

Mapping Science and Technology in Africa: Traveling technologies and global dis\orders

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Wits Institute for Social & Economic Research (WISER), Johannesburg, South Africa

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1. Objectives of the Conference

Tracing processes of modernization in Africa

Since colonial times most African countries have engaged in a series of consecutive experiments in both modernity and contiguous visions of technologically oriented development¹. The age of 'New Imperialism' and effective European occupation, as well as the post-independence era of state building, developmentalism and bloc-confrontation entailed the re-engineering of political institutions, economic production and the wider society. In the wake of the contemporary confluence of liberal reforms, recast geopolitical architectures, emerging domains of global governance as well as new global circuits of informational and material exchange, novel figurations of modernising reconstruction and institutional change have gained prominence. These figurations hold multiple, often contradictory, promises and effects for specific societies. Science and technology have come not only to play an important role in these transformations but also for grasping them analytically. In these circumstances, the conference wants to trace figurative contours of current processes of modernisation in Africa by focusing on:

- 1) New strategic visions, articulated in both new development paradigms and analyses of the growing levels of global investment in African economies (e.g. Private Public Partnerships),
- 2) New conceptions of modernising interventions at the intersection of development, capital accumulation and global concerns (e.g. HIV/AIDS, climate change),

¹ While in the field of practice the notion of "modernisation" is normally still used with no hesitation for any planned and directed endeavour to improve life and to achieve modernity, in the field of social theory this notion has become highly controversial since several decades. For the purpose of this text it is in order to speak of "modernisation" as it is done in the field of practice, while keeping in mind that it has multiple, contradictory meanings and implies an inherited sense of directionality that is problematic. In other contexts "modernity" has been described as an unfinished project, as an impossible project, or as a catastrophic project. In terms of empirical research the problematic achievement of modernity, i.e. the making of modernisation, is a matter of many diverse, delineated projects that can be studied without making fundamental assumptions about the direction of history.

- 3) The proliferation of new technologies of impartial governance in political and economic management (e.g. based on the use of performance measures and scientific evidence).
- 4) The rise of African self-reliance and determination, involving the heightened prominence of African actors, ideas and choices in the project of modernisation at all levels.

In the face of these four novel developments (there are certainly others) the conference will aim to carve out the forms, origins, dynamics and effects of political, economic and societal reconstruction in a liberalised and globalised Africa. Analyses of the African present and the future have to account for the translation of both inherited knowledge and technology and its global circulation. From a different perspective, an understanding of global science and technology from an African vantage point puts some unique contexts and research fields on the agenda.

The conference will focus on the study of what we term 'traveling technologies' as a way of conceptualising the different fields enumerated above. The analysis of such traveling technologies makes it possible to review the transformation of a series of intersecting organisational and societal fields, including state administration, legal regulation, service provision, patterns of accumulation, and class formation. At the same time it enables us to scrutinise the impacts of modernisation on life-worlds, and the ways people have to re-orient and experience security and wellbeing or the absence of it. In these ways, our focus on traveling technologies promises to open up the question of how projects of modernity in Africa relocate knowledge and society in broader global orders and networks of exchange.

Analytical focus of the conference: Traveling Technologies

The conference will address contemporary processes of modernisation by concentrating on the study of traveling technologies, promoting both conceptual and empirical work. *Technology*, in our broad usage, is understood as an analytic category that includes enabling devices (e.g. pharmaceuticals), infrastructures and large technical systems (e.g. telecommunication systems), modes of governance (e.g. bureaucracy) and forms of subjectivation (e.g. counselling). Thus technologies are not solely conceptualised as material entities, but also as styles of organisation, procedures of standardisation, and the use of particular forms of rhetoric. For this reason some prefer to speak of techniques; the advantage of this broad usage of the term is a theoretical and methodological one. On the one hand, it attests to the fact that modernisation enterprises, in the Global South as well as North, are mostly less about innovation but about the translation and creative adaptation of technologies from elsewhere. Supposing technology transfer as a central kernel around which modernisation revolves, we can consider technologies as a vantage point from which we can structure our analyses of modernising transformation. In terms of methodology, furthermore, the concept allows for comparative projects of modernisation across places, sectors and topics. Concentrating on technologies in this way means also referring to a substantial body of methodological and theoretical literature, mainly coming out of the philosophy and history of science, as well as from Science and Technology Studies (STS).

Talking about *Traveling Technologies* implies the assumption, that something needs to be *creatively adjusted* when being transferred. In this sense traveling technologies refer to the transfer of epistemic, normative and material elements from one contextual environment into another. This process of transfer and contextual reconnection as well as the institutionalisation of new technologies is conceived as an operational process shifting existing political, economic and societal orders. The operational process is thereby also

understood as a process of co-production, causing differently layered effects and multiple flows. Investigating traveling technologies empirically demands that we analyse the global through the study of specific translocal connections. Moreover, it shows how new relations between people, things and ideas are constituted and institutionalised by focusing on the situational and grounded character of negotiations in particular places. Finally, it directs attention to the multiple reverberations of concrete transfer initiatives and projects of modernisation. Thus the relation and distinction between what is global and what is local is defined in these enterprises of modernity, in the events when distant actors meet and mutually reconstitute themselves and their spheres of influence.

Science, Technology and Society in Africa

The impact of Science and Technology Studies (STS) in Africa is rather limited – with some exceptions in South Africa. Very few university programmes exist that apply STS approaches to teaching or research activities, and if such programmes exist they often lack crucial financial and material resources. Moreover, in comparison to other continents, until recently no professional association or network of people existed that engages in discussions or stimulates research. Such lacks are continuing despite the fact that STS approaches do not only serve an academic purpose, but also have a practical bearing on various recent developmental enterprises. Doing STS in and on Africa also utilises productive differences. Difference is not meant to draw an essentialist distinction between Africa and other world regions or to deny historical, societal, linguistic and environmental dissimilarities within the continent. It rather refers to shared characteristics of African contexts like the historical experience of colonialism, the prevalence of under-resourced and fragile official institutions, environmental and human-induced insecurities, or their similar position in a global politico-economic order (e.g. aid dependency, primary product provision), which, after all, make a difference. Fostering STS in Africa also means addressing a lack of empirical knowledge on science and technology. In return, such a research endeavour should foster methodological and theoretical innovation within STS. This project gives space for a critique and relocation of approaches within the discipline as well as the possibility to test and rework some of its established conceptual tools.

Most of the established canon in STS as well as recent research in the field concentrate on Euro-American techno-science. STS-scholars almost exclusively focus on the centres of western scientific knowledge production, thereby neglecting large parts of the world. However, right from the beginning the development of modern knowledge, technologies, modes of production or regimes of governance were intimately connected to contacts, visions and exchanges with Africa. While Africa has, in a particular way, always been central to what has been called the modern, it was and still is cast as marginal to it. In contrast, from the Congolese Uranium starting the Manhattan Project to medical data mined in the wake of contemporary AIDS treatment programmes, African techno-scientific products are deeply implicated in global trajectories and forms of life. The conference will therefore focus on forms of interconnectedness and co-constitution, e.g. figurations of global exchange, trans-contextual transfers, or the distributed and globalised character of knowledge production and technology design.

In these circumstances, we argue that a STS perspective on Africa should not only aim to understand the physical and social changes that science and technology provoke in particular African settings, but also the ways in which these settings re-configure the complex processes that drive science and technology in a globalised world.

2. Format and aims of the conference

The conference '*Mapping STS in Africa*' shall be organized by young scholars, in support of senior advisors. The conference will be a mixture of a keynote lecture, one roundtable discussion, thematic panels, and split-up sessions. Interesting scholars, politicians, activists and professionals from African countries will be identified to participate at the meeting. The conference is organized around four aims:

- 1) Start systematic intellectual conversations about the benefits and challenges of African perspectives on STS
- 2) Foster open discussions about the role of science and technology in contemporary projects of modernity in African contexts
- 3) Review possibilities for South-South academic cooperation (e.g. collective research projects, joint grant applications...)
- 4) Find ways to advance Science and Technology Studies in African academic institutions

According to these aims the following session formats are suggested:

Keynote and Roundtable Discussion

The keynote and roundtable discussion will both be part of the conceptual work on what it means to do Science and Technologies Studies in and on Africa and what can be gained out of this. Both formats will set the tone of the event and will formulate a series of ways of re-thinking and re-formulating the general topic.

Panels

The panel discussions (90min) will provide an overview of existing research and case studies in the field. We do not aim at simple presentations and discussions of papers but try to choose promising examples where STS enriches and enhances research on entangled histories about science and technology, the modes of global knowledge production, the role of science and technology on social change, or the way technologies are creatively adapted in African and global contexts. All this gives space for more general discussion on the new frontiers of Science and Technology in Africa. A panel will host three research papers (each 20min) and a general discussion (30min).

Split Up Sessions as Think Tanks

In a half-day session all participants will work on possibilities of how scholars, politicians, activists and professionals, from Africa, Europe, North and South America, and Australia, can engage in the study of Science and Technology in Africa. Working in small groups, participants will review the following issues:

- How to foster interdisciplinarity (e.g. between medicine, computer science, engineering, and the social science) in the study of Science and Technology in Africa.
- How the study of Science and Technology in Africa can benefit from existing academic traditions on the continent
- How STS can be integrated in teaching activities,
- How avenues for possible research funding can be fostered (in particular for South-South cooperation)
- How African colleagues can become more visible in global conversations about Science and Technology

Networking Sessions

We expect the event to generate multiple opportunities for networking activities. The Pre-Conference Day, lunch breaks and joint dinners will facilitate space to get to know each other and to discuss future activities.

Documentation

The meeting will be documented by publishing an extensive report. Keynote and Roundtable Discussion will be video recorded and published online.

Draft Overview Conference Schedule

Session	Wed, 12 Feb 14	Thu, 13 Feb 14	Fri, 14 Feb 14	Sat, 15 Feb 14
9.00-10.30		Panel I	Panel IV	Plenary
11.00-12.30		Panel II	Open Discussion	Fieldtrip
Lunch				
14.00-15.30		Panel III	STS-Africa strategic meeting	
16.00-17.30	Keynote	Roundtable		
19.00-	Joint Dinner	Joint Dinner/Party	Joint Dinner	

3. Organising Institutions

The Network for Science and Technology Studies in Africa (STS-Africa)

In 2012 a Network for Science and Technology Studies in Africa (STS-Africa) was established to create a space in particular for African scholars to strengthen their positions by using approaches from STS. By doing so the network does not only promote Science and Technology Studies in Africa, but rather enables encounters of STS and African scholars and issues, that will also provoke critique and decentering of contemporary STS with its Euro-American origins. On the other hand, we also believe that out of this critique STS-Africa will generate tangible knowledge that might help to improve science and technology policy and practice in the region. STS-Africa is complementary to existing STS organizations but distinguished by its regional focus on Africa. Designed to bridge academic, political, geographic and organizational boundaries, STS-Africa has the following aims:

- Promote and critically advance Science and Technologies Studies with a specific regional focus on Africa as a whole
- Stimulate, organize and institutionalize academic research and teaching by using approaches from Science and Technologies Studies
- Support Postgraduate and PhD education, and relevant publications
- Assemble scholars and students from Africa that associate to the aims of the network and support their relations with researchers from outside of Africa
- Assist with funding opportunities for projects related to the aims of the network
- Organize meeting spaces in and outside of Africa to facilitate intellectual engagement in the relevant topics.

Wits Institute for Social and Economic Research (WISER)

Established eleven years ago, WISER is the preeminent interdisciplinary research institute in the humanities and social sciences in South Africa. The institute has pursued four main objectives with energy and enterprise over the last decade. These are: to foster independent, critical inquiry into the complexities of change in South Africa; to conduct this enquiry by drawing on comparative research from the rest of Africa and elsewhere in the world; to foreground the wider historical and theoretical significance of WISER's research agenda; and to provide an institutional space which strengthens the scholarly dialogue between South

African researchers and academics in the rest of the world. The details of WISER's activities are available on-line at <http://wiser.wits.ac.za>.

4. Invited Participants

1. Achille Mbembe (WISER, South Africa)
2. Ahmed Bawa (Durban University of Technology, South Africa)
3. Andrea Behrends (University of Halle, Germany)
4. Bill Freund (University of Witwatersrand, South Africa)
5. Catherine Burns (University of the Witwatersrand, South Africa)
6. Clapperton Chakantsa Mavhunga (MIT, USA)
7. Dave Walwyn (CSIR and/or University of Pretoria, South Africa)
8. Faeenza Ballim (WISER, South Africa)
9. Fikremarkos Merse Birhanu (Addis Ababa University, Ethiopia)
10. Gabrielle Hecht (University of Michigan, USA)
11. Herbert Muyinda (Makerere University, Uganda)
12. Hoinathy Remadji (Centre de Recherches en Anthropologie et Sciences Humaines, Tchad)
13. James Smith (University of Edinburgh, UK)
14. John van Breda (Stellenbosch University, South Africa)
15. Julia Hornberger (University of Konstanz, Germany & Wits University, South Africa)
16. Katharina Schramm (University of Halle, Germany)
17. Keith Breckenridge (WISER, South Africa)
18. Lance van Sittert (University of Cape Town, South Africa)
19. Lea Velho (UNICAMP, Brazil)
20. Lindsey Reynolds (Stellenbosch University, South Africa)
21. Luisa Reis-Castro (University of Halle, Germany)
22. Manjari Mahajan (New School, USA)
23. Mario Scerri (Tshwane University of Technology, South Africa)
24. Natasha Vally (WISER, South Africa)
25. Norman Clark (Open University, UK)
26. Norman Schräpel (University of Halle, Germany)
27. Pamela Towela Sambo (University of Zambia)
28. Patience Mususa (University of Cape Town, South Africa)
29. Patrício V. Langa (Eduardo Mondlane University, Mozambique)
30. Pritibha Mistry (World Bank)
31. Richard Rottenburg (University of Halle, Germany)
32. Sandra Calkins (University of Halle, Germany)
33. Sandra Manuel (Eduardo Mondlane University, Mozambique)
34. Segla Dafon Aimé (Université d'Abomey-Calavi, Benin)
35. Stephen Sparks (University of Johannesburg, South Africa)
36. Steven Robins (Stellenbosch University, South Africa)
37. Sujit Sivasundaram (University of Cambridge, UK)
38. Sung-Joon Park (University of Halle, Germany)
39. Thomas Cousins (Stellenbosch University, South Africa)
40. Thomas Thadewaldt (U Halle)
41. Vukile Khumalo (University of KwaZulu-Natal, South Africa)
42. Wesley Shrum (Louisiana State University, USA)