available for 'exploration' that holds the potential for 'habitation', colonial images of space are plentiful. In particular, overt imaginations of a Moon colony have been made since at least the seventeenth century (Johnson and Leonard, 1985). A Mars colony has been considered since at least 1947 with Von Braun's Mars Project (1971). Human settlement in space has long been romanticised in fiction and art as a feat of great human-aided technological achievement, where humanity is freed from Earth to explore the cosmos.

This imagination of human colonisation of space is foregrounded by technologically deterministic representations, which serve to obscure their fundamentally political nature. What are the laws governing human exploration and occupation? Can space be controlled and, if so, by whom? These questions have become increasingly pertinent as global powers assert forms of space dominance in a new commercialised space race supported by nation states (Graff, 2018). As an example, Section 402 of the 2015 U.S. Commercial Space Launch Competitiveness Act states: *'A US citizen engaged in commercial recovery of an asteroid resource or a space resource shall be entitled to any asteroid resource or space resource obtained, including to possess, own, transport, use, and sell it according to applicable law, including US international obligations.'*

In asserting the rights for US citizens to own asteroids and mine their resources, the country has made it legal for its citizens to claim celestial bodies as their property. While this may not yet be technologically possible, it opens the door to an asteroid mining space race and for corporations to reap the benefits of new territories of extraction. These actions enliven the memory of the Doctrine of Discovery that was broadly used by colonial European monarchies from the fifteenth to late-eighteenth centuries, and later by the US undersecretary of State, Thomas Jefferson, to lay claim to 'uninhabited' non-Christian lands. These lands were, of course, inhabited by indigenous peoples, who were significantly disenfranchised and marginalised as a result. While Earth's local space neighbourhood is not inhabited territory – as far as we know – the Act positions and recasts aspects of our cosmos as forms of territory, which are deemed available for occupation under the auspices of discovery. Here, territory is created so that it may be controlled.

These moves towards space colonisation entrench human dominion over space by corporations (supported by nation states) using the most advanced scientific, infrastructural and defence technologies to forward their claims. In effect, the vast 'democratic' sky that we peer wonderingly up towards at night may soon be a territorial delineation of properties and nation states, not unlike mapped representations of Earth. In creating a territory of the unknown, space is rendered in the image of the familiar; in doing so, structural regimes are imposed that enable and support corporate colonial ambitions.

Gridding Space

As has long been established, representation is a highly political act (Harley, 2011; Richter, 2001). Depicting a subject through any medium requires a subjective reading, as certain abstractions are made, elements are framed and captured, and others discarded. Landscapes have long been interpreted by humans seeking to understand their features and are rich sites for understanding the political dimensions of representation, and its translation into territorial delineations, particularly under capitalism.

Historically, exploration has been concerned with mapping, since a primary function of exploration is to record and order the unknown into the metrics of the 'explorer'. This serves to territorialise the seemingly unknown into a specific legibility regime (Scott, 1998). In doing so, dominion over a territory is established as the unknown is made recognisable, its features navigable and its resources quantifiable. These approaches thrive today as satellite technologies have enabled a comprehensively mapped and photographed Earth, while observatories (both terrestrial and orbital) deepen their gaze into space.

Writing on the digital mapping of the Martian surface, Messeri (2017) posits that the goal of creating free, widely accessible and *'democratic'* maps of Mars, available on such platforms as Google Earth, reflects a 'dynamic' planet constructed through the image of Earth, through our own tools and

perspectives. While seemingly innocuous, the project *'[...] is still ultimately state-sponsored, politically motivated, and hierarchically ordered'* (2017: 91). Enlivening Mars to a global audience makes it more accessible, liveable and extractable.

Dittmer (2007) also reflects on the ways in which Mars is constructed, not on maps, but through media representation during the 1997 Pathfinder mission, which saw the first Rover crawl across the Martian surface. He argues that three modes of representation: namely, scientific advancement and the search for life, the ways in which Martian sites are named, and the close analogies made to Earth, all craft the image of a planet suitable for human colonisation. This, he argues, was achieved through creating the same *'dynamic'* Mars that Messeri refers to, as a place of social activity. Useful examples include the anthropomorphising of the rover unit in the media, and the familiar description of Martian landscape features as though they were on Earth.

Interpreting planetary landscapes as dramatic and intriguing has long been a feature of American astronomical artists, or 'illustrators', as many prefer to be called (Figure 1). Sage (2008) explores the twentieth-century tradition as inspired by the nineteenth-century frontier landscapes of the 'unexplored' American West, represented by such romanticists as Thomas Moran (Figure 2). The artists' gaze is turned by their twentieth-century

Figure 1

Figure 2

counterparts to the next frontier: space, where lunar landscapes are given dramatic relief to spark the imagination, and other planets are depicted with similar sublimity. As Benjamin (2003: 46) notes, space for the USA was *'always a metaphorical extension of the American West.'* These images were regularly used by NASA and politicians to construct a manifest destiny for America in space, notes Sage. He concludes: *'[. . .] in a world where Americans find themselves increasingly subjected by the media to the imminent anxiety of an increasingly unpredictable future – from scripts of the Middle East as a geopolitical quagmire, to threats to economic sovereignty from Europe and China, and the uncertainty of climate change – how is it that these mythical, heroic, visions endure as a crucial touchstone in the legitimisation of the US state's territorial aggrandisement and destiny?'* (2003: 49).

Figure 3

Both the mapping of planetary space and its fictional representation distil the celestial 'beyond' into popular imagination and become part of social culture and nationalist discourse. For example, the US not-for-profit space exploration boosters, the Space Foundation, states in its document *America's Vision: The Case for Space Exploration* that America is challenged by *'emerging spacefaring nations around the globe'* (Space Foundation, n.d.: 1). They call for the *'vigorous'* advancement in *'civil, commercial and national*

Figure 4

security space endeavours,' and celebrate the *'indefinable spirit of exploration that is written into our [American] DNA'* (Space Foundation, n.d.: 2). These *'space endeavours'* imbued by the *'spirit of exploration'* seek to fuel all manner of US excursions into space. They, like the Discovery Doctrine, are imbued with the language of exploration, while containing imperialist ambitions, particularly when considering the impacts of the 2015 Commercial Space Launch Competitiveness Act. Within the drive for exploration of space, or the quest for knowledge of space, is contained the testing of the potential for future human settlement of space.

A 1977 design study published by NASA entitled *Space Settlements: A Design Study* went so far as to detail the road widths of orbital *'space colonies'*. Similarly, the NASA HQ Library (2019) introduces space colonisation as a possible solution to growing resource constraints on Earth: *'The colonists could also take advantage of the plentiful raw materials, unlimited solar power, vacuum, and microgravity in other ways to create products that we cannot while inside the cocoon of Earth's atmosphere and gravity. In addition to potentially replacing our current Earth-polluting industries, these colonies may also help our environment in other ways. Since the colonists would inhabit completely isolated man-made environments, they would refine our knowledge of the Earth's ecology.'*

The peaceful and exploratory nature of space colonisation – as presented by NASA – offers a romanticised and apolitical techno-scientific solution to Earth's challenges, not too unlike the marketing that supported the settlement of the American West (Figure 3). As we have seen already, space, like the westward expansion in America, is intrinsically political. This is most evident today in the development of the US Space Command to protect and defend US interests in an increasingly crowded and volatile orbital environment (Graff, 2018).

The establishment of dedicated military arms and increased national and commercial interest in space resource extraction, tourism and colonisation, when combined with advanced representations of space and our planetary neighbours, all lay the groundwork for significant space activity in our near human future. Space continues to be constructed within our own Earthly metrics as a territorial extension of Earth available for use. In order for the vacuity of space to be subsumed into logics of capital and political control, these representational devices and institutions serve to render its complexity legible. Similar to the Jeffersonian grid that was rolled out across the American West in the eighteenth century, the recrafting of space into systems of order will structure future colonisation processes.

New and previously unimagined incursions have recently been made into space that radically recast space in the image of commercial space endeavours and open the door to further commercial activities such as space tourism and colonisation. These are major developments as they mark the slow blurring and eventual transformation from space as a zone of state-driven scientific and exploration activity to space as a zone of private interests and commercial income generation. These serve to cast space colonisation not only as foreseeable, but desirable, particularly for those able to afford an escape from Earth.

Escape

The nationalist race for space is supported by a growing space-optimism that supplants an Earth-pessimism. In his 2018 lecture, *A Tale of Seven Planets – An Exercise in Gaiapolitics*, Bruno Latour introduced a fictional planet called *'Escape'*, to which the world's super-wealthy would migrate, in a move discontinuous with the modernist ideals of progress. This planet is driven by extreme techno-optimism and the desire for the most privileged to transcend our Earthly constraints and challenges through technology. The Anthropocene age has heightened the human effect on planetary ecosystems and undermined the ability of Earth to continue to support a growing human population. This insecurity has resulted in the consideration of space colonisation as a long-term strategy for the survival of the human race.

It is interesting to consider the swing within environmental and urban planning research from *sustainable* development to *resilience* planning. The latter emerges as a solution to the failings of the first. Survivalist space scholarship continues this trend: as resilience approaches fail, human populations continue to increase at an exponential rate and vast ecosystems are destroyed, humans will have to seek a new celestial home. This Malthusian apocalypse can be prevented in the long term, argues Munévar (2014), through space exploration and colonisation. Creola (1996), writing almost two decades before Munévar, disagrees. Instead he posits that the exploitation of lunar resources, combined with the capturing of solar energy, can prevent the destruction of Earth's resources. For Creola, space offers the opportunity to enrich Earth with enhanced offerings. In rubbishing the logistics and possi-

bility of space colonisation as *'utter nonsense'*, Creola calls for the sustained occupation and resource extraction of the Moon and Mars. This position is supported by Thangavelu (2014), who imagines the creation of a bi-planetary human civilisation in which humans occupy both Earth and the Moon, as it *'[. . .] beckons humanity towards a glorious future for all'* (2014: 29).

Thangavelu's extreme trust in the power of international communities to construct a *'glorious future for all'* is perhaps misplaced, as Dunnett (2017: 475) notes. Exercises in internationalism are typically characterised by *'[. . .] geopolitical cultures of distraction, surveillance and territorial nationalism,'* a position evidenced by the nationalist fervour of the US space boosters.

Is the goal of space colonisation to create a wealthy 'Elysium' in space – perhaps the ultimate gated community? With growing private interests in space tourism and settlement, space is already a territory available to those wealthy (and fit enough) to endure the costs of travelling there. The colonial imaginations of corporate space interests have revealed that space is a luxury product – perhaps the world's most elusive product, increasingly available for consumption. Space corporates have created multiple investment opportunities, and begun re-scripting 'inaccessible', 'elusive', and 'dangerous' space as a playground for wealthy investors.

Rovers and Roadsters

Figure 5

On 6 February 2018, the private space company, SpaceX, successfully completed the first launch of its *'Falcon Heavy - super heavy lift launch vehicle'* or space rocket. Founded in 2002 by South African-American Elon Musk, it was launched with the ambition of *'enabling people to live on other planets'* (SpaceX n.d.). The Falcon Heavy launch was an important step for the company in realising its ambitions to populate Mars: the rocket can carry potential settlement infrastructure and cargo into space. As a test, however, the Falcon Heavy's first cargo was a bright red Tesla Roadster, 'driven' by a mannequin wearing a spacesuit (Figure 4). The words *'Don't Panic'*

Figure 6

were inscribed on the dashboard. Tesla is, of course, Musk's other private enterprise that develops high-end electric motor vehicles. The convertible will orbit the Sun between Earth and Mars forever unless it crashes into something.

The roadster is certainly not the first motor vehicle launched into space. It is, however, the first purposeless vehicle launched into space. In 1971 and 1973 the Russian Lunokhod 1 and 2 robotic rovers successfully traversed the surface of the Moon. In 1971 and 1972 astronauts on the Apollo 15, 16 and 17 Moon missions famously relied on a 'Moon buggy' to navigate the lunar surroundings of their landing site. More recently, the Sojourner rover landed on Mars as part of the Mars Pathfinder mission in 1997 (Figure 5). Subsequent successful missions include Spirit (2004), Opportunity (2004) and Curiosity (2011) rovers. The latter two remain operational today. However, unlike these scientific vehicles, Tesla's roadster is a purely symbolic object that projects wealth aspirations into a new investment destination.

Leo Marx (1964) writes about George Innes's 1855 painting, *The Lackawanna Valley,* (Figure 6) as epitomising the title of his widely-read book, *The Machine in The Garden*. In the painting, a smoking steam train snakes across a landscape, uniting the foreground and background. The presence of the train in a pastoral painting ran against traditions of landscape representation at the time. As in the works of his contemporary, Thomas Moran, nature offered a romanticised vision imbued at times with signs of pastoral settlement. The train in Innes's painting situates a technology that fundamentally

Figure 7

depicts the American landscape as a natural component. Technology and the pastoral ideal blend into a peaceful and romanticised representation.

Photographs and a live feed taken from cameras mounted to the Tesla Roadster streamed images of a spaceman driving a convertible in the vacuum of space. A jarring juxtaposition, the images personalised the experience. Many people can relate to the experience of driving a car and could now imagine driving their cars in space. The act was a coup for SpaceX in recasting space, much like maps of Mars and mid-century astronomical artists, as a place accessible to human references, and the desires, dreams and aspirations that these references construct. SpaceX took a new, but identifiable, technology, the electric car, and forced an association between the vehicle and space in the same manner that Innes's painting achieved in the mid-nineteenth-century: technology and a romanticised context are blended into a comprehensible and accessible reality. Unlike the impersonal, yet commonly anthropomorphised and highly functional rovers, the Roadster symbolically celebrates common American – and congruently capitalist – values of liberty, freedom and achievement.

As Volti (2004) describes in detail, the car is a technology with significant social and cultural impact and influence around the world. It specifically represents the frontier spirit, implicit in the Space Foundation's previously cited description of America's *'indefinable spirit of exploration'* (Space Foundation, n.d.: 2). The train enmeshed the West into greater economic systems of control and governance, while the car enabled massive suburban expan-

sion and previously unimagined forms of personalised mobility and access. Within the colonial ambitions of SpaceX, the car takes wealth aspirations into the beyond and into a new world of possibility.

The Corporate Colony

The forms of space exploration advocated by the Space Foundation are not simply State-directed research missions. On the contrary, they see their role as fostering a space community that embraces commercial, civil and national security opportunities. Unlike the Cold War space race fought by nation states vying for space advantage, we have entered the 'entrepreneurial space race'. Globally, nation states still provide the greatest share of space-related funding. However, it is estimated that the private space industry is currently worth $350-billion, and this is expected to grow over the next 30 years to at least $2.7-trillion (Sheetz, 2018). Strikingly, NASA currently has a budget of $19.5-billion, or 0.4% of the US GDP (Amadeo, 2018).

Private interest in space exploration and space resource extraction is already a substantial business. Services such as remote sensing, tracking, satellite communications and space flight are well established. Space exploration, colonisation, resource extraction and energy production are newer industries, albeit with an established heritage in science fiction. In 2002, Amazon CEO and founder Jeff Bezos founded Blue Origin, which has become SpaceX's greatest competition in the race to *'colonize the cosmos'* (Davenport, 2018).

The entry of Bezos into the realm of space exploration is particularly interesting. As the visionary behind Amazon, he has seen the corporate giant grow into a mega-monopoly. Today's technology giants have immense financial resources, with Apple, Alphabet, Microsoft, Amazon and Facebook worth a collective $2.6-trillion in 2017 (Statista, 2017). This combined wealth would make these five technology firms the sixth-largest economy in the world, not including smaller but equally successful companies. These corporations have extreme influence over our global economies, cultures and societies. Through parallel corporate entities, the likes of Bezos and Musk have turned to space not only as a new frontier to be explored, but as a new frontier to be exploited for the benefit of their shareholders. As I have presented in this article, these interests have built on a legacy that has seen space recast into identifiable investment, governance and social frameworks through efforts of 'discovery'. New twenty-first century colonial ambitions follow, as space has been 'tamed' from an unruly wilderness into territory to be occupied.

The colonial has been a central component of SpaceX and Blue Origin's rhetoric. SpaceX (n.d.) overtly states its goal as *'enabling human life on Mars'*, while Blue Origin (n.d.) refers to Earth as *'just our starting place'*. Similarly, in a widely watched presentation of SpaceX's settlement plan for Mars, Elon Musk (2017) describes Mars as an exciting prospect. He states that he wants to *'make Mars seem possible'* and highlights that Mars and Earth are really similar. To merge two populations – those who want to go to Mars and

those who can *afford* to go to Mars, he proposes that SpaceX works towards the goal of making a trip to the planet equivalent to investing in a middle-income house in the USA, or roughly US$140 000 – US$200 000 (Figure 7). The eighty-day space transfer will be *'fun and exciting'* as the zero-gravity environment will allow for novel games and experiences. He anticipates that SpaceX will have the right technological know-how to achieve the first delivery of humans to Mars in 2024. From the outset it is clear that design has had a strong role to play in materialising visions of human space settlement: the striking images of the red Roadster against the black depths of space were highly stylised.

Musk's self-declared status as *'lead designer'* at SpaceX builds on the image of the modernist design visionary, to whose inspiring tune society will march – and also, under whose direction, space (and specifically Mars) is stripped of its innumerably exceptional qualities, histories and processes, and designed into a territory for occupation and extraction.

To create a habitable Mars, despite its lack of atmospheric protection from space radiation, SpaceX expects to *'terraform'* the surface over time, morphing the planetary surface into an imitation Earth (Figure 7). The act of completely transforming a society and landscape into the image of the colonising power has a long history. With Mars we see a significant corporation, with the support of the United States, claiming territory. While seemingly innocuous – Mars is, after all, uninhabited – interplanetary territorial claims by corporate interests ignite challenging jurisdictional, legal, political and social dilemmas. In these voids an occupying society is expected to flourish. Will Mars settlers maintain their citizenships? What governance regime will suit the planet? What rights will settlers have? What rights will the Martian planet be afforded? To what extent does a private company get to dictate these considerations?

'Nevertheless, it is helpful to think of Mars less as a planet, with all of the scientific baggage that the term carries, and more as a world, full of the hopes, fears, and ideologies imposed on it from our huge, hulking, objectively "real" Earth' (Dittmer, 2007: 113).

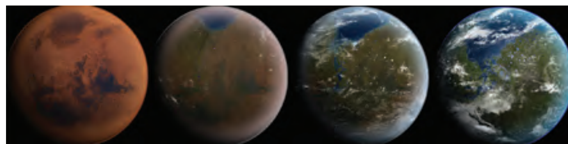

Figure 8

Conclusion

Peter Redfield's (2002: 8) ten points regarding the settler myth, as imbued in Dafoe's eighteenth-century novel *Robinson Crusoe*, are important to consider as I conclude this paper:

(1) The land is empty and waiting. (2) Wilderness must be tamed into familiarity. (3) Individuals are isolated and self-sufficient. (4) Industry displays morality. (5) Servants arrive afterward and are secondary. (6) Attachment to homeland becomes defined through distance. (7) Frontier masculinity is expressed in separation. (8) Technical solutions conquer natural problems. (9) Engagement with everyday problems underwrites independence. (10) The goal of settlement is improvement, leaving more of value than one finds.

As we have seen, the notion of space as an inhospitable and unknowable infinity is changing. Specifically, our cosmic backyard has been reconditioned, most recently through socially-driven technology and corporate interests. Space, a barren void, and Mars, a desert-like wasteland, are being 'tamed into familiarity'. SpaceX, Google Mars, and a generation of astronomical illustrators have done a fine job in casting Mars and the Moon, in particular, as close cousins to Earth. Settling Mars would be an act of extreme isolation as independent and brave 'pioneers' begin to transform the wild landscape. The entire prospect of colonising space is historically cast in discourses of technological advancement, and the terraform ideals that seek to radically transform Mars into an earth replica.

The continuum of centuries of colonial effort has come to craft a new territorial expanse in space, as Redfield (2002: 795) notes, '*[. . .] outer space reflects a shadow of empire.*' While decades may pass before humans first walk on a neighbouring planet, our human relationship with space is already highly mediated by corporate and strategic national interests. Space is no longer an infinite vessel into which humans cast their beliefs, dreams, and wonder: it is today a territorial extension of Earth that has been surveyed and structured within the parameters of power and capital. To this effect, space has been designed through processes and a rhetoric not dissimilar from earlier forms of settler colonisation, into Earth itself. In this realm, private corporate interests have replaced state agencies as 'lead designers'. Through efforts such as the Roadster launch into space, and renderings of a terraforming Mars, the whimsical and exploratory illustrations of space past are replaced by those guided by investment returns and corporate power. As space continues to be wrought by the metrics of capital and private interest, it is essential to remember similar historical colonial processes on Earth and safeguard against the destruction so implicit in humankind's territorially expansive ambitions.

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KEYWORDS

spatial theory
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Towards a Theory of Space for the Americas

- Fernando Luiz Lara

To study the built environment of the Americas is to deal with an inherent contradiction. While our disciplines of architecture, urban history, landscape and urban planning share the fundamental belief that spaces matter, an overwhelming majority of our knowledge comes from another continent. Are the spaces of the Americas inherently different from European or African spaces? Should there be an American theory of space?

In this essay I embark from the realisation that the Americas does not know its own spatial history and therefore a systematisation of this knowledge is well overdue. Three decades ago, in the first *Seminario de Arquitectura Latinoamericana* in Buenos Aires, Marina Waisman talked about the urgent need to discuss the architecture of the Americas in its own terms, and we have not yet debated these terms (Waisman, 1994). At a more fundamental level, we lack a basic spatial history of our continent. Such absence creates a dislocated relationship between time and space, as I will argue that our cities in the Americas were designed to forget and to exclude. The result of having not yet theorised American spaces is that we have also not yet problematised them and therefore we witness the perpetuation of exclusion and memory erasure as main features of urbanisation all over the continent. Such theoretical effort, much like 'Truth and Reconciliation' in post-apartheid South Africa, is a necessary starting point in developing an understanding of space within our own American terms.

Theorising our own space and writing our own history is urgent because, as we are reminded by Edward Said in his classic 'Orientalism', European scholars developed narratives about all other societies on Earth and as a result established themselves as the centre of human knowledge (Said, 1978). According to the Eurocentric narrative, the Americas were a vast continent empty of sophisticated cultures and ready to be conquered by superior knowledge of the self-proclaimed 'old world'. The adjective 'old' here works much as Said's 'oriental': locating in the Americas a degree of infancy that required guidance, if not discipline. The first European travellers' accounts of sophisticated cities were buried under the convenient idea that the Americas were empty, ready to be cultured and cultivated.

Conquistadores such as Francisco de Orellana and Hernan Cortez wrote about complex and wealthy cities much beyond the well-researched Cuzco and Tenochtitlan cities in the heart of the Amazon: cities in the Missis-

sippi valley and cities by the island of Santa Catarina in southern Brazil, for instance. The ones who arrived a century later to take possession of the land saw nothing and called the old explorers liars. Four hundred more years would pass before the remains of those great cities started to be unearthed (Rostain, 2012; Carson, 2015; Clement, 2015). The early explorers' awe was justified and their words vindicated, but the holocaust they provoked was shocking. Ninety per cent of the population died in the first century after the encounter, many by gunpowder but many more from viruses and bacteria (Stannard, 1992).

We know very little about the built environment of the Americas before the arrival of Europeans in 1492, but we know enough (and we learn more and more each day) to understand that it was no utopia, no paradise on Earth (Cardinal-Pett, 2015). The two most advanced pre-Columbian societies, the Inca empire in the Andes and the Aztec empire in the central valley of Mexico were exceedingly stratified, with an army of peasants serving a small military and clerical elite. This did not change with the arrival of European Christians. On the contrary, the Spanish *conquistadores* replaced the very top of those stratified societies, forcing everybody else to work for them. One needs to ponder the question of why human settlements on the continent have not been emancipatory. What features define the conceptualisation of space in the Americas?

First Problem: Spaces to Forget

In April of 2017, I was in Lima for the meeting of the Latin American Studies Association (LASA). Visiting the Cathedral of Lima I saw a man of Andean descent telling schoolchildren that the history of their city started on January of 1535 when Francisco Pizarro founded the Ciudad de los Reyes. The man who pronounced such a problematic and incomplete statement was standing just a mile from pre-Colombian sites clearly visible in the fabric of Lima. Or perhaps I should say clearly invisible in the fabric of Lima. Such an event is not an exception but rather the rule in the Americas. Our spaces have been built to forget, not to remember.

The traditional Eurocentric narrative of our *Limeño* tourist guide has never been able to explain the occurrence of complex and sophisticated societies such as the Maya, the Aztec or the Inca, much less of the ones we know little about beyond a thousand years of old ruins and artefacts. When they are brought into the picture it is only to prove the superiority of the European mind and their 'victory' despite being overwhelmingly outnumbered. This victory, we now know, was achieved by terrorism: kidnappings, targeted assassinations and a spectacular destruction of sacred structures (Jalata, 2016; Espino-Lopez, 2018). Moreover, recent research has shown that even areas like the Amazon or the Mississippi Valley were not only occupied, but also extensively modified by their inhabitants for thousands of years before the invasion. The Americas share a history of erasure and obliteration, a process of exclusion so strong that it destroyed languages and narratives.

As demonstrated by Tom Dillehay & David Meltzer in *The First Americans* (1991) and David Stannard in his *American Holocaust* (1992), the population of the continent, conservatively calculated at 25 million inhabitants in 1500, was reduced to less than 3 million one century later. This amounts to a 90% population decrease in a hundred years, something unprecedented in human history. The Amerindian image that survived is indistinguishable from those traumatic events. The psychology literature on trauma is extensive, from the early studies of Jean Martin Carcot in the late nineteenth century to Henry Krystal in the 1960s. Significant research has supported the inclusion of post-traumatic stress disorder (PTSD) as a mental condition that normally manifests itself as spatial disorientation, negative thoughts about oneself and the world, and loss of interest in pleasurable activities, usually leading to substance abuse (Krystal, 1978). The description of vagabond Amerindians roaming around drunk after the seventeenth century fits perfectly with the symptoms described above, but has never been discussed this way. Erasure of memory is also a classic symptom of PTSD, and in the case of American spaces such erasure was strongly supported by Christianity with its zeal to cleanse the world of any other religious or cultural symbols.

Second Problem: Spaces to Control

Architecture as we know it was born from Leon Battista Alberti's idea of design as something separate from construction. In the Latin languages the concept of design is expressed by the words *proyecto, projeto, or progetto,* from the Latin *projetare,* meaning 'to launch forward'. Before Alberti, architecture was all about how to select the best design based on how we built in the past. After Alberti, architecture became about how we should build in the future (Joseph Rikwert in Alberti, 1988). Intellectual concepts now mattered more than construction experience.

The Americas, as we know them, were 'invented' when European scholars realised that Columbus had not arrived in India nor China, but instead had 'discovered' a whole new world. As Edmundo O'Gorman taught us almost 70 years ago, it was the encounter with such alterity, or otherness, that forced the Europeans to rethink their entire ontology, therefore triggering the forces of modernisation.

Interestingly enough, only two decades separate the publication of Alberti's *De Re Aedificatoria* (1471) and the arrival of Europeans on the American continent (1492). Architecture as a projection of a modern future, separated from construction, and ushering the power of abstraction to conquer the entire planet is both the ultimate tool and the ultimate result of those two major events.

To envision why the encounter with the Americas is so relevant we follow the thoughts of Mexican historian Edmundo O'Gorman. Using maps as the basis of his analysis, O'Gorman shows that Europe had never been central to world history before 1492, nor was it in any way moving inevitably in that

direction. Instead, the impact of the encounter 526 years ago was equivalent to what would occur if we found life on another planet tomorrow. O'Gorman then elaborates on how such a ground-shifting event accelerated the Protestant Reformation (1517) and the works of Galileo and Kepler in the early 1600s.

Umberto Eco wrote a magnificent novel about how Aristotle's writings, preserved by Muslim scholars, had the power to challenge the religious philosophy of nominalism in the fourteenth century by freeing the relationship between objects and their representations in language.

The Florentine renaissance of the late fifteenth century and the Mexican renaissance of the sixteenth century beg to be understood in the context of such forces battling for prominence (Canizares-Esguerra, 2018). Brunelleschi, Alberti and Galileo were soldiers in a knowledge war still being fought. No wonder Girolamo Savonarola burned paintings and books in 1495, and Galileo was sentenced by the Inquisition as late as 1611. The realisation that Columbus and Vespucci had sailed around the unknown was the indisputable argument that settled the war on the side of rational thought, empirical observation and abstraction.

Following the important works of O'Gorman, Eduardo Dussel, Rodolfo Kusch and Roberto Fernandez we realise that it was here, in the Americas, that architecture's power of abstraction was first tested. This American laboratory (Benevolo, 1968; Fernandez, 1998), inaugurated in the early sixteenth century, gave us the processes by which a specific thread of knowledge carefully crafted from multiple roots (a.k.a. Western civilisation), became dominant in the world.

In an effort to organise the colonial settlements, King Felipe II of Spain decreed the famous Law of the Indies in 1572. Among the 148 articles that organised the Spanish bureaucracy in the Americas there were several that dictated how cities should be designed and built. One among those is of ultimate importance to us. While several articles talk about converting the natives and treating them well, article 137 explicitly says that: *'…while the town is being completed, the settlers should try, inasmuch as this is possible, to avoid communication and traffic with the Indians, or going to their towns, or amusing themselves or spilling themselves on the ground [sensual pleasures?]; nor [should the settlers] allow the Indians to enter within the confines of the town until it is built and its defenses ready and houses built so that when the Indians see them they will be struck with admiration and will understand that the Spaniards are there to settle permanently and not temporarily. They [the Spaniards] should be so feared that they [the Indians] will not dare offend them, but they will respect them and desire their friendship'* (Lejeune, 2005).

Such was the beginning of town planning in the Americas. A city to exclude and to induce respect by fear is very different from a city to make people free. Since the early sixteenth century this was the rule: a city as a machine to exclude. The move from colonial rule to independence did little to change that in the nineteenth century, except in small rural communities in the northern United States. In New England there was a significant level of inclusion by homogeneity, meaning anyone not conforming to WASP – (white

Anglo-Saxon Protestant) characteristics was therefore expelled or shunned into oblivion. For the large metropolitan areas exploding with urban growth, the rule was an urbanisation of exclusion that concentrated wealth and power in the hands of a few, from New York to Buenos Aires, San Francisco to Lima.

The main tool of exclusion, the orthogonal grid, was not brought to the Americas by the Spanish, having existed here way before Columbus. Tenochtitlan, for instance, was much closer to a gridded plan than Toledo, Sevilla or Lisbon. But following Alberti's leap towards the future the grid would soon be made into law by Felipe II. The same grid that now organises most of the US west of Appalachia, credited to Jefferson but actually originating much earlier, in the Roman military organisation of *cardos* and *decumanos*, via Spanish fourteenth-century scholars such as Francesc Eiximenis. Facing such overwhelming expansion of space, both our British and Spanish ancestors used exactly the same spatial strategy to control and tame nature, an attitude that could summarise the history of the Americas after 1492. And what is the grid of the Ley de Indias if not an instrument of control, with Spanish descendants allowed to live inside and natives exiled to the outskirts, regulated by a different geometry and a different set of laws? Formal or informal, the dichotomy that defines the Latin American cities of today started here. As my colleague Felipe Hernandez wrote recently, Latin American cities suffer from systemic as well as collateral marginalisation.

'Although it is generally assumed that marginal urbanisation is a twentieth-century phenomenon, it has been ubiquitous since the foundation of Latin American cities in the sixteenth century. The phenomenon became more complex and extensive during the second half of the twentieth century, but it is important to understand its longevity. Indeed, it is difficult to approach the study of Latin American cities, historically and in the present, without the notion that marginality has always been an inherent part of them. The conditions of marginality and the extension of informal development that we see today in most cities throughout the continent are a magnified expression of the conditions of urban growth initiated by the Spanish and Portuguese with their segregationist approach to urban planning and design during the colonial period' (Hernandez, 2017, p. ix).

Mexican scholar Diana Maldonado proposes that informal settlements *(favelas, barriadas, villas miserias)* are the real spatial configuration of the Americas. In her words, we need to study those off-planning spaces, for they contain the seeds of emancipation and empowerment (Maldonado, 2016). To insist on traditional planning, says Maldonado, is to confine ourselves to the instruments of control and erasure that characterise the relationship between orthogonal geometries and urbanisation in the American continent.

Yet we need new words to describe and discuss our own spaces. The Eurocentric vocabulary in English, French or even Spanish is not enough. As we are reminded by Walter Mignolo: *'to find one's own way one cannot depend on the words of the master; one has to delink and disobey. Delinking and disobeying here means avoiding the trap of colonial differences, and has nothing to do with the rebellious artistic and intellectual acts that we are used*

to hearing about in European history. In the history of Europe reactions against the past are part of the idea of progress and of dialectical movement. In the non-European world it is a matter of delinking from dialectics and turning to analectics (Dussel)' (Mignolo, 2015).

The analectic process developed by Enrique Dussel would be the opposite of the Eurocentric orientalism discussed by Edward Said (Dussel, 2003). In the traditional process of alterity made classic by Said, one's concepts are projected onto the other to define it as an alterity (therefore defining thyself). In Dussel's analectics, the exercise of empathy brings the other into thyself. We have done that with our European knowledge base, and now we need to empathise with our own spaces, our own words, our own idiosyncrasies.

Theoretical Tactics for Developing Spatial Concepts for the Americas

How does this history impact the understanding of space in the Americas? Can we develop a theory that uses Eduardo Viveiros de Castro's Amerindian perspectivism to problematise René Descartes' *'cogito ergo sum'*? Can we use Rodolpho Kusch's discussion of ser and estar to challenge Martin Heidegger's *dasein*? Can we understand modernity through the decolonial lenses of Arturo Escobar and move beyond the Eurocentrism of Jürgen Habermas?

One of the direct consequences of this process of European modernisation triggered by the encounter of the Americas is the hegemony of Cartesianism as world view. As much as we are indebted to René Descartes and his scientific philosophy that gave us vaccines, surgery, medicine and air travel (and I am not ready to abandon any of those) we have to face the consequences of *cogito ergo sum*. In the Cartesian world human beings are fully separate from nature: only we 'think'; only we are fully conscious. As a result, we have naturalised the idea that we can dispose of every other earthly and outer-space matter as we please. Global warming and water depletion are direct outcomes of our Cartesian society. Even more important for our spatial theory is the prevalence of Cartesian coordinates as the basis for mapping the entire planet.

Now let's examine for a minute or two the possibility of another world view, non-Cartesian, that might point us towards an escape from such an emergency. Brazilian anthropologist Eduardo Viveiros de Castro has developed the theory of Amerindian perspectivism to explain a different relationship between the original Americans and their natural surroundings. According to Viveiros de Castro, and that should apply to all Amerindian societies, the perspectival approach gives potential humanity to every piece of matter, organic or inorganic. A pebble in the creek has no humanity, but if someone gets it, cleans it, polishes it and hangs it around his or her neck it gains humanity. And this person gains 'pebbleness'. This is not exactly animism, but a relationship between us and everything else that is based on mutual transformation. You become a bit more woody if you work with wood,

a bit more clayish if you work on clay. When eating, you become fish and the fish becomes you. Isn't it exactly what happens when we break the food cells and molecules to nourish our own body? Interestingly enough, space is central to this relationship. It is proximity that gives humanity to a pebble and 'pebbleness' to you. In the opposite direction, the worst punishment in most Amerindian societies is not death but exile. You lose your humanness if you are forced out of the group, a penalty reserved for the worse crimes. To counterbalance the domination of the entire planet with a Cartesian system of coordinates, wouldn't it be interesting to have a map based on relational interactions such as Viveiros de Castro's theory of perspectivism?

Now let us discuss another interesting pair of scholars. Elaborating on Descartes, Kant, Hegel and Husserl in the early twentieth century, Martin Heidegger developed the idea of *dasein* as the basis of phenomenology. *Dasein* should, according to Heidegger, embody the idea of '*being in the world'*. Here again we have a central tenet of Western philosophy working on spatial ideas. Later in the twentieth century with Maurice Merlot-Ponty as the main disciple of Heidegger, phenomenology would become highly influential in architectural circles and a significant part of late twentieth-century critique of modernism was based on it. Interestingly enough, very few people have to this day read the critique of Argentinian anthropologist Rodolfo Kusch regarding the problematisation of *dasein* in Latin America. Departing from the Latin languages separation of being into *ser* and *estar*, Kusch elaborates on the proposal of a cognitive dissonance aided by the very fact that Spanish and Portuguese speakers (90% of Latin America) have two very different meanings to 'being in the world': one that is purely spatial and one that is purely temporal.

Reflecting on indigenous refusal to work as *utcatha*, an Aymara term synonymous with *dasein* but with a revolutionary spin, Kusch problematises the time/space-*ser/esta*r dichotomy that makes 'being in the world' 'something quite different in different parts of the Americas.

That cognitive dissonance (I called it dislocation at the beginning of this essay) brings me to discuss Junger Habermas's idea of modernisation as an empowering transformative process (Habemas, 1987). In architecture we are still very much enchanted with modernisation. We love our modernist buildings, we plan modernising infrastructures, we strive for modernity as a synonym for building. Or better yet, we strive for development as a synonym for architecture. I propose that every architectural scholar read Colombian anthropologist Arturo Escobar, who has devoted his life to showing that modernisation has a dark side called colonisation – the idea that the ways of life of one population are better and therefore should be imposed on other populations. Escobar's contribution to twenty-first-century scholarship is to stitch modernisation and colonisation back together as faces of the same coin. We have been trained to abhor colonisation and to worship modernisation. When we understand that they are two aspects of the same process we understand the crisis of the contemporary world as the crisis of the white heterosexual male, the ones who have always been favoured by modernisation

and development as we know it.

The process of constructing this unequal modernisation was tested first in the Americas as we are reminded by Roberto Fernandez in *El Laboratório Americano* and was only possible because histories were erased, symbolic barriers raised and exclusions naturalised.

To overcome centuries of Eurocentrism will require a tremendous effort, but we nonetheless have a responsibility to look at the built environment of the Americas with our own analectic lenses. In doing so we might be able to devise a contribution for a truly transformative and empowering set of spatial relationships for the Global South. One that takes the best of modernisation, such as clean water and universal education, and combines them with solving problems like gender and racial equality. Such is our challenge.

Figure 1: Photo by Lauro Rocha

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Figure 1: 250 Architectures from the Americas, installation at the 11th *Biennale de Arquitetura de São Paulo,* 2017, Fernando Lara + Coletivo Goma. © Photo by Lauro Rocha.

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KEYWORDS

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Congo

The Architecture of *Authenticité*: Between Invention and the Reinterpretation of Tradition

- Alexis Tshiunza Kabeya

This article examines two buildings by two Belgian architects who practised in Congo after independence, in a period where traces of Belgian colonial presence were being erased. I focus on these architects and their built work in order to explore the way they tried to formulate an architectural answer to the upcoming discourse of the '*recours à l'authenticité*' (return to authenticity).

To root their architecture in local traditions, Marcel Lambrichs (1917-1986) reintroduced mural frescoes and Claude Strebelle (1917-2010) privileged a sculptural aesthetic. Combined with climate responses and adaptation to the environment, these two architectures had an important influence on the first generation of Congolese architects who, unfortunately, were not able to realise an important body of work inspired by these examples. The article suggests that the reinterpretation of tradition in Zaire (named *recours à l'authenticité*), was at the heart of a revaluation of architecture, which led to the emergence of a brand of regionalism. By considering these early examples as sources of what will become the architecture of *authenticité*, I would like to draw attention to the potential, still existing in these works, to conceive a locally rooted and contextual architecture in the Democratic Republic of Congo.

In many parts of Africa, such as Congo, much of what is identified as architecture was built during colonial times and came to perform a very particular function. Most of these buildings were built to service the extractive economy or as instruments for the control of colonised populations. As a result, in the post-independence era, these buildings had to be repurposed. The Governor's Palace, for example, became the first Parliament. Many other buildings such as residences for public workers were later used as offices. These well-known and renowned buildings are still symbols of colonial rule. Consequently, political independence in many African locations meant not only the creation of the conditions for a homegrown architecture, but also the search for what this architecture should be.

Authenticité as a Form of Regionalism

After gaining their independence in the late 1950s and early 1960s, most African countries were confronted with the challenge of reconciling modernity with their own traditions. Architecturally speaking, this was particularly

difficult as many important villages were rebuilt into modern cities without any consideration of their pre-colonial ways of being. The search for a cultural identity that would hold the nation together became the challenge of the Fathers of Independence and most of them, between the 1960s and 1970s, expressed their views that architecture ought to display their newly acquired freedom (Herz, 2015). Movements like *négritud*e of Senghor and Césaire, consciencism of Nkrumah, and 'natural synthesis' of the architect Uche Okeke, advocated the ideology of a synthesis between local traditions and modernity.

In 1966, President Mobutu, who had seized power a year earlier on 24 November 1965, took a series of decisions to promote African tradition in Zaire, culminating with the imposition of the ideology of '*recours à l'authenticité*' and Zairianisation (Kakama, 1983: 41). He began by changing names of cities ('Léopoldville' became 'Kinshasa') and debunking statues that represented colonial authorities. His radical discourse was first known as '*retour à l'authenticité*', which can be translated as a 'return to authenticity.' Initially, at least in the context of architecture, its meaning was simply something akin to the rebuilding of traditional huts. Later on, in 1972, this was re-elaborated and '*recours*' ('recourse' in English) replaced '*retour*' ('return'), meaning that not everything should be taken from the traditions inherited from the ancestors, but only what would be useful to modernity. Mobutu himself explained the concept:

> *'African culture must fit into the universal culture. This is what we translate, here, into a global and brief formula, under the term "authenticité". Authenticité, as we conceive it, consists, for each people, of the deepening of their own culture in order to be reconciled with themselves first, and, second, to be able to better appreciate the culture of others' (Mobutu, 1975: 354).*

In all areas, it was expected that Congolese should strive to use their tradition to promote a new Congolese identity. In music and theater, sculpture and painting, Congolese were encouraged to try to be different from Europeans. The 'recours à l'authenticité' thus appears as a symbiotic discourse between tradition and modernity, between the local and the global, the vernacular and the imported.

A good example of '*recours à l'authenticité*' was in fashion. *Abacost* (which means 'no costume', was an attempt to discourage people from wearing European-style clothing), was characteristic of this movement. Abacost (wax-print) was considered appropriate for the tropical climate, as it was readily identifiable as 'African', showcasing a love of colour, pattern and motifs. More importantly, since the prints were produced locally, it benefitted the local workforce and economy. And lastly, but no less important, the message conveyed by such clothing was the promotion of a new identity.

Accordingly, it was also necessary to be 'authentic' in the field of architecture. Without copying traditional village homes, which, although comfortable, were inappropriate for Congolese living in the city, it was considered necessary to transpose characteristic features of place and culture to modern architecture. Later on, Sante Ortolani (1975) wrote a manifest for the 'architecture of *Authenticité*' and with Lonoh Malangi (1977), one of Mobutu's *compagnon de la révolution*, they tried to define the regionalist architecture they called '*architecture authéntique*' as that which is inspired by local pictorial or/and sculptural traditions. They suggested that architects should not copy or reproduce, but rather re-interpret traditional sculptures or/and paintings, mixed with elements of European rationalism, and transposed to architecture in order to form a new, authentically Zairean architecture (Bokelenge and Ortolani, 1977: 13-7). Ortolani's Manifest actually corresponded with what a few architects were already making in the city in order to demonstrate a connection or rootedness to local culture. The first generation of Congo-born architects attempted to define an architecture that would be a combination of three elements: tropical architecture, sculptural forms and mural frescoes. In the context of this article, this is what I will be calling the architecture of *Authenticité*.

Congolese architects at the time were inspired by two projects built between 1966 and 1967 by Marcel Lambrichs, and from 1969 to 1975 by Claude Strebelle. To directly respond to the ideological demands of the time, the architects brought together several elements from tropical architecture and some local cultural elements supposed to evoke tradition. The examination of two buildings will shed light on the origin of the so-called *Authenticité* movement in architecture.

INSS by Lambrichs (and the Mural Frescoes as a Reinterpretation of Local Pictorial Tradition)

Marcel Lambrichs (1917-1986) was one of the few Belgian architects still working in the Congo when Mobutu took power and began to promote his view on Congolese culture. Between 1956 and 1961, he had completed a great number of buildings in Léopoldville, including the residence of the Governor General of the Colony, where he was challenged to evoke both Congolese traditions and Belgian modernity. The building is currently the Presidency of the Republic, having also served as the seat of Parliament. He was also responsible for the Cinquantenaire of Belgium, the Congolese savings and credit bank, among many other buildings.

He was asked to design the National Institute of Social Security (INSS), created in 1961, a year after independence, by the merger of three funds, namely the Workers' Pension Fund, the Central Compensation Fund for Family Allowance and the Workers' Invalidity Fund. The political context seems to have influenced him to look for decoration and colour that would set his work apart from his previous buildings and make it appear more 'local'.

Figure 1: Institut National de Sécurité Sociale (INSS) © Author, 2016

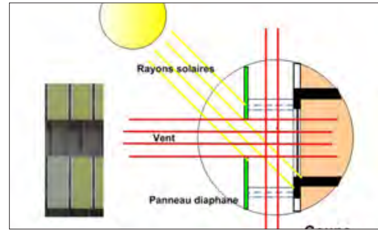

Figure 2: INSS solar protection and ventilation. © Author, 2016

The immediate success of this decision made such decoration one of the characteristics of the upcoming architecture of *Authenticité*.

The architecture of INSS contrasts with that of neighbouring buildings through its incorporation of a large panel of frescoes, the work of an African (unidentified) artist and a series of small yellow-green panels. The building is nevertheless resolutely modernist: regular frame, concrete and glass windows. Lambrichs made a number of modifications: using curtain walls to form a second skin but tellingly did not dispense with air conditioning altogether. The building is aligned with the Boulevard du 30 Juin, where most buildings are identical, marked by their horizontality. The site is flat and constitutes the focal point of an avenue perpendicular to the river and the boulevard where the building is located. The architect naturally places his main entrance on this crossing. The beauty of the building comes from the structure and the side panels and the roof terrace that seem detached from the basic parallelepiped. To achieve the same effect on the main facade, the architect placed small yellow-green coloured panels that emphasise the horizontality and give an impression of lightness to the whole. Since climate is always a concern in the tropics, all the bays of INSS building are on the north and south façades. The lateral façades are blind because they are located on the east and west sides, where the sun's rays are almost vertical. The rooms have exterior openings for cross-ventilation and are aligned on the central corridor to allow air circulation. Despite these measures, the windows still receive direct sunlight at certain times of the day, and during certain periods of the year. The diaphanous yellow panels thus serve as sunshades, separated enough to ventilate the rooms while still filtering the light. In addition, they are attached to the façade by metal elements, which allows upward ventilation between the windows and veneered panels.

The blind façades and structural elements are clad in quartzite sheets (a mixture of concrete and quartz), which remain white, since they do not absorb dust, and are able to withstand the heavy tropical rains. The white colour helps to better reflect light. The yellow panels not only bring lightness to the set but also colour. In direct sunlight, reflecting the blue sky, the panels

appear green – the same colours were adopted in 1967 by the party-state, the Popular Movement of the Revolution. There are other reasons for the adoption of this colour, some of which are environmental and others political. The INSS is next to the old 'neutral zone', a green and wooded area, part of which is now used as a golf course.

One of the striking features of the INSS, which is also a mark of *Authenticité*, is a large plaque of 50m² frescoes. The mosaic characters represent the traditional occupations of Congolese: fishing, agriculture, pottery and circumstances that may require social security, such as old age and physical disability.

Figure 3: INSS frescoes. © Author, 2016

The panel of frescoes is not an after-thought. Here the work of art is integrated *into* the architecture: it was designed from the beginning with the participation of the artist. The large panel is placed on the boulevard and in front of a perpendicular avenue that runs up to the river. It is located on the frontage, just on the axis of the main entrance. To balance the intrusion of the horizontal panel on the left, the architect places a vertical panel pierced with openings on the right. This might be seen as reminiscent of the African tradition of mural painting of houses, made of earth or clay, which is known to many peoples of the Congo. A typical example is Niangara (Jewsiewicki, like many other places on the continent, rich with systems of geometric and figurative elements, which sometimes function as an alphabet with clear meaning (Nzuji, 1996; Jewsiewicki, 1991: 314). By using this system to convey his message, Lambrichs hinted at the fact that, for many people, figuration might be better understood than written words. Jewsiewicki explains that the original decoration of buildings in the Congo is linked to weaving, as can be seen in women's hairstyles, scarification, designs on fabrics and pottery and

that geometric decorations were also imitations of baskets, which brought some aesthetic relief to the monotony of mud walls. INSS is well integrated into the landscape of the city with particular elements that show the architect's independence. Although he had won competitions for several buildings before independence, he understood that modernism could not be interpreted in the same way everywhere.

The practice of decorating buildings with African artists' frescoes or paintings was common at international exhibitions or world fairs abroad. But in the country, before independence, African works were often placed in the interior of buildings and those of Europeans outside, as in the Lubumbashi Theater (Lagae, 2008: 23). In contrast, Lambrichs displays an African work of art in the exterior side of the building, directly on the boulevard, above the main entrance. It is an evocation of the traditional use of painting, which done directly on the walls of houses and not on an easel, directly addressing an audience for whom the message was synonymous with the identity of the building.

Mobutu was a major influence in this regard. He not only debunked European influences in art, replacing European works with African artworks, he also encouraged architects to use frescoes as decoration. Ironically, this guaranteed the participation of African artists in architecture, since the first generation of graduates in architecture only entered the job market in the 1970s. It is also worth noting that the involvement of African artists in architecture went beyond the decoration of new buildings to include the redecoration of old buildings as a mark of *authenticité*.

Sozacom by Strebelle and the African Traditional Sculptural Aesthetic

Claude Strebelle is mainly known as the architect of the University of Liège. He was awarded the project in recognition of his previous work in Congo with the same university and the Union Minière du Haut Katanga (UMHK), one of the first colonial companies (1909) for whom he had worked since 1949. With the Yenga Group ('yenga' means 'build' in Swahili), Strebelle demonstrated his ambition to 'create contemporary African architecture through a sculptural aesthetic' (van Loo, 2003: 78).

A year after the delivery of the INSS, Strebelle was commissioned by UMHK to build its headquarters in Kinshasa. Previously, UMHK was based in Katanga, but during the Congo crisis of 1960-1965, some companies were able to evade the Congolese authorities and support the rebel factions attempting to form a breakaway state. To safeguard against it, Mobutu wanted the seats of all major state institutions to be located in the capital. The brief also called for the tallest building since independence, a goal set at 100 metres.

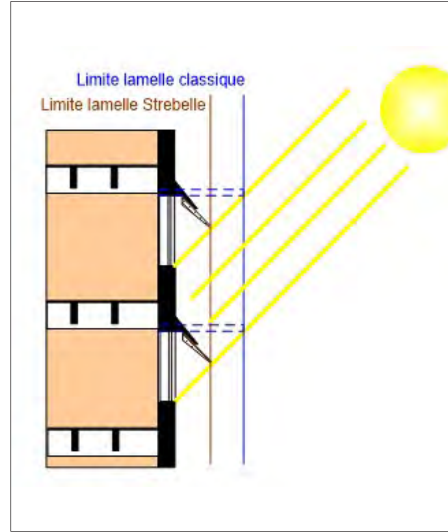

Figure 4: Gécamines Tower. © Author, 2015
Figure 5: Repetitive panels playing several roles: aesthetic, environmental, functional, symbolic (author's note)

Strebelle chose a shape and colour that was not only reminiscent of Africa and African traditions, but also broke stylistic ranks completely with the surrounding buildings. Its shape contrasts sharply with the parallel lines of its modernist neighbours and the roof cover of Katanga copper plates adds to its monolithic, sculptural qualities. The combination of curvilinear and rectilinear forms was described by Daniel Boden, one of Strebelle's collaborators, as 'masculine and feminine' forms, which, coupled with a vast array of openings, adds to its unusual (in this context) aesthetic. Despite the formal moves, however, the building was far from retrograde. It showcased technical progress through its advanced HVAC systems, while simultaneously eschewing a machine-like aesthetic in favour of its attachment to place. In many ways, it is a unique and uniquely important building.

To ventilate the interiors, Strebelle made use of variously-shaped openings at circulation points, particularly the stairs. Depending on the sun's angle and position, the building reflects light in different ways, concealing and revealing its form. The textured surface did not fail to attract attention. Anne van Loo mentions Strebelle among the architects who have invested in what she considers a 'phenomenology of space, in an organic architecture and in the ability of space to influence an individual's behaviour, without relinquishing a certain attention to textures, light, colours and the atmosphere' (van Loo, 2003: 77).

Figure 6: Gécamines Tower, sunshades. © Author, 2015

The interior of the building mixes several tones that could be considered 'African': brown soil, copper elements and the wooden floors of apartments. Strebelle wanted to 'carve a gush like that of trees in the forest' (Hubin, 2002: 27; Toulier et al., 2010: 113), so as to evoke 'animistic values' (Jacqmain, 1992: 128). For Daniel Boden the sunshade extensions resemble leaves of 'a huge tree that springs from the earth' (2016), whilst others see a termite nest (Tshiunza, 2014); Jacqmain describes it as 'evok[ing] an elephant in the savannas' (Jacqmain, 1992: 128). The ochre ceramic enameled coating certainly adds to this narrative. Indeed, it sometimes looks like 'a beautiful African skin' (Jacqmain, 1992: 130) or 'the colour of the African land' (Hubin, 2002: 27).

The Short Life of the Architecture of Authenticité

Soon after the construction of INSS and the commission for Sozacom, Mobutu encouraged foreign architects to work with their Congolese colleagues. However, there was only one Congolese architect prior to 1970, who followed the precepts of *authenticité*, Fernand Davier (who later changed his name to Tala-Ngai). Tala-Ngai graduated in 1966 from Sint Lucas School of Architecture in Belgium. In Congo, the High Institute of Architecture (Institut Supérieur d'Architecture) was created in 1962 to train architects. Its first three students graduated in 1970. In the 1970s, Tala-Ngai was joined by Magema, a former draftsman for the Belgian architect Paul Dequeker (since 1961), who had trained in France.

This first generation of architects was particularly interested in the possibility of creating a homegrown, 'authentic' architecture, eventually going far beyond Lambrichs and Strebelle's interpretations by synthesising all previous references to local architecture. Two interesting examples are Palumbo and Tala-Ngai's Supreme Court of Justice (1969-71) and Magema's Office de Gestion de la Dette Publique (OGEDEP) built around 1976-80. The OGEDEP building is characterised by a mixture of many forms in order to obtain a sculpture-like building. (Lagae, et al., 2013: 101). In both cases, the curved forms are noticeable, confirming the intention of these young African architects to promote a modern African style through a 'plastic' approach, mainly based on a formal or sculptural vocabulary (Robert, 2013: 31).

Figure 7: OGEDEP building by Magema. © Author, 2015

The façades of the current Supreme Court are adorned with frescoes from Congolese artists. As in the case of the INSS, the frescoes on both sides of the slats accurately represent the building programme (or function) but attempt to place it in a traditional or 'African' setting: a 'palabre' (discussion) under a tree, the stereotypical view of an African village 'court' where everyone gives their version of the facts and the wise old chief acts in the welfare of the entire village (Lagae & De Raedt, 2014).

As the number of Congolese architects has grown, this interesting practice of integrating artwork into architecture has faded. There are a number of reasons for its disappearance. Firstly, at the height of its popularity, the scarcity of Congolese-born architects, whether practicing 'at home' or overseas, meant that the opportunities for multiple modes of translation from tradition to modernity were limited. Secondly, the traditions described in this essay seem to have been initiated by the Belgian colonial powers, surfacing as 'folklore' in the world fairs of the 60s and 70s and were mainly adopted

by foreigners. Lastly, despite Mobutu's enthusiasm, his ideas of authenticité ended up disappointing the Congolese people. The architecture that was associated with his rule also fell into disrepute, even if, in most cases, it was not Mobutu behind the commission for the works.

Figure 8: Supreme Court of Justice by Tala-Ngai and Palumbo.
© Author, 2015

Conclusion

Nowadays it is rare to find sculpted projects like those of Strebelle or Magema. Although their works are still highly appreciated by the Congolese (as the work of the students in the Higher Institute of Architecture and Urbanism can attest), the various waves of economic crises that have hit the country in the past four decades have waned public and donor appetite for investing in architecture. However, all is not lost. Possibilities still remain to produce a located, localised, and rooted architecture. A regionalist architecture that remains critical could allow Congolese – and Kinois (a person born in Kinshasa) – in particular to be proud of their city. Of the OGEDEP's building by Magema, Yves Robert wrote: 'This typical language of architectural research of that time, still dominated by Zairianization, represents a particular awareness of art and as such can claim the status of Congolese artistic heritage' (Robert, 2013: 31).

I end this essay with a provocation: today, in the absence of other examples, might we not consider these as examples of an authentically Congolese architecture?

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KEYWORDS

Michael Jackson
1958-2009
social media
architecture
urbanism
sociology

Demerol City:
Embodying Michael Jackson Architecturally

- Ivan Lopez Munuera

'I've always thought that the weirdest thing about celebrity culture is the level of intimacy we feel with people we don't know.' (Scholder, 2014: 14).

'Because show business and my career were my life, the biggest personal struggle I had to face (. . .) did not involve the recording studios or my stage performance (. . .) the biggest struggle was right there in my mirror.' (Jackson, 1988: 95).

From Inner City to Instagram City

Michael Jackson was more than a human being: he was the embodiment of trans-human[1] urbanism. He was 'trans' in the way he crossed disciplinary, cultural, and art versus life boundaries. The constructions and discussions around his public and private figure were (and still are) beyond the human being. There was a body, but it was self-contained. The expansion of his corporeality made him *queer* (in the original sense of the word, meaning 'strange', 'odd', 'not-quite-right') and contained the building blocks for different social constructions and architecture (Betsky, 1997). He was also *trans* – something worked on constantly in order to gather meaning. Through his relationships with animals, drugs, plastic surgery, public appearances, media coverage, albums, videos, real estate (his infamous 'home', Neverland); in his record studios, fan communities, hotel stays, rumours, and in his musical, TV and film performances, Jackson built up an urban vocabulary that challenges the norms, regulations, and practices of everyday life.

As Donna Haraway points out, public figures collect our hopes and fears and show us both possibilities and dangers. Both imaginary and material, such figures root people in stories and link them to histories (Haraway, 2004). This story of Michael Jackson is neither one of condemnation nor celebration. It is about the understanding of its challenges, its architecture, and its politics. It is compelling since Jackson's life and work have received surprisingly little scholarly attention, given his global stature (Hamera, 2017: 2).

[1] Trans humanism, as described by Nick Bostrom, holds that current human nature is improvable through the use of applied science and other rational methods, which may make it possible to increase human health-span, extend our intellectual and physical capacities, and give us increased control over own mental states and moods. Technologies of concern include not only current ones, like genetic engineering and information technology, but also anticipated future developments such as fully immersive virtual reality, machine-phase nanotechnology, and artificial intelligence. In: Bostrom, N., "In Defence of Post human Dignity", in Hanse, G.R. and Grasse, W. (eds.), *Trans humanism and its Critics*, Philadelphia, Metanexus, 2011, p. 25.

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Michael Jackson Dies

6/25/2009 6:31 PM PDT BY TMZ STAFF

EXCLUSIVE

We've just learned **Michael Jackson** has died. He was 50.

Michael suffered a cardiac arrest earlier this afternoon at his Holmby Hills home and paramedics were unable to revive him. We're told when paramedics arrived Jackson had no pulse and they never got a pulse back.

A source tells us Jackson was dead when paramedics arrived. A cardiologist at UCLA tells TMZ Jackson died of cardiac arrest.

Once at the hospital, the staff tried to resuscitate him but he was completely unresponsive.

A source inside the hospital told us there was "absolute chaos" after Jackson arrived. One person who was there said "The staff responded in a way that looked straight out of 'Grey's Anatomy." People who were with the singer were screaming, "You've got to save him! You've got to save him!"

We're told one of the staff members at Jackson's home called 911.

La Toya ran in the hospital sobbing after Jackson was pronounced dead.

Michael is survived by three children: Michael Joseph Jackson, Jr., Paris Michael Katherine Jackson and Prince "Blanket" Michael Jackson II.

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2300 Jackson Street › Follow

2,210 likes

genevievejaxn This weekend will be unforgettable. Definitely an eye opening experience...made me truly realize how blessed I am. Seeing where my... more

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Michael Jackson Birthplace › Follow

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2300 Jackson St, Gary, ID › Follow

sweetbabykita
Michael Jackson Birthplace › Follow

98 likes

sweetbabykita Stopped by the birth home of Michael Joseph Jackson on comedy road trip

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Jackson was constantly looking for a home that could replicate his own image – from the stage to the media to Neverland to his fans – an expansive playback system where his houses, gigs, and fans were simply devices in a wider process of reproduction. In order to analyse his urbanism, it is necessary to take into account not only the homes and cities in which he lived, but also the social fabric that is woven by a group of strangers – his fans – who suddenly become intimate when they share the same arena, mediated by their messages via cell phones, their dances, their hairstyles, their costumes, their following of channels (YouTube, Vimeo), websites, forums and social media (Facebook, Twitter, Instagram, Snapchat) in order to form a transitory, ephemeral, and intermittent (yet real and effective) community, which I call his urbanism.

Following Jackson's death, thousands of fans gathered in front of his family house in his hometown of Gary, Indiana[2] to upload selfies taken in his garden to their Instagram accounts. In front of the 672ft2, three-roomed bungalow, built in 1949 and located in a residential neighbourhood, Michael Jackson's fans, posing as "moonwalkers", changed the name of the street and the number of the house (2300 Jackson Street) to a new one: *Michael Jackson's Birthplace*. His death provided the shared space of intimacy with an epicentre. With this gesture, they also changed the social media maps (in this case, Instagram's geo-location system[3]), determining the toponymy. Instead of 2300 Jackson Street, it is now Michael Jackson's Birthplace.[4] But they also changed the image of the site. The street view is no longer a picture of an ordinary townhouse, an example of a suburb built to accommodate the employees of Gary Works (like Jackson's father Joe Jackson), the steel mill operated by US Steel (United Steel Corporation) on the shore of Lake Michigan. With this gesture, fans created a shift in the representation of the urban fabric: instead of an image controlled by urban planners, the government or mass media, through the use of smartphones, his fans produced and circulated messages of their own making.[5] It was no longer a house silhouetted against the sky, but had become an entire society, with fans emulating 'Jacko's' hairdos and gestures in front of the house, selfie sticks aloft. Their comments on social media – the millions of likes, filters and emojis – successfully changed the relationship between suburban dwellers and their environment or neighbourhood.

The 'traffic' between the star and his fans, both analogically and digitally; between the different technologies that assembled them (social media, smartphones, tablets, emojis, memes, gifs, comments, likes, filters, hairdos, costumes, hashtags) have shaped a complex urbanism which is not

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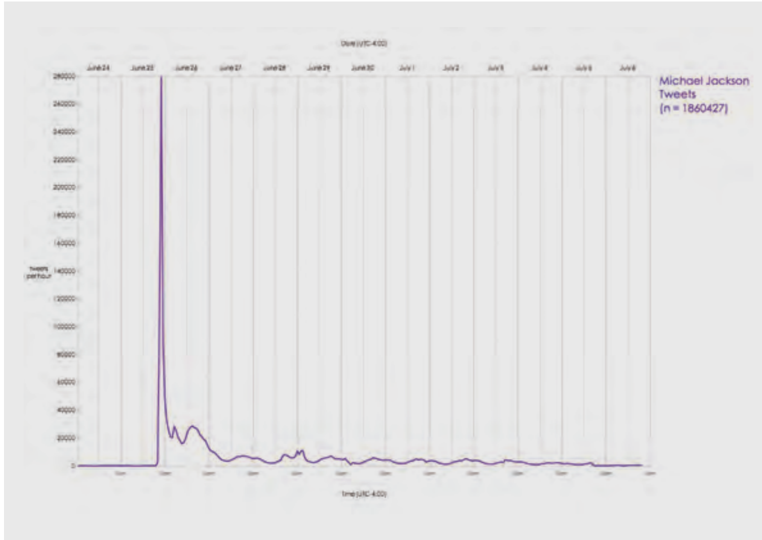
[2] The story of this house has been comprehensively described by Jordan Carver in: Carver, J., 'Stopping by Michael's House', *The Avery Review*, http://www.averyreview.com/issues/11/michael-s-house

[3] Launched in 2010.

[4] This information was gathered from Instagram in January, 2017.

[5] More about this shift in: Castells, M., *Communication Power*, England, Oxford University Press, 2009.



determined by Michael Jackson, his lawyers, or his managers. There are different agents in this debate – from regulations to songs to plastic surgery and different houses – with the same capacity of agency.

One of the most relevant aspects when understanding the extent of pop in its political and architectural configuration is to consider that the statements present in many of its products do not directly correspond with their reception, but instead convert themselves into issues of debate that can contain confronting ideologies. That is, the images may represent idyllic postcards in one context, but their comprehensive consideration (their association with the context) can transform them into other types of statements. For example, Jackson's hit *We Are the World*[6] put forward an image of a happy, smiling global village, united in its efforts to help Ethiopians suffering a devastating famine. In its wake, a great number of discussions arose which examined notions of help versus development, humanitarianism, global

[6] *We Are the World* happened because Harry Belafonte was watching television. It was December 1984, just before Christmas, and a news show informed the veteran singer and social activist about Ethiopian famine. Belafonte called his friend Ken Kragen to pull off a concert with different stars. Kragen called Quincy Jones to produce it with different musicians like Lionel Richie and Stevie Wonder. Jones proposed Michael Jackson, who immediately got involved in the project, writing the song together with Jones, Richie, and Wonder. A secret cassette of the recording was mailed to different stars: Ray Charles, Bruce Springsteen, Tina Turner, Bob Dylan, Cyndi Lauper, Diana Ross, Bette Midler, and so on. The group was called the United Support of Artists (USA). It sold more than 20 million copies around the world. The story of this production is a new urbanism in itself: beginning with the TV programmes, to the door-to-door FedEx'd cassette, to the telephone calls that gathered all these stars.

financial markets, Third World debt, and the complexities and contradictions of the geopolitical map that were traced by Jackson's hit song. Similarly, I would argue, throughout his career, it is possible to understand a number of different struggles and demonstrations for human rights in the sixties and seventies and the places where they occurred,[7] the glorification of the healthy body in the age of HIV/AIDS in the eighties[8] and the convergence of social media, politics and architecture at the moment of Jackson's death in 2009.

When he passed away on 25 June, 2009, the announcement did not come from his family or respected newspapers such as *The New York Times,*

[7] Especially at the beginning of his career along with Jackson 5.

[8] At the moment of the debates surrounding his physical changes, specifically his "whitened" appearances.

LA Times, or the *Washington Post*, or from news stations such as CNN, Fox News, or MSNBC. It came from a website with a massive social media presence: TMZ.[9] At 2:44 PM (PST)[10] TMZ wrote: *'Michael suffered a cardiac arrest earlier this afternoon at his Holmby Hills home and paramedics were unable to revive him. We're told when paramedics arrived Jackson had no pulse and they never got a pulse back'* (TMZ, 2009).

After this brief description, they compared the situation at the hospital with a *Grey's Anatomy* episode, and asked their Twitter and Facebook community about new details that could be added to this information, no matter what kind of involvement the community might have had with Jackson: family, hospital staff, fans, anonymous sources. An increasing number of witnesses, information, photographs, and opinions built up rapidly on the last hours of Jackson's life: his domestic everyday, his relationships, and his urban route – from his bed at 100 North Carolwood Drive, Holmby Hills, to the route take by the ambulance to Ronald Reagan UCLA Medical Center, to TMZ, Facebook,

[9] TMZ (Thirty-Mile Zone, the film studio zone in Los Angeles, California) defines itself as a "Celebrity Gossip. Entertainment News. Celebrity News". It is a website founded in 2005 by AOL and Telepictures Productions (a division of Warner Bros.), directed by Harvey Levin. As Jonathan Mahler, from *The New York Times*, wrote, "it quickly evolved into one of America's biggest celebrity news sites. Among other things, it broke the story of Michael Jackson's death a full hour before most of the mainstream media." (Mahler, J., 'Celebrity Gossip Extends Its Reach With Scoops on Stars From a Different Field', *The New York Times*, September 9th, 2014).

[10] Michael Jackson was declared dead less than twenty minutes before, at 2:26 PM PST.

Twitter, and so on. A multitude of images, both fake and real, overflowed social media and websites. The news caused websites to crash, slowing down access to new information from sites like Wikipedia, Twitter, and Google, with web traffic 11 to 20 per cent higher than normal (Shiels, 2009). By 10:30pm, 12 per cent of all Twitter traffic was about him. So it was that Jackson's manager, Tohme Tohme, shouted out in front of the King of Pop's house: 'Police, fans, media! Everybody back!' (Knopper, 2015: 340) as if he were already contemplating the extent of these ramifications.

But they didn't step back. Fake images of his dead body in the morgue were mixed up with real ones; helicopter views of the ambulance transporting his body through LA's highways mingled with instant pictures taken by fans of makeshift memorials uploaded to their social media; declarations from his family were broadcast alongside tributes from fans all around the world. TMZ and the responses that followed blurred the lines between fiction, media, and reality, building up a social context with many actors, all of them crucial. Jackson's death can be understood as the final confirmation in his project of urban reconstruction. As Andrés Jaque described trans-material urbanism: *'Trans-material refers to the way architecture is produced by the interaction between processes developed through the coordination of different material media (the built environment, the biology of beings, the online interaction)'* (Jaque, 2017: 14).

From the very beginning of Jackson's career, media was a constant presence. In 1964, when he was six years old, Michael Jackson and his brothers, under the pressure of their father Joe, began their career as part of the Jackson Brothers, later the Jackson 5. They started to play in talent shows and strip clubs in Gary, Indiana (Taraborelli, 2004). Six years later, magazines like *Jet* and *Ebony* (aimed at an African-American readership) dedicated wide coverage to their success, explaining not only their songs, but their hairdos, their relationships, their fans, their clothes, and their urbanism. All of these details were of equal importance. Michael Jackson was, in these issues, the central subject. On August 6, 1970, with headlines like *'Coming from inner city, [the] group is socially aware,' Jet* magazine described the Jackson family's path between the de-industrialised city of Gary and their new home at the recording studios of Motown in Detroit, another de-industrialised city of the time.

The music and the presence of Michael Jackson during this time grew from the American industrial landscape to the crisis of this economic and urban model. Gary was the city of US Steel, where Joe Jackson worked until the success of his offspring's group. Founded in 1908, during the 60s and 70s, the company faced a series of layoffs, doubling the overall unemployment rate of the area (O'Hara, 2011). Detroit faced the same scenario. Once the major production city of America, with the Ford Company as its symbolic highlight and Cadillac's Amsterdam Avenue Plant (1904, George Mason architect) its flagship building, Detroit was, at the end of the mid-twentieth century, a city in crisis.

During the post-war period, Ford, Chrysler, and GM were the active agents of Detroit's golden era, producing jobs, fixed prices, and powerful unions. They were all based on Henry Ford's model of the assembly line and scientific management, introduced to build the Model T, that mixed Taylorism with Gilbreth's ideas on time and motion studies. Groups of two or three men worked on each car with different components, developing an assembly line. However, the combination of the substitution of machines for labour and global outsourcing – the location of production in low-wage and high-subsidy areas – resulted in a declining share of worldwide production in the Detroit area (Ross and Trachte, 1990).

The relationship between Gary, Detroit, and Michael Jackson is more than a simple backdrop to his life. His musical career and everyday life were built upon the Fordist model. Motown – or Hitsville, as it was known – the Detroit record company that launched Jackson 5's albums, was founded in 1959 by Berry Gordy as Tamla Records. It changed its name in 1960 to Motown Records Company. The record label was tied to Detroit as intimately as the Ford Motor Company and was conceived using Ford's model. Hitsville Studio, located at 2648 West Grand Boulevard, was a similar property to Jackson's home in Indiana: a two-storey townhouse with its first floor Hitsville's administrative office, recording studio, and tape library, and its second story Gordy's home. He acquired other properties on the same street in the next few years, accommodating other facilities: from sales offices to public relations, from royalties to vocal coaches' rooms, from marketing to traveling.

It was a factory-style assembly line for hit records, with different rooms and workers for each part of the music industry, a mixture of real humanity – visceral emotion, including fun, in its songs and edited presentations – and a sort of compulsive rhythm: composers, songwriters, singers, stylists, photographers, graphic designers, product managers (Posner, 2002). All of them worked together, but separately, to launch a single product: from Jackson 5's hits '*I Want You Back*' to 'ABC'; from the Saturday morning cartoon series of the group broadcasted on ABC to their media appearances on the *Ed Sullivan Show*; from posters to stickers, albums, and clothes – everything about Jackson 5 was designed at Motown. It was the perfect representation of the Industrial American Dream, the opportunity for prosperity and success based on an assembly line, a dream that was coming to an end in a period when automation through robots was taking the place of workers, a move epitomised by Toyota's new model of post-industrial capitalism, which needed half as many workers to produce a car, cheapening the whole process. Jackson himself went on to personify this concept of automation in his next step.

From Disco City to Private Jet City

In the mid-60s and early 70s, Detroit began to be known as a 'post-human' scenario, a kind of gothic appeal from its decaying urban centre. Musicians, especially producers like Juan Atkins, saw this image as a turning point in their music (Williams, 2001). They tried to translate this feeling into a

NEVERLAND
VALLEY RANCH
MAP KEY
1 Vallet
2 Welcome Center
3 Neverland Gates
4 Electric Train Station
5 Lake Neverland
6 Neverland Gardens
7 Neverland Gardens
8 Main Train Station
9 Main Residence (restricted)
10 Game Room
11 Pool/Restrooms
12 Teepee Village
13 Flamingo Island Train Station
14 Dining Area
15 Games & Prizes
16 Nature Preserve
17 Nestle Lounge (tent)
18 Red Bull Lounge (tent)
19 Britto Art Exhibit
20 Restrooms
21 Lounge/Club KISS
22 Michael Jackson Museum
23 Nature Preserve
24 Movie Theatre/Restrooms
25 Train Station
26 Zip Line
27 Basketball Court
28 Coat Check/Remote Valet & Information Tent
29 Carnival Alley
30 Carousel
31 Bumper Cars
32 Sea Dragon
33 Swings
34 Ferris Wheel
35 Zipper
36 Neverland Amphitheater
37 Petting Zoo
38 Serpentarium
39 Crocodile
40 Neverland Aviary
41 Zoo Train Station
42 Elephants
43 Giraffes
44 Orangutans
45 Tigers
46 Bear
47 Massage Therapy Center
48 McConnells Gourmet Coffee & Ice Cream
49 Charity Booth

ADT

sound that was a reflection of a new post-industrial future, where the producer was the star. As Jacques Attali pointed out, music is a way of perceiving the world that makes its mutations audible (Atalli, 1985: 4). Michael Jackson did the same with his collaborations with the producer Quincy Jones. From this moment on, Jackson moved from the Fordist model to a robotic one.

In his albums *Off the Wall* (1977) and *Thriller* (1982) he tried to explore new sounds with electronic bases, working in a single cabin with Quincy Jones between Westlake Recording Studios in Los Angeles and studios in New York, moving from one place to the other by private jet. It was no longer a representation of suburban America, touring by bus with his family from town to town, from stage to stage, but a new techno-spatial presence, flying from a recording studio to a hotel, from a commercial shooting to a media appearance.

Michael Jackson was an actor in this transition, being one of the promoters of a shift between the Motown assembly line and a new productive context in which he worked with another human, Quincy Jones, to expand his capacities by engaging with an army of highly adaptable and multifunctional devices. It was common to see images of both men working together on Jackson's albums, surrounded by Univox drum machines, SR55, or Synclaviers, constantly recording, remixing, and editing every single note. This cut-and-paste process was happening at the same time in Michael Jackson's body with his first plastic surgeries. It was not the friendly human landscape of Motown, with Diana Ross apparently improvising jam sessions with the Jackson 5 in front of the cameras; it was a post-human one with technology taking the place of humans.

Rosi Braidotti, writing on the post industrialist period, stated:

'The modernist era stressed the power of technology not as an isolated event, but as a crucial element in the assemblage of industrialization, which involved manufactured objects, money, power, social progress, imagination and the construction of subjectivity. The relationship between the human and the technological other, as well as the effects involved in it, including desire, cruelty and pain, change radically with the contemporary technologies of advanced capitalism. For one thing, the technological construct now mingles with the flesh in unprecedented degrees of intrusiveness. Moreover, the nature of the human-technological interaction has shifted towards a blurring of the boundaries between the genders, the races and the species, following a trend that Lyotard assesses as a distinctive feature of the contemporary inhuman condition' (Braidotti, 2013: 109).

As part of that process, it was also Jackson himself who needed to be redesigned and restaged. It happened at the massive media event *Motown's 25th Anniversary: Yesterday, Today, Forever* on 25 March, 1983, at the Pasadena Civic Auditorium in Pasadena, California (Smit, 2012). Gordy made a deal with NBC to broadcast it. It was going to be the confirmation of Motown's new present, but instead, it was its obituary. It was not the best moment for Motown, which was incapable of following the trends of disco music and the new industry model. Neither was it the best time for its former stars, most of them retired, in different kinds of drug rehabilitation programs, or with serious illnesses. Jackson first performed a medley of greatest hits with his brothers.

Then the rest of the Jackson 5 left the stage and Michael Jackson remained. He whispered: *'those were good old days… I like those songs a lot. But especially I like the new songs.'* He picked up a fedora and presented his big hit 'Billie Jean', with a youthful image – extremely slim, thinner nose, lighter skin. The theatre went down, screaming and clapping, standing up when he did his signature moonwalk for the first time in front of a broadcast audience, a robotic kind of dance step where he smoothly moved backwards while seemingly walking forwards. His soft technologies, like the sequin glove and the white socks,[11] along with the skinny black pants and loafers, acted as magician's tricks ensured everybody stayed focused on his hands and feet … in the way he danced, beyond human. The moonwalk, like so much of Jackson's choreography, touched upon the magical realism of his performances; his constructed worlds of peace and equality on and offstage – his somatic transformations and the heterogeneity of his gestures embodied his defiance of gender, race, and anthropomorphism. He defied the concepts of realness and authenticity within black popular culture as a reification of an essentialist notion of masculine black subjectivity associated with African-Americans, notions based on a misogynistic and anti-gay framework (Fleetwood, 2005: 163). Furthermore, as Meredith Jones pointed out, the discussions on Michael Jackson's body were not based on the colour of his skin itself or his gender – the problem was that he wanted to escape the confines of being marked as black or white, as man or woman (Jones, 2008). He was no longer the kid from Gary, Indiana, with the related images of that figure (the townhouse, the industrial landscape), but a newly conceived one. He had been rendered into a 'post-industrial-disco-nightclub' teenager. Everyone at that concert later connected this performance with his image as a zombie in *Thriller*, the 14-minute video which originally aired in December 1983. Choreographed by Michael Peters and directed by John Landis, it portrayed a stereotypical American suburb where, at midnight, the undead rise from their graves. Jackson suddenly becomes one of them, after confessing to his girlfriend (in the video), *Playboy* centrefold Ola Ray, 'I'm not like other guys.' He was staging a shift in contemporary understandings of human beings, image, and media. With the help of MTV, he anchored a contemporary bridge between popular music and video, between sound and image. For the audience, this was Michael Jackson's most recognisable image, a body in transit: from life to death, from black to white, from kid to teenager, and so on.

His was a trans body escorted by other trans humans like Liza Minnelli and Liz Taylor,[12] at places like Studio 54, the epicentre of the urban night-life

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[11] Michael Jackson and his choreographers, Casper Candidate and Cooley Jaxson, took the white socks trick from Fred Astaire, who used them to focus attention on his dancing feet. See Greenburg, Z. *Michael Jackson Inc: The Rise, Fall and Rebirth of a Billion-Dollar Empire*, New York, Atria, 2014.

[12] Neither Minelli nor Taylor were transgender, but their performativity, their make-up, hairdos, and their implication in LGBTQ activism, as well as the interaction with some of their followers, fans, and reenactors, staged a way of understanding identity and gender in a transitional way.

scene, where he celebrated his twenty-first anniversary. This trans process found a place in his body: sequined military jackets, a newly designed nose, wearing sunglasses in the middle of the night, coming from one gig to another, from one limousine to a private jet (George, 2010). These were images that were published all over the media at that time, images of Michael Jackson living in New York City in a very different way. He was constantly moving from one interior to another one, and the only pictures available of him were inside clubs like Studio 54, hotels, or recording studios. New York was now a city with a different kind of subject, at the height of the disco era, a time when black, LGBTQIA+[13] and Latino dance crowds 'took' the city at night. His own body, a personification of his own urbanism, was a reflection, constantly changing, something that increased with the years.

To move from one place to another, from Los Angeles to New York and inside these cities, Michael Jackson used a private car and a jet, at that time a prolongation of his own home. In New York, he rarely walked the street, building up a city of interiors interconnected through an expansive trans urbanism: from his posh Sutton Place apartment, an isolated street overlooking the East River and a short drive over the 59th Street Bridge, to Kaufman Astoria Studios in Queens. The sidewalks were, for Jackson, a nightmare that must be avoided; they were dead, just like the suburban plans depicted in his video *Thriller*. His life was an indoor kind of life, so his desired home should reflect this performativity. It was at this time that he began to think that if he wanted to build a new home, it could not be a house in a city, not even in a small village. He needed to build up an entire world.

From Neverland City to Demerol City

Scared as Jackson was of people and sidewalks, and obsessed as he was with J. M. Barrie's Peter Pan (Jefferson, 2006) he decided to found a city of lost boys: Neverland, described by Barrie in 1911 as being *'not large and sprawl, you know, with tedious distances between one adventure and another, but nicely crammed'* (Barrie, 2005). It was a city for all the famous people who, like him, grew up in front of the cameras in show business – Liza Minnelli, Liz Taylor, Brooke Shields, Tatum O'Neil, Emmanuel Lewis – and who, like him, were scared of the paparazzi. All of them were child stars in transit to some other place: in their bodies, in their careers, in the media, in the architectural landscape.

In 1988 Jackson purchased the Sycamore Valley Ranch in Santa Barbara County, California, 100 miles north of Los Angeles, for $16.5 million. It was a 1977 property designed by the real estate developer William Boner

[13] Even though the term LGBTQIA+ was not introduced until very recent times (in the 1980s the term is LGB, in the 90s the T was introduced to LGBT), the author wanted to make the claim that part of the many subjects of discos and nightclubs could be defined/discussed nowadays under this concept.

and architect Robert Altevers[14] with a Tudor-style house and other facilities, like a stone bridge, lakes and gardens. It was close to Los Olivos (population: 1,132) and across the highway from the town square. He named it Neverland Valley Ranch. For all its visitors, Neverland was Michael Jackson: *'Neverland embodied Michael's heart and soul'* (Cascio, 2011; 30). He tried to build it as a replica of himself in a way that was not so different from Alberti's definition of the city: *'the city is like some large house, and the house is in turn like some small city'*, comparing the rooms of a house to 'miniature buildings' comprising an idealised city, or what he elsewhere called a *'single, integral, and well-composed body'* (Alberti, 1988).

In Neverland, Jackson included a dance studio and a recording one. But there was more. In a map that was made available to guests, one could read the various spots: Lake Neverland, Neverland Gardens, Teepee Village, Nestle Lounge, Red Bull Lounge, Britto Art Exhibit, Lunge/Club KISS, Michael Jackson Museum, movie theatre, basketball court, Carnival Alley, carousel, bumper cars, Sea Dragon, Ferris wheel, Zipper, Neverland Amphitheatre, petting zoo, serpentarium, Neverland Aviary, massage therapy centre, Katharine Street, named after his mother. His architecture behaved as

[14] Altevers Associates is an architectural firm specialized in custom designs: Tudor-style houses, Spanish Colonial golf clubs…

a gender performativity that enacted other alternatives.[15]

In Neverland, he assembled four kinds of urbanisms: the symbolic space of Barrie's tale; the amusement park with its cloistering of facilities already described, like Disneyland; Graceland, the self-monument built by Elvis Presley (if he was the King of Rock, Jackson was the King of Pop), filled with his own portraits, posters, sculptures and other paraphernalia; and, finally, the American Museum by Phineas T. Barnum, in lower Broadway, New York. This last reference was a strong influence on Jackson's career. He read Barnum's autobiography fervently and gave copies to all his staff telling them, 'I want my career to be the greatest show on earth.' Thus he became both producer and product. The impresario of himself. He became a one-man conglomerate with global reach: his own records and videos; the Beatles' catalogue that he bought in the eighties; the Pepsi commercials, where, on set, he was injured in a fire accident that led to his addiction to tranquilisers, sedatives, and barbiturates; world tours around the globe. He was trans-national, using a network of infrastructures defined by Brian Larkin as *'material forms that allow for the possibility of exchange over space. They are the physical networks through which goods, ideas, power, people, and finance are trafficked. They bring diverse places into interaction, connecting some while divorcing others, constantly ranking, connecting, and segmenting spaces and people'* (Larkin, 2008).

Like Barnum, he decided to build up a physical place that was made not only by artefacts (in Jackson's case, the merry-go-round, the recording studio, or the roller coaster), but also animals (his fellow companions), humans (staff, visitors), stars (from Liz Taylor to Macaulay Culkin), biotechnologies (from plastic surgery to the hyperbaric chamber) and rumours (from the first accusations of child molestation at Neverland to the eating disorders that Jackson supposedly was struggling with). This was clear in the video for his song *'Leave Me Alone'* (1987) in which he was represented as an amusement park where we could go inside and discover his friends, his animals, his collections, his presence on the cover of magazines, his different media appearances, and his music. We could see images of Liz Taylor along with the bones of the Elephant Man;[16] covers of newspapers talking about his plastic surgeries;[17] roller coasters from Neverland; his animals: Bubbles the chimp, Louie the llama, Muscles the snake, and Bubba the lion, all of them largely

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[15] For the concept of architecture as a gender performativity, see Sanders, J. *Stud. Architectures of Masculinity*, Princeton, Princeton Architectural Press, 1996.

[16] He was obsessed with Joseph Merrick; he claimed he saw *The Elephant Man* movie thirty-five times, never once without weeping all the way through. Magazines reported that he made repeated attempts, offered millions of dollars, to buy Merrick's bones from the British Museum.

[17] In his 1993 interview with Oprah Winfrey, he admitted that he had vitiligo (a loss of the skin's pigmentation) and was being treated, and that he had had a nose job ("Like Marilyn or Elvis") because of an accident (*The Oprah Winfrey Show*, ABC, February 10, 1993). His autopsy in 2009 revealed that he had had at least twenty procedures on his nose, that he tattooed his eyelash lines, lips, and hairline black; that he adjusted his eyebrows, widened his eyes, cheeks, jaw, had added a chin cleft, lightened his skin, reduced the thickness in his lips, and thickened the tissue in his face. In Kron, J. 'The Final Cut', *Allure*, September 2009, pp. 198-201.

saved from circuses and zoos, like interspecies representations of himself; and the hyperbaric chamber that was rumoured to be his bed.

His body was represented as a blueprint, an archaeological body, where the layers of civilisations, rumours and technologies coexisted. And as an archaeological site, everything was regulated, even his sleep. The hyperbaric chamber was a rumour, but the reality was even beyond that kind of regulation, because he was using Propofol,[18] and Demerol[19] to help him fall asleep. Demerol was the brick of this new city, and the archaeological site to check all of these changes was his body itself, a kind of reverse Dorian Gray, in which his body was in constant transformation, explaining wider processes in some other field. Michael Jackson was far from the norm, he was a *'violation of the laws of nature or a perversion, a violation of moral law.'*[20] It was in this sense that Keith Haring described Jackson in the following terms:

'I talk about my respect for Michael's attempt to take creation in his own hands and invent a non-black, non-white, non-male, non-female creature by utilizing plastic surgery and modern technology. He's totally Walt-Disneyed out! An interesting phenomenon at the least. A little scary, maybe, but nonetheless remarkable, and I think somehow a healthier example than Rambo or Ronald Reagan. He's denied the finality of God's creation and taken it into his own hands, while all the time parading around in front of American pop culture. I think it would be much cooler if he would go all the way and get his ears pointed or add a tail or something, but give him time' (Haring, 1996: 179).

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18 A sedative used to maintain the effects of general anaesthesia.

19 An extremely powerful and addictive opioid.

20 As Paul B. Preciado explains any corporal divergence from the norm. In Preciado, P.B., *Testo-Junkie. Sex, Drugs, and Biopolitics in the Pharmacopornographic Era*, New York, The Feminist Press, 2016, pp. 74-75.

Jackson's body and Jackson's architecture possess the performative multivalence of trans. He was not a simple statement but a confrontation: for some, he was sexless (neither man nor women, but maybe *trans*) and Neverland was a place for children where sexuality (ostensibly) did not exist. For others, he was hyperactively sexual, having been accused of child molestation for the first time in 1993, when a story broke that Jackson was suspected of molesting a 13-year-old boy with whom he had kept frequent company.[21]

Equally, he was neither black nor white. As Cressida Heyes points out, *'perhaps this is why Michael Jackson provokes so much controversy: his popularly perceived objective of becoming white has been enacted in a way so grotesque, parodied and extreme that he has revealed the absurdity of whitened norms to a predominantly white general public consoled by the more conventional language of moderation and moral "clean hands" in cosmetic surgery'* (Heyes, 2009; 203).

In the same way, Neverland was not a suburban dream but a kind of nightmare,[22] a 'golden cage' transformed into an amusement park. He was no longer a star but someone who was constantly in the media and so on. He defied definition, self-positioning and self-fixation, demolishing the relationships of dependency with power structures (Fanon, 2008).

This continued after his death. The night he died, so many people Google'd 'Michael Jackson' that the search engine's computers perceived

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[21] No criminal charges were filed, but in 1994 Jackson settled the matter out of court, opening the door for future new accusations.

[22] When Rabbi Schmuley Boteach visited Neverland with his family in 2000 to interview Jackson he said: 'Neverland got stale for me and even my kids pretty quickly. It's one thing to visit Disneyland. It's another thing entirely to live in it. For the first few days the rides and attractions were fascinating. But after that they lost their novelty and Neverland came to feel like a giant cage'. In: Rabbi Schmuley Boteach, *The Michael Jackson Tapes: A Tragic Icon Reveals his Soul in Intimate Conversation*, New York, Vanguard Press, 2009, p. 14.

the requests as some kind of hacker attack. His videos were seen over 10 million times on YouTube in a single day. As was stated at the beginning, the media, fans and rumours continued to build up an urbanism that was no longer related to the physical body of Jackson or his music, but to social media presence. Michael Jackson was and still is an online urbanism that enables offline spatial layering, creating a multiplying type of space where simultaneous techno-human settings can interact. Michael Jackson opened a possibility of a queer notion of time and architecture through these operations in which the temporal and spatial strangleholds were either interrupted or stepped out of.23 Bodies, rumours, images, temporalities, and death combine to relocate a trans human continuum that calls for new architectural coding.

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[23] In this sense, the concept of queer utopia by Jose Esteban Muñoz is essential: 'Queerness is also a performative because it is not simply a being but a doing for and toward the future. Queerness is essentially about the rejection of a here and now and an insistence on potentiality or concrete possibility for another world'. In: Muñoz, J.E. Cruising Utopia. The Then and There of Queer Futurity, New York, London, New York University Press, 2009, p. 1.

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KEYWORDS

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Lowness

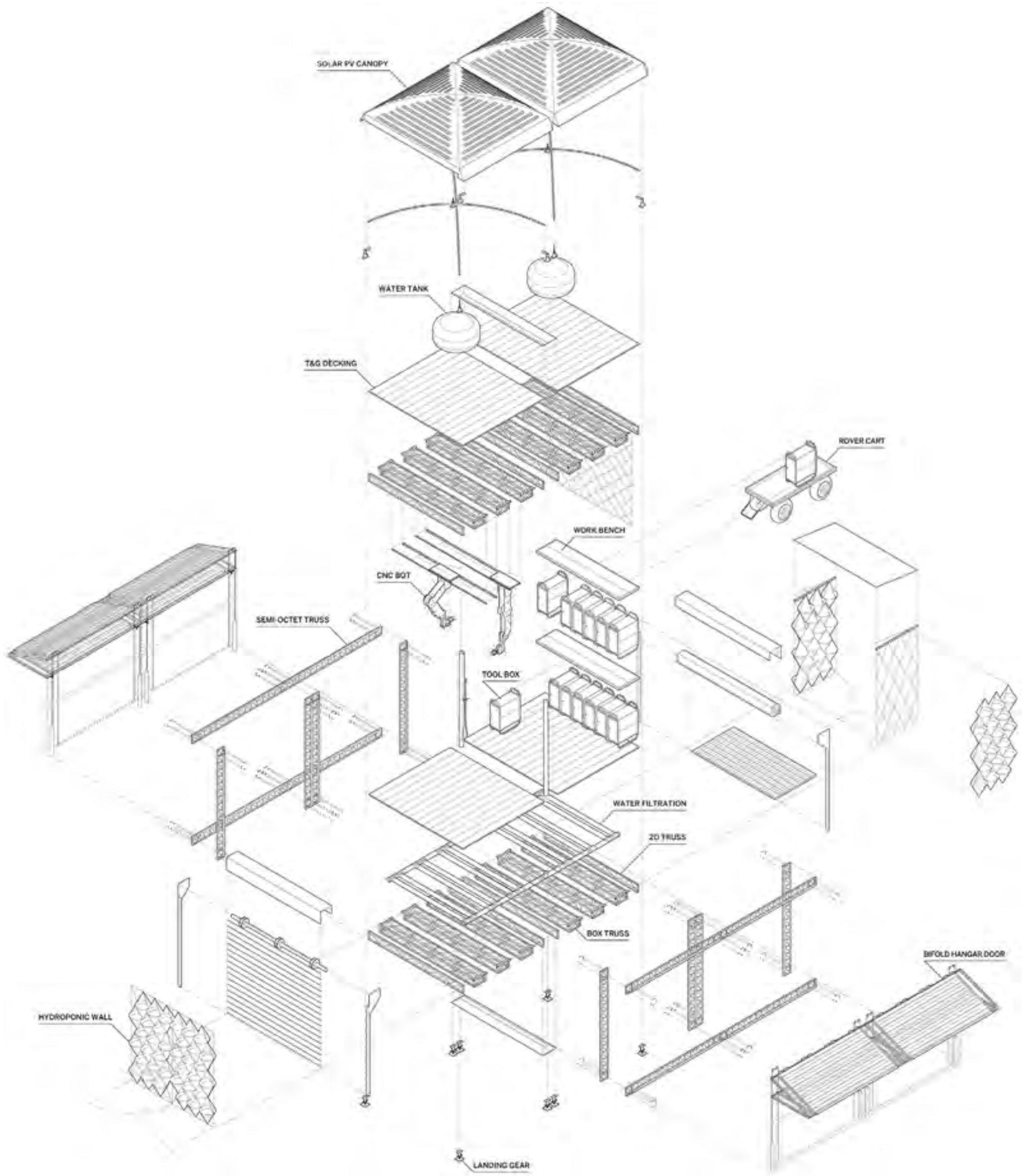
- DK Osseo-Asare

A Design Revolution

In his autobiographical masterwork, *Critical Path*, published in 1981, the American design scientist and inventor R. Buckminster Fuller – who helped launch Ghana's first school of architecture at the University of Science and Technology in Kumasi, Ashanti Region – put forward the argument that the 25 and 50-year *'gestation periods'* between inventions and the widespread adoption of innovations in *'big-city buildings'* and *'single-family dwellings'* render the logic of patents invalid for protecting intellectual property in order to profit commercially via radically new designs in the *'fields of human-life protection, support, and accommodation'*. Fuller used the term *'gestation period'* to describe the 'time lag' effect of a technology system's inertia against change (measured as the time period required for disruptive invention in a general class of technology to scale to innovation in society and the market), based on personal observations of his own life. He conceived of his life as an experiment, naming himself *'Guinea Pig B'* and exhaustively documented his life activities and accomplishments, mapping them against concurrent technological trends (Fuller, 1981: 148).

At the other end of the spectrum (compared to architectural innovation), he suggests that electronics, aerodynamics and automobiles typically show the fastest rates of adoption of new technologies (two, five and ten years respectively). Given his experience of the legal discussions concerning his own patents, global business appears to be primarily oriented around leveraging private or protected intellectual property (plus exploitation of natural resources). He essentially sounds an early call for open-source technology and open innovation, formulated as a response to the misalignment of legal-structural models for commercial incentivisation, which underpin modern capitalist-democratic society versus the techno-human capacity for co-evolution.

In his view, scientific trends and technology-enabled *'ephemeralisation'* of *'livingry'* – i.e. tools for sustaining life, in contradistinction to *'weaponry'*, or equipment for waging war and taking life – would precipitate a culture-community-environment through a *'design revolution'* of more-with-less, which ultimately *'would prove the Malthusian 'only you or me' doctrine to be*


SOLAR PV CANOPY
WATER TANK
T&G DECKING
ROVER CART
WORK BENCH
CNC BOT
SEMI-OCTET TRUSS
TOOL BOX
WATER FILTRATION
2D TRUSS
BOX TRUSS
BIFOLD HANGAR DOOR
HYDROPONIC WALL
LANDING GEAR

completely fallacious' (Fuller, 149).[1] While Wigley reminds us that, despite critiques of Fuller's recurring (opportunistic) alliances with technocratic superstructures (ranging from transnational agencies to government and professional bodies), *'he had explicitly opposed technocracy since his early writings and repeatedly called for radical forms of bottom-up collaborative decision-making'* (Wigley, 2015: 250-252).

Similarly, Fuller's conviction that technology lends itself to ever-lighter modes of capability – as design artifacts approach electromagnetic potentiality – resonates with EF Schumacher's contention that *'small is beautiful'*. The latter's popular economic text, which expands on the anarchist political economy advocated by Kohr (who offered that *'there seems to be only one cause behind all forms of social misery: bigness'*) (Kohr, 1957:21), problematises modern regimes of *'production'* in light of illusory economic growth that unsustainably exploits *'natural capital'* (Schumacher, 1973).

In response, Schumacher[2] champions a humanistic economics that reconsiders the collective and lays out *'intermediate technology'* as an alternative pathway for the non-modern sector, still extant in the so-called developing world of newly-independent countries and emerging economies. For Schumacher, this is distinct from the unidirectional and context-agnostic *'technology transfer'* from the North and West to the Global South. This parallels the call to action issued by Victor Papanek, notably in his essay *Do-It-Yourself Murder*, for local designers to play a leadership role in creating solutions to challenges present in non-Western communities and resource-constrained environments (Papanek, 1984: 85).

One of the first people to popularise the phrase, *'Think globally, act locally'*, Fuller – whose life unfolded as a constellation of iterative design explorations, networking the passion and creative inquiry of thousands of young people worldwide around bold visions of the future and the exciting notion that design could change the world – saw architecture as a vehicle for driving a design (science) revolution, and students as the instruments: a massive apolitical, self-organising design army. He considered the '*architectural profession*', connected across *'civil, naval, aeronautical, and astro-*

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[1] Fuller used the term *'Guinea Pig B'* since 1917 to denote his experiential role as a *'test-case individual'* to discover what one person could accomplish during their lifetime if s/he focused exclusively on trying to invent scientific and technological solutions (to global challenges) which exhibit maximal advantage for a maximum number of people. From 1927 he collected all accessible documentation of his activities, including a timeline of his own patents and commercial adoption of new technologies, in a chronological record he entitled a *Chronofile*. He based his discussion of what he considered *'natural, unacceleratable lags existing between inventions and industrial uses'* on analysis of this Chronofile which he claims in June 1980 *'consists of 737 volumes, each containing 300-400 pages'* (p. 134).

[2] Schumacher utilises language similar to Fuller's, notably use of the term '*Spaceship Earth'* and resource economics in introducing his text: *'A businessman would not consider a firm to have solved its problems of production and to have achieved viability if he saw that it was rapidly consuming its capital. How, then, could we overlook this vital fact when it comes to that very big firm, the economy of Spaceship Earth and, in particular, the economies of its rich passengers?'*

nautical' domains, as exceptional because its primary focus is developing *'livingry'* (Fuller, xxv).

For this reason, in a 1961 Paris speech delivered to the *Union internationale des Architectes* (UIA), Fuller declared the urgent need for a *'World Design Science Decade'* in order to network the creative potential of all people on the earth to reengineer the relationship between humans, planetary resources and each other. To transcend the unhealthy competition between people and countries that leads to poverty, crisis and warfare, he proposed *'comprehensive anticipatory design science'* as an approach to discover and deploy the regenerative power of natural processes and principles, which he calls *'Universe*', an ultra-sophisticated technology matrix. He called on architects to lead this reorientation away from artificial scarcity propagated by sociocultural mis-education and manufactured need-fulfillment, toward synergistic research and development that can stabilise the life support systems of *'Spaceship Earth'* and sustain the harmonious future of its billions of passengers.

At the same time, a decade after Osagyefo, Dr. Kwame Nkrumah, the 'father' of Ghana's independence, appeared on the cover of Time magazine with the headline *In the Dark Continent, dawn's early light?* (February 1953), scholars and international news media began to refer to the 1960s as *'Africa's decade'*. Many newly independent African post-colonies were transforming lives and politics, and inspiring future-focused thinking about how the continent might reinvent itself and the world: destabilising Cold War-era geopolitical dynamics via Third World alliances and the Non-Aligned Movement, while simultaneously foreshadowing the 'Africa rising' memes that have resurfaced periodically ever since, presaging contemporary post-capitalist counter-cultures.

Situated in this unique historical moment of optimism and possibility, the Kwame Nkrumah University of Science and Technology in Kumasi, Ghana, introduced programmes in architecture and planning to complement training in agriculture, science and engineering. KNUST, established in 1951 as a College of Technology, fulfilling the progressive vision decades prior of the Asantehene, Agyeman Prempeh I, to modernise the Asante kingdom through education.

The University of British Columbia assisted with setting up the planning programme, specifically an Institute for Community Planning, (Oberlander, 1962: 121) and the AA Tropical School at the Architectural Association in London led the rollout of the architecture programme (Uduku, 2006: 400).

Although this unique moment remains understudied – with less documentation during the 1960s, but no less vitality and experimentation – we can triangulate certain aspects of the programme at that time from memoirs and historical accounts. With RIBA support, John Lloyd relocated to KNUST from the AA in London to direct the nascent architecture programme. According to one of the AA students who traveled with him to support the initiative, *'John Lloyd, who was a Year Master at the AA, was asked to take over that school*

and run it. He was a big Fuller fan, so his idea was to go to Ghana and reorient the school – develop a new curriculum that would reflect a lot of Fuller's design philosophy, including a focus on the World Design Science Decade programme' (Volckmann, 2010: 293).

In a synopsis of the emergence of Ghana's architectural profession in a contemporary context, Samuel Opare Larbi, one of the most accomplished graduates of KNUST's architecture programme, recalls that: *'Charles Hobbies and a team of architects, mainly British, were established at the College of Technology in 1958 … the School of Architecture at KNUST (Kumasi) was given a huge boost with the visit by Bucky Minster Fuller [sic], renowned for his Geodesic Domes. A fruitful exchange of staff and students developed between the A.A. and the School of Architecture at Kumasi. In 1961 the college of Technology became a fully-fledged university and the School of Architecture became a Commonwealth-Accredited faculty awarding degrees and Post-graduate Diplomas. Meanwhile, architects trained in other parts of the world returned to Ghana. Significant among these were Don Arthur, Welbeck, Osae-Addo and Dr Choway. The infusion of architects trained overseas with the locally trained Ghanaian creates the crucial dynamism needed for rapid development'* (Larbi, 2013).

This cross-fertilisation of skills and expertise between Ghanaian architects, trained both locally and abroad, and foreign architects working and teaching as expatriates in Ghana, corresponds to a broader strategy for industrialisation and national development spearheaded by Nkrumah's government. Le Roux argues that while the growth of the 'Kumasi School' was both symbiotic and dependent on this political mandate from Nkrumah's government, as well as *'serving as a meeting place for international figures'* (Le Roux, 2004: 365), the influence of the pedagogical frame it engendered radiated out of Africa as the concepts and methods migrated back to Europe, North America and South Asia with key expatriate instructors.

Reinforcing this interpretation, in his overview of the design and construction of the International Trade Fair (ITF) in the La area of Accra, the capital of Ghana, carried out by the Ghana National Construction Corporation (GNCC), Stanek underscores the significance of KNUST as a creative hub for collaboration: *'With architects from Ghana, Bulgaria, Hungary, Poland, and Yugoslavia at the GNCC (joined by professionals from West Germany, the United States, the Philippines, and India), the corporation contributed to the cosmopolitan milieu of architects in Nkrumah's Ghana. There were a limited number of places where these architects could meet, including KNUST, which became a site of exchanges between Ghanaian, American, British, and West German architects and their fellow professionals from Hungary, Poland, and Yugoslavia. The geodesic KNUST pavilion at the ITF, built by Ghanaian students of Buckminster Fuller when he was a visiting professor at the university, resulted from such contacts'* (Stanek, 2015: 424).

Indeed, the dominant narrative regarding this period is that Fuller was instrumental in attracting an international team of young and idealistic architects, engineers and designers from across geopolitical boundaries,

arriving in Ghana from at least five continents and in-keeping with his philosophy of emphasising integrative cooperation over the politics of division. Fuller himself was resident on campus at KNUST for intensive design-build workshops ranging from several weeks to a month as his global itinerary permitted.

During the 1960s Fuller made at least four such trips to Kumasi and experimented with students in design, and in the assembly of tensegrity spheres and geodesic domes. He was able to demonstrate the possibilities of lightweight and high-performance structural systems buildable at relatively low costs, relative to the size of their volume of enclosure, with optimised surface-to-space ratios, making use of natural, renewable, recyclable and locally available materials. In addition, he maintained correspondence with faculty at KNUST's School of Architecture into the next decade.

This sequence of experimentation culminated in the 1966-1967 installation by KNUST architecture students of a 70-foot (dia), 8-frequency truncated aluminum pan geodesic 5/8 sphere at the International Trade Fair, which Fuller referred to as a *'chilling machine'* – due to the counter-intuitive Bernoulli effect, whereby hot air vents at the bottom with inward exchange of fresh air at the apex – a demonstration of the benefits of design science (and spherical structures) to reduce energy consumption by increasing environmental efficiency (Fuller, 210-211).

How significant was this unconventional reconfiguration of a globalised course of architecture for an African context, and how broad were its effects? Uduku suggests that the impact of the architecture programme at KNUST was anything but trivial: *'This fledgling school was at the epicentre of architectural education in West Africa for its first decade of existence, with eminent architectural visitors such as Buckminster Fuller, and international cast of academic staff'* (Uduku, 400).

Extrapolating further, Uduku, writing together with Stanek, positions the School of Architecture, Town Planning and Building at KNUST within a framework of *'radical pedagogies'*. They observe that *'Kumasi became a node of various global networks intersecting in Ghana under its first president, Kwame Nkrumah (1960-66): the US-based Bretton-Woods institutions, the British Commonwealth, socialist countries, the Non-Aligned Movement, and the United Nations.'* They go on to note that the dean, John Lloyd, proclaimed at the time that, *'A Faculty of Architecture [. . .], if it is to truly contribute to the future of the [African] continent, must drastically redefine anew the task of an "architect"'* (Stanek and Uduku, 2013-2015).

Out of this experimental approach to a design science-driven approach to integrated architecture and planning education – which today we might call a 'systems thinking' perspective – Stanek and Uduku conclude that, *'As postulated by Dean Lloyd, this curriculum aimed at a redefinition of the architectural profession. Max Bond and John Owusu-Addo argued that architects in Ghana "must assume a broader place in society as consolidators, innovators, propagandists, activists, as well as designers"'* (Ibid.).

Sunwoo connects this moment of experimentation at KNUST to

subsequent radicalisation within pedagogy of the AA. When Lloyd returned to London following the *coup d'état* that overthrew Nkrumah's government in 1966, he succeeded William Allen as AA Principal, serving until 1970. There he advanced a vision for the school that argued architects should be trained as *'generalists'* with an interdisciplinary education geared to produce a *'scientific attitude'*, and that the curriculum should be revised to foster collaboration instead of competition between students (Sunwoo, 2012: 26-27).

Le Roux additionally points out that when he first accepted the job as head of the architecture programme at KNUST, Lloyd received a reading list prepared for him by Otto Koenigsberger, director of the AA School of Tropical Architecture, that *'included texts by Nkrumah and Julius Nyerere'* (Le Roux, p. 385). This links directly to Nkrumah's declaration in his famous speech the night before Ghana's independence on March 6, 1957 where he stated that, *'I believe that one of the most important services which Ghana can perform for Africa is to devise a system of education based at its University level on concrete studies of the problems of the tropical world.'*

Illustrating the immediacy of the need for design action that Nkrumah encouraged, Le Roux cites a story Lloyd relates in which faculty and students were called upon to help develop design strategies to alleviate a crisis of river blindness and malaria in the village of Nangodi, in Northern Ghana. This call for assistance ran alongside the significant involvement of faculty in the large-scale resettlement programme associated with the Volta River Project, and is testament to the degree to which context contributed to privileging the attitude that design can – and must – play a critical role in achieving social and environmental equilibrium. Nevertheless, at the end of his time in Ghana, Lloyd ultimately concedes, *'The concept of architecture, even in the widest traditional sense, is foreign to Africa'* (Lloyd, 1966: 48). It is interesting to note how Africa, in a post-colonial epoch, remains rooted in a past understood primarily via intuition, yet, at the same, the Third World embodies a 'third space' with unique cultures, spaces and needs that differ from the contemporary conceptualisations of what constitutes architecture in the West. Reviewing the state of design education in the Third World the same year that Fuller departed Spaceship Earth, Lloyd encapsulates the necessity for ever more radical approaches to architecture: *'To look back at a comment from Buckminster Fuller made on one of his visits to Kumasi, the problem for architects is to cease being a slave profession for the élite. Within extreme forms of capitalist society it is difficult to find ways in which architects can put into practice their proclaimed concern for the human habitat'* (Lloyd, p. 375).

Design Futures

In 2016, at Ashesi University in Ghana, the author helped organise the symposium, *Ashesi Sessions: Design Futures in Sub-Saharan Africa*, as part of the Afri-DesignX series initiated by South African curator and researcher Cher Potter with support from the Victoria & Albert Museum and the University of the Arts London. Across the three panels, *New Typologies of*

Design, Local Resources + Digital Craft and *Spaces/Communities of Design*, alongside hacker-makers, who develop applications using open-source software and code, and who make robots using open-source hardware and electronics, three architects presented their work through coincident phraseology.

The author shared the Agbogbloshie Makerspace Platform (AMP) project co-initiated in 2012 with architect and strategic designer Yasmine Abbas at and around the Agbogbloshie scrapyard, a slum community in the heart of Accra, Ghana, as proof-of-concept to demonstrate their participatory co-design research method of 'stellation' in the real world, the Anam City model of sustainable 'rurban' development, and how the name of his firm typifies their approach to work: *'low design'*.

Sénamé Koffi Agbodjinou of *L'Africaine d'architecture* described how the *W□□Lab* hackerspace he founded in the Djidjolé district of Lomé, Togo, serves as experimental validation of his HubCité concept for hybridising and democratising technology in African cities: *'low-high-tech'*. Christian Benimana of MASS Design, who directs the African Design Centre in Kigali, Rwanda, explained how they are rebranding their impact-oriented and community-driven model of practice around training and empowering members of local populations to participate in building their own buildings, with local materials: *'lo-fab'*.

Does this shared thematic of 'lowness' suggest a common language that architects and architecture may be able to leverage to anticipate and proactively manage the massive change coming to the African continent in the near and present future? Can we theorise lowness and does it translate to a corresponding model of design practice? To what extent does this approach correspond to the interdisciplinary methods of design science propagated at the KNUST School of Architecture, Planning and Building fifty years prior?

The December 2017/January 2018 issue of the *Architectural Review* featured a profile on the author's architecture and integrated design studio, Low Design Office (LOWDO). Aware of the interview but not the article, the title chosen by the deputy editor was a surprise in that it encapsulates not only the motivation for starting the firm in the first place, but perhaps the urgent relevance today: *'For our generation, the only way to be radical is to build.' Per that text, written by Manon Mollard: 'Design should not be restricted to static architectural objects, and architects have a lot to learn from the tech sector, argues LOWDO, from its model of competitive collaboration, particularly open-source software, as well as from actual new technologies. "A lot of hype surrounds mobile phones as a so-called leap-frop technology, enabling African citizens, cities and countries to bypass an entire phase of industrialisation, like the installation of regional networks of land lines", they explain, before adding "we need to radically rethink the architectural profession if we want to deliver design at the scale necessary to steer African urbanisation along a sustainable trajectory"'* (Mollard, 2018: 138-139).

One of the most coherent models in Africa today for how lowness as a practical strategy can remake cities simultaneously from below and above is

the work of Agbodjinou, who trained both as an architect and an anthropologist. His community-oriented collaborative efforts to synthesise a democratic approach to retrofitting the city – by using digital tools for design and fabrication that citizens across socioeconomic strata can co-create – emerged from recognising the parallels *'between the "Hacker ethic" and African traditional society values', through which he 'explored possibilities of an alternative to the architecture as currently practiced in Africa with bringing up-to-date the traditional forms and promoting local know-how, dynamics and resources'* (Koutonin, 2013).

For Agbodjinou, the global phenomenon of the 'Maker movement', which encourages people to work together to make things, to learn about (digital) technology and to take an active role in shaping society outside of a corporate-led regime, is impactful in Africa not only because it can empower disenfranchised people and communities to make their own future, but also because through this process they can rediscover their past – re-manifesting Africa's epigenetic typologies of shared spaces of innovation. Low-high-tech in this sense pervades the social fabric, embedded in a cultural web.

Viewing the same as a challenge to the myth of the architect individualised as visionary master-builder and solo (male) champion of spatial, environmental and even political change, Abbas has theorised how digital technologies and social networks enable new platforms for *'co-constructing architecture'* (Abbas, 2009: 141-151). Two years before Alastair Parvin and Nick Ierodiaconou of the London-based design firm 00 began the open-source project Wikihouse, she observed that, increasingly, people who may not be co-located can meet in virtual space to share ideas and to design and produce architecture in digital environments. In certain ways, mirroring the way building knowledge evolved organically as it was transferred between generations in traditional societies, this process of determining design strategies and blueprints through iterative trial and error – in tandem with feedback loops of human assessment of quality and aesthetic opinion – operates today in a hyper-accelerated manner due to digital technology.

Thus not in a purely stylistic sense, but rather in terms of processes of emergence, 'neo-vernacular' and 'non-pedigreed architecture' are alternative modes of people-powered design practice – facilitated by digital technology – that algorithmically arrive at architectural consensus within a community of space-makers (who may not necessarily be architects or design professionals) organised around shared motivation for realising built solutions to a particular need or situation.

In dialogue with Abbas, Agbodjinou also views low-high-tech through a *'neo-vernacular'* lens (Abbas and Agbodjinou, 2014). His view is not limited to a pragmatic protocol of design activities, but equally as a radically democratic techno-utopia: he seeks to apply the '#lowhightech' concept at the urban scale by means of a network of WõėLab makerspaces ('wõė' means 'do it' in the Ewe language) that activate and energise a *'sort of African "smart city" project'* called in aggregate *HubCité: 'It's a concept of alternative urbanisation. It wants to give back to our populations the power of transforming the*

place where they are living thanks to a programme of «Camps» of architecture (to propose solutions) and «Labs» (to make and replicate solutions). This concept might encourage the African city of tomorrow to become responsible and virtuous with an experimental architecture which will use local improved materials. We begin to experiment this method in some areas in Lomé. I am working on this project in our community. It's probably one of the most ambitious projects' (Koutonin, 2013).

Agbodjinou's HubCité project compares to the city of Barcelona's plan to leverage a network of Fab Labs to democratise urban governance and community development, as well as catalyse new tax revenue by means of fostering an ecosystem of technology startups. Evidencing the broader relevance of HubCité – as an innovative smart city model out of Africa – the project received the Fab10 award at the 2014 global conference of Fab Labs, held in Barcelona with the theme 'From Fab Labs to Fab Cities', for the W'afate 3D printer – the first 3D printer developed in Africa and integrating repurposed components from e-waste.

While the HubCité model distributes makerspace hubs at regular intervals of one kilometre, it correlates to the Anam City model co-developed by the author as a collaboration between Low Design Office and the creative think tank DSGN AGNC ('Design Agency'). The third partner in this collaboration is the Chife Foundation and Anam Development Company in the Anambra West local government area of Anambra State, Nigeria, which has featured at the Smart City Expo in Barcelona and the Clinton Global Initiative in New York City. The multi-year participatory planning and design process for Anam City – an experimental new town prototyped along the Eziche River, a tributary to the Niger Delta – generated an open-source agropolitan model for hybrid rural-urban ('rurban') sustainable development in Africa, organised around traditional Anam-Igbo principles of community formation (unity of the community, cultural heritage and collective progress), landscape gradients *(ala obi / ala ulo / ala agu,* representing a transition from residential or domestic space to farmland to a 'wild' or natural environment), and clustered nodal development around 'seed programmes' (e.g. brick factory, fish farm, school, health center, etc.) that serve to anchor each neighbourhood sequenced along a 'rurban' chain, with a radius of four-hundred meters calibrated to walkable proximity to each micro-*illo*, or community plaza meeting space (Gümrü, et al, 2010).

Whereas micro-*illos* in the Anam City model function as 'rurban' nodes for productive landscape, a related concept of living buildings or 'active architecture' applies to more conventional urban conditions within African cities, whereby oppositional pressures of both scarcity and excess demand that buildings operate as more than passive shelter – *'by embedding production within architecture – a shift from a project of creating buildings to creating buildings that do things'* (Abbas and Osseo-Asare, 2010: 10).

Nowhere is this architectural necessity more apparent than in the accretion of *'kiosk culture'* (Osseo-Asare, 2010: 12-17) across slums of the Global South, which maximises volatility and possibility, uncertainty and ingenuity.

In such spaces, micro-architectures that convert shacks and shanties into intelligent machines that work to support healthfulness, security, upward mobility and communal resilience can empower marginalised, vulnerable and disenfranchised communities in new ways. Accordingly, at the conclusion of ArchiCAMP 2013 – organised by *l'Africaine d'architecture* at the WõėLab, and bringing together young people from Togo, Ghana, Burkina Faso and Mali to 'hack' architecture as low-high-technology in the service of everyday people – the author, writing with Yasmine Abbas, posited in the jury statement that the next phase of development should derive from *'calibrating prototypes to the size of micro-architecture conceived as open-source electronic devices'* (Abbas and Osseo-Asare, 2013).

In retrospect, this design challenge represents the vision of the Agbogbloshie Makerspace Platform (AMP) project initiated and incubated by Low Design Office and Panurban, the French strategic design consultancy. AMP couples the practical know-how of grassroot makers in the informal sector with the technical knowledge of students and recent graduates in STEAM fields (Science, Technology, Engineering, Arts and Mathematics) to build a STEAM-powered engine to drive 'Sankofa innovation', recognising that progress is contingent on learning from nature and ancestors; mastering existing ways of knowing and harnessing the spirit of collective progress (*'Sankofa'* is an *Adinkra* symbol of the Akan peoples, which means literally 'return and get it' in the Twi language).

Co-designed and co-created since 2012 by over 2 000 youth from West Africa, Europe and the United States, AMP Spacecraft (more a process than a product) is a hybrid physical-digital micro-architecture, networked as an open platform to improve people's capacity to *'craft space'* (Osseo-Asare and Abbas, 2015: 41-50). The physical architecture consists of prefabricated light-gauge steel semi-octet trusses that bolt together to form a modular space frame, which acts as scaffolding for plug-in architectural components (i.e. toolsets for digital fabrication, adaptive furniture, hydroponic green walls and aquaponic vertical gardens, solar power, rainwater harvesting, bio-filtration, etc.). It offers opportunities for incorporating upcycled materials and components repurposed from the Agbogbloshie scrapyard. At the same time, the digital platform starts with a mobile phone application to enable emerging makers to gain access to materials, tools and equipment, blueprints and expertise, to learn from each other and, by doing, to make more and better products, commercially, and to amplify their maker potential.

AMP engages the site of the Agbogbloshie scrapyard because – despite years of political rhetoric and media coverage – it remains a hugely contested site that symbolises the dual nature of technology. On the one hand, it evidences corporate negligence with respect to their responsibility for planned obsolescence (and the environmental fallout resultant from the toxic materials contained within electronics), and on the other hand, it showcases the collective awareness evident within the ecosystem of scrap dealers, micro-factories and cottage industries active at Agbogbloshie that are 'making loops', i.e. industrially manufactured objects can be manipulated to recover

materials and value from what the city throws away.

In this regard, Nolan compares AMP with the project *une intervention sur le déchet*, carried out by Yona Friedman and Jean-Pierre Giovanelli in the 1980s, as aesthetic hacks that attempt to deconstruct North-South power differentials around technology, capitalising on the potential of Africa's maker culture to transcend waste and pollution through shared knowledge and creative recycling practices (Nolan, 2018).

The ethno-mathematician Ron Eglash and Ellen Foster place the AMP project in the broader context of African makerspaces and indigenous modes of making by extending their concept of 'generative justice', which seeks to circumvent exploitation by recursively regenerating value through exchange between human and non-human actors. They conclude that *'AMP has a striking opportunity to facilitate a new synthesis between international developments in innovation and the creation of more locally formed, locally contingent, and locally led maker groups'* (Eglash and Foster, 2017: 133).

To understand lowness, one must first recognise that architecture is not purely 'high' art, but also a crowd-sourced discipline born from below. Lowness is not exclusive; it is inclusive, integrative and hybrid – high and low, local and global – 'BOTH/AND' not 'EITHER/OR'. Lowness begins with the foundational principle that humans and ecologies perform best at low stress levels. Negotiating the African imperative to 'make do' with(in) constraints and limitations, lowness optimises efficiency in order to maximise the transformational power of the built environment. Lowness means achieving more with less: high impact architecture as technology with low environmental impact, low carbon/material footprints and low maintenance energetics. In terms of economics, lowness seeks frugality – rejection of extravagance – but not cheapness.

To support lowness, one must further recognise that lowness keeps a low profile. Lowness is not about newness – least of all newfangledness – which is inherently self-promoting, self-aggrandising and myopic. Lowness is about high hopes, but low expectations, a commitment to apparently slow progress, but with the awareness that, by means of myriad small actions by a multitude of people collaborating with low-ego, alternative strategies, technologies and opportunities can (re-)emerge from the universe's catalogue of regenerative potential and possibility. In this sense, lowness is about the humanitarian use of materials, using physical resources not as matter to exploit for personal gain at the expense of others, now and in the future, but as a medium of honest exchange and truthful co-creation. Hence, lowness situates itself in a terrain of shared knowledge commons, where blueprints act as instruments of service on behalf of all people, grounded in the philosophy that *'rising water raises all boats'*.

To apply lowness in design is to contend that meaningful aesthetics and design innovation emerge from bottom-up responses to low supply. Fifty years ago, Fuller postulated that real innovation in architecture takes decades to scale. While the explicit links may remain elusive, definite parallels exist between the radical approach to design as an integrative revolutionary

'science' developed in Kumasi at that time and emerging design practices in West Africa today, which co-create architecture as a form of open-source technology systems. In the search for new socioeconomic and environmental equilibria in society today, low is the 'new minimalism' that is as old as the universe.

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KEYWORDS

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Another Hotel in Africa

- Mark Shtanov

Introduction

This essay is an extract from a much longer MPhil thesis that was pursued in the Department of Architecture at the University of Cambridge. It accompanied an architectural design project with two major objectives.

First, it questions the physical and social role of existing hotels in West Africa as locations that are underused and constrained as points of productive interaction between global flows of people, ideas and objects and the local milieus of knowledge, aspiration, and cultural embeddedness that local populations create.

The second objective concerns existing West African land development strategies for areas located close to major cities that are being rapidly urbanised, whether the North West Accra region in Ghana, Lekki in Nigeria or Diamniadio in Senegal. My work addresses the developers' and authorities' insensitivity towards local populations, environmental peculiarities and previous issues with planning that do not appear to have been absorbed in the current policies. Combining these two objectives, the thesis tests whether a community-managed hotel can initiate a sensitive regeneration of a localised section of a new masterplan, whilst establishing a place for a mutually beneficial relationship between the global and the local. The work is viewed as a step towards developing an architectural prototype that can be adapted to other locations where these issues deserve to be addressed.

Aiming to operate at both architectural and urban scales, this essay is subdivided into two parts, each containing an edited version of the original. Part 1 reviews the project's geographical background, zooming from the broad and complex West African context to the specific Lekki region studied more closely during the fieldwork. This initial section draws a series of observations about the inadequacies of holistic grand design masterplans and identifies the opportunities of alternative planning methods equipped with responsiveness to the unpredictable grassroots factors, as well as the different time conditions that shape the region's built environment. Part 2 studies the evolution of hotels in West Africa, in order to explain their modern day configuration and relationship with the city. Their drawbacks are identified within the context of theories about discontinuity and inequality within West African cities.

Part 1
Vision and Reality in West African Planning

'Не будем слишком регулировать, ведь мы стоим на почве новой.'

('Let's not over-regulate, since we stand on a new ground.')

Duke de Richelieu, governor of Odessa, the first
free economic zone of the Russian Empire, early nineteenth century
(Parfyonov, 2003).

Two distinct urban forms – a walled citadel and an organic village – keep reappearing in Lewis Mumford's historic analysis of the city. These two archetypes, visually readable historically, yet increasingly obscure in the modern city with its legal frameworks and digital technologies, typically correspond to two opposite modes of development and operation (Mumford, 1991: 106-108). In a more recent interpretation by Richard Sennett, the organic village appears in the guise of an 'open system': a Dionysian[1] approach associated with imminence, informality and adaptability and anarchic reconstruction of an original initiating intervention. The citadel, on the other hand, is an Apollonian[2] 'closed system', based on rigidity and permanence, and regulated by a set of ideas fixed in time.

There is a history of contest between closed and open urban forms and processes in West African cities. As Bill Freund notes, the continent-wide urbanisation between the early nineteenth century and the mid twentieth century to the Second World War, went largely according to the plans of European colonisers (Freund, 2007: 70-89). In West Africa, Freund notes both relatively *subtle* indirect interventions permitting better economic cohesiveness, and *radical* urban grand designs, typically destined to segregate groups of citizens. Examples of the former typically happened in cities established prior to colonisation, such as Ibadan, Nigeria and Lomé, Togo.[3] However, examples of the radical city reconstruction methods were more dominant

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[1] Richard Sennett uses Quinta Monroy Project by Elemental in Chile and a drug market in South Africa as two different adaptive, 'open' urban systems, also named Dyonisian in reference by Nietzsche to the Ancient Greek god Dionysius where events are best examined through a participatory approach without a critical distance (Nietzsche, 2003: 23-26).

[2] As examples of rigid, or closed, urban systems Richard Sennett uses two towns, Poundbury, UK and Masdar, UAE, designed accordingly to visions of Prince Charles and Norman Foster respectively, without much scope for adaptions and alterations later down the line. Such systems are also known as Apollonian through Nietzsche's interpretation of the Ancient Greek god Apollo as one who sees 'higher truth, the perfection … in contrast to our daily reality. Non-participatory observation is therefore classified as Apollonian (Nietzsche, 2003: 9.)

[3] With their indirect rule in Nigeria, British authorities were radically intrusive in the organisation of pre-colonial town of Ibadan. Rather, their indirect rule 'pacified' the boundaries between opposing Hausa and Yoruba neighbourhoods and ensured 'peaceful marketplace dealings' between different ethnicities under a single colonial protector (Freund, 2007: 70-76). Freund also notes Lomé's authorities' willingness to recognise urban property rights from before conquest resulting in Togo's capital being a 'relatively integrated city' (Freund, 2007: 76).

Figure 1. Site of a removed informal settlement to give place to a new development in Lekki Phase 1, Lagos State, Nigeria. Photograph taken by author in May 2017.

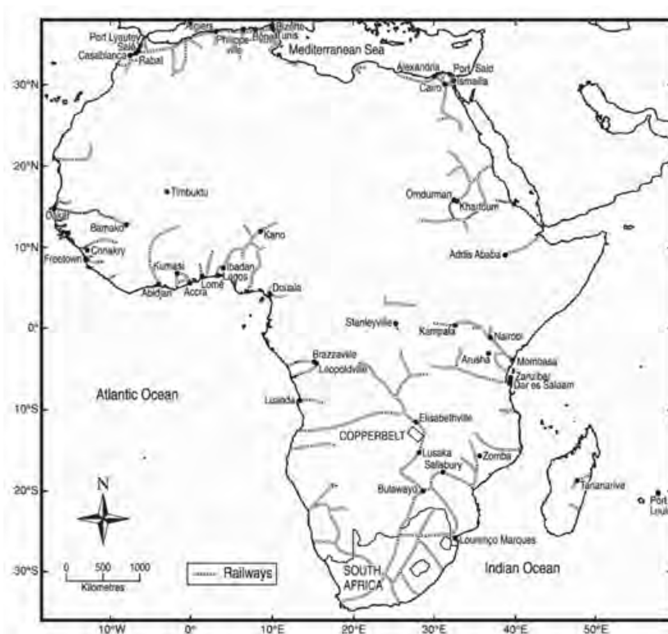

Figure 2. Colonial Cities in Africa. Image from Freund, 2007, p. 67.

and happened primarily to highlight the superiority of the ruling class, to keep out disease and to disintegrate productive relationships between indigenous ethnic groups, as with the *Medina* Quartier in Abidjan during the 1910s (Freund, 2007: 76). Freund uses the West African example of Freetown, Sierra Leone, as a particularly stark example of colonial officials 'dreaming of entirely reconstructing the landscape'. Construction of Hill Station, a new 'whites-only' district with its own tram service, started in 1902, in neglect of the site's previous use patterns and the Creole population's lifestyle.

In the newly independent West African nations, the city became the battlefield between planning authorities and the informal sector. Aspirational modernist masterplans, intended to promote nation-building and cosmopolitan lifestyles, failed to cater for the influential pre-colonial economic mechanisms and rocketing housing demands caused by rapid urbanisation.[4] As the African hinterland declined, cities absorbed migrants, who had nowhere to live but in self-made shacks, constantly under the threat of removal. In the cases of Lagos and Abidjan in the 1960s and 1970s, large slum areas were demolished. Failing to comply with the planning visions, they were seen as 'environmental nuisances' or 'affronts' to the dignity of the future capitals.[5]

To address the influx of people while maintaining the image of the city, the authorities began to develop 'sites and services' schemes, first introduced in Dakar in 1972 (White, 1985: 505-528). Under this method, which is still common in West Africa (Figure 3) the government purchases an area,[6] divides it into plots and provides basic infrastructure. The individual construction and alteration can then be done by tenants and landowners, to an extent they can afford. However, as Mabogunje points out, the authorities and the 'petty bourgeoisie' have little restriction to accumulating such land and renting it at high costs (Mabogunje, 1990: 142). 'Sites and services' has therefore evolved into an expensive and scarce substitution for informal settlements. Moreover, as my fieldwork experience has shown, the level of security, infrastructure, and transport access in the government-owned public domain is often little better than that in informally created slums.[7]

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[4] Mabogunje (1990: 130-144) analyses the reasons for the rapid African urban growth during the second half of the twentieth century, whilst Freund (2007: 141-143), d'Auria and De Meulder (2010: 115-120) provide background information for the African nationalists' 'Modernist Dreams' of the 1960s.

[5] Marris (2003) provides a detailed overview of around 200,000 people being relocated from central Lagos to give way to creation of the new business district. Freund (2007: 148-149) uses Abidjan as a typical 'round up' – slum expulsion typical for the time. Mabogunje (1990: 175) mentions a case of Nigerian authorities forcing 'small-scale artisans' to move to the city's periphery unless they create a view-blocking fence around their operational area.

[6] This is not necessary in countries like Nigeria, where all of the land has been nationalised, Federal Republic of Nigeria, *Land Use Act 1978, Chapter 202*, 1978, available at http://www.nigeria-law.org/Land%20Use%20Act.ht.

[7] In my earlier 'Implementation essay' ' (Shtanov, 2017, section 5 on infrastructure) I note the poor condition of power and water infrastructure, transport, roads and security in much of Lekki's public domain. Having observed similar issues in Accra, I make comparisons in the following blog post: https://goo.gl/RtVzU9

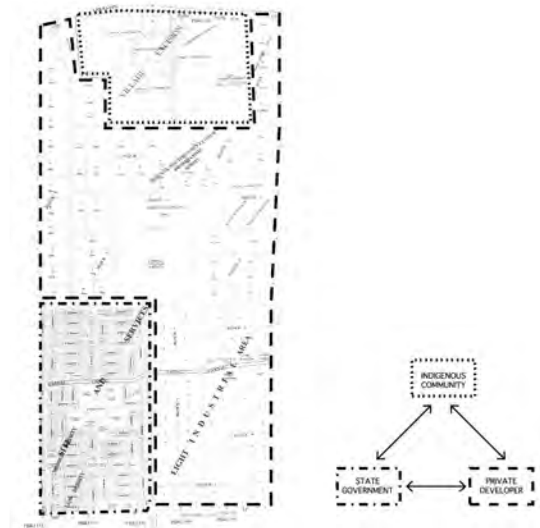

Figure 3. Typical land subdivision within Lekki Master Plan. Diagram on the right shows the parties associated with the development of the demarcated areas. Extract from layout drawing for Iberekodo Industrial Town, drawn by Lagos New Town Development Agency, 2017.

Lagos is exemplary with regards to the State's formal planning policies being counteracted by communities, families and individuals – and vice versa. In 1990, Mabogunje emphasised the gap between the 'reality of African urbanisation', 'our inadequate understanding' of the processes shaping it, and the 'virtual ineffectiveness' of policies influencing these processes (Akin, 1990: 123). Over the past three decades a number of scholars[8] have enriched the theory behind the informal forces governing the city. Examples of informal processes are given at the start of the later section, *Temporalities in the Sandbox*. Nevertheless, there remains a vast disparity between the 'messy' urban reality and the authoritarian strategies imposed upon it, whether in the form of masterplan drawings, building regulations or land-use policies. In addition, since the year 2000, Lagos has been infused with a series of imported fantasies, including a Dubai-inspired skyscraper district, a Hong-Kong-designed free trade zone[9] and Lebanese-drawn masterplans, all striving to reinvent the city as an elitist property investment hub, whilst neglecting its

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[8] I refer in particular to Rem Koolhaas's and Harvard School's studies (Koolhaas, 2000, Enwezor 2002); to Lindsay Sawyer's PhD which comprehensively explains different parts of Lagos in their current form (Sawyer, 2016); to David Lamoureux's PhD, which goes in depth on the city's planning history in the 20th century (Lamoureux, 2016) and to Shelby Grossman's research on institutions behind Lagos's markets.

[9] Urban Design proposals for the Lekki Free Trade Zone were drawn by a Hong Kong-based practice. Mr Teslim Ladeji, the Zone's lead architect later mentioned to me the practice name Layout Design Institute, however I could not find further information on them. My visit to the zone and the interviews are documented in this blog post: https://goo.gl/oqexnf

history and the interests of the vast majority of its population.[10]

These two city-shaping forces, one from afar and above, and one from below and within, are integral to a key issue in my project, that of the symbiosis between the local and the global. This thesis does not reject or oppose either of the forces. While acknowledging them as legitimate and necessary vectors of city growth, my study attempts to incorporate them in an experiment: whether an architectural intervention can be subtle and adaptive enough to cater for small-scale locally demanded urban uses, yet sufficiently complex and systematic to initiate a section of a proposed masterplan, i.e. without disconnecting global aspirations from local realities. Unlike the work of the aforementioned scholars, this thesis focuses on a new part of Lagos with only thirty years of history and a distinct urban dynamic. The following section of Part 1 will introduce the modern day encounters between the citadel and the village in the context of Lekki.

Borders and Hybrids in Lekki Heteropolis

Although poorly planned and segmented, Lagos is commonly viewed as a single city. David Grahame Shane's work describes Lagos as a modern West African megalopolis, 'a network of cities', spread over water, reclaimed land, as well as the existing disjointed topography of the Lagos state (Shane, 2011: 139-141). Deji Majekodunmi, a young Lagos-based architect, remembers learning to drive on a single lane rural road traversing virgin swamps on its way to Epe.[10] Whilst the westernmost section of the Express road still reflects these memories, its eastern side is now a congested eight-lane highway used by anyone from cattle herders and their cattle to roller-skaters hooked onto the backs of danfo-minibuses.[11]

Roads and other forms of infrastructure have been key to Lekki's growth. At the start of civilian rule in 1999, governor Bola Tinubu and his entrepreneurial successor, Babatunde Fashola, arranged deals with the Federal government and influential families[12] to rapidly develop residential areas on either side of the Express road, originally constructed in the 1980s.[13] A series of estates in Lekki Phase 1, an area closest to Victoria Island, were built, followed by the introduction of the first[14] holistic masterplan for the entire peninsula. Since then, the residential, commercial and cultural

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10 This was mentioned in my interview with Deji at FMA architects, documented in my blog: https://goo.gl/2JE8ac

11 Danfo-minibus is the most popular public transport in Lagos. Having been banned from the Lekki Expressway, the most popular Danfo, a yellow Volkswagen Transporter '81, is typically replaced here with a Toyota Hi Ace '02.

12 Sawyer (2016: 53-55) discussed the state government's arrangement with Oniru and other 'main landowning families of Lagos' behind the public-private nature of Lekki's urban management

13 Charles Idem, 'Middle-Class Life in Lekki', *The Africa Report*, 2017, 53.

14 My 'Implementation Essay' (Shtanov, 2017, Part 2), in reference to 'Lekki Masterplan' (Lagos State Government, 2011) mentions a series of unsuccessful piecemeal planning attempts from the 1980s and early 2000s.

Figure 7: Westernmost side of Lekki-Epe Express road: near Victoria Island, photo by author.

Figure 8: New urban zone in the developing Eastern part of Lekki along the Coastal Road, photo by author.

developments have been spreading further East, whilst a new Free Trade Economic Zone, mainly accommodating factories,[15] has been built at Lekki's easternmost extreme. Having found itself alongside the most desirable areas in which to live and work in the continent's most populous country, Lekki has become 'Lagos's newest focus of construction.'[16] Lekki peninsula is commonly viewed as an elitist enclave of the new 'middle class', uniformly composed of

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[15] My visit to the zone is documented in the following blog post: https://goo.gl/oqexnf .

[16] According to Oxford Business Group's most recent report; Oxford Business Group, 'Efforts to Boost Middle-Income Home Ownership in Nigeria', *The Report. Nigeria*, 2017, https://oxfordbusinessgroup.com/overview/changing-direction-profits-high-end-properties-are-slowing-and-middle-income-housing-getting-more [accessed 22 January 2018].

shopping malls and American-styled garden suburbs (Sawyer, 2016). Further research, however, reveals the heterogeneity of the peninsula's social and urban landscape, by identifying a stark juxtaposition of Truman Show estates and the neighbouring low income informal settlements (Hoggmascall, 2016). This section will present some additional complexity of Lekki's contents.

Because of its public-private nature, the peninsula is covered with legally and illegally built walls, gates and control posts. Each one is an economic threshold, a blessing for the local informal actors to exploit and inhabit (Koolhaas et al., 2000). The estate gates are the climax points of inter-class and inter-cultural interaction; here one witnesses maids and builders bargaining with the gate porter, a petty trader selling chewing gum to an expatriate in a flashy car, a team of vulcanisers[17] fixing the duty policeman's bike, *okada*[18] motorcyclists waiting for customers and scruffy naira notes rapidly circulating between all of these parties[19] (Figures 49-53). Richard Sennett, who differentiates between productive and porous borders and 'dead' impenetrable boundaries (Sennett, 2015), both in urban and biological terms, might be pleased to discover the unforeseen remedial role of certain barriers in modern day Lagosian society, historically exposed to the inter-racial and inter-class 'merging and mingling'.[20]

Lekki's nouveau-riche extravaganza is regularly punctuated by existing towns, informal settlements, indigenous villages and educational institutions (illustrated in Figures 28-35 and 42-58). Having sprawled in the epoch of unsuccessful masterplans,[21] Lekki's existing towns, such as Sangotedo, Eputu Town or Ajah proper[22] (Figures 28-32), have little urban or infrastructural planning and scarcely any ground-condition-analysis supporting their configuration.[23] With their affordable housing prices, the existing towns are becoming increasingly saturated with residences rented to the armies of Lekki's labour force: builders, domestic workers, market and roadside traders, *okada* and *danfo* drivers[24] (Figures 25-27).

Young people from these towns do not need to travel far for education. Since the 1990s, religious organisations and NGOs began to open universi-

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17 Informal roadside vehicle repair services.

18 Okada is the local Nigerian name for privately and informally operated motorbike taxis.

19 A more extensive summary of such threshold situation is described in my essay on 'Border conditions', Shtanov, 2017.

20 Historic Lagosian cross-mix of different nationalities and social strata is noted by Whiteman, 2013, p. 31 and Peil, 1991 pp. 128 -129.

21 My 'Implementation essay' (Shtanov, 2017, section 2 on planning policies) in reference to 'Lekki Master plan report' (2011) identifies a series of unsuccessful piecemeal masterplans proposals from the 1980s and early 2000s.

22 Elsewhere in the essay I refer to the indigenous village of Ajah, and their ancestral land. These areas now lie in the wider vicinity of Ajah town.

23 Trips to Ajah and Eputu towns are documented in the blog post … As with my other visits to low income areas, people addressed me with 'Oyimbo, Otisumi!' (literally translated as 'White man, I'm tired of Nigeria, take me with you' in Yoruba language).

24 Conclusions about vast numbers of the peninsula's labourers also being its temporary residents are drawn from numerous interviews with their employers, such as Mr Richard Sunday, one of Lekki's master builders: https://goo.gl/rS5xFk

Figure 9: Addo Road is the closest to Ajah community land.
Figure 10: A street inside Ajah village.
Figure 11: Typical residential activities, deeper in the village.
Figure 12: On the lagoon front, Ajah has an extensive fishing community living in stilt houses.

ties, schools and colleges on Lekki peninsula. *Opus Dei*[25] oversees the Lagoon School, including Lagoon Hospitality Institute, and the Pan-Atlantic university, which also incorporates Lagos Business School, located on a different site in Lekki. Positioned amongst American-inspired residential estates, South-African-managed shopping malls[26] and a Chinese-designed Free Economic Zone[27] these educational institutions, accommodating Nigerian students of different income levels, certainly add to the peninsula's eccentric internationalism, with their buildings (Figures 33-35) initially drawn up in Valencia and

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[25] A multinational Christian Catholic Organisation, www.opusdei.org

[26] South-African-managed mega chain Shoprite operates food supermarkets at Lekki-based shopping malls.

[27] Construction of the only operational (up to date) part of the Lekki Free Trade Zone was overseen by Chinese CCCC, en.cccltd.cn. Theme of the Chinese involvement in Africa is picked up by Hulshof and Roggeveen in 'Lekki, the African Shenzhen?' (2014, pp. 86–91) and my own blog post: https://goo.gl/q6if79.

their spiritual agenda managed from Madrid.[28]

These intercontinentally operating institutions are neighboured by the predominantly local Yoruba-speaking villages. These communities, established here long before any public-private forms of development took place, were faced with negotiating their rights to land after the 1978 Land Nationalisation Act. Those that were successful, like the Ajah village, discussed in later sections, continue living in self-supporting communes and practicing their pre-colonial trades and rituals (Figures 42-48), in their legally demised,[29] yet frequently disputed, areas. Nigeria's big players' grand designs can influence the indigenous communities both positively and negatively. For example, a number of villages were 'relocated' to make space for the Free Trade Zone,[30] however the adjacent ones that remained had an employment boost thanks to the Zone's Chinese Factories.[31]

This section has characterised Lekki as an increasingly diverse location, rather than a uniform enclave for the new elites. Government-developer- and institution-led aspirations for the region contrast with highly traditional local practices, growing low income towns and instantaneously appearing informal settlements. American high-life dreams, European spiritual life visions and Asian efficient and productive life realities are loosely superimposed onto a Lebanese-drawn masterplan whilst being ruthlessly corrupted by desperate and unstoppable informal economies. In its raw and perverse natural context of parasite-laden swamps, marshy floodplains and impenetrable rainforests, Lekki is growing more dense and active as an eclectic carnivalesque theme park, highly differentiated in its actors and desires.

How does an architect intervene here?

Temporalities of the Sandbox: Terra Firma, Ephemera and Metabolism

'. . . it [research on Africa] has underestimated the fact that one characteristic of African societies over the longue durée has been that they follow a great

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28 Details regarding the design and management processes behind the institutions were shared with me by Labarda Associates, the Nigerian partner firm behind Lagoon Hospitality Institute and the Pan Atlantic University. Visits to the mentioned institutions are documented in my blog posts: https://goo.gl/d68M2a, https://goo.gl/S5RkzM, https://goo.gl/f8UpWK ; mentioned Valencian firm is Mac Millet Arquitectos, http://www.masmillet.com/; Spanish department of Opus Dei, most influential to the mentioned institutions: http://www.opusdei.es/

29 'Legally demised' because the community succeeded in 'excising' the land from the state government following the 1978 Land Nationalisation Act. Different positions on the extents of Ajah's land are shown in Figure 3.

30 A recent paper by Lawanson and Agunbiade (2017: 1-18) reveals LFTZ's effects on the local communities as mostly negative. With its grand ambitions and Chinese-drawn plans, the project had very few ways of directly relating to the region's grassroots social dynamics.

31 As noted in my visit to the zone, https://goo.gl/oqexnf, and the subsequent 'Implementation Essay, Shtanov, 2017.

variety of temporal trajectories and a wide range of swings only reducible to an analysis in terms of convergent or divergent evolution at the cost of an extraordinary impoverishment of reality.' (Mbembe, 2001: 17).

'In order to globalise the African city, its "time" had to conform to a linear, that is, a cumulative framework. . .
. . . [undecidability] actively produced a new cultural urbanism by rethinking space and time via narratives of movement, networks, simultaneity, juxtaposition, flows, dispersion, fluid mobilities, practices and clusterings.' (Ndi, 2007: 168-169).

Throughout the work of the two Cameroonian scholars, quoted above, one comes across conflicts in the notion of time with respect to the African urban order. On one hand, the colonial, authoritarian, western and business-led perspectives strive to make urban time linear, programmable and universally graspable. On the other hand, the great variety of actors outside the formally controlled domain revolt with un-binarised non-linear time branching into multiple trajectories. This dichotomy resonates with Koolhaas's and Gandy's interpretations of Lagos not as a physical location, but as an 'urbanisation process archetype', a city *en-route* (Nigeria Documenta 11, 2002), or a 'research action' done collectively and simultaneously by the millions of urban dwellers (Gandy, 2005: 39) (Koolhaus, 2000: 653, 718-719).

Lekki's housing estates, shopping malls and offices provide the image of stability and Western comfort so needed by Nigeria to bolster investment. Yet many of these structures do not stand on firm ground, socially and legally,[32] in terms of their occupancy, purpose and legal status. Neither are they secure physically, in terms of their flood and decay resistance in the *longue durée*. In order to conform to the aspirations of its developers and master planners, Lekki has become a giant sandbox. Ground is being scraped off the peninsula's shores and pumped from dredging stations, to be dumped on top of the swamps or carried into the Lagoon to generate ornately shaped sand-filled islands, some compatible with the *World Archipelago* in Dubai. Little calculation is done on the resulting relationship with the environment of these interventions.

Apart from the spontaneous ephemera and the developer-generated development, potentially only temporary, certain aspects of inhabited Lekki are adaptive, yet also resilient. During my fieldwork, a series of local village communities was discovered, some going back as far as 350 years (Appendix A). Throughout their history, scarcely documented on paper yet elaborately told through oral narratives, festivals, attire and spiritual traditions, these communities have been adapting to the region's peculiar climate, topography and politics through hunting, farming, fishing, cultural practices and

[32] A number of structures in Lekki Phase 1 have been built or converted from residential to commercial without permit. Identified in the interview with the editor of *Castles*, documented in the blog post: https://goo.gl/UCu3bY

pre-colonial forms of diplomacy. After the nationalisation of Nigerian land in 1978 (Federal Republic of Nigeria, 1978), some such communities have been negotiating their ancestral land excisions with the State, whilst others have been exploiting the marshy 'grey zones' in between the state-owned land and government-owned water masses. Many land plots were officially returned to villages, yet their perimeters remain in dispute. Moreover, due to the increasing economic pressures on the villages, it is common for their chiefs to sell their ancestral land to corporate developers or public-private enterprises.

This section has highlighted Lekki region as a set of dynamic temporal trajectories within the overall 'self-constructing narrative' (Demissie, 2007) of an African city. The fluidity of the region's physical settings and their inhabitants manifests itself in myriad ways: in the ephemera's high-life ambitions expressed through continuous nomadism across social roles and pockets of unoccupied land; in the indigenous communities' adaptability to natural and political scenarios revolving around the traditionally grounded villages; or in the new public-private sector buildings and activities, susceptible to property market forces, developer and consumer appetite, the distribution of transport and amenities. The social and urban temporalities of Lekki correlate to the dynamics of its natural topography; while the latter are increasingly catalysed or interrupted by the man-made activities.

The notion of a fluid citizen and a fluid city has been previously picked up in urban theory and in the practice of architecture. Throughout *The City in History Lewis* Mumford refers back to the *Hellenic Polis*, where the 'city and citizen were one.' (Mumford, 1991: 197, 215-17) The polis and the man developed alongside each other. The city grew organically and shaped human personality, *'capable of facing life in all its dimensions'*.[33] Before the buildings started to dominate,[34] the city and the citizen were equal and symbiotically dependent species, susceptible to unpredictable mutations.[35]

The fluidity of one's role and the temporal quality of one's space are once again central to the urban order of the world's rapidly urbanising underdeveloped regions, whose infrastructural, technological and economic means lag behind their human potential. In this respect, and also because of the particular topographic nature of the site, the work of Japanese Metabolists from the 1960s has been a useful precedent for the design thesis[37]. Working in the same vein as Kenzo Tange and Co (Koolhaas, 2011: 284-285), here one is faced with seeking ways of incorporating and stretching the Nigerian architectural means – and potential – to achieve structures that grow and mutate over time, responding to the unpredictability of their human content and the natural context.

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[33] This centuries-long evolution is noted by Mumford, 1991, p. 195.
[34] Approximately from the 4th century.
[35] Aristotle's success in distinguishing this is particularly merited by Mumford (1991: 215).

Figure 13: Le Grand Hôtel in Conakry, Guinea, early 20th century. Postcard image found in Goerg, 2011, p. 3

Figure 14: Hotel Gariglio in Lomé, Togo, early 20th century. Postcard image found in Goerg, 2011, p. 2

Part 2
The Citadel for Business:
How the West African Hotel Became What it is Today

In West Africa, the transformation of colonial outposts into metropolitan hotels happened in the early twentieth century, accompanying the construction of railways connecting the oceanic ports to the towns of the continental hinterland, attractive to Europeans both for leisure and resource extraction.[36] Two of the early railways were built in today's Senegal, between Dakar and Saint-Louis in the 1880s, and in today's Nigeria, between Lagos and Ibadan in the 1900s. Whilst the former was still reliant on accommodation offered by l*es postes fortifies*,[37] the latter had a purpose built White House Hotel, located in Iddo, Lagos Mainland (Akinsemoyin, 1977). Throughout the first half of the twentieth century the hospitality establishments across colonial towns took on both integrational and

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[37] The Japanese Metabolists explored modular architecture that grows and develops organically in the context of Tokyo's scarce areas of firm ground and dense populations, a set of conditions not dissimilar to today's Lekki.

38 Hotel historian Chief Alabi, interviewed by the author, partly relates the development of Nigerian rail transport and hotels to the Europeans' appetite for holidays in the temperate climate of Joss, in the geographic centre of the country: https://goo.gl/en6kas

[37] Dione mentions forts and outposts, yet no hotels, in describing Senegalese industrial mobilisation of the 1880-1910s. No hotel features in materials on the port or the rail terminus. Maurice Culot and others, 1992, p. 221-223.

Figure 15: Hotel du District in Abidjan, Côte d'Ivoire. Architect Henri Chommette. Image from Herz et al, 2015, p. 311

Figure 16: Hotel Président at Yamoussoukro, Côte d'Ivoire. Built in the 1970s. Image from Herz et al, 2015, p. 263

segregational social roles,[38] whilst growing in scale, yet generally remaining two to four-storey classical structures (Lamoureux, 2016: 171), entered directly off the street (Figures 13 & 14).

The landmarks of the independence period were intended to supersede colonial architecture. In the 1950s and 1960s, Nkrumah, Azikiwe, Houphouët-Boigny and other West African leaders turned to the Modernist style to project the cosmopolitan images of the newly liberated nations and commemorate historic events. Hotels played a major political role, whether Federal Palace in Lagos, intentionally built for the signing of the Nigerian Independence treaty,[39] Hotel Independence in Dakar, constructed to celebrate the first decade of Senegalese self-governance (Schröder, 2015: 230), or Hotel Ivoire, used by the Ivory Coast's government to enter the global economic arena as an international conference and tourism destination (Hertz et al. 2015: 387-388). The Independence hotels (Figures 15 & 16) were designed by prominent architects, mostly non-Africans, emerging from London's

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[38] My 'Pilot Essay. . . ' notes relationships between Europeans and Africans in Guinean and Togolese cinema hotels and mentions the racist accident at the Bristol in Lagos. (Shtanov, 2017, section II on 'Industry Analysis').

[39] Mentioned in my interview with Hotel historian Chief Alabi, recorded on a blog post: https://goo.gl/en6kas.

Architectural Association or Paris's École des Beaux-Arts.[40] Through careful consideration of local climates, expressed through *brise soleil*, their materiality or natural ventilation strategy,[41] and fresh interpretations of West African decorative motifs ,[42] these monumental complexes contributed to the consolidation of Tropical Modernism as a distinct architectural movement, and bolstered the region's rights to *'alternative visions of urban modernity'* (Lamoureux, 2016).

The decades following the Independence Era saw a new corporate

[40] Examples of Europe-trained architects include British Alan Vaughan-Richards and Israeli Thomas Leitersdorf, trained at the AA, or French Henri Chomette, who finished training in École des Beaux-Arts in Paris.

[41] Vaughan Richards (Lamoureux, 2016, pp. 171 – 172) and Chomette (Herz et al., 2015, pp. 271 – 2) were particularly outstanding in pioneering work with the African climates.

[42] Lamoureux (2016: 171) merits Vaughan-Richards' application of Yoruba-motifs in the Modernist reconstruction of the Bristol Hotel in Lagos.

Figure 17: Hotel Ivoire in Abidjan, Côte d'Ivoire. Building for transient populations as a symbol of the Nation's independence. Image from Yacobi, 2010

scramble for the continent's resources alongside the violent politics of the Big Men and military regimes.[43] Whilst the existing establishments, like Hotel Ivoire, found themselves 'in the middle of the fighting' (Sykes, 2013), the new ones were intentionally built to isolate the high level commercial dealings from the scenes of mass violence and infrastructural disorder shaking the uncontrollably growing cities. Modernist citadels of business, these cities within cities were created through the efforts of a new generation of architects preoccupied with visitors' safety and the image of their corporate employers.

Eko Hotel in Lagos is representative of this category. Following years of hotel misuse by corrupt officials, resulting in the dilapidation of Ibadan's Premier, Calabar's Metropole, Port Harcourt's Presidential, Lagos's Federal Palace and other major establishments,[44] the Nigerian post-civil war[45] government implemented policies to allow private companies to construct and maintain 'projects of national importance or sectorial development' (Olurfemi et al., 2014). Occidental Petroleum took this opportunity in 1975 to build the Eko Hotel under the supervision of Bechtel Incorporation (Okpanku, 2005), whose American architects collaborated with Nigeria's Oluwole Olumuyiwa. The latter had previously studied in Manchester, worked with the Smithsons (Lefaivre, 2012: 170), learnt from Kenzo Tange (Elleh, 2016; 82-83) and co-founded the Nigerian Institute of Architects (Lamoureux, 2016: 165). Chief Alabi, a hotel historian, has little doubt about the government's involvement in the project, given the hotel's purpose to cater for the FESTAC arts festival in Lagos in 1977.[46]

Having been Lagos's most successful hotel in the 1980s, Eko Hotel set a typological precedent for other big hotels across urban West Africa. Over the decades, the two pre-FESTAC buildings on a fenced off and heavily protected 15 hectare site[47] in Victoria Island, developed into an over 800-room complex with an art market, fire and police stations, private clinic and a diesel power plant, capable of generating a 1/700th of the country's total power output, as of 2017 (Figure 18).[48] The difference between Olumuyiwa's work and later additions accompanied the paradigm shift in the hospitality industry. The original building with its thorough climatic approach and modernist articulation, responsive to the work of Vaughan-Richards and Chomette was followed by transient *Non-place*[49] architecture, not only physically but culturally

[43] Big Men, usually violent and autocratic (yet not always) African leaders, predominately active between Independence and the late 1990s, are comprehensively introduced by Todd J. Moss, 2007, chapter on Big Men.

[44] As listed by Hotel historian Chief Alabi, recorded in my blog post: https://goo.gl/en6kas.

[45] 3.5-year Nigerian Civil War, fought between the central government and Eastern Biafra states, ended in 1970, Atofarati, 1992.

[46] Mentioned in the interview with Chief Alabi, recorded in my blog post: https://goo.gl/en6kas.

[47] Measured of Google maps, www.google.com.hk/maps

[48] Comparison is made between figures from my interview with the Eko's Engine Room keeper (blog post: https://goo.gl/3P1MdM) and 2017 figures quoted by Olawoyin, 'Nigeria's Current Electricity Generating Capacity Is 6,803 MW — Fashola', Premium Times (Abuja, 16 August 2017).

[49] As noted in Section 4 of my essay on 'Hotel and the city', Shtanov, 2017.

and environmentally disengaged from the West African urban context. The external reception area of the 1977 building, raised and oriented to capture the ocean breeze, was replaced in later hotels by generically decorated air-conditioned lobbies with unobtrusive classical music and black SUVs parked outside. Layered security mechanisms in conjunction with extensive open spaces between its complex's entrance and its main social areas made Eko Hotel and the following projects significantly different to the likes of Chomette's earlier Hotel Independence in Dakar, which had been entered directly from the public square.

In the 1980s, Eko Hotel was one of a kind and charged $400 per night.[50] Today, it faces tight competition. Over two thousand establishments of

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50 This figure would amount to today's $800 – $1000, taking inflation into account. The $400 estimate was remembered by the chairman of Eko, who took the post in 1987 and was interviewed by me in April 2017.

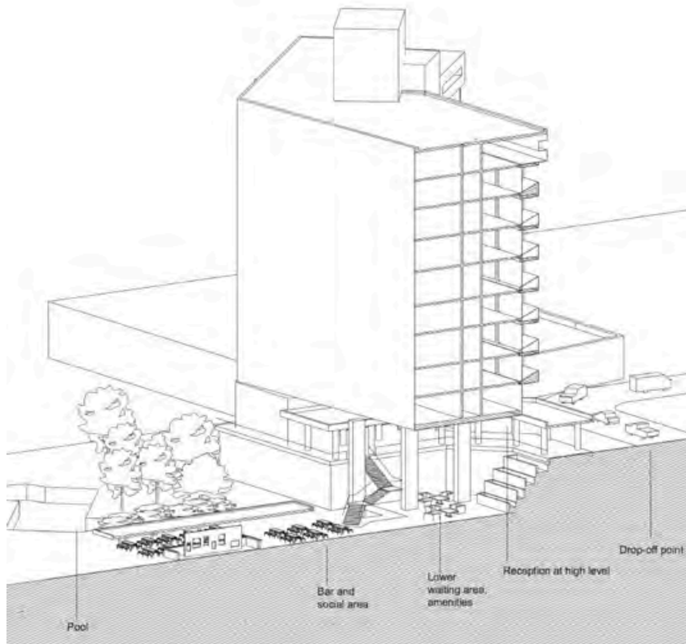

Figure 18: Today's Eko Hotel (A City Within A City) Sectional diagram. The vehicular circulation and the reception and are lifted above the spaces behind the building by around 6 metres, amounting to the height of some technical spaces below. Two staircases lead down into the pool side bar area, which is one of the most socially active parts of the entire hotel. Drawing based on hotel survey by author.

different sizes and ratings[51] have sprung up, offering convivial settings to international business 'vagabonds'[52] and Africans, privileged to afford resting here from the stress of their everyday hustle.[53] Hidden within a large gated territory, directly linked to the airport through pre-arranged transport and offering comfort through its artificially generated sound and air, a modern day West African hotel is viewed as an oasis in the midst of the violent affairs and unhealthy smells of an incomprehensibly laid out city. Its architecture, sometimes eccentrically hybridised and creolised, sometimes calm and neutral, facilitates the visitor's choice between a distanced and non-participatory visual consumption of the locality or complete isolation from it.

Conceptual Design
Open Urban Systems, Democratic Spaces and Venetian Fondacos

If Conrad Hilton's 'little Americas', were projections of the cold war superpower (Wharton, 2001), the modern day West African hotels are projected images of the generic developed world, divorced from their context through physical walls, prescribed corporate agreements, employment policies and environmental barriers. This thesis questions the benefits of a closed hotel in a dynamic city, and proposes an alternative model, as a fusion product of an open urban system and a late nineteenth century American hotel.

As previously mentioned, Richard Sennett coined the term 'open system' in reference to the work of Jane Jacobs. Picking up on Jacobs' doctrine, Sennett identified a series of urban design principles for open urban systems capable of easily adapting to unforeseen physical alterations and fostering social exchange between people from different cultures and social strata (Sennett, 2006). These principles concern strengthening the liminality of urban borders and the porosity of physical barriers; proposing incomplete forms that are open to programmatic and physical re-adaptation; and democratising space by facilitating open fora for debate and participation.

West African planning authorities frequently underestimate the potential of Sennett's 'incomplete forms'. In the 1950s, Doxiadis associates pioneered the Tema Newtown in Ghana, with a strategy of 'breaking up'

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51 Nigerian hotel booking engine, hotels.ng, lists over 2200 hotels in Lagos, https://hotels.ng/hotels-in-lagos, accessed on 15.03.2018.

52 Zygmunt Baumann notes a vagabonds' key difference from a tourist in being 'pushed from behind' rather than drawn by something (Baumann, 1997: 89 – 94). Typically this is the case with business people taking trips to West Africa from developed countries: travelling to an unattractive place, helped by the prospect of a higher salary, is commonly explained by being unable to compete with more talented professionals at home. Writers Teju Cole and Sefi Atta note white Lagos visitors being 'not Europe's finest' (Cole, 2007: 10), 'posted to a godforsaken country like Nigeria' (Atta, 2009: 279 – 81).

53 Conversations with Maison Fahrenheit's manager, Lagos, and Prof Asiedu from University of Ghana, revealed affluent Nigerians' appetite for escape holidays in gated estates and hotels within an hour's flight reach. Blog posts: https://goo.gl/srcQRq and https://goo.gl/KyLdJh .

Figure 19: Venetian merchants' palazzo, early Byzantine period. Images from Howard, 1980, pp. 38-41.

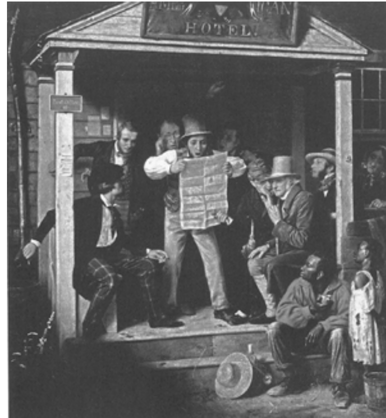

Figure 20: Nineteenth century American Hotel as a place for transferring information. Image: War News from Mexico by R. C. Woodville .

traditional West African compound houses to provide liberated communal spaces, whilst allowing for unhindered penetration of drainage and vegetation (d'Auria and De Meulder, 2010: 121-123). The impossibility of policing these modernist rules resulted in the appearance of innumerable house extensions, which proliferate poor sanitation and cause disputes over communal areas, making governance by the current authorities difficult. This example indicates the capability of individuals and communities to generate means of adding to urban forms over long time periods, a gradual process that should be anticipated in the design of original interventions that cater for the masses. As his final principle, Sennett envisages 'democratic space' where people from diverse backgrounds come in contact. Quayson offers a perspective on this by describing Accra's Oxford Street as a stage for continuous collision of transnational and local objects, people and ideas (Quayson, 2004). Rowdy interaction between Ghanaian traders, drivers and idle wanderers, juxtaposed with the context of British banks, American fast-food eateries, groups of cautious European tourists and cheap air travel advertisements, governed by spontaneity and encompassed by a 4G network, produce a highly diversified socio-spatial environment preoccupied with everything from the immediate concerns about food and clothing to aspirations about moving to the world's

most distant corners. Unlike a public space reserved for citizens' everyday necessities, such as a computer market, a transport interchange or an electronics recycling *entrepôt*, Oxford Street Accra is a democratic forum with a fusion between highly local and blatantly foreign forms and narratives, open for participating, dreaming and learning.

Does democratisation of space apply to hotels? My essay on the hotel's historic relationship with its context, identified two points when the ambition of openness was at its peak. The first example is thirteenth century Venice, the crossroads of world traders' and craftsmen's venture trajectories. Whilst benefiting from open civic participation, observed by the council and the *scuole* (Hordowich, 2009), groups of German, Armenian, Turkish and other businessmen stayed at inns, lodgings and more institutionalised *fondacos*, dispersed throughout the city. These were oriented and built for efficient goods delivery and business negotiations at specifically dedicated *androne* spaces at ground floor level. With its inclusive social order and trade-oriented planning, Venice functioned as a hotel on the city level (Figure 19).

Whereas contemporary democratic spaces are a poor match to those Sennett finds in the ancient polis,[54] perhaps an early model of the American hotel, a 'prototype of the Roman forum' – performed more effectively.[55] My earlier study explored how, unlike the elitist European Grand, the nineteenth and early twentieth century American hotel, irrespective of its size and location, was an inclusive social condenser with an extensive hinterland of knowledge and geographic representation (Sandoval-Strausz, 2007: 235-242, 261). Each great city had its own 'palace', central to public life, capable of inviting in fleets of the city's carriages, accommodating libraries, banks and music rooms, and being a stage for the pivotal events of the Civil War (Sandoval-Strausz, 2007: 284-311).

Sandoval-Strausz remarks how the civic role of every large American hotel was complemented by the 'dozens of middle and working class inns and lodgings', that conducted news, politics, goods, and the 'fully fleshed-out' human contact, intensified and liberated through hotels' transient and neutral roles, in comparison to politically charged urban institutions. The smaller hotels' success in mediating between metropolitan and vernacular was through their prominent position along travel routes (Figure 20) and lack of prejudiced entry considerations, common for the European perspective. English writers[56] note how, regardless of their occupation, identity[57] and financial circumstances, the public have used such hotels as an extension of the street, *'dropping in and out as the humour takes them'* (Dickens, 2000: 70-21).

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54 Richard Sennett uses the Athenian semi-circular theatre as an example (Sennett, 2006).

55 According to Lyons (1922), the closest classical analogy to the hotel lobby is the Roman Forum.

56 Gilbert Chesterton is surprised to see hotels used as 'public streets, or rather, public squares' (1922: 23-24) whilst Anthony Trollope, his compatriot, also remarks that hotels were as open to the public 'as the street' (1951: 482-83).

57 J. Wharton, (2001:163) talks about the women's rights in hotels, whist In Sandoval-Strausz's book (2007: 284-311) hotels appear as an important backdrop to the African-American struggle for equality.

These nineteenth century hotels were successful at conducting globalisation and representing the diversity of American society until their democratic function began to decline. In time the wealthier metropolitan establishments became socially differentiated spaces of 'cultural production' (Berger, 2011: 244-245) – their symbolism of entrepreneurial success transferred to the corporate skyscraper[58] – and experienced as an 'unlimited mutation', divorcing this important institution from its urban context (Clemens, 2016: 15-16). On the other side of the spectrum, the smaller lodgings turned into generic non-places driven by the nomadic culture of tourists and 'vagabonds.'[59]

Conclusion: Globalisation from Below

This essay – and the longer thesis – views the hotel as a vehicle of globalisation. As an intercultural form containing strangers, spontaneities and things in motion,[60] the proposed hotel stands against the complex form of Lekki, inhabited by sand-filling trucks, Christian preachers, cassava bundles, AK47s, parasitic flatworms,[61] WhatsApp messages, cigar-smoking officials and other forms and agents, picked out from today's scene and subject to tomorrow's step of socio-environmental evolution.

This essay explored two key themes: the importance of time in architecture and planning, and entrepreneurship through grassroots globalisation. Having reviewed the issues with uncompromising previous and current masterplans, temporal trajectories governing different areas, and the recursive fluidity of the city and its citizens, it also noted the capricious natural environment which is addressed differently by developers, authorities, ephemeral and permanent local communities. As such, phasing will be core to the project's design and management strategies, whilst deconstructability, degradability and re-adaptation will be integral to the physical composition of the scheme.

In his essay on 'Grassroots Globalisation' Appadurai points to the knowledge and research gap between 'Globalisation from above' and 'Globalisation from below' (Appadurai, 2000: 1-19). With regards to West African cities, the former is manifested in the policies, masterplans, control and management mechanisms, passed down from high administrative circles

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[58] To Berger (2011: 257) this change-over was signified by the Empire State building being built on purchased site of the 'venerable' but declined New York Astoria.

[59] Postmodern society where everyone and everything is 'on the move' is described by Baumann, chapters on 'Culture as Consumer Cooperative' and on 'Tourists and Vagabonds'.

[60] As transient non-places (Katz, 2011: 148), hotels offer information about their users inscribed in the physical objects and settings. According to Appadurai (2013: 11), it is often the 'things in motion' that 'illuminate their human and social context', rather than the human actors that tell us about the physical scene.

[61] NHS doctors and Nigerian housewives warned me about Schistosomiasis, a parasite that may enter one's body directly through the pores of undamaged skin during contact with water from the Lagoon, drains or puddles.

and from outside of the geographical domains in question. The resulting built developments, regulations, infrastructures and amenities are met by the affected majorities through resistance or illicit exploitation, using pre-colonial ways of informal negotiation and appropriation, or newly unfolding means of transportation, weapons, NGO support, social media, mobile and computer technologies. The emerging situations, sometimes 'uncomfortably complicit', sometimes 'violent', impede the convergence of the global and local interests. Through the lack of top-down and bottom-up communication, globalisation is producing ever more divergent physical and temporal environments, in close proximity to one another, as currently in Lekki. The myth of a mysterious and dangerous West African city, such as Lagos, a hyperbolic image bolstered by the economy connecting weapons, security guards, fortified hotels and armoured SUVs, needs to diminish to its true proportion. This thesis is inspired by the recent work of courageous researchers who launched themselves into the city's depths to gather information capable of proving governments – or other organisations like NGOs or developers – negligent or duplicitous. Indebted to these individuals, my work calls for further constructive self-sufficient propositions tailored to the genuine lived realities of West Africa.

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KEYWORDS

gender
woman
feminism
building
weaving
craft

Radical Gender

- Mandy Shindler

'Woman, Difficult.'

Narrative: I sit at the machine. My hands are guiding a piece of linen under the needle. The rhythm of the *tik-tik-tik-tik-tik-tik-tik-tik* modulates the stitches and creates traces. As I step on the foot pedal, it goes faster – *tuk-tuk-tuk-tuk-tuk*[1]. My arms are rigid, stable, while at the same time weaving the narrative. The tactile experience of sewing is the performance of a *type* of woman. While I'm performing, I *am* a hysterical, screaming, cursing woman. I *am with* all the emotions and passions that have labelled me throughout my life as a 'difficult' woman. I am now embodying a form that I have not allowed myself to feel before. I am discovering its possibilities for empowerment and I am *finally* bringing this form, this way of working, of seeing, of being . . . to the discipline of architecture.

Mother Tongues and Father Figures: I am finally creating space for making meaning out of the hatred and disregard of my mother. The respect and reverence of my father, the masculine energy that I so crave is there in the background[2]. But it isn't looking over my shoulder. His gaze does not hit the side of my face[3]. I'm feeling this embodied, nomadic, tactile form that translates into softness. I'm sitting, and I am not standing. I am weaving a pattern that is organic and infinite. I am NOT block building which is hierarchical and final. I am weaving; I am not block building . . . I wouldn't make pictures of buildings. I was buil–*ding*, but not a building. Why is a drawing of a building only, merely, simply *representative* of architecture but the built building is considered real[4]? You design something for the future . . . today you draw it, make it . . . in the present, BUT the building does not yet exist. In that space, the thing that *doesn't yet exist* outranks the thing that *does*.

Build a Drawing, Draw a Building: So, one of the solutions is that we can say that buildings and drawings and models and texts and performances and weavings are *all* representational embodiments of architecture. Here, now, we can speak about space making as part of being human. It's like when a spider spins a web — that's architecture. Still, buildings are not always architecture and not all architecture is buildings. But buildings remain a great medium to explore the meaning of architecture, so I dabbled in its adjacencies. Some of the conventions are there, in-between the layers, stuck like pearls or like a cocoon in the folds of a curtain . . . or in the folds of a dress you haven't worn in years[5].

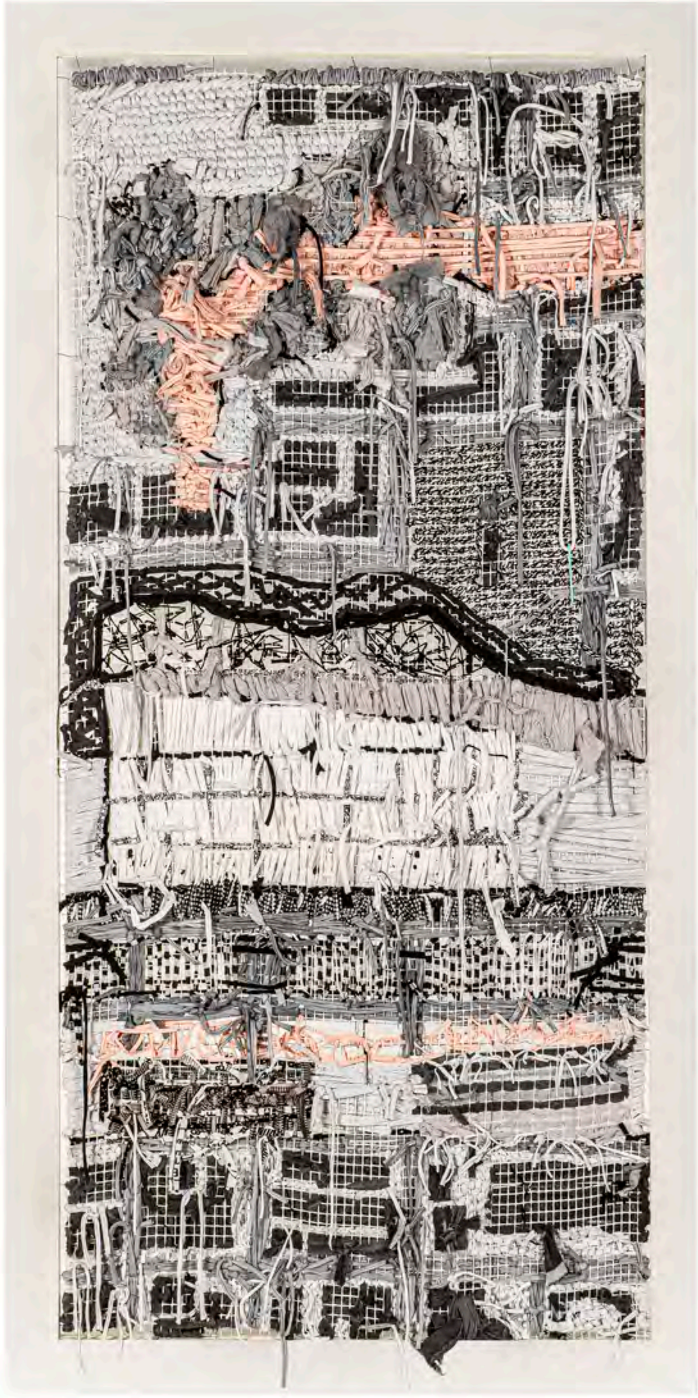

Figure 1: Knot Building. 1mx2m. Cotton, wool, and linen, hand-woven. © Mandy Shindler

‘The beginning of building coincides with the beginning of textiles and the most fundamental elements of both buildings and textiles was the knot[6]. So, I am, then, ***knot*** *building.* ***NOT building****.*

Going back in time to the nomadic traditions in Africa, we women produced and maintained our architecture. Building was often, generally women’s work[7]. Warfare, politics and animal husbandry was men’s work. We also cared for and educated the children, prepared the food, cut the wood, fetched the water. The rise of the public realm and its architecture in Europe and East Asia saw the transference of architecture from the private realm of women into the ‘world’ — which was politics, men’s work. In contemporary professionalised architecture, we are rarely seen as being an essential part of the production team, but are regarded instead as the *reproductive* team. This is a partialized, broken inheritance from ancient origins. It is necessary to bring this type of work, this ‘women’s’ work to the public — breaking and reweaving ancient chains.

Materials can transform the making and understanding of objects. If we look at the tent, which is made of canvas, leather, and mats, it is considered a temporary shelter. However, these are often more enduring than stone and concrete, which, once broken, *must be repaired in accordance with its original construction*. It is not as easy to repair in contingent ways.

The nomadic lifestyle does not, because it is mobile, mean that it is ephemeral and temporary. In fact, it is more of a continuum, tempor*al* rather than tempor*ary*. Something that is constantly moving and being maintained can be more permanent than a stagnant built stone structure. The immaterial gives it a living, growing, changing dimension. Care is the medium of continuity and permanence in these architectures.

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1 For more on woman/machine interfaces, see Donna Harraway’s ‘A Cyborg Manifesto: Science, Technology and Socialist-Feminism in the Late Twentieth Century’ in T*he Cybercultures Reader*, edited by D. Bell and B.M. Kennedy, pp. 291-324. London: Routledge, 2000.

2 Special thanks to my thesis supervisor Stephen Steyn, who stood in the place of this figure and provided a benevolent gaze under which to perform the project.

3 Borrowed from Barbara Kruger’s 1981 photograph *Untitled (Your gaze hits the side of my face)*. National Gallery of Art, Washington DC.

4 Buck-Morss, Susan, ‘Aesthetics and Anaesthetics: Walter Benjamin’s Artwork Essay Reconsidered’ in October, Vol. 62 (Autumn), pp. 3-41. Boston: MIT Press, 1992.

5 Also see Jennifer Bloomer’s ‘Abodes of Theory and Flesh: Tabbles of Bower’’ in Assemblage, No. 17, pp. 6-29. Boston: MIT Press, 1992.

6 Gottfried Semper (1803 – 1879), *Four Elements of Architecture and Other Writing*s, translated by Harry Francis Mallgrave and Wolfgang Hermann. Cambridge/New York: Cambridge University Press, 1989.

7 Essential reading on the topic is provided by Labelle Prussin in her exquisite record of the intersections of nomadic architectural practices and the rituals that form and inform them in *African Nomadic Architecture: Space, Place and Gender.* Washington DC: Smithsonian Books, 1997.

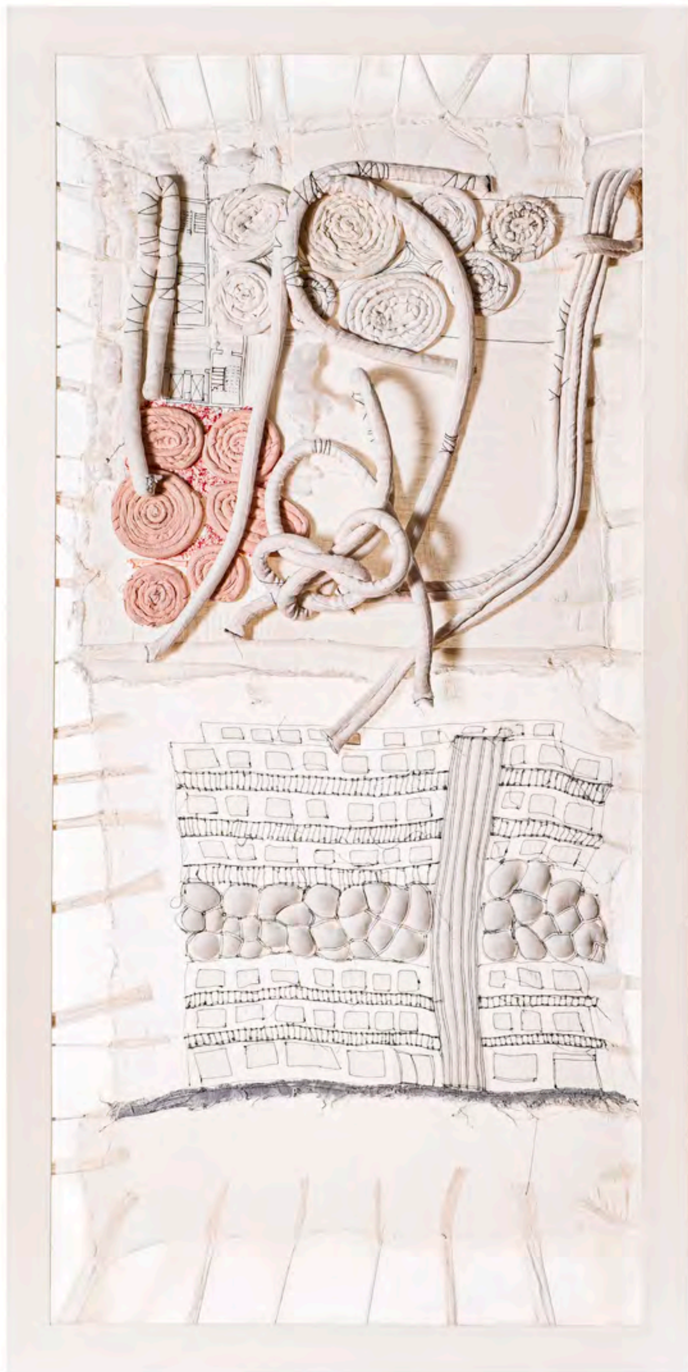

Figure 2: Inner Sense. 1mx2m. Linen, cotton, *trapunto* technique. © Mandy Shindler

Figure 3: Cocoon. A1. Silk, wood glue, red thread.
© Mandy Shindler

Figure 4: Inflection. A1. Canvas, cotton thread, polyester batting. © Mandy Shindler

KEYWORDS

armed
camouflage
decoy
safety
surveillance

Radical Defence

- Adam Osman

'When a house has been alarmed, it becomes explosive. It must be armed and disarmed several times a day. When it is armed, by the touching of keys on a pad, it emits a whine that sends the occupants rushing out, banging the door behind them. There are not leisurely departures: there is no time for second thoughts, for taking a scarf from the hook behind the door, for checking that the answering machine is on, for a final look in the mirror on the way through the hallway. In an alarmed house, you awake in the small hours to find the room unnaturally light. The keys on the touch pad are aglow with a luminous, clinical green, like a night light for a child that is afraid of the dark.'
(Vladislaviç, 2006: 11)

My work seeks to deepen our understanding of defensive domestic tactics and architectures through the study of houses in arguably vulnerable Johannesburg neighbourhoods that have undergone extreme modes of fortification. The drawings are translations derived from the perspective of both occupant and perpetrator to demonstrate how similar architectures hold different uses and value.

The aim of the project is to develop more radical representations of our relationship to safety. It draws attention to the architectures that we produce consciously and subconsciously, and challenges us to think about more thoughtful spatial designs that support our safety and well-being.

Adam's thesis was supervised by Thiresh Govender and Sarah de Villiers, Unit 14, 2018.
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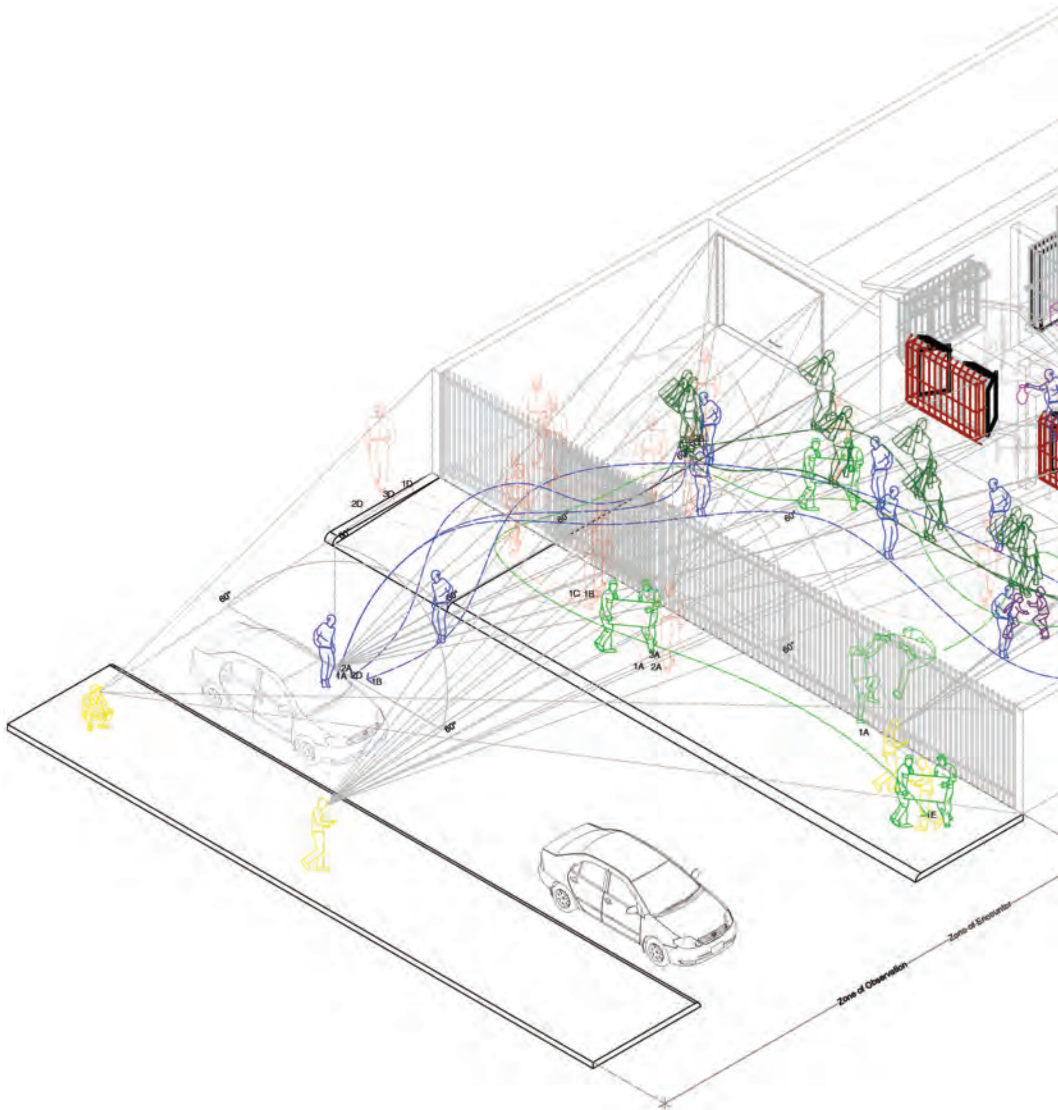
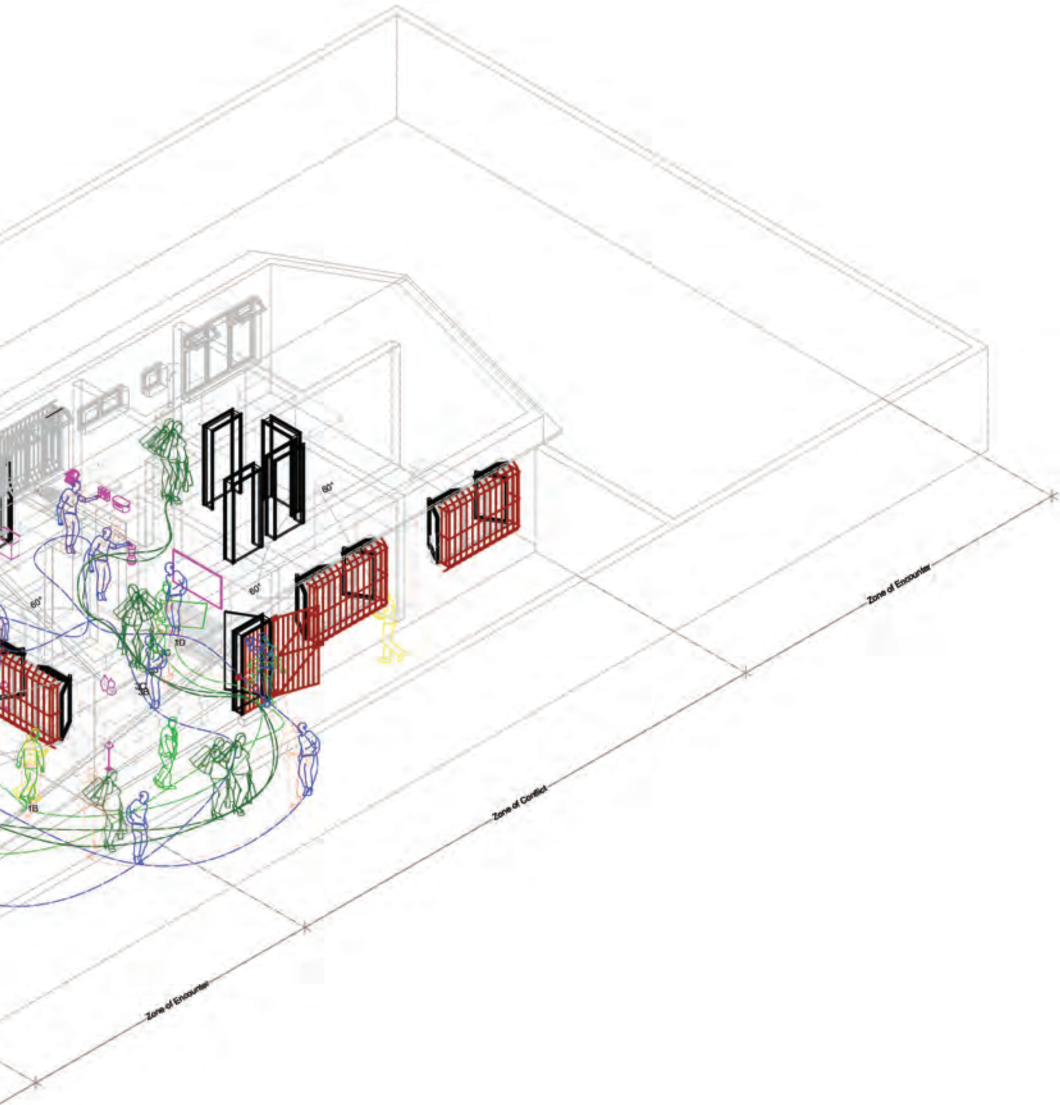
Moorland Place
near Demoroza school
unit 9.
no Alam
no Security.
Retired man with
his wife. got lots of
money saved in
his house
he sells gold chain,
Ring, Lamp-Tops.
go very slowly
Threw cilling.
Some gold
kept in the out bathe
go threw cilling.
come 2. morning
no ALam
no Security
hit wife
She give you
every thing.

ake
his
cars.

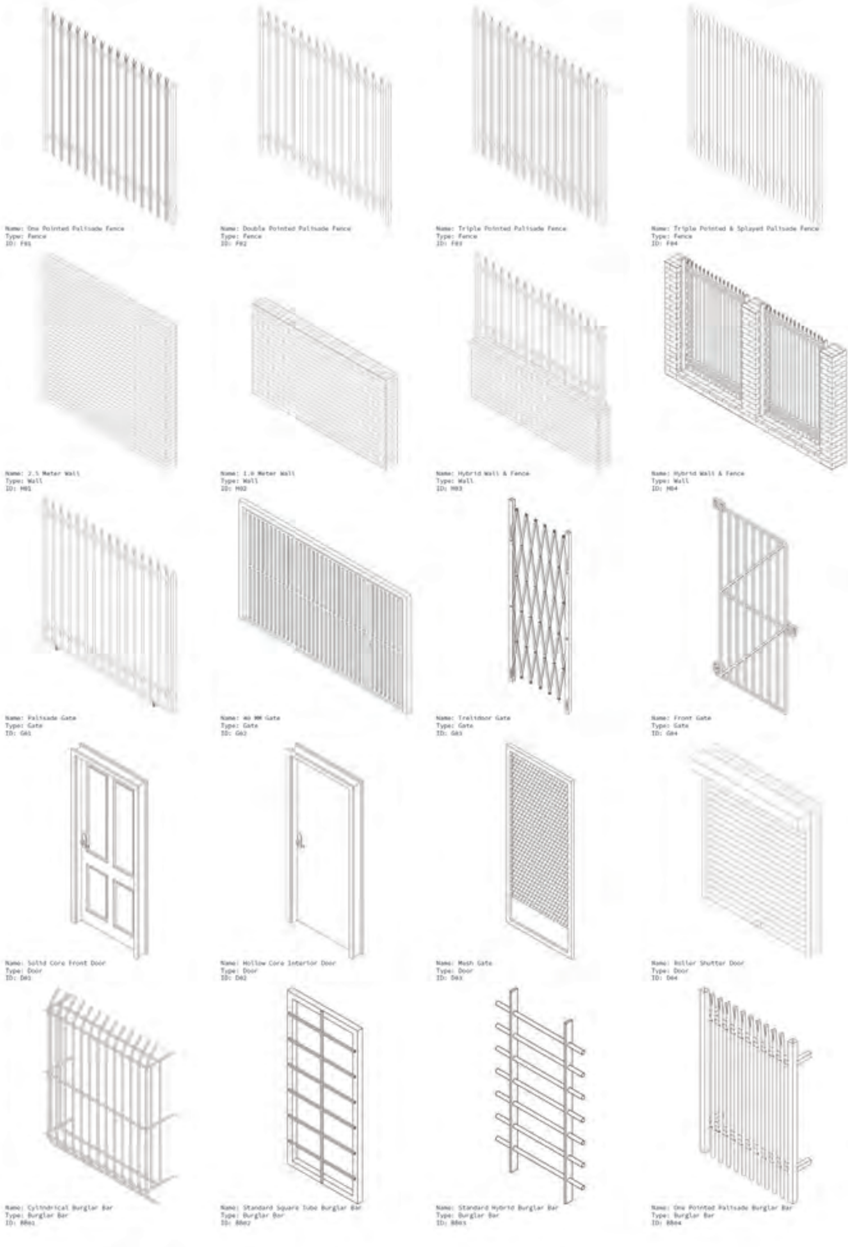
every wed
wife go 10 clock
come back
at 1 clock
break kitchen door
in the side

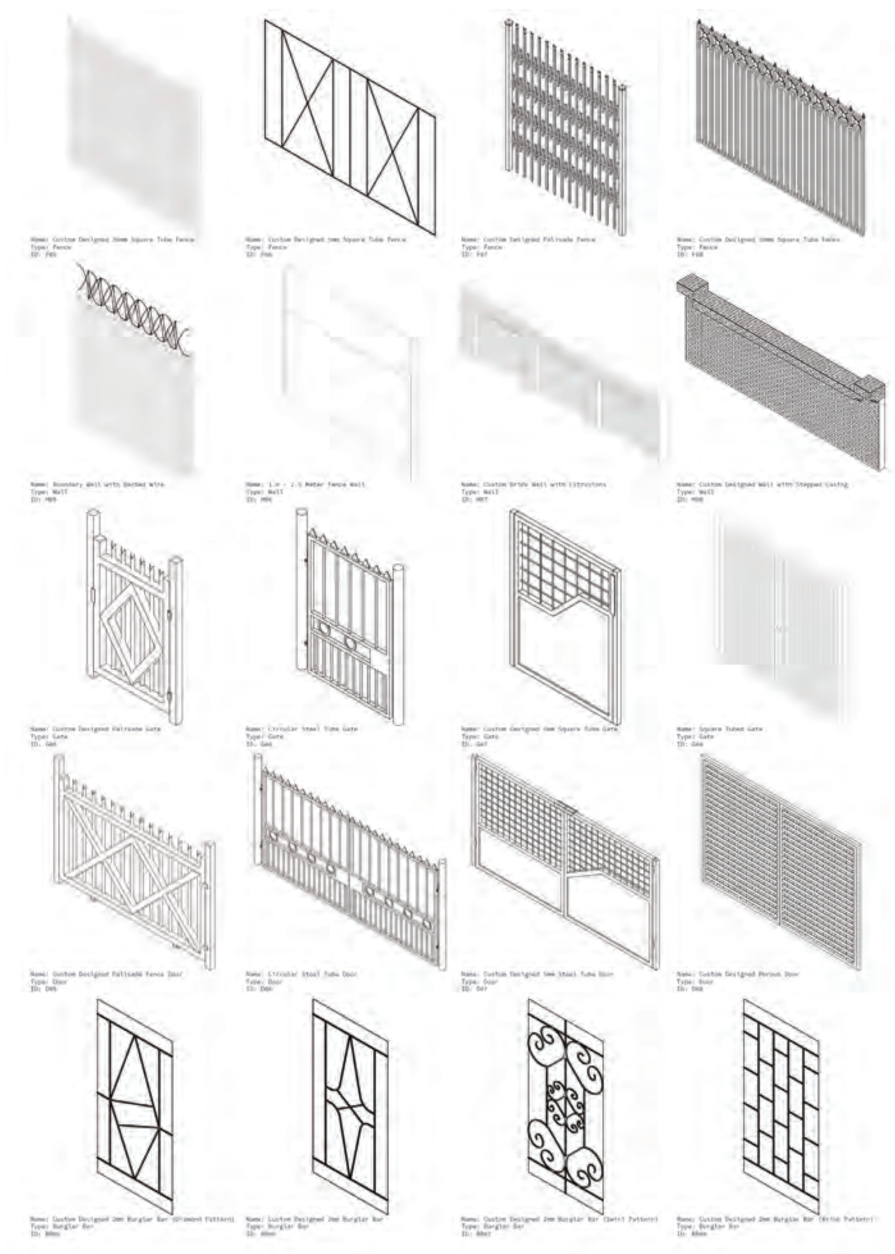
The Crime Scene: Understanding the multiple types of burglars.



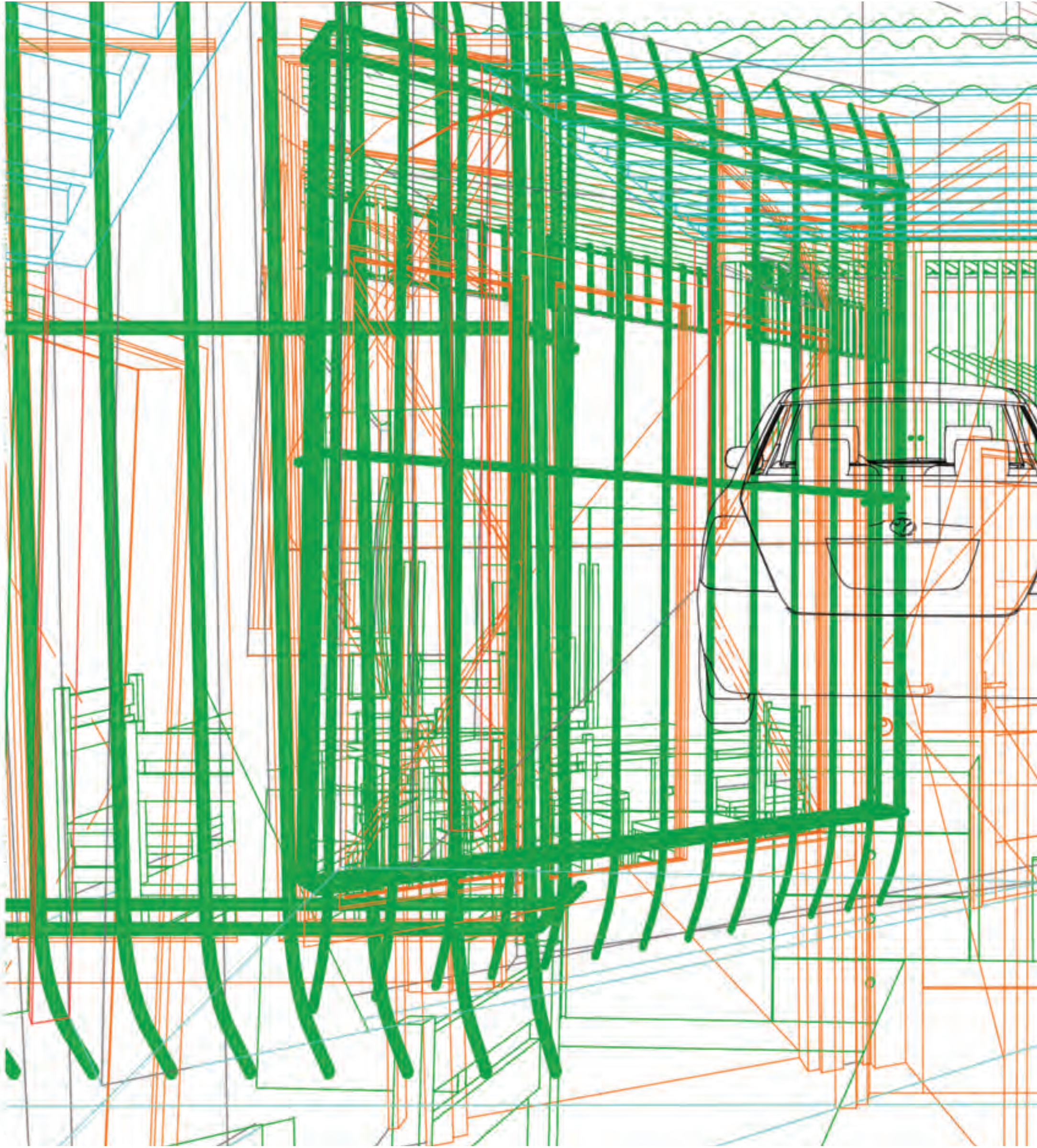

Zone of Encounter
Zone of Conflict
Zone of Encounter

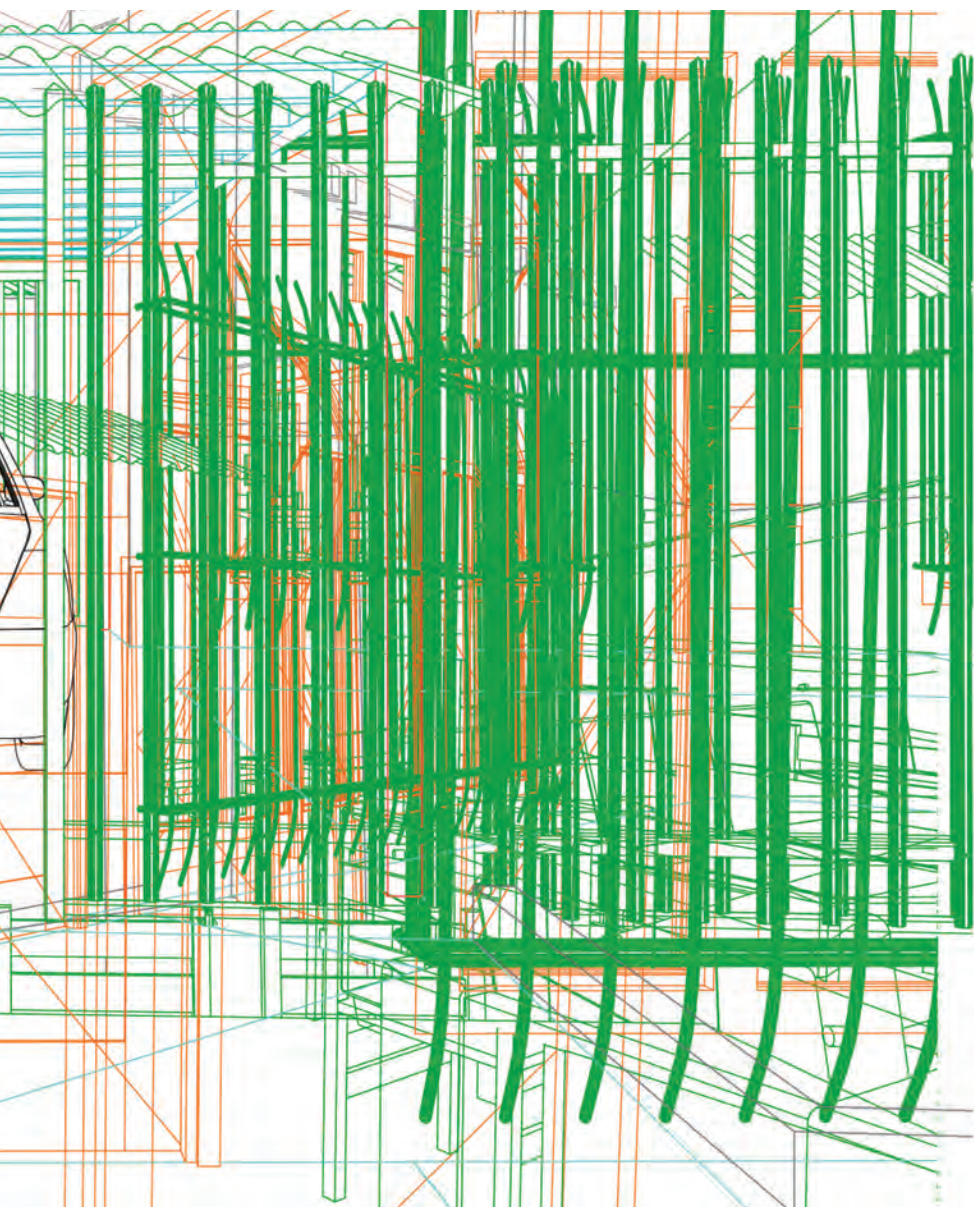
Fortress: Looking at the multiple types of security measures in arguably vulnerable neighborhoods.





Burglar's Eye View: A 3D culmination of perspectives that highlight the intruder's perspective of a home's security measures.

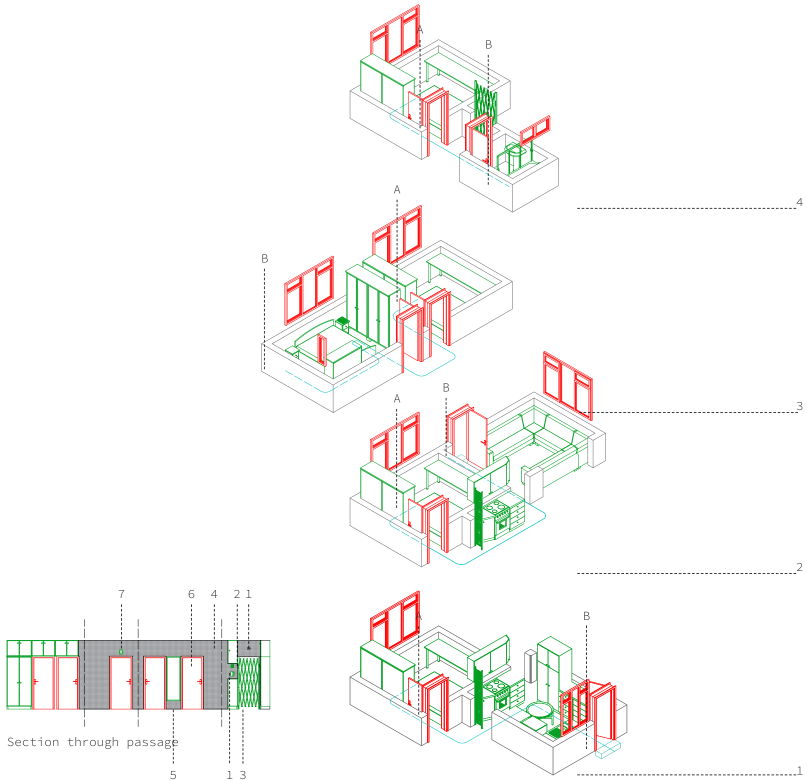




Burglar Proofing: Analyzing the multiple layers of security used for protection in the domestic setting.

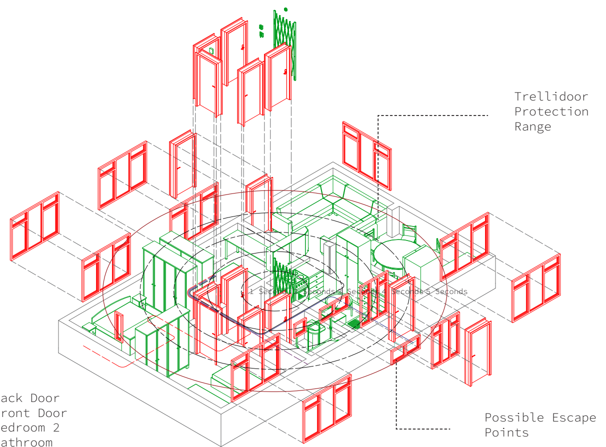
Portal: A view into the lives of ordinary people.

Panic Room: Understanding threats to external forces within my most invulnerable space.



Security Measures:

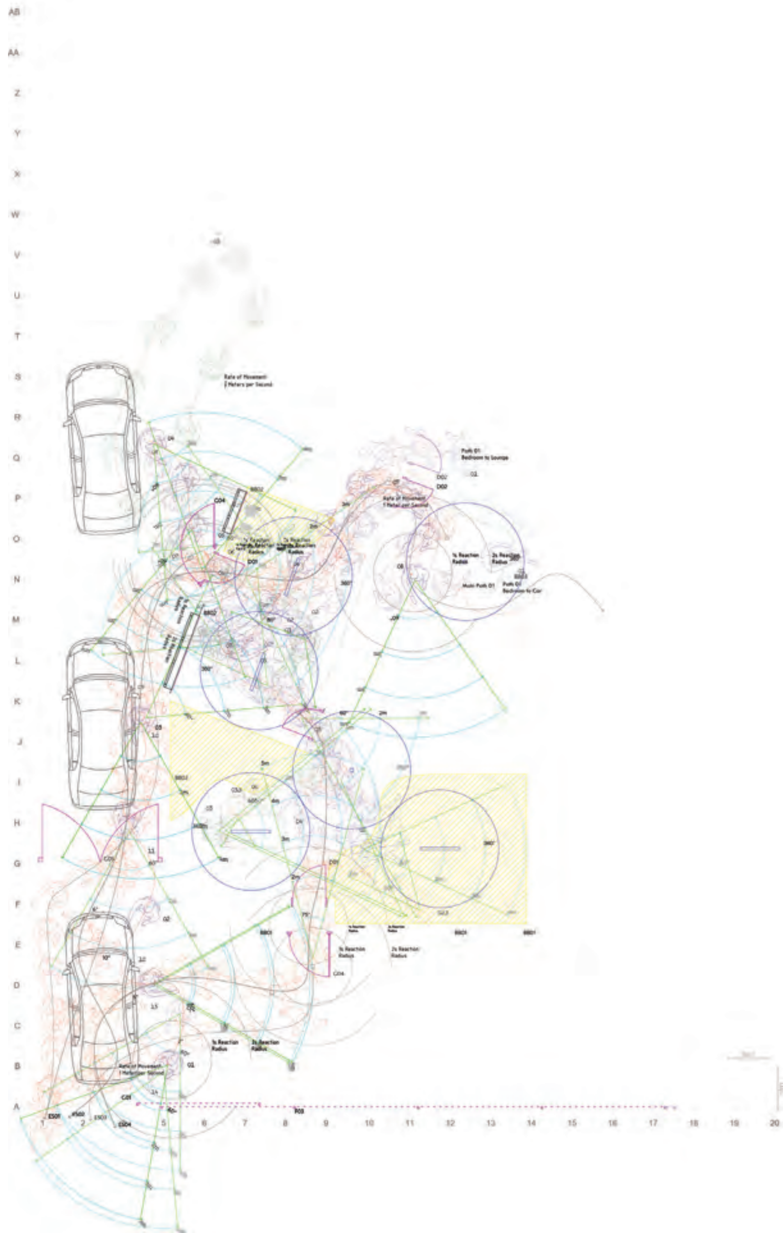
1. Alarm system
2. Emergency phone
3. Trellidoor
4. Mirror on walls
5. Floor tiles
6. Door views to passage
7. Infrared eyes



Escape Routes Key:

1 - (A) Bedroom 1 to (B) Back Door
2 - (A) Bedroom 1 to (B) Front Door
3 - (A) Bedroom 1 to (B) Bedroom 2
4 - (A) Bedroom 1 to (B) Bathroom

Spatial Reconnaissance: Analyzing the daily motion of the occupant through live tracing and overlaying.



KEYWORDS

maps
cartographies
Mozambique
sovereignty
territory

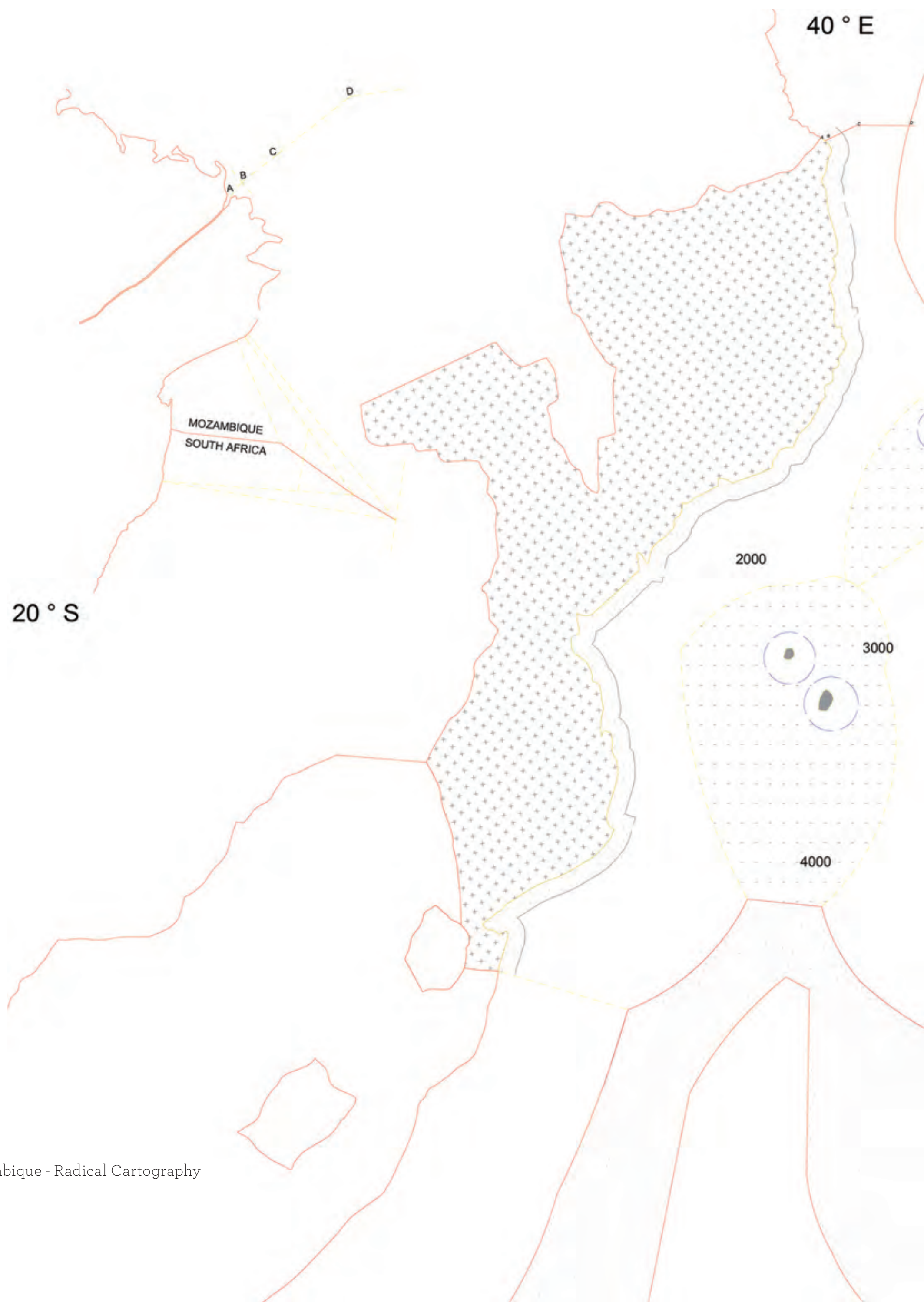
Radical Cartographies

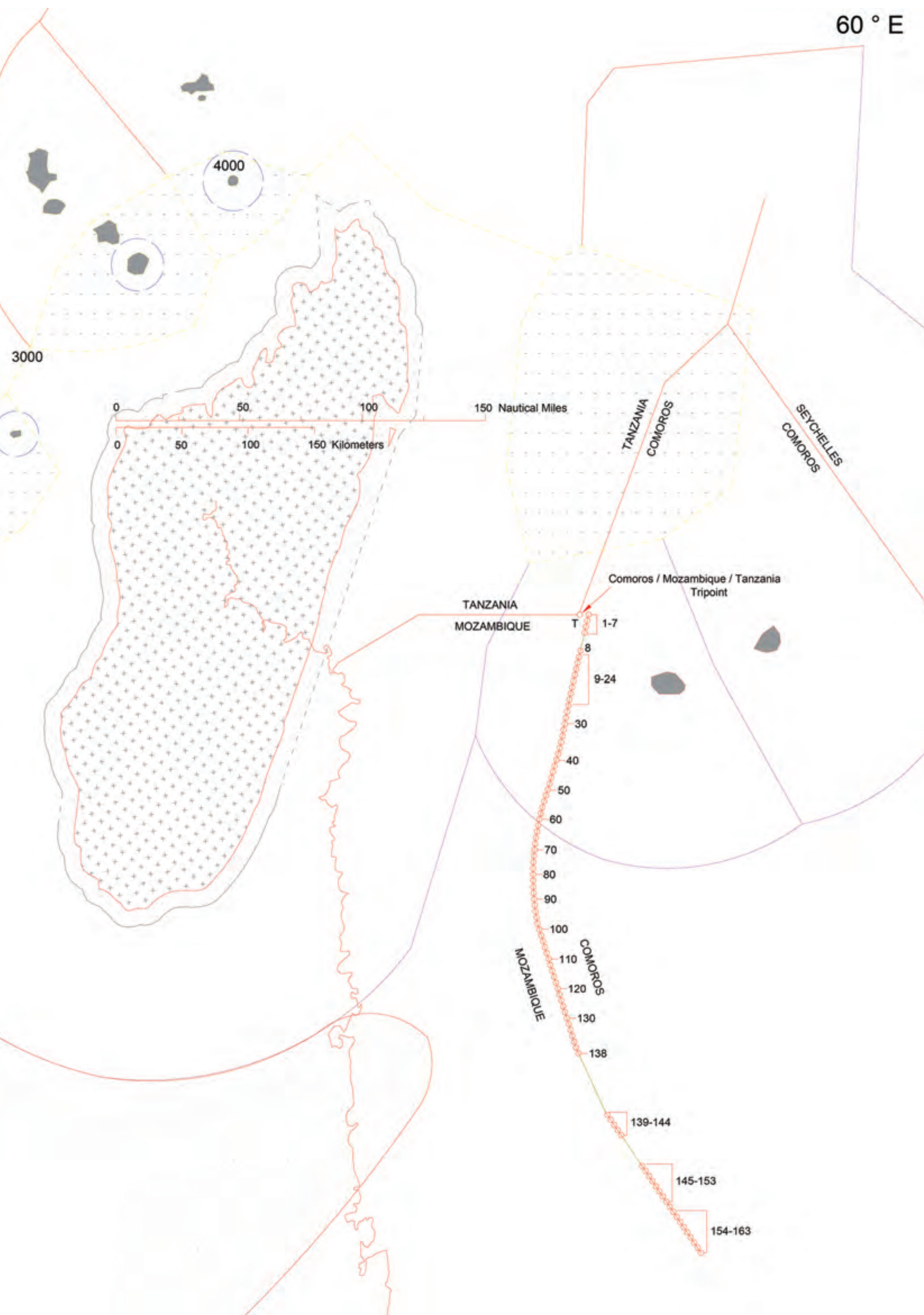
- Gerald Titus

The map is the norm. Cartographic baselines are the default and the standard. How can maps be challenged and adapted in order to gain, manipulate or control power?

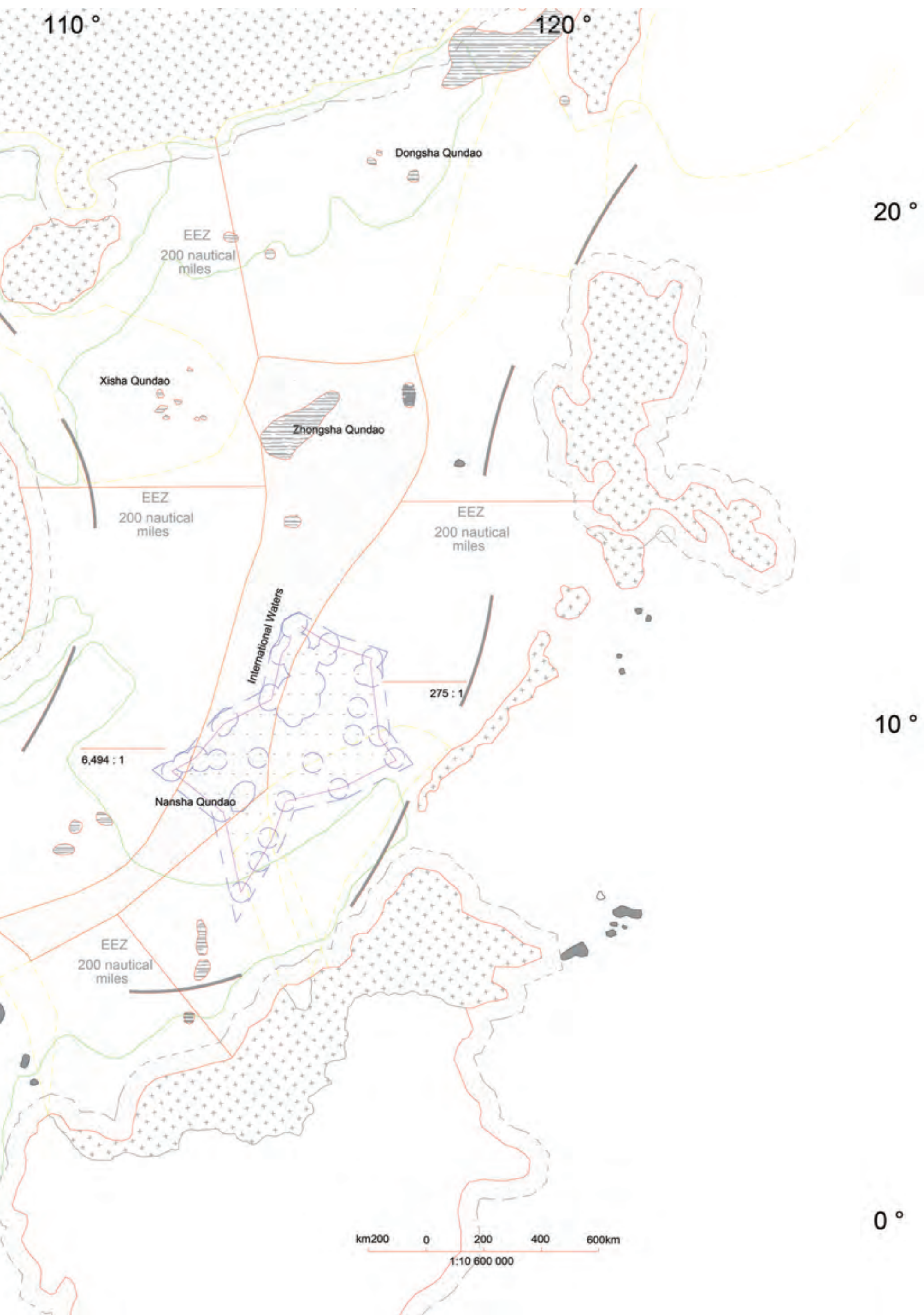
My work looks at the process of drawing and re-drawing baselines in the construction of national borders within ocean territories. These drawings challenge current global maritime law, allowing Mozambique to enter into the current and constant unequal shifts of sovereign territories along its land and sea edges. By drawing the movements of past, current and future-planned territorial shifts, the work explores a new relationship of power between the architect (planner), politician (master planner) and ordinary person (citizen). By understanding how edges are drawn, how ground is shifted, and how new forms of architecture are being built, on rocks in the South China Sea, for example (gaining both physical and sovereign territory), the drawings begin to alter how we define power and practice.

Gerald's thesis was supervised by Eric Wright and Claudia Morgado, Unit 13, 2019. © GSA/ Gerald Titus


40 ° E
D
C
B
A
MOZAMBIQUE
SOUTH AFRICA
20 ° S
2000
3000
4000


60 ° E
4000
3000
0
50
100
150 Nautical Miles
0
50
100
150 Kilometers
TANZANIA
COMOROS
SEYCHELLES
COMOROS
Comoros / Mozambique / Tanzania
Tripoint
TANZANIA
MOZAMBIQUE
T
1-7
8
9-24
30
40
50
60
70
80
90
100
110
120
130
138
139-144
145-153
154-163
MOZAMBIQUE
COMOROS

90 °
100 °
EEZ
200 nautical
miles



110 °
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Dongsha Qundao
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Zhongsha Qundao
EEZ
200 nautical
miles
EEZ
200 nautical
miles
International Waters
275 : 1
6,494 : 1
Nansha Qundao
EEZ
200 nautical
miles
km200 0 200 400 600km
1:10 600 000

KEYWORDS

scales
measurement
metric
Mozambique
shipping

Radical Scale

- Ndumiso Jako

The work of architects has largely been contained to consistent historical scales – those of the physical, the knowable, and the observable. Today, however, technological advancements stretch this notion to unimaginable extremes. We cannot rely on what we already know. The familiar becomes unreliable when seen as a position from which to act. In radical ways, these unfamiliar territories described in my drawings break out of the conventional ways of measuring, seeing and knowing. Operating at the brink of knowledge, my work 'tests the waters.' Manifesting as a fleet of ships anchored alongside societies found on the edge of the Mozambican shoreline, the project constructs a new dialogue between ownership of natural resources, which are exported from the mainland, and manufactured goods that are imported into the country.

Ndumiso's first year Master's Major Design Project was supervised by Eric Wright and Claudia Morgado, Unit 13, 2019. © GSA/Ndumiso Jako.

Hybrid Mobility Architecture

01-Component [Dairy-Farm]
02-Component [Aquaponics-Farm]
03-Component [Solar-Farm]
02-Component [Data-Farm]

02 Dairy-Farm

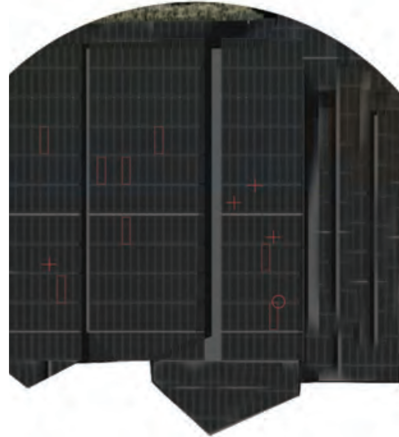
A dairy farm component within a Ship, the system is supplied by another system which is the Aquaponics system. These sytems are seen as fragments that work inunity to perpetuate a unified agenda. This speaks to the manner in which collaboration between Archirtects and other professions remains vital in an emergent rapid changing enviromnent.

01 Component -Aquaponics-Farm

A component that is self-sufficient, a typical example to re-using waste as a by-product for energy consumption. In an aquaponics system crops, vegetables weat are can be grown and be cultivated in these environments without needing soil. This syetem in its self is composed of a variety of smaller systems; these consist farming fish, and growing crops. At these scales these systems are re-inverted differnetly from domestic use.

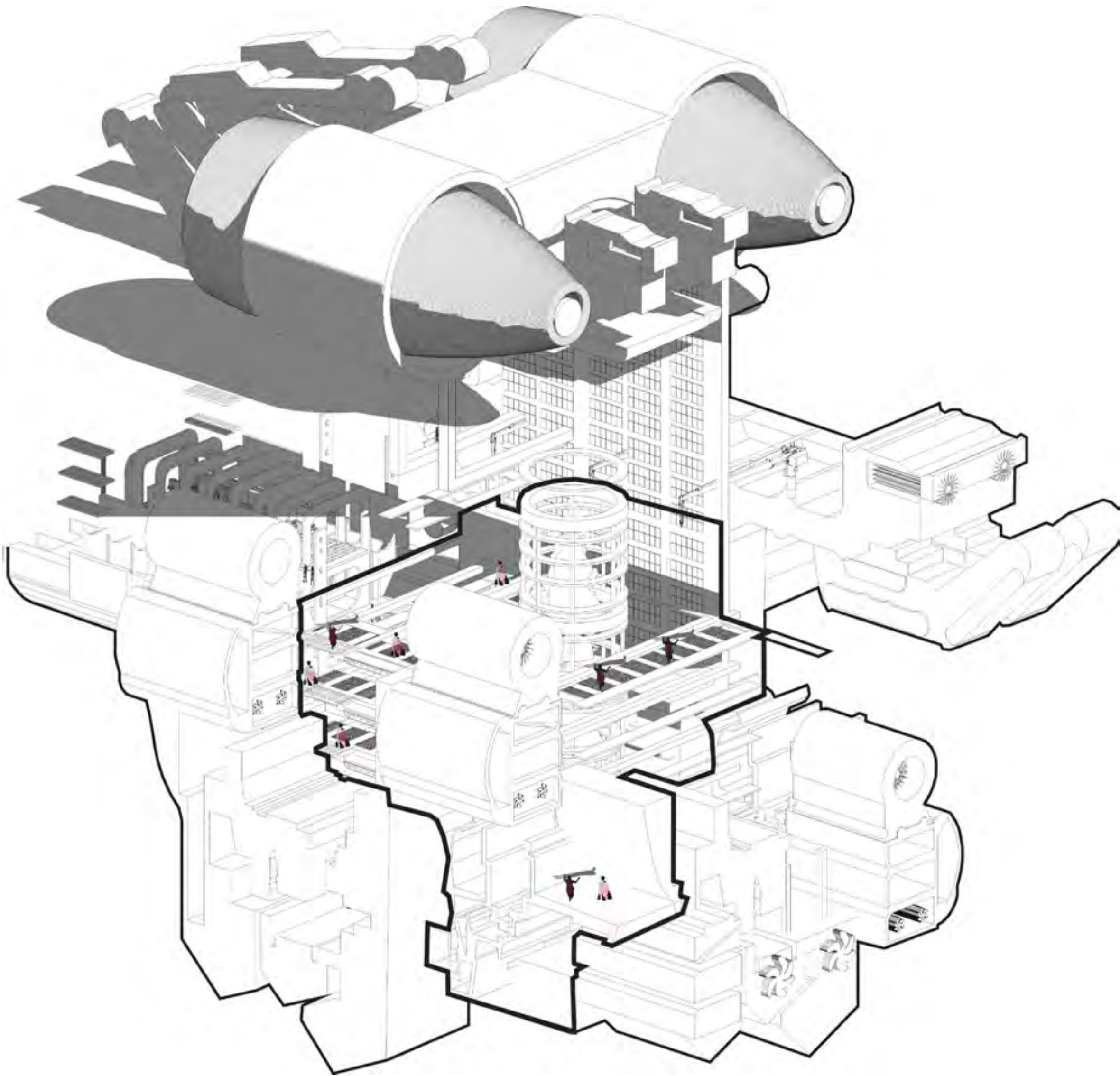
03 Component Solar-Farm

A solar farm at a massive scale that plays its vital role in being the source of power that powers the Data farm, the solar energy is collected and stored by the system over time as the prototype traverses on its journey between sea and land.



04 Component Data-Farm

A data farm which speaks about quantying and learning and adopting new ways to improve systems of technology. the data farm collescts and stores the data information of how these systems work in these new relastionships that they have been placed into and further conducting studies on hiow to improve them for future generations and seeing they can be applied in other similar contexts.



KEYWORDS

upcycling
waste management
improvisation
improvise
bricolage

Radical Bricks [Brick-Collage]

- Senzo Mamba

'For myself, the only way I know how to make a book is to construct it like a collage: a bit of dialogue here, a scrap of narrative, an isolated description of a common object, an elaborate running metaphor which threads between the sequences and holds different narrative lines together.' (Hilary Mantel)

In the arts, bricolage (French for 'DIY' or 'do-it-yourself projects') is the construction or creation of a work from a diverse range of things that happen to be available, or a work constructed using mixed media. The term is also used in many other fields, including anthropology, philosophy, critical theory, education, computer software and business. Modern materials handling requires revolutionary thinking. My thesis project is both a collage and a collision/collusion between old and new; authority and freedom; science and intuition; foreign and native; Africa and beyond. It is the synergy between architecture and bricolage. It presents a paradigm shift in the way we think of waste, architecture and product design. The question is no longer 'what can we do that is new?' but 'what can we do with what we have?'

'Ask a brick what it wants to be.' (Louis Kahn)

A radical thinker is a bricoleur. Bricolage requires both creativity and resourcefulness. Bricoleurs are lateral thinkers, they collect the scraps and pieces left by others, and gather them in a manner that they were not intended to be. The theory of bricolage has a clear emphasis on making do, restricted resources, innovation, imagination and necessity, but also on re-ordering, subversion and transformation. A strong sense of craftsmanship underpins bricolage. However, its components are made out of tools and methodologies that reveal both a manual and intellectual skill. The interplay between reclaimed materials and ingenious assembling indicates a close collaboration between the hand and the mind throughout the process of making. Waste is not only a local resource, but a natural material for practices of bricolage.

Senzo's thesis was supervised by Greg Katz (Unit Leader) and Nico van Loggerenberg, Unit 17, 2019. © GSA/Senzo Mamba.

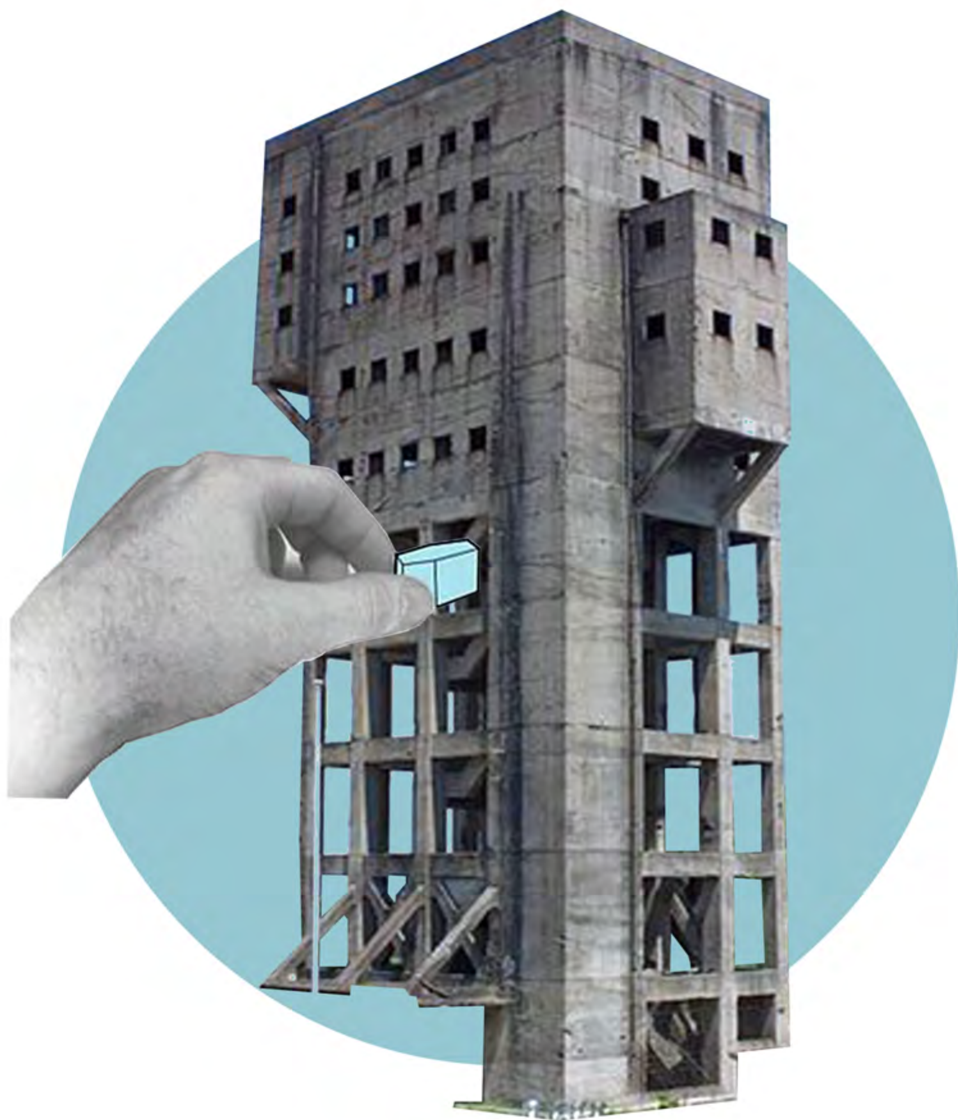
BRICO

L A G E

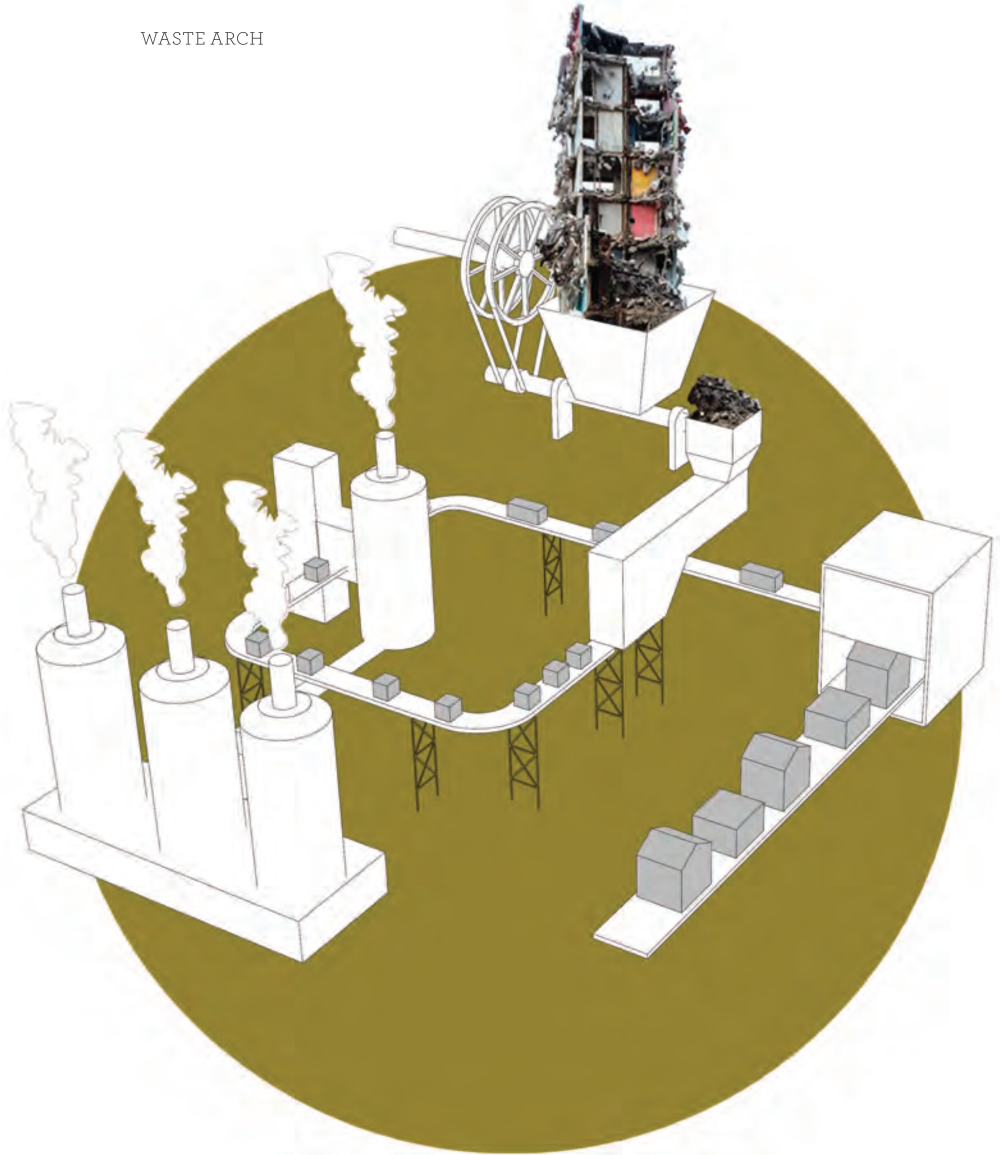
RADICAL DISCIPLINE
FOLIO 364

BRICOLEUR

WASTE ARCH



WASTE ARCH



KEYWORDS

skin
identity
race
chromatic
colour

Radical Identity

- Tonia Murray

In the history of Western thought, the word 'skin' has primarily been understood as a covering for the body. In the Greek and Roman worlds, there were a variety of words to name the different forms and aspects of skin. Chros is a common name for the skin in Greek, describing its colour or complexion (homochroia) (Connor, 2009: 16). The term comes to us from the root chraomai ('to borrow' or 'to make use of'), which suggests a view of skin as 'pieced together', not a homogenous entity (as we now think of it) but as something made up of disparate 'borrowed' aspects which come together in material form.

Similarly, architecture is often described as a 'third skin,' referring to the 'last' skin, the membrane between the body (self) and the outside (the world). The skin of a building (façade) is the surface which interacts with the world at large, protecting its innards.

In many African cultures, skin is also seen as a repository of identity, a surface onto which age, fertility, history, familial identities, tribal and/or national affiliation is inscribed. In this context, the skin is less a thin covering than a deep living surface, which is manipulated through myriad actions: painting, cutting, scarring, bleeding, tattooing.

Radical Identity explores, frames and configures several 'skins': the body, the city and the earth – as complex, hybrid surfaces through which the inscriptions of memory, history, and tradition are made manifest (Lokko, 2018: 234).

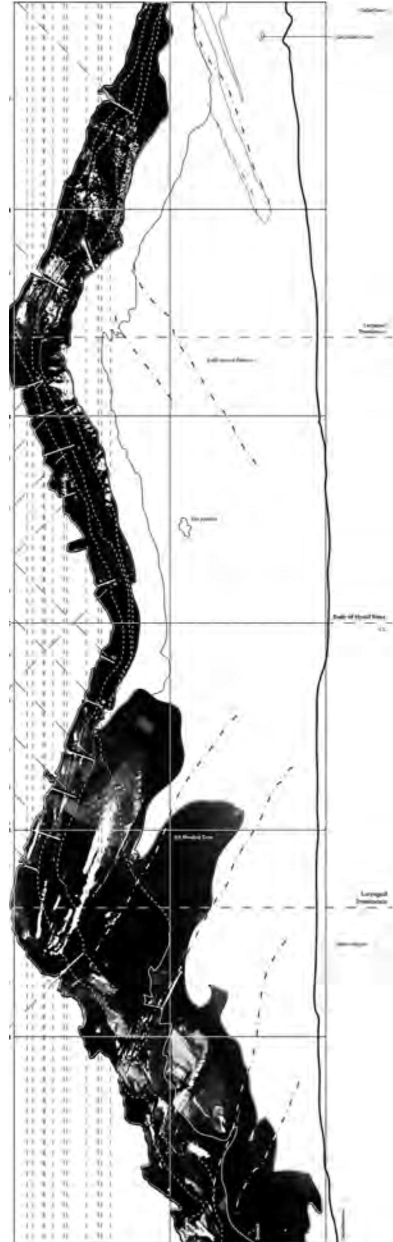
Tonia's thesis was supervised by Sumayya Vally, Unit 12, 2019. © GSA/Tonia Murray.

References

Connor, S., The Book of Skin, London, Reaktion Books, 2009, p.16.

Lokko, L., 'In the Skin of a Lion, A Leopard ... a Man' in Axel, N., Colomina, B., Hirsch, N., Vidokle, A and Wigley, M., Superhumanity: Design of the Self, New York, eFLUX Architecture, 2018, p.234.

Bedouin: The Beard



Dissection of the Beard

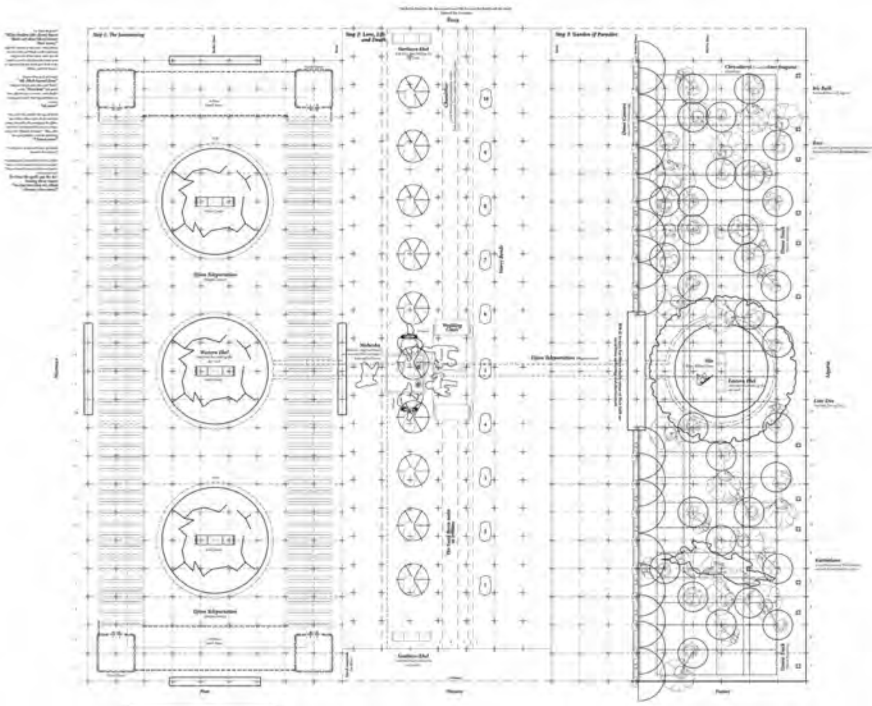
Fern

noun

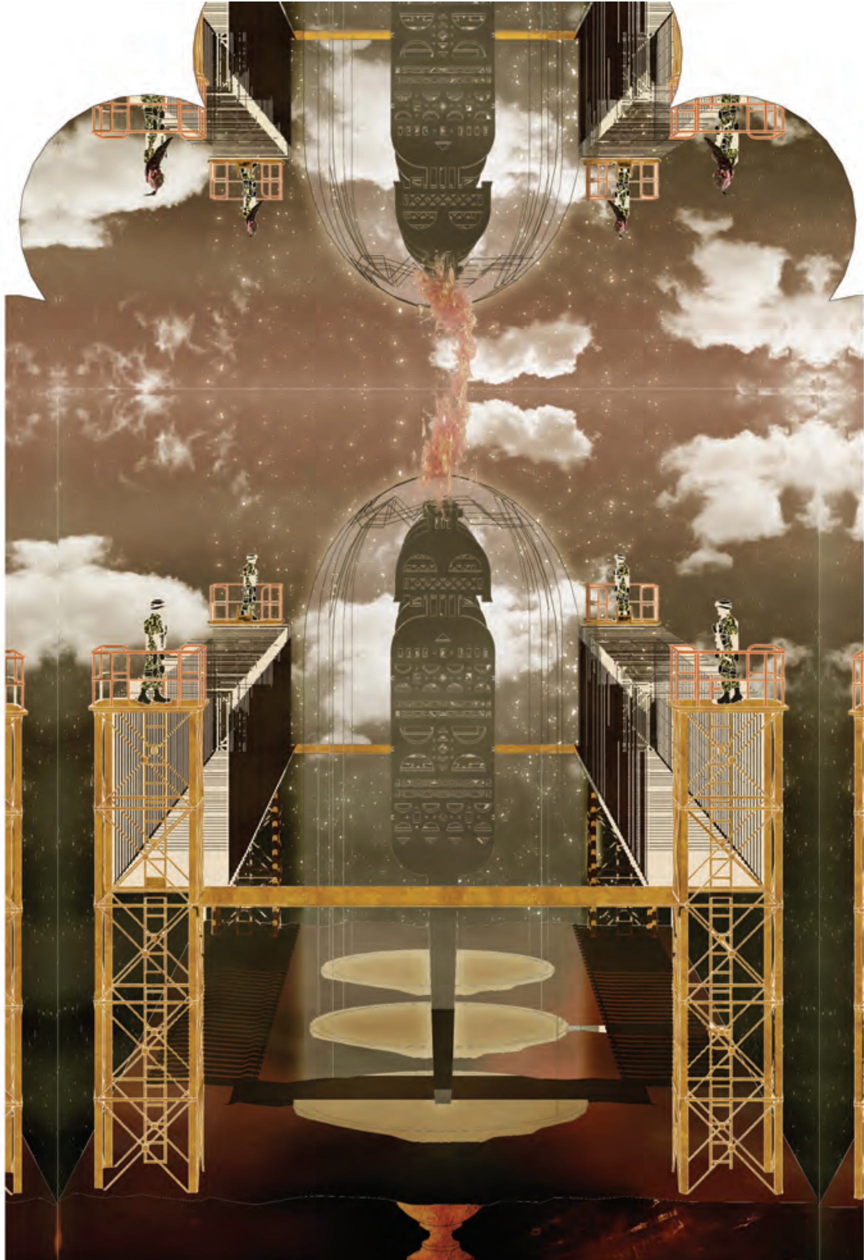
A flowerless plant which has feathery or leafy fronds and reproduces spores released on the underside of the fronds. Ferns have a vascular systems for the transport of water and nutrients.

Ferns can symbolize magic or secret bond of love.

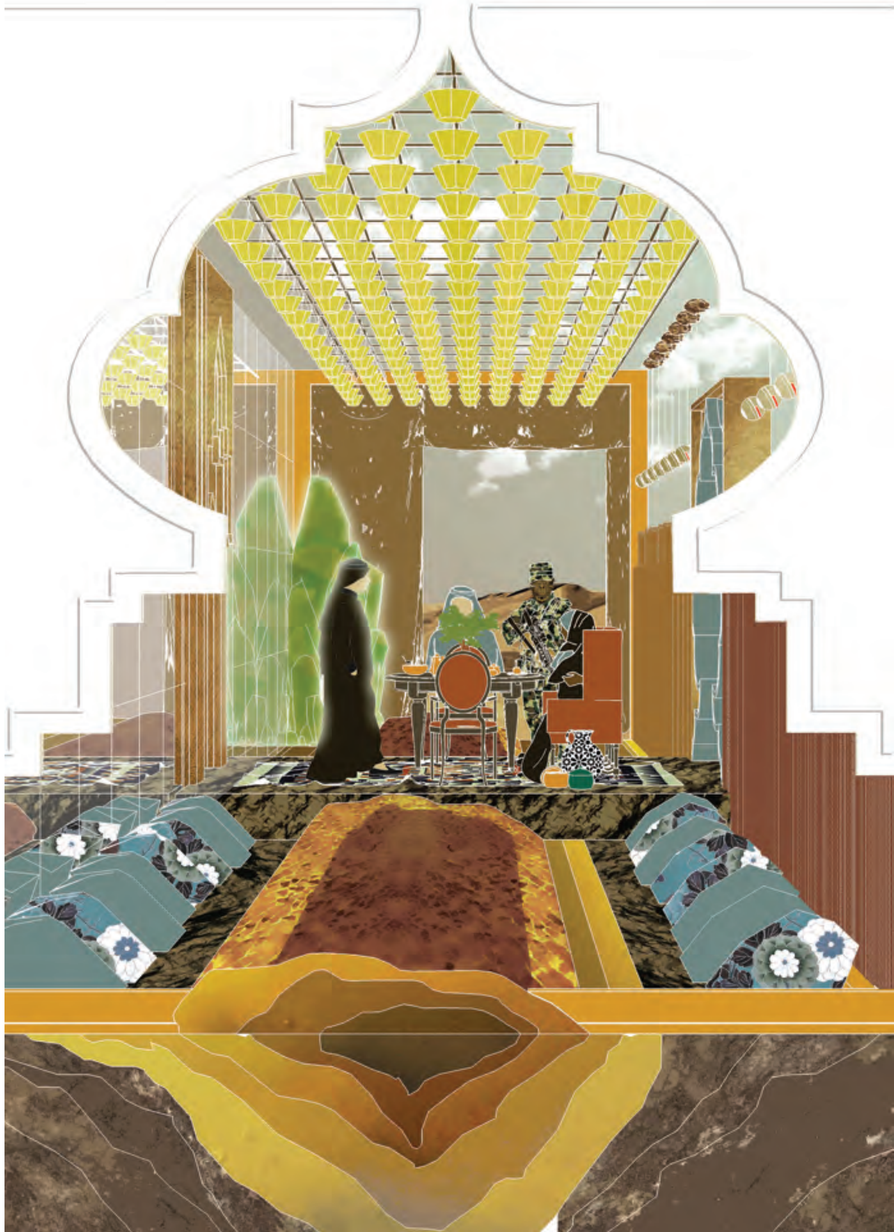
Postcard



Construction of Fate One

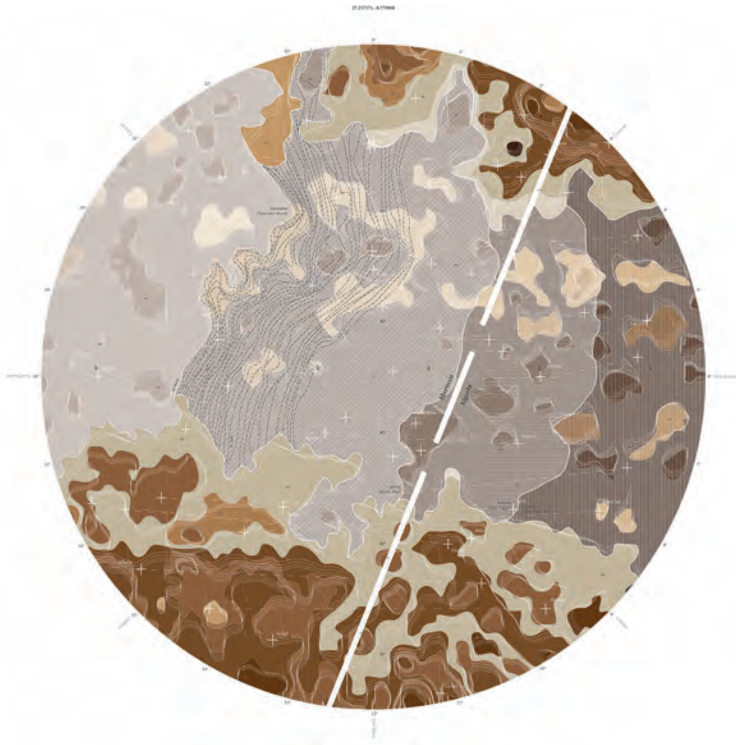


The Summoning



Love, Life and Death

Garden of Paradise



Site of ‘Perol’

Celestial Geographies

KEYWORDS

developer
pixels
modular
adaptive re-use
algorithm

Radical Developer

- Daniele Cronje

This is a radical approach to planning developments in which a voxel is established to achieve the modularity of spaces for improved flexibility in current and future uses of buildings. These various programmable spaces (voxels) can perfectly fit together to form a modular building as all spaces come back down to the same base ratio. Imposing an algorithm on the voxels enables improved efficiency and productivity.

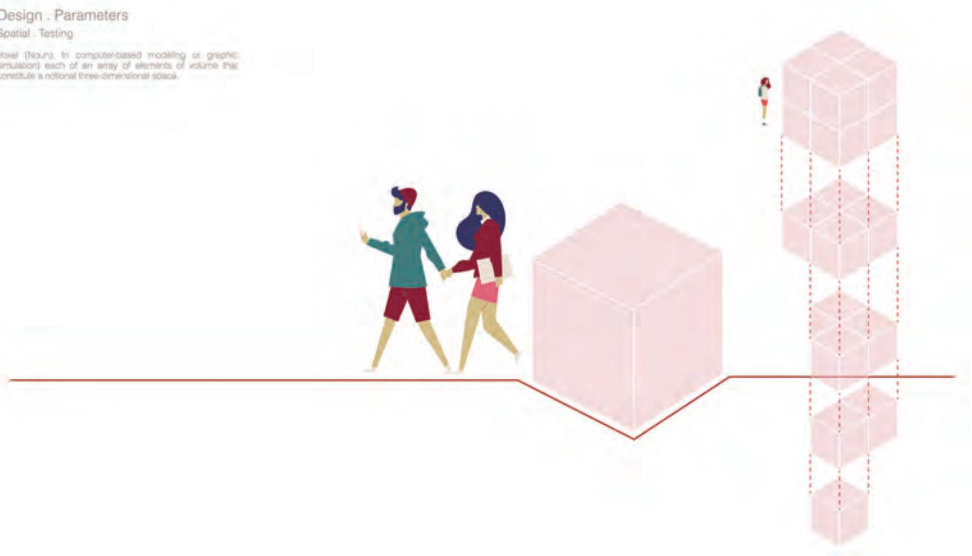
Voxel /vksl/
noun

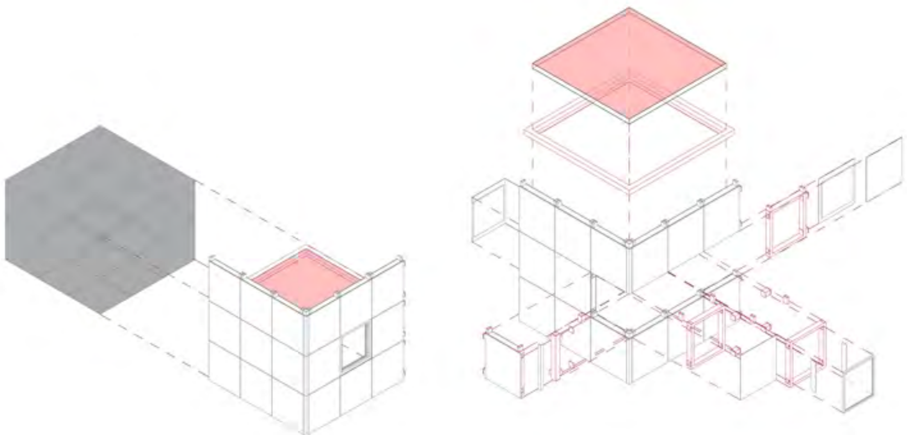
In computer-based modelling or graphic simulation, a voxel is each element of volume in an array of elements that constitute a notional three-dimensional space, in particular, the discrete elements into which a representation of a three-dimensional object is divided.

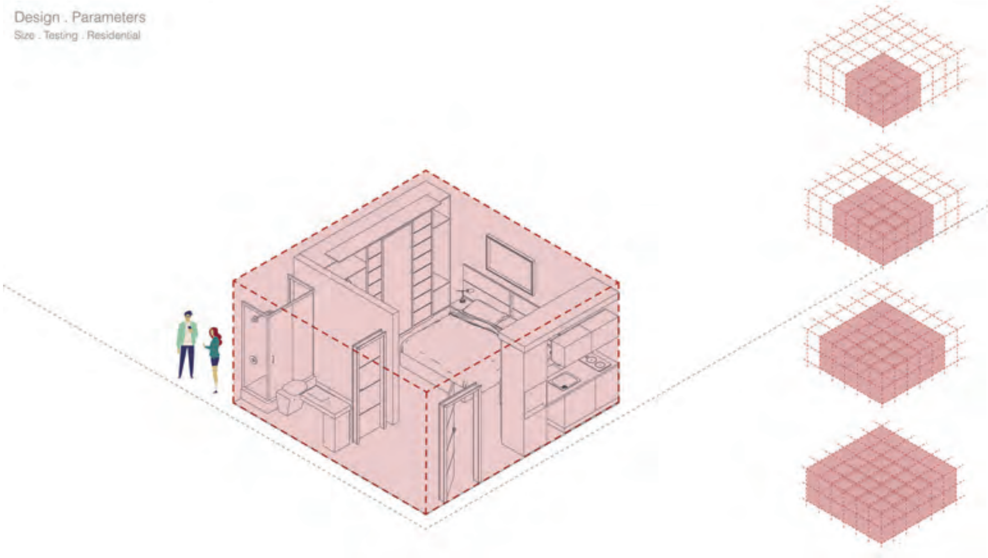
Pixel /pks(ə)l,pksl/
noun

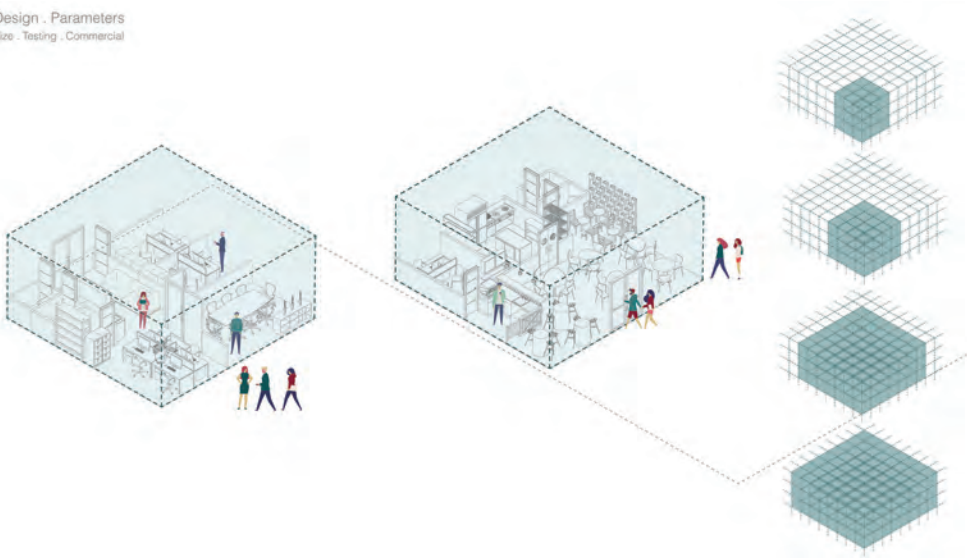
The pixel (a word invented from 'picture element') is the basic unit of programmable colour on a computer display or in a computer image.

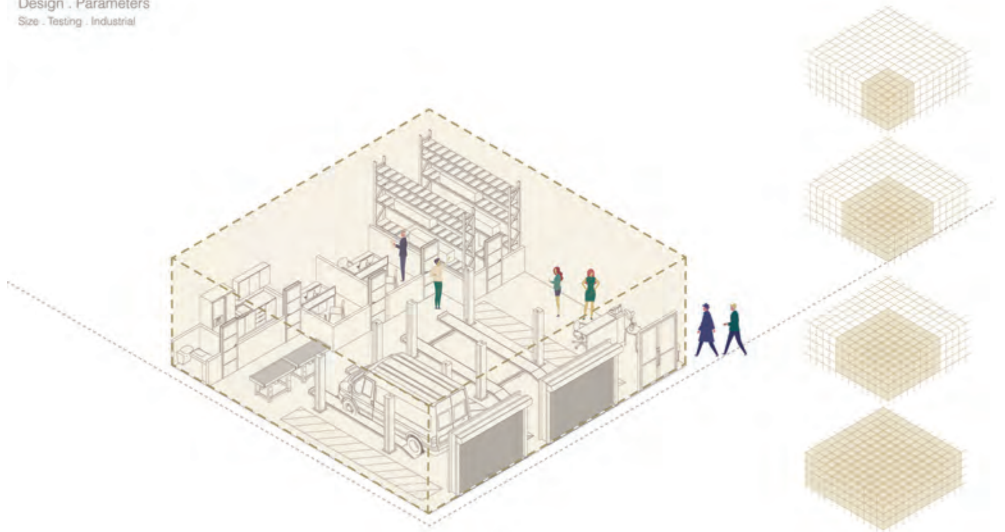
Daniele's thesis was supervised by Tom Chapman, Unit 11, 2019. © GSA/Daniele Cronje.


Design . Parameters
Spatial . Testing
Voxel (Noun): In computer-based modelling or graphic simulation) each of an array of elements of volume that constitute a notional three-dimensional space.

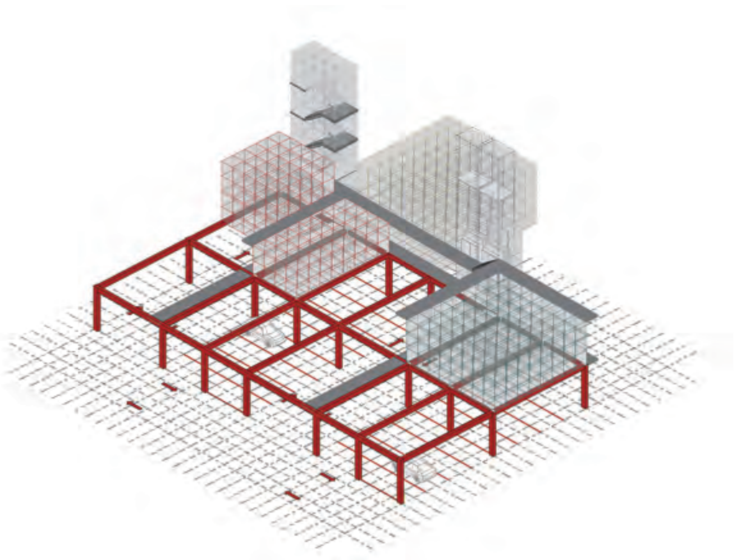

Configuration
Build-up . Break-down . Base

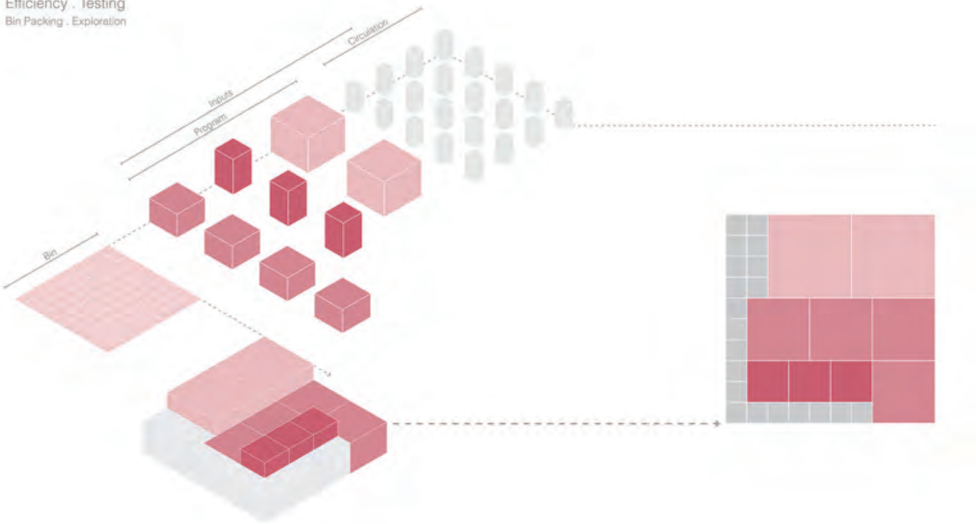

Design . Parameters
Size . Testing . Residential

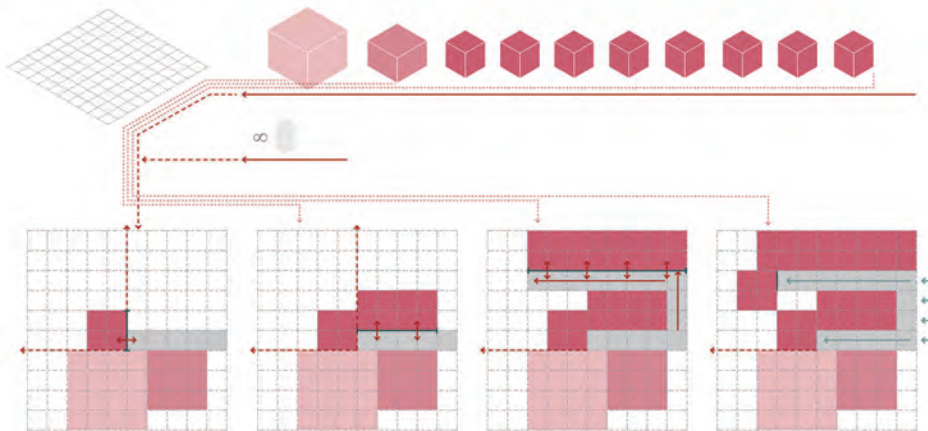

Design . Parameters
Size . Testing . Commercial



Design . Parameters
Size . Testing . Summary




Efficiency . Testing
Bin Packing . Exploration
Circulation
Inputs
Program
Bin


Efficiency . Testing
Layout Generator . Exploration . V0.2
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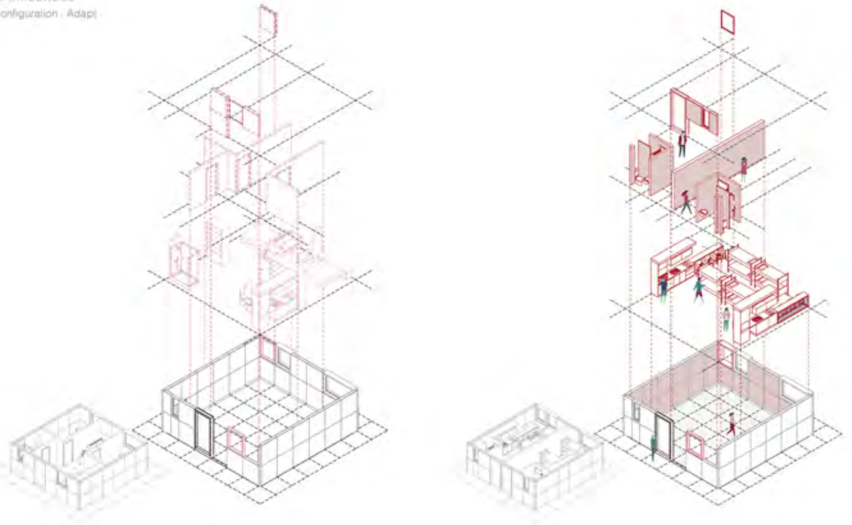
Application

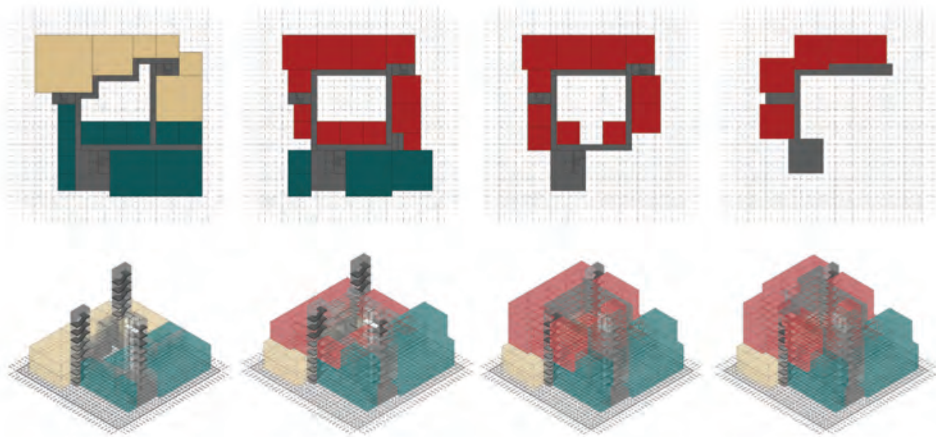
Text . Space . Configuration .

External influences

Space . Configuration . Adapt .



Framework 3 . Testing
Floor . Layouts . Programs



Projection
Adapt . Uses . Program

ABOUT FOLIO: JOURNAL OF AFRICAN ARCHITECTURE

FOLIO is published every two years.
Owing to the COVID-19 global pandemic, this issue is released in digital format until printing logistics are once more fully operational.

RADICAL[2] DEVELOPMENT

RADICAL DISCIPLINE

RADICAL DISCOURSE

FOLIO is produced by the Graduate School of Architecture, University of Johannesburg, located in the southern hemisphere, and The Bernard & Anne Spitzer School of Architecture, New York City, in the northern hemisphere. [1] *One person's winter is another's summer.*

[2] radical (*adj.*), relating to or affecting the fundamental nature of something; far-reaching or thorough; advocating or based on thorough or complete political or social change; (*noun*) a group of atoms behaving as a unit in a number of compounds.