



**Digitalisation in Africa: Interdisciplinary Perspectives
on Technology, Development and Justice**

Tübingen, Germany, 26 and 27 September 2018

Combined Abstracts



**Digitalisation in Africa: Interdisciplinary Perspectives
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Tübingen, Germany, 26 and 27 September 2018

Keynote #1

26 September 2018

ABSTRACT

Presenter

Koliwe Majama

Session

26 September 2018. 1800hrs.

Topic

Exploring Africa's digitalisation agenda in the context of promoting civil liberties

This paper critically explores whether Africa, as a continental bloc, consciously and deliberately responds to the reality of a digital environment with recognition of citizens rights and freedoms. In order to demonstrate the complexity of the rights and freedoms discourse, the paper outlines the main arguments from a user, government and private/technical sector perspective. In defining the continental digitalisation agenda, the paper purposively selects and refers to regional groupings, that have met consistently and regularly to discuss public policy issues pertaining to the development of the internet and other Information Communication Technologies (ICTs) in the past three years. These include the annual multistakeholder platform, the African Internet Governance Forum (AfIGF) and sessions of the Specialized Technical Committee on Communication and ICT, made up of African Ministers in charge of Communication and Information Technologies and Postal Services. The paper uses recommendations made in the fora to assess whether the continent is either responsive or reactive in nature, and at the same time assesses its preparedness for the evolving digital developments. The study views access to and use of the internet as transforming the media and information, economic and political landscape, in a manner that not only facilitates development, but has the potential to democratise African societies in their diversity. This analysis is made with recognition of inequalities that exist owing to differences in political ideology, gender and class, roll out and development of infrastructure across rural, peri-urban and urban communities. It offers an independent analysis of recent policy and regulatory developments, particularly in East, West and Southern Africa including internet shutdowns and censorship, regulation of content and access beyond the opaqueness of penetration rates. It concludes that the extent to which the continent can truly have a sustainable digitalisation agenda is largely dependent on sincere political will to move from autocratic political culture to a participant political culture where citizens are involved in policy making processes.

Key words

Digitalisation, Digital rights, Public sphere, Policy making, Development



**Digitalisation in Africa: Interdisciplinary Perspectives
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Keynote #2

27 September 2018

Culture, Digitalization, and the Digital Divide: Existential and Virtue Ethics Approaches

Prof. Charles Ess

27 September 2018

Abstract:

I begin with the big promises of the 1990s' Internet - democracy, freedom of expression and related rights, and prosperity. These quickly encountered multiple minefields, including various forms of cultural imperialism and what I have called computer-mediated colonization – along with signature efforts to overcome affiliated problems such as the digital divide.

The contemporary scene includes ongoing digital and cultural divides, "platform imperialism", complex struggles over privacy, surveillance, censorship, etc., coupled with a broader shift from more *individual* to more *relational* selfhood and correlative shifts from left-liberal social democratic regimes towards more right / populist / tribal regimes. Deep skepticism towards 1990s promises is a reasonable response.

There are nonetheless grounds for hope, including dramatic changes towards a "post-digital era" that ground possibilities of resisting and overcoming darker trends. To be sure, the rich continue to get richer, and the poor mostly stay poor - but these widening cracks in the current "digital oligopolies" and their supporting political and economic structures may mean new opportunities for those who have been left behind / exploited by digital divides to leapfrog into post-digital approaches guided in part by virtue ethics and (in Scandinavia and Germany) existentialism that foster good lives of flourishing.



**Digitalisation in Africa: Interdisciplinary Perspectives
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Tübingen, Germany, 26 and 27 September 2018

Session 1

“ICT for Development: Examples from Sub-Saharan Africa”

Digitalisation in Africa: Interdisciplinary Perspectives on Technology, Development, and Justice

26 and 27 September 2018, Tübingen, Germany

<https://www.da-ethics2018.de/>

Innovative approaches through mobile apps to improve tenure security in subSaharan Africa

Abstract

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1. Introduction

Due to the affordances of new digital data technologies in conjunction with policy paradigms of efficiency, participation, transparency, and open government, innovative tools and approaches for tenure documentation have emerged in recent years. The new technologies present a variety of innovative alternative and complementary solutions for development and support of Land Information Systems (LIS). An array of innovative tools for tenure recordation have been piloted and implemented since 2011, for example, through fit-for-purpose land administration initiatives (FIG, 2014; UN-HABITAT 2016). They aim to address the challenge of unavailability of tenure information as well as the concerns of weak administrative and legal statutory environments around the tenure documentation by advocating for openness of land tenure information for informed decision making by third parties (e.g. large scale investors), emphasizing diversity in land tenure systems and rights, with special emphasis on women's and other vulnerable groups' rights, aspiring to work with and working with community driven and/or community generated digital data, data collection at scale and the use of such data for strengthening tenure security. Tenure security is considered fundamental for land holders, because they are assured of continued use and occupation of the land.

This paper discusses these apps/tools and experiences in implementation within their respective contexts. The apps and tools and pilot implementations that will be discussed are listed in table 1; each of one has been piloted and/or implemented in at least one African country between 2011 and 2018 (Lengoiboni, et al 2018).

Tool	Number of African countries	Implementer type	Fee	Focus	Data
STDM	7	Network		Urban/rural/post-disaster	Local database (on site)
FAO OpenTenure	4	Multilateral donor		Rural	Cloud
Cadasta	6	NGO (international)		Urban/rural	Cloud
CaVaTeCo	1	NGO (national)		Rural	Local database (on site)

Meridia	1	Company	110 €	Rural	Local database (at company)
Aumentum Open Title	2	Company		Schools	Local database (on site)
Medeem	1	Company	50 U\$	Urban/rural	Local database (at company)
Mast	1	Bilateral donor		Rural	Local database (on site)

Table 1 Basic characteristics of innovative tools (adapted from Lengoiboni et al, 2018)

Along with the implementation of these innovative approaches came new actors, especially the innovative tool developers and implementers. This raises the following questions, central to ICT4D:

- How are the North-South relationship framed within the implementation of FFP-approaches?
- What are the concerns regarding the uptake of these approaches?
- What are the ethical implications of the implementation of these apps/tools?

2. North-south relationships

Figure 1 shows the number of implementers being active in each country. In addition, some tools have several pilots or implementations in one country, like STDM is implemented 15 times in Uganda and 3 times in Kenya (<https://stdm.gltn.net/applications/>).

We identified four dimensions along which north-south relationships can be described:

1. The first dimension contains the location of the headquarters of the implementers (as is displayed in figure 2).
2. The second dimension includes local offices. This creates some fuzziness, because local settings differ. For example, companies might have permanent local offices, while donors only have temporal offices during project implementation.
3. The third dimension locates the investors and partners of the implementers. They also consist of different types of organizations, like donors, professional bodies, training/research institutions, international civil society organizations, hard- and software companies and investors and philanthropic organisations.
4. The fourth dimension pertains to the involvement of local organizations at the level of project implementation, including communities, advocacy groups, CBOs and local NGOs. Some for-profit implementers do include local investors and business people and establish local businesses.

In addition, linkages between layers exist as well, because organizations might have multiple relations at corporate and project implementation level with different implementers. The north-south relationships are not one-directional, they are layered and interconnected at various levels. An open and flexible field of operations has emerged, where even donors, for example, do not automatically stick to tools which they have developed or sponsored themselves.

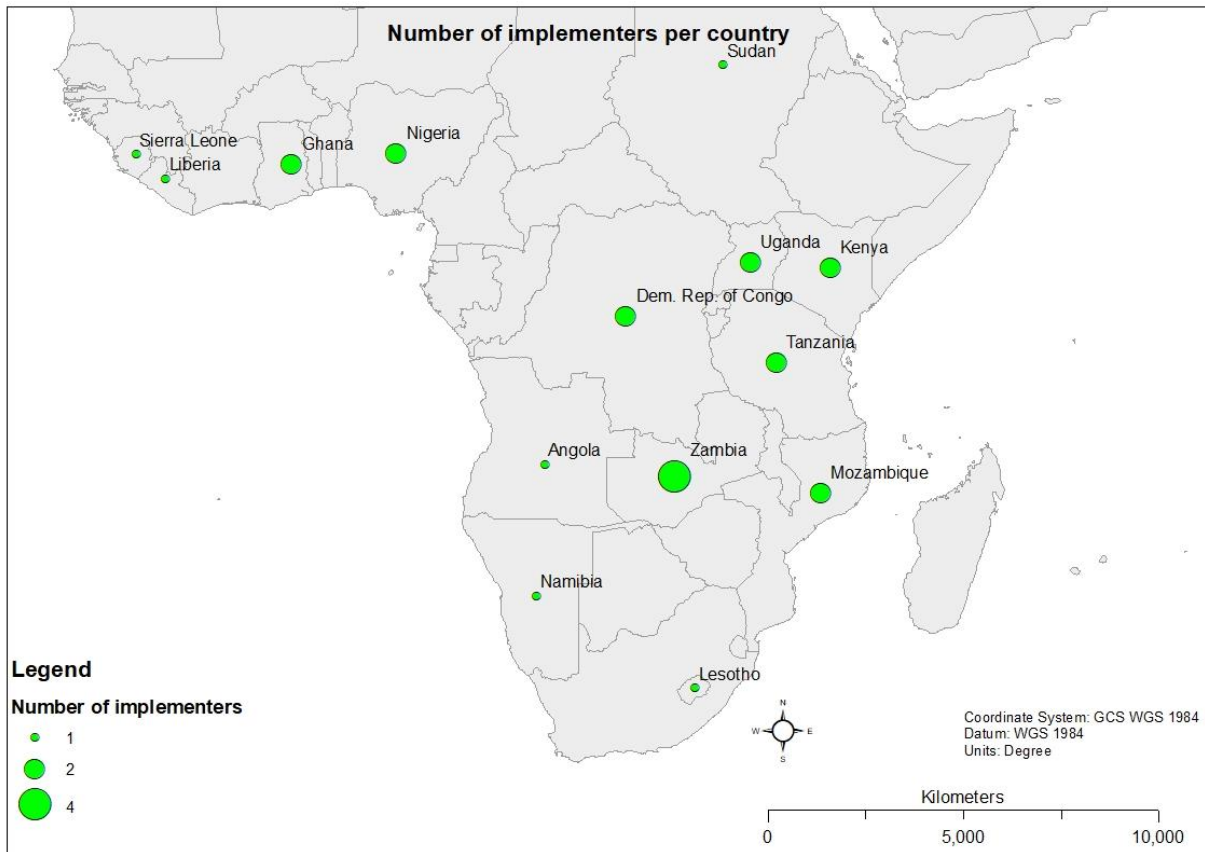


Figure 1 Number of implementers per country

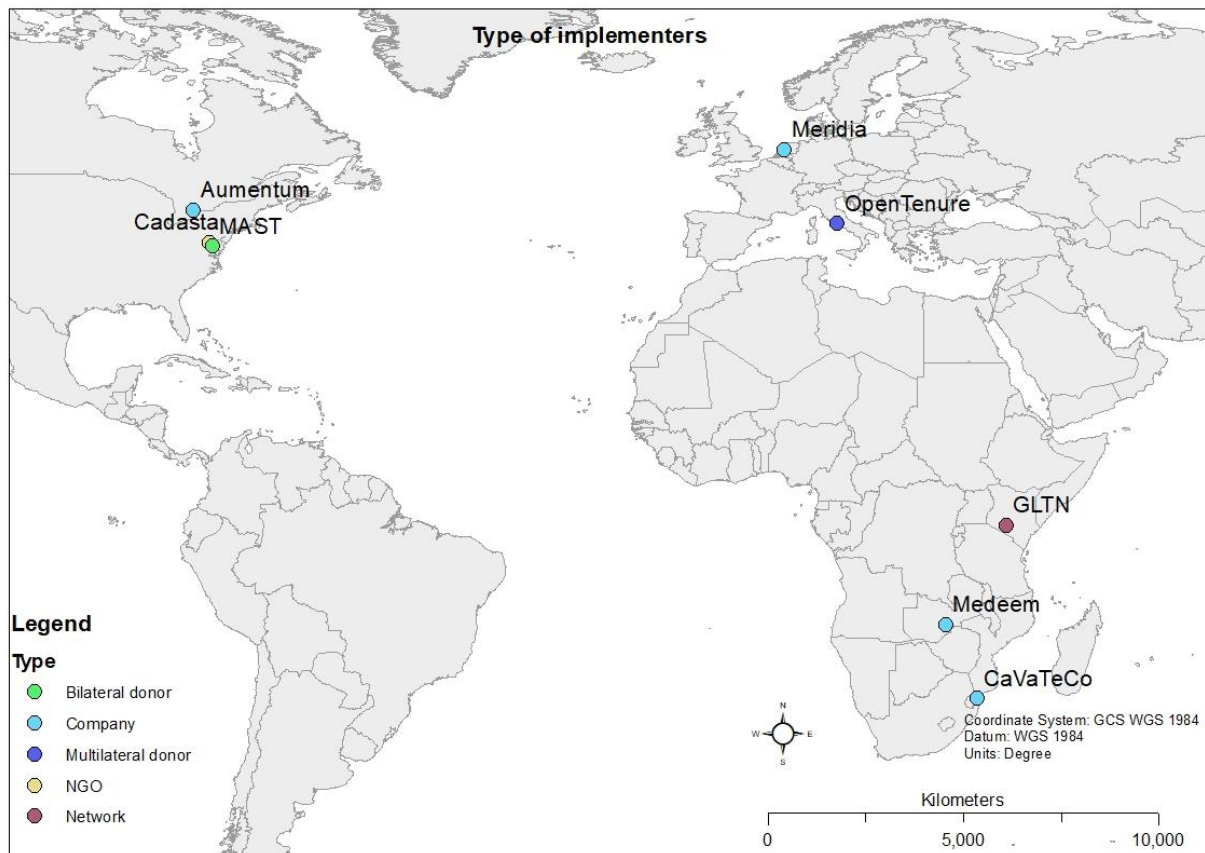


Figure 2 Locations of implementers' main offices

3. Uptake

The uptake of the innovative approaches is studied from three perspectives: upscale, upgrade and update. Upscaling refers to the spatial coverage and user-base. As of now, coverage is in general limited and scattered (between tens and ten-thousands of registrations for each implementer in total). Nevertheless, all developers are willing to scale up and they are confident that their tools can do so with support of other stakeholders.

Upgrade refers to the abilities of the tools to support the registration of a variety of land rights along the continuum of land rights (UN-HABITAT, 2016). The implementers mainly focus on first registration of land holdings, while some have a system design towards upgrading of the rights with higher levels of tenure security. What we observe is a whole range of options with regard to linkage with the formal system: from none at all, leaving a copy of the informal land rights at the formal land administration authority, to anticipated or prepared for upgrading to formal administration, to completely linked and integrated.

Updating is fundamental for land administration. Changes in (socio-)legal relationships between land and people need to be continuously administered. The implementers can roughly be split up into two groups: permanent and temporary. Permanent implementers are mostly the local companies who can still update the registers, because it fits their business models. The temporary implementers are largely the donor-funded projects, who ensure that the communities themselves will be capable to update the registers. In the latter case, there is a risk that these projects may suffer the “forever-pilot syndrome” as a challenge for public funded projects (Heeks, 2018).

4. Ethical implications

Ethical implications have been studied from the development and information perspective. From a development perspective, we focus on inclusivity and the legitimacy of the registered land rights. Inclusivity relates to the inclusion of the poor and vulnerable, mainly land holders in customary areas and informal settlements. Registration in customary areas is often complicated by customary authorities. Several implementers (both for-profit and not-for-profit) discussed the necessity of payments of chiefs to sign the documents, and the challenges this poses (Guthe and Sommerville, 2018; Kumwenda, 2018; Salifu, 2018).

Especially in customary tenure systems, women are in a disadvantaged position compared to men (Archambault and Zoomers, 2015). All implementers are aware of the disadvantageous position of women. Most important is to have the option of joint registration, where the tools should facilitate to register both partners of a couple as co-owners of a plot (Williamson et al, 2010, Archambault and Zoomers, 2015). Joint registration is in most cases facilitated through the tools. After the implementation, database reports can easily generate reports with frequencies about male, female and joint ownership, which can act as a proxy for gender equality. From the interviews and literature review a variety of experiences were reported, varying from promoting land access for women by a chief, ‘interrogating’ male land owners to co-register land and the complexity of registering land rights in polygamous arrangements.

Regarding legitimacy, it is observed that the resulting tenure documentation is in most cases not backed by a legal framework, making it an extralegal exercise. The implementers are aware of that and assure that they inform the communities about the advantages and disadvantages of the documentation. In addition, the signature of chiefs in case of customary land documentation does increase legitimacy. Having discussed the payment of chiefs, table 1 shows that two for profit implementers are imposing fees on the documentation, while the donor funded implementers do not raise fees at all. It appears that the implementers create the multi-faceted complex interface

between statutory, customary authorities and land holders. The questions of legality, legitimacy and/or financing, (which ultimately influence tenure security), are very closely interlinked. In order to gain legitimacy or recognition by the legal statutory system, an approach needs to be sustainable; and in this respect the for-profit initiatives may be more sustainable, but these in turn select land holders on fee-based criteria potentially changing the role of citizens vis-à-vis land administration agents.

From the information perspective, the focus is on the balance between the needed openness of land administration data and privacy. The types of information and to whom information is made accessible in the first instance is closely associated and embedded into the development framework supported by land administrative initiatives. On the other hand, land information is private and sensitive as it lists personal details in relation to property rights. At the same time, it is important to note that “privacy” holds different meanings in different societies and cultures; and is not limited to individual rights (Taylor et al 2017). Especially in the domain of land administration, rights to land and the related social relationships, are often not of an individual nature. Emphasis on groups’ rights and extended family rights in recent LIS4D initiatives reflect this concern for the communal nature of rights, but in the case of the land administration domain this complicates the question of data privacy further.

5. Conclusions

This paper describes 8 implementers of fit-for-purpose approaches for tenure registration in Africa. We conclude that each implementer shapes their own interface between the complex constellation of customary authorities, informal settlement leadership, statutory authorities and land holders. The north-south relationships are dynamic and swing towards increased southern participation through local for-profit partners and participation of local organizations. The tensions between developmental goals and respective underpinning philosophies of development, on one hand; and the negotiated and localized character of implementation initiatives, on the other, become apparent especially in questions related to financing, legitimacy concerns of documents, and data privacy and openness. Because the implementations are recent and limited in coverage, there is need for further research on evaluation and monitoring.

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Session 2

“Digitalisation of the City”

Beyond the Boundaries: Addressing social and spatial inequality with digitally based mobility? The case of Cape Town, South Africa

Karin Pfeffer, University of Twente

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Olivier Ninot, CNRS

Johanna Schelle, student University of Amsterdam

Over the last decade, the Smart City concept has increasingly become a popular urban policy approach of cities across the globe, including in Africa. Smart city approaches are often based on idealized, utopian visions of the future, digital and technology-driven urban innovation as well as on new data analytics (Kitchin 2014). They are also considered as universal solution to varied urban policy problems in different cities, however, they do not take sufficiently into account lived experiences, ordinary urban places and needs, issues of marginalisation and exclusion (Slavova and Okwechine, 2016; McFarlane and Söderström 2017). How Smart City policies operate in contemporary cities is being examined in the emerging, but still underdeveloped, academic field of 'smart urbanism'. According to Luque-Ayala and Marvin (2015), due to the 'infancy' of the discipline, its disciplinary fragmentation and single case study approach, the work lacks 'theoretical insight and empirical evidence required to assess the implications of this potentially transformative phenomenon' (p. 2106). In addition, mainstream smart urbanism considers Smart City as a set of technocratic solutions for urgent urban problems and not as a political response to political conflicts that reflect discourses on what urban problems are, what appropriate solutions are and what desired urban development is. Moreover, current attempts to theorize smart cities are often rooted in the notion of "Urban System", which draws on new approaches to complex systems thinking (Harrison and Donnelly, 2011). While useful in their own right, such approaches fail to consider more qualitative dimensions of smart urbanism as well as the micro-level and individual perspectives. Due to the considerable consequences of Smart City strategies, critical engagement with the rationale, assumptions, methods, target group, implications of Smart City approaches in different urban contexts is required (Luque-Ayala and Marvin, 2015). These include ethical considerations, including the distribution of risks, opportunities, costs and benefits across social groups and actors.

Recently, Verrest and Pfeffer (2018) have furthered such critical engagement by distilling dimensions absent in current mainstream smart urbanism. They did so by exploring both the academic field of critical urbanism and smart urbanism. In critical urbanism, inspired by post-Marxist thought and thinkers such as Henri Lefebvre and David Harvey, scholars such as Neil Brenner, Christian Schmid, Ananya Roy, Jennifer Robinson and Colin McFarlane question how current capitalist urbanization shapes processes of social, political, economic and environmental inequality and deconstruct the discourses underpinning these. In their paper, Verrest and Pfeffer develop their contribution to the smart urbanism debate from existing theoretical and conceptual approaches within critical urbanism.

They distilled three dimensions that require further development to improve our analysis and understanding of what Smart City policies mean for contemporary urban life: (1) the acknowledgement that the urban is not confined to the administrative boundaries of a city; (2) the importance of local social-economic, cultural-political and environmental contingencies in analysing the development, implementation and effects of Smart City policies; and (3) the social-political construction of both the urban problems Smart City policies aim to solve and the considered solutions. In other words: the urban is relational; cities are ordinary; and urban knowledge, problems and solutions are constructed.

The contribution we propose for this conference builds on Verrest and Pfeffer (2018), specifically, it addresses the relationality of cities in assessing the impact of Smart City approaches. As such it aims to understand how the costs, benefits, risks and opportunities of a smart city approach are distributed socially and spatially, across and beyond the city limits. We focus our attention on one relevant sub-domain of smart city approaches, i.e. smart mobility and examine how spatial inequality and inclusion are being (re)shaped and addressed by smart mobility approaches, both in terms of its goals and implications as well as the process of the development and implementation of the policy.

In order to do so, the paper focuses on the case of Cape Town in South Africa, specifically on the recently implemented bus rapid transit system (BRT) MyCiTi. Cape Town can be characterized as a socio-economically highly unequal society. Its fragmented and highly segregated urban form and structure can be traced back to its apartheid history when spatial planning aimed at racial segregation. Recently, the city has directed towards promoting an integrated and compact city. In this context, the city implemented a smart mobility project, consisting of a bus rapid transit (BRT) system through which it hopes to create a sustainable transport system that provides access to urban resources and economic opportunities across social groups. This goes along with the development of mobile applications providing real-time information on public transport routes and traffic conditions (such as MyCity), including for informally run minibus taxis (WhereIsMyTransport). The BRT system is gradually being expanded throughout the city and its surroundings. Simultaneously, like in many other cities globally, Cape Town is being exposed to digitally based mobility platforms providing individual, on-demand transport, including Uber and Taxify. As such Cape Town provides a case where various dimensions and forms of digitally based mobility come together: 1) smart mobility services for the users, 2) new real-time / big data for monitoring traffic and bus lines, and 3) opportunity for developing new/alternative e-hailing taxi services for the private sector.

The rising importance of digitalization in realizing urban mobility in Cape Town as well as the opportunities it offers however generate many important ethical questions. Our contribution to the conference investigates how digitalization in urban transport in Cape Town addresses Cape Town's social and spatial inequality and what its social and economic impacts for citizens in different communities inside and outside the city boundaries are.

More specifically, in this paper we ask:

1. How do goals of reducing spatial and social-economic inequalities of Cape Town feature in the ambitions, plans and implementation process of the BRT?
2. How is digitally based mobility changing Cape Town's urban transport system: business models, formal and informal forms, within and outside of the immediate city, frequency/reliability and pricing?
3. How does this change people's practices and perceptions with regards to using public transport?
4. What kinds of social and economic costs and benefits does this development produce for citizens across the city and beyond the city boundaries to include peri-urban and rural communities.

Data for this study are drawn from diverse research projects done in Cape Town in 2017-2018, including with data collected at the micro-level representing individual perspectives. The qualitative methodology included in-depth interviews with policy makers, content analysis of policy documents, interviews with and observations of BRT users of selected communities across (wider) Cape Town. Through the qualitative data analysis, we unpack to what extent different social groups and spatial communities benefit from digitally based services in terms of convenience of use, labour and income opportunities and access to other urban amenities. In addition, we want to highlight the relevance of

analogue services in creating the necessary flexibility as digitally-based mobility services require having a cell phone, Internet or 3 G connectivity.

Apart from the empirical evidence about the consequences of digitally based mobility (i.e. how costs, benefits, risks and opportunities of a digitally based networked systems are distributed), our paper stresses the importance of bringing forward the daily practices of different users in relation to their social and economic constraints and opportunities. This helps to understand what digitally-based services mean for different communities across the city and beyond the city boundaries with regard to goals of reducing spatial and social-economic inequalities and allows inclusion of social-ethical issues in their design and evaluation.

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Short Lecture

Out of Africa – A new Perspective on Digitalisation in Africa

Ute Rademacher (International School of Management, Germany)

Terri Grant (University of Cape Town, South Africa)

Corporations, social organisations and government stakeholders are increasingly engaged in implementing information and communication technologies (ICT) that have been developed in Western societies in Sub-Saharan Africa. Given the political, societal and economic impact of the digital revolution in the northern hemisphere, critical questions and potential challenges emerge around the increasing implementation of ICT in Sub-Saharan Africa:

- **Legal aspects:**
 - The differing understanding of “implementation” and “ownership” in African cultures and legislation
- **(Inter)Cultural aspects:**
 - The differing cultures or oral and written communication
 - The divide between African and Western cultures and differing values and principles of predictability, calculability and formality
 - The multi-lingual nature of many African societies (e.g. South Africa has 11 official languages)
- **Economic and infrastructural aspects:**
 - The varying access to digitally distributed information, products and services (digital divides)
 - The availability of resources such as affordable offices, well-educated ICT experts

Our contribution appears to strike a counter-intuitive note amid the global perspective of “expanding” ICT into Africa that differs in two important aspects from the underlying perspective on digitalisation in Africa as expressed in the call for contributions:

1. We would like to argue that the “**digital revolution**” is taking place successfully because it is based on important values that originate in indigenous cultures – including African cultures – rather than Western philosophy and principles.
2. We assume that digitalisation will be driven through “**out of Africa**” development rather than an “implementation in Africa”. African ICT experts will not only “locally amend” global ICT services but will offer new and innovative ICT products resulting from “out the box” thinking. In order to substantiate our thesis that Africa will be a starting point than merely a recipient of digitalisation, we will present business cases of established and successful ICT services “made in Africa” as well as cutting-edge product propositions created by African ICT students.

What is the rationale of our perspective?

- The African philosophy of **Ubuntu** encompasses values such as equality, sharing, humanity and community-orientation. We propose that the success of many digital offers (e.g. Facebook, LinkedIn and eBay) is based on these egalitarian values of

connectivity and community spirit, which go beyond traditional business models, thus enriching Western Platonic-Aristotelian and Asian Confucian traditions (Abdi, 2018; Lutz, 2009).

- Learning, knowledge and wisdom is deeply embedded in an oral and visual **storytelling** tradition in African cultures. For hundreds of years, experiences have been passed down from one generation to the next via rich and meaningful stories. In our view, ICT offers such as Instagram or Snapchat can be seen as the modern, digital version of a new storytelling culture.
- African management is **agile** by nature. African businesses have been managed with agility long before the term for this management principle was invented. Everyday life examples (e.g. the cheap, stop-and-go minibus taxi industry) will substantiate our thesis that agile management - firstly associated with ICT development and currently spreading across all management spheres in Western cultures - is African by nature. The lack of a fully-fledged plan, the concept of “**African time**”, the flexible amendments in line with users’ needs and the usage context are now embraced as agile where they have been criticised as “chaotic” in the past.
- **Design thinking**, the “revolutionary route” to innovation as promoted by trend agencies reflects values and principles deeply rooted in African cultures. As the Design Indaba demonstrates, it is common in African cultures to create innovative solutions for “pain points” and to organically develop and improve first drafts step-by-step in interaction with the people for which the solution is envisaged. Again, this organic and fluid process of innovation was previously perceived as technically insufficient before Design Thinking won adherents in innovation consultancies and R&D departments of firms and organisations in the northern hemisphere.
- Africa is actively striving to become a global player in the arena of **technology-based development initiatives**. For instance, the Cape Silicon Initiative is a regional ICT business networking NPO and community located in the Western Cape, South Africa. Its vision is to be an organic ecosystem that attracts top technical talent and entrepreneurs. In contrast to the current digital arena in the northern hemisphere, the ‘Silicon Cape’ is not owned or controlled by any single entity but is a concept that is designed, developed and actively shaped by its participants. African cultures do not have a legal or **ethical tradition of information ownership and protection** and there is a common assumption in African cultures that knowledge is a benefit to all and must therefore be shared freely with one another (Britz, 2007). This value has led to the abuse of indigenous knowledge by many developed nations in the past. We argue that this culturally embedded value will lead to a more inspiring, rich, diverse and therefore creative business environment that ICT start-ups will benefit from greatly.
- Without any doubt, the digital revolution has brought many valuable, socially and economically uplifting products. However, legal and economic systems in charge of regulating information distribution are often not fair, inclusive or egalitarian (see Britz & Lohr, 2004). First signs of a “techlash” are demonstrating that users feel increasingly uncomfortable with the digital inequality (Olbrysh, 2018). We propose that African ICT experts are more motivated to create, launch and expand ICT business models that **better the existing inequality, disempowerment and digital divides** in African communities. One such success story is Cape Town-based GetSmarter who recently celebrated their 10th anniversary. As a high-tech digital

educational business, GetSmarter have leapt “out of Africa” to become a global player. From humble beginnings and a handful of employees, founders Sam and Rob Paddock now employ over 350 people and have partnered with some of the best (inter)national universities to develop world-class programmes to accelerate learning in the working lives of people across the globe. They have recently partnered with 2U in the US and successfully “re-located the GetSmarter domain from co.za to .com to deliver the world’s best digital education” (GetSmarter Annual Report, 2017).

We will analytically showcase a selection of African-based cutting-edge ICT initiatives substantiating our theses that much future digitalisation may well start than end in Sub-Saharan Africa including:

- **“Success stories”** (e.g. GetSmarter) of digitalisation “out of Africa” that showcase the tremendous potential of improving the lives of many people not only in Sub-Saharan Africa. We will analyse their underlying business model and the economic, cultural and ethical factors of their international success.
- **Innovative ICT solutions** based on the theme of “Smart Cities” that are being developed by computer science students of the University of Cape Town in South Africa. Given the trend of urbanisation in Sub-Saharan Africa with an increasing number of potential megacities (such as Lagos with 22 million inhabitants, no. 14 on the list of megacities), these ICT innovations focus on new public and private sector solutions for current challenges facing the citizens of African cities.

The cross-disciplinary analysis of South African digitalisation from both development angles will allow valuable and **forward-thinking insights** into a range of aspects, the future implications of which will be further debated at the conference.

- How can ICT developers further exploit African values and principles for the digitalisation “out of Africa”?
- Which technological, legal, political and ethical drawbacks do ICT entrepreneurs envisage?
- Which future digitalisation projects may innovatively contribute to human development in the southern hemisphere?
- How do these ICT initiatives address “digital divides”?
- Which benefits for (South) African citizenry motivate ICT developers to strive for new digital products and services?

From a **theoretical point of view**, our analysis will suggest and discuss references to:

- The digital revolution as driver of organisational change in line with change management theories (e.g. Kotter, <https://www.kotterinc.com/>)
- The ethics of a social contract based on African principles as suggested by Britz & Lohr (2004)
- The ethics of digitalisation as a driver to prosperity by [Brynjolfsson](#) & [McAfee](#) (2014).

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**Digitalisation in Africa: Interdisciplinary Perspectives
on Technology, Development and Justice**

Tübingen, Germany, 26 and 27 September 2018

Session 4

“African Governmental Approaches to
Digitalisation”

Digitalisation in Africa: Interdisciplinary Perspectives on Technology, Development, and Justice

26 & 27 September 2018

Eberhard Karls Universität Tübingen, International Center for Ethics in the Sciences and Humanities

Paper proposal

Concepts of Development and Justice behind Tunisia's Digital Strategy

Seven years after the revolution, Tunisia is struggling with an economic crisis, high unemployment, in particular among its youth, inefficient governance, weak infrastructures, and deep social and economic divides within its society. As part of its efforts to overcome these challenges, the Tunisian government has given a major priority to digital development. Under the National Strategic Plan "Digital Tunisia 2020", the country aims to improve digital infrastructures and e-government services and to foster the emergence of a digital economy in Tunisia that could not only create jobs and economic growth, but turn the country into a major IT offshoring leader in Africa and the Middle East.

Against this backdrop, the paper explores the concepts of development and justice underlying Tunisia's digital strategy as well as the role of technology in these concepts. For that purpose, the paper builds on preliminary, empirical findings from my PhD project on rethinking inclusive socio-economic development in Arab countries in the light of digital transformation processes.

The paper is structured as follows: It first provides a brief review on literature linking digitalisation, development, and justice, and summarizes the current research on digital change in North Africa, with focus on Tunisia. Following the formulation of the research question, the paper introduces Tunisia's digital strategy, its aims, current state of implementation, as well as key stakeholders. The subsequent analytical part of the paper rests on two pillars: First, an in-depth analysis of core documents of Tunisia's digital strategy is conducted in order to carve out the underlying concepts of development and justice and the role technology is assigned to in these contexts. This analysis will also shed light on how issues like regional and social divides, gender equality, data security, and privacy are addressed in the strategy. This part of the analysis draws on methods of discourse analysis. Documents included in it are for example relevant official government and policy documents, but also newspaper interviews of responsible government officials. To complement this analysis, the paper, second, draws on findings from interviews with different stakeholders from political parties, civil society, and the economy (e.g. young entrepreneurs, trade associations). The interviews will be conducted during a field visit in Tunis in April 2018. Aside from informative interviews, used to validate general facts and findings from the discourse analysis of key texts, also a number of narrative interviews will be conducted to learn more about interviewees' perceptions regarding the potentials and challenges of digitalisation for inclusive social and economic development in Tunisia.

Based on the findings from the analysis, the paper will conclude by discussing what kind of digital development model is promoted in Tunisia, whether it is a continuation of the present development approach or whether novel, indigenous pathways to (and conceptions of) inclusive socio-economic development are emerging under the premise of digital change.

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A Trojan horse? E-Commerce and its potential risks for Africa

With discourse on the fourth industrial revolution as a new industrialization paradigm gaining momentum, Trade has not been spared. Indeed, with the rise of a knowledge based economy and artificial intelligence Trade has shifted from “conventional markets” where goods and services are sold, bought and exchanged to a “virtual market” in a digital economy. It is this virtual market that E-Commerce has become a buzzword at the World Trade Organisation (WTO) and at the United Nations Conference on Trade and Development (UNCTAD) level. At its core, e-commerce refers the production, distribution, marketing, sale or delivery of goods and services by electronic means. Forms of E-Commerce include online shopping, electronic payments, online auctions, internet banking, and online ticketing among others.

It is important to note that binding WTO rules on E-commerce are being pushed for by the giants who control the Internet in order for them to secure rules that will consolidate their power over the engine house of the 21st century economy. These tech giants include Google, Alibaba, Amazon, Facebook, and Apple among others who are seeking unimpeded expansion throughout WTO Members in order to build scale, quash competition and cement their first mover advantages. Key to note is that currently, there are no global inter-governmental rules for the Internet, but just those made by bodies that are dominated by powerful states and major corporate players. Therefore, making E-Commerce rules in the WTO would ensure the first – and only - rules that the major powers allow will be biased in favor of corporate interests with whom they have an intimate relationship.

In July 2016, seven proposals were submitted to the WTO. Since then, the issue of Electronic Commerce suddenly became the buzz of Geneva. While there have been informal suggestions from various quarters that there should be new rules adopted in this area, this has taken many other WTO Members by surprise. This is because during the 10th Ministerial Conference of the WTO, Ministers in Nairobi had said that the priority would be on the ‘remaining Doha Development Agenda (DDA) issues¹, with E-Commerce not being one of them. It is therefore not surprising that the suggestion for negotiations of E-Commerce continues to be opposed by many developing and least developed countries. However, in spite of the African position, some African countries like Nigeria, Kenya, Ivory Coast, Seychelles, have come out to align themselves as friends of E-Commerce. Indeed, whereas there was no Ministerial Declaration, the eleventh WTO Ministerial Conference (WTO MC 11) ended with a number of ministerial decisions with E-Commerce being one of them². Under E-Commerce, members agreed to continue work on E-Commerce.

What do the E-Commerce proposals entail?

An analysis of the proposed E-Commerce texts as being pushed by the huge tech giants in developed countries reveals proposals on provisions that disallow: a) imposition of Customs Duties through liberalisation (new trade route that is completely liberalized and enables free

¹ The remaining DDA issues include Agriculture Trade Distorting Domestic Support, SSM (Special Safeguard Mechanism), Public Stockholding for Food Security, Cotton, LDC (least-developed countries) priorities, TRIPS (Trade-Related Intellectual Properties) and last but not least Development and S&DT (special and differential treatment).

² WT/MIN(17)/65 WT/L/1032

Cross-Border Data Flows); and *b*) Localisation Barriers (No local/ commercial presence; and no local content requirements in technology). The texts also disallow Technology Transfers; technology Local Content; Source Code disclosure; and Safeguarding Network Competition. All these provisions need to be permitted, allowed and safeguarded by Africa if the digital divide is to be tackled.

Key issues raised by African countries for concern include disallowing data localization and the risks associated with the dominance of a few large e-commerce companies. In its proposal ahead of the Eleventh Ministerial Conference of the World Trade Organisation (WTO), the African group cautioned that new disciplines on e-commerce and digital trade could constrain their policy space to put in place a development-oriented digital industrial policy³. In its October communication, the group has expressed specific concerns about issues such as the free flow of data, the limitation or elimination of data-localization requirements, as well as non-disclosure of source code. Furthermore, like many LDCs, Africa is also opposed to negotiating rules on E-Commerce because if agreed to, these rules will put power over both countries' futures and their economies in the hands of a largely unregulated private oligopoly.

Whereas some African countries have aligned themselves as friends of E-Commerce, it is important to point out the valid reasons advanced by the Africa group on not engaging on E-Commerce discussions. In a statement by the African Group to the WTO⁴, Multilateral rules on E-Commerce will constrain Africa's domestic policy space and ability to industrialize and catch up. It is therefore no surprise that *"The African Group will not support any ideas for negotiating rules, or move in a direction on developing rules on e-commerce. We believe it is entirely premature"* states para 3.7 of the Africa Group Statement on E-Commerce⁵.

Furthermore, for Africa, whom 33 of her economies are categorized by the United Nations as Least Developed Countries, three things are required for their meaningful integration into E-Commerce i.e. accessibility, affordability and availability. This is so for a region where 75% of the entire population is offline, and where fixed broadband penetration remains at below 1%⁶. Under such a reality, the digital divide still presents enormous hurdles for Africa's full and beneficial participation in E-commerce, and especially cross-border E-Commerce which the proposed rules would liberalize. In short, African countries are yet to be convinced that the benefits of E-Commerce would be realized by African countries, given the vast capability and infrastructure gaps they face.

It is therefore important that Africa's discussion on E-Commerce focused on ways for members to preserve their right to regulate E-Commerce so as to promote their national digital industrial development; examine the risks and opportunities associated with the digital economy and e-commerce; as well as consider measures that members have taken, or may take, to develop their national institutional regulatory capacity. Moreover, Africa's anti-liberalization approach seems to be a reasonable position particularly given the history of

³ China is a good example of a country that has been able to use protectionist digital policy to develop a vast and powerful e-commerce industry.

⁴ JOB/GC/144

⁵ JOB/GC/144

⁶ International Telecommunications Union 2016

trade liberalization on the continent and the sense that countries were not able to reap the benefits of trade with respect to the ‘old’ commodities. Nevertheless, on the other hand, there is a genuine question as to whether protection and digital industrial development policy in Africa is likely to result in the best outcome for small businesses, and individuals in Africa, who may benefit from the entry of global e-commerce. Or indeed, if there is (or could be) in fact a digital industry to protect. It is this irony that the study will seek to address. More specifically, this research seeks to interrogate the following questions:

1. Will there be rules to mandate technology transfer to Africa in order to bridge the digital divide or rules that prohibit such transfer?
2. Will there be rules that allow for market segmentation so that African countries’ suppliers can lean on the domestic and regional markets as they learn and catch on to the digitization of everything and every product?
3. Will the rules prohibit such market segmentation (i.e. no more segmentation of the domestic or regional markets for domestic producers)?

Methodology

In order to undertake the assignment, the researcher employed mixed methods of research methodology. Specifically, the methodology and design of the study included both primary and secondary data collection. The paper was based on a review of existing literature on Africa’s integration into digital trade. Secondary data was derived from interviews with key negotiators from Government Ministries, Research think-tanks, academia, but most especially Private sector players currently engaged in “petty E-Commerce”.



**Digitalisation in Africa: Interdisciplinary Perspectives
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Session 5

“Local Use and Appropriation of ICT”

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Abstract

Alternative mobile telephone concepts and web information infrastructure and digital tools by illiterate Yoruba peoples in Benin Republic: production of knowledge for communication and learning

The mobile telephone and web infrastructure contributes to the personal development of the individual and his or her capacity to evolve initiatives for economic growth and development. Yet, foreign languages remain the primary means of expression in which mobile phones and web infrastructures are configured in Black Africa today. Furthermore, the basic functions of text messaging, internet web 2.0, e-commerce, media and web communication, etc, are underutilized, and only the 'call' function is used by those who are non-literate in foreign languages. However, even in these poor conditions of under-utilization and handicap, the local people innovate by creating procedural knowledge in order to communicate. This study is based on interviews with approximately fifty people, who are primarily women and men traders or, are peasants, art craft men, etc., in the markets and places of work, convents and other ancestral social institutions in Central Benin, and who speak Yoruba. The ethnographic research focused on the production of knowledge and concepts for the utilization and adaptation of the mobile phone and web infrastructure like facebook or whatsapp in the mother tongue. Based on these on-site creations, mobile application software (mobile app) that is capable of contributing additional value and facilitating the training and education of the local people is envisaged. The mobile app, 'MOBILE – JE M'EDUQUE', is intended to facilitate self learning to those who are non-literate in foreign languages, and in particular, to teach how to read and write in the mother tongue using Vygotsky approaches revisiting Piaget. In addition to allowing for the utilization of the entire functioning of the mobile phone, this project can accelerate the development of indigenous languages as a basis for diffusing new technologies, as well as for consolidation cultural foundations and technological innovations.

Key words: *information technology; mobile penetration; application: mother tongue; digitalization: Africa; knowledge production; epistemology: Africanizing ICT; innovation: history-culture-logic.*

#FeesMustFall

Students, Smartphones and Social Media: Digital Agency and the rise of a new generation on South Africa's Post-Apartheid campuses

Matthias Schulze, M.A.

Ethnographic vignette

The brown couches we sit on, are worn out; comfortably worn out, perfect to sink in and to relax the entire body after a long day. Cohorts of first semester students have been sitting on them and gradually contributed to their current comfort. It's a cozy, multifunctional space to socialize with other students of the building and in many regards it is a typical residence: young students meet and greet, relax, watch television or keep themselves busy on their smartphones. The television flickers from the wall, right above the gathering of young adults. As the advertisement break fades out, the person in charge of the remote control increases the volume. There is no discussion necessary to determine the television channel: we all watch the critically reporting 24-hour news broadcaster eNCA which is owned by a black empowerment group. A natural choice among many black students and a statement of political consciousness in order to subvert white ownership in South Africa's biased media landscape. The atmosphere in the hall becomes tense. Everyone is waiting in anticipation for the news presenter to report on the latest developments on South Africa's campuses of higher education. Some of the students start to eat their lunch mechanically while they are staring on the television screen. All of a sudden the first row of people jumps up and jubilates: the struggle spread! South Africa's universities have been taken by storm and started to become 'ungovernable' as my friends would call it:

#UJFeesMustFall, #RhodesFeesMustFall,
#StelliesFeesMustFall, #UWCFeesMustFall,
#UCTFeesMustFall. #TUTFeesMustFall
#ULfeesmustfall, #NWUfeesmustfall
#UPfeesmustfall, #UKZNfeesmustfall

The rest of the gathered group of students joins the excitement as they hear and read that all major universities across the country adopted and adapted two viral hashtags from the very heart of Johannesburg's University of the Witwatersrand: *#FeesMustFall* and *#WitsFeesMustFall*. A movement was born.

Context: Fallism and Social Media

What started as a small protest on the 14th of October 2015 against planned fee increments at the University of The Witwatersrand in Johannesburg turned into a nation wide youth led movement against the economic exclusion in South Africa's inherited system of tertiary education. It addressed and logically continued unresolved questions of „institutional and personal racism“ (Maxwele 2016) and linked the unprecedented removal of the Cecil Rhodes Statue (*#RhodesMustFall*) at the University of Cape Town in April 2015 to the promise of equally accessible free quality education for all. The second spring of student led activism reached beyond monuments and name changes. The second spring fought for constitutional rights and challenged the political status quo to fulfill the hopeful promises of the Post-Apartheid-State.

But it was only due to the “new talking drums of everyday Africa” (De Bruijn, Nymanjoh & Brinkmann 2009), that the protests gained historical momentum and

spread like a wildfire across South Africa. Spearheaded by Wits students and vocal activists (**Findlay** 2015, also **Bosch** 2016), the Twitter Hashtag *#FeesMustFall* rapidly turned into a flexibly applicable political slogan of the entire youth movement, dominated the traffic of social media platforms like Twitter for weeks and mobilised ten thousands of students.

In addition to the heightened attention on social media, journalists and camera teams from different media houses constantly reported about the latest developments on South Africa's campuses, while student leaders carefully planned their next steps to exert further pressure on the government to meet the students demands.

Questions and Interrogations

Given the relevance of digital media to help express, establish, organise and coordinate counter-discourses and publicly visible protests as portrayed in South Africa's recent student movements, I would like to explore three interrelated dimensions on digitalization in Southern Africa. All of them specifically aim to interrogate the first hand use, growth, importance and social implications of information and communication technologies in an emergent economy.

1. Digital Media as a tool of broad based empowerment

In a first step, I'd like to draw attention to the most obvious elements that are embedded in the current use of digital media: their capacity to help users to create their own content, document their own perspective and multiply their ideas and agendas within seconds. In the context of the *#FeesMustFall* movement in South Africa smartphones enabled students to communicate rapidly with each other via Whatsapp, update each other on where to assemble, what to bring along and multiply their political cause through hashtags on Twitter and Facebook. But more importantly it also enabled students to create evidence by documenting abuses and portraying acts of police brutality. Pictures of tear gassed students or severe injuries caused by rubber bullets regularly circulated in whatsapp groups and on Twitter, pinpointing the shortcomings of one sided media portrayals of 'insurgent, out-of-control' students.

2. A struggle against privilege and a privileged struggle

Secondly, I'd like to elaborate my analysis by taking into account the socio-economic background of the student protests and the embedded digital practices. At the forefront of the *#FeesMustFall* campaign was mainly the black youth trying to end economic exclusion. Within that group many weren't equal with regard to their economic opportunities but all of them were united by fighting for equal access to free quality education. What slips easily out of sight is the fact that owning a smartphone and accessing the internet still qualifies you as a fortunate member of the demographic and income related digital divide in South Africa, where approximately 37% of the population owned a smartphone and 42% regularly used the internet in 2015 (**Poushter** 2016: 4). These findings in combination with my own observations shed light on how the uses of smartphone centered applications are still a privilege in an emergent economy and how the large scale protests of many black youths born after Apartheid were heard and televised because of their privileged agency.

3. Overcoming the past?

The third and last dimension aims to reflect on broader questions related to the advent of information and communication technologies in South Africa: how did ICT help to close or bridge socio-economic divides that Apartheid structures left in the country, where did they help to maintain them and where did they create new arenas? Did social media contribute to foster dialogue in South Africa's young democracy on justice and reconciliation?

Methodology

The discussed empirical findings are based on multiple ethnographic studies in South Africa carried out from October 2015 until April 2016 and a follow up stay in September 2017 at the University of the Witwatersrand Johannesburg. During the first uninterrupted stay, I collected my data in an attempt to apply Gerd Spittlers method called „thick participation“ (*Dichte Teilnahme*, **Spittler** 2001). The radical participatory approach proved to be of unmeasurable value right after my arrival in Johannesburg: I followed the protests and the students who directed it, I lined up for food in the Great Hall, listened to the charismatic speeches of SRC leaders like Mcebo Dlamini, joined the marches to the ANC headquarters in Johannesburg and stood at the Union buildings in Pretoria when stun grenades and tear gas dropped on us, I took pictures and shared them on social media, chanted songs and talked about institutional injustices, I walked the struggle and felt the power of the collective, as I delved into South Africa's largest student uprising since 1976. The tension of participating, observing and committing yourself all at once and at the same time, allowed a multisensual collection of „thick data“ (**Wang** 2016).

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