Law, Organisation, Science and Technology (LOST)

Richard Rottenburg

Research Programme: Biomedicine in Africa

In 2005 Richard Rottenburg was appointed as Max Planck Fellow to the MPI for Social Anthropology and started to establish a research group on the anthropology of law, organization, science and technology. The main research programme on *Biomedicine in Africa* was defined and the first research fellows were appointed in the fall of 2006. Currently, the programme is comprised of ten individual research projects and accompanied by an academic advisory board of five leading scholars.

This research programme examines how the science and practice of biomedicine is shaped through its engagements in various African contexts. We regard biomedicine as a circulating set of technologies, practices, and ideas that – as a by-product of prevention and healing – links individual bodies to the political order. We take Africa to be central for understanding global shifts in the making of bodies and subjectivities as well as of social, political, and juridical forms of governance exactly because the continent is so marginalised in the global political economy and thus represents a site of intense conflict and experimentation. Sociologists and anthropologists of medicine have begun to scrutinise biomedicine through studies of laboratory and clinical life in the West. There has, however, been little scrutiny of biomedicine on the more difficult terrains of non-Western countries where humanitarian crises and complex emergencies involving refugees, wars, and epidemics are common. Our programme, which focuses regionally on Ivory Coast, Kenya, Tanzania, Angola, and South Africa, aims to fill this gap.

We examine the *making* of biomedicine in Africa within the context of political and economic changes such as deregulation, privatisation, decentralisation, and the devolution of the nation-state in an era of globalising markets and networks. These changes affect relations between the state, health care, civil society organisations, and capital. They give rise to new regimes of governance requiring stricter forms of standardisation of medical procedures and new kinds of auditing, both of which are vulnerable to misuse and failure. We seek to demonstrate how the making of biomedicine in Africa is a scientific enterprise with political, economic, and legal dimensions. The legal dimension encompasses the definition of responsibilities and entitlements in the area of public health and medical research as well as issues of intellectual property rights, health insurance, and governing human bodies through medical taxonomies. Finally, by examining the making of biomedicine in Africa we also address *epistemological* issues arising at the intersections between different forms of classification and the ideas about bodily disorders and their remedies.

The programme is comprised of ten individual research projects grouped along four thematic axes. The ten projects are:

Wenzel Geissler: *Shifting States of Science in Eastern Africa*
René Gerrets: *Governing Malaria through Partnership in Tanzania*
Thamar Klein: *Que(e)rying Body Perceptions in South Africa*
Stacey Langwick: *Global Traditions, Tanzanian Medicines*
Julie Laplante: *From South African Roots towards Global Knowledge*
Babette Müller-Rockstroh: *Safe Motherhood in Tanzania in the Era of ART*
Vinh-Kim Nguyen: *AIDS Relief in Ivory Coast*
Ruth Prince: *ART and Charismatic Christianity in Western Kenya*
Virginie Tallio: *Governing Bodies in Post-war Angola*
Julia Zenker: *Modernisation of Traditional Healing in South Africa*

Axis 1: Biomedical Technologies and their Embodiments

The first axis deals with issues of biological and social reproduction in Africa today, focusing on biomedical technologies that have become significant for how people imagine and enact the future. We selected four technologies that serve as paradigmatic examples: (1) Antiretroviral therapy is a powerful social operator in restoring individuals to health and allowing those under treatment to envision a future. (2) Biomedically supported understandings of sex and practices that render sex and gender malleable make available a new range of gender identities. (3) Reproductive technologies ranging from contraception to foetal ultrasound reshape social relations as women gain control over their reproductive health. (4) The deployment of international norms and practices of standardising populations to make them amenable to biomedical interventions establishes particular forms of citizenship. These four paradigmatic developments indicate a shift from the classical anthropological view of the body as a blank slate for imprinting societal norms to a contemporary view in which biomedical technologies co-produce new embodiments and novel subjectivities. As possibilities change, the embodied subjectivities into which individuals are interpolated, mis-translated, or denied access to also shift.

Our studies centre on the ways in which individuals become entangled – or not – in medical technologies, and the biological, political, and economic factors that affect these entanglements. This serves as an ethnographic lens for our examination of the translation of global technologies, practices, and ideas into local forms, and conversely the translation of local technologies, practices, and ideas into global forms. These practices of translation occur in discursive structures propagated by dominant cultural patterns and disputes, social movements, legal-political regulations and controversies, and trans-national institutions. Our focus on diverse legal mechanisms as well as the policies, protocols, and rhetorical strategies employed

by state and non-state actors enables us to examine how global forms increasingly enter and shape the private sphere.

A premature baby on the scales: 1.650g in the 34th week. With 2000g it can go home. Sengerema Hospital, northwest Tanzania. (Photo: B. Müller-Rockstroh, 2004)

Thamar Klein's study examines how the globalisation of discourses and technologies of sex and gender shape gender identities in South Africa. This project looks at the ways that technologies are used – or not used – to alter bodies and interconnections between sex and gender. Embodiment is analysed with regard to availability, economic opportunities, and accessibility of technologies as well as to ethnicity, class, and religion. Babette Müller-Rockstroh's study focuses on the introduction of antiretroviral treatment (ART) programmes in reproductive health care that are often tied to "safe sex" propaganda and ignore reproductive norms in many African countries. It examines technological embodiment through new uses of technologies like ART that allow women new "reproductive worlds". Virginie Tallio's study investigates vaccinations in post-war Angola and techniques that try to strengthen links between vaccination cards and the bodies they refer to.

Vinh-Kim Nguyen's study analyses the impact of AIDS-related biomedical technologies and discourses on biological and social reproduction in West Africa, mainly in Ivory Coast. Some specific examples are the participatory research techniques that produce social relations around epidemiological identities such as "sex workers" or

the effects of ART on self-help groups of people living with HIV. Similarly, Ruth Prince's study explores the impact of ART programmes on young people in western Kenya, focusing on how AIDS and ART are shaping biomedically-defined identities, pathways to health, and gender and kinship relations. It examines their engagement of global discourses about sexual morality, gender relations, reproductive health, the self, empowerment, and responsibility in the context of interventions, asking how this affects the ways they manage their health and lives.

Axis 2: The Intersections of Biomedicine and Traditional Medicine

The second axis deals with the role of traditional therapies in the making of biomedicine in Africa and the role of biomedicine in shaping traditional therapies. We focus on how traditional and modern medical practices intermingle, disrupt and reinforce one another in the circulation of medicines, practitioners, legal and ethical frameworks, and laboratory technologies. Organisations that fund the professionalisation of traditional practitioners and their integration into local health services boost the movement of traditional medicines and practitioners in national and global scientific and health service networks. By mapping how traditional medicines and experts travel, this research will identify how traditional medicine permeates therapeutic landscapes in Africa and beyond.

Our studies challenge facile dichotomies that frame biomedicine as dominating or liberating and traditional medicine as a cultural resource or an obstacle to development. They examine how political, bureaucratic, and scientific interests in traditional medicine in Africa provoke novel forms of experimentation, ethical regimes for research, and technologies for care and distribution. They also raise questions about the relations between medicine and new forms of nationalism, regionalism, and globalism.

René Gerrets' research examines international health experts' knowledge practices in African settings marked by therapeutic pluralism and hybridity. It investigates brokers' acts of translation across linguistic, cultural, and epistemological domains to examine how authority, power, and expertise are produced. Stacey Langwick's study focuses on how international interest in traditional medicine is shaping scientific research on herbal therapies in Tanzania, and how this Tanzanian research contributes to the formation of a global traditional medicine. She examines the development of traditional medicine both as a political and ethical project and as a scientific and technological one. Julie Laplante's research focuses on the intersection of traditional and biomedical knowledge as they are articulated in the clinical trial of an herbal treatment. By investigating how standards create diversity or erase differences and how laws are instrumentalised in South African and American contexts, this project sheds light on science in the making and the epistemological challenges that arise when biomedicine is localised and knowledge of traditional healers translated into universalising epistemologies.

Julia Zenker's study examines the strategies by which traditional healers are integrated into national health care in South Africa. It asks how the rationalisation and institutionalisation of traditional medicine enact the nationalist project of a new South Africa. It investigates cooperation between biomedical, state, and traditional actors to understand how healers interpret this interaction and the appropriation of biomedical ideas into their belief systems. Ruth Prince's study examines how understandings of AIDS and responses to ART take shape within the context of different understandings of health, illness, the body, sexuality, reproduction, and care. In Kenya, this context includes traditional explanations of and responses to disease and misfortune as well as religious explanations promoted by Christian denominations linked to various local, national, and international networks.

Axis 3: Biomedical Taxonomies and Governing Bodies

The third axis examines biomedicine as biopolitics, as a set of political technologies that reinforces the social order by governing bodies and making populations accessible to intervention. The focus is on biomedical practices, forms of organising health services, and legal regimes that aim to enhance well-being by controlling disease and the suffering body. We investigate their modification through encounters with institutional and material environments as well as with afflicted individuals and populations.

Biomedical criteria are the lens through which public health officials perceive and intervene in social reality. Medical taxonomies and practices of standardisation necessarily aim to control individual bodies and in the process embody nationhood. A deepening health crisis and eroding state capacity to deal with this crisis are expanding the scope of intervention across Africa. As a result, the continent is increasingly viewed through a biomedical lens. Medical notions of normalcy and the practices producing these ideas shape individuals' experiences of health, disease, and the body. This process gives rise to docile, disciplined populations as well as unruly subjectivities that may disrupt biomedical interventions, potentially reverberating beyond the field of health.

The issues addressed on this axis will be studied primarily in settings where medical care has partially or totally collapsed, requiring (re-)construction of new infrastructures. International, state, and non-state actors called upon to provide medical service infrastructures in affected regions target specific individuals and populations, and in doing so apply globally circulating medical, administrative, and juridical taxonomies and technologies. How these are translated in local contexts is central to axis 3, as is the flow of information about such local adaptations back to global centres.

Thamar Klein's study examines biomedical classification and standardisation of sex and gender and how power structures are mediated through biomedical knowledge. It maps developments in biomedicine and (inter-)national law for individual

and collective gender identities that disrupt or affirm male-female dichotomies. It also analyses the role of biomedical technologies and categories in framing and controlling sexed/gendered identities, and the appropriation, negotiation, and/or rejection of biomedical taxonomies by transgender movements. Wenzel Geissler's study of bioscientific work in Kenya centres on the staff of two research institutions, a government laboratory founded in the 1930s, and a newer research institute rooted in global health organisations. This study explores how various agents envisage and enact the relationship between science, state, and citizen; how scientific investigations and experiments engage changing forms of governance; and how research staff and their subjects live their lives within these shifting regimes.

The molecular biology laboratory at the "Centre intégré de recherches biocliniques d'Abidjan", where Vinh-Kim Nguyen worked. (Photo: V. Nguyen, 2007)

René Gerrets' study examines the current boom of Public-Private Partnerships (PPPs), transnational organisational assemblages that are major conduits for resources, ideas, and technologies for fighting infectious diseases in poor countries. It investigates PPPs as nascent forms of governance, tracing how they assume tasks from retrenching nation-states and multilateral agencies, generate new loci of power and authority, and foster neoliberal ideologies and subjectivities. Virginie Tallio's study examines the use of vaccination as a tool for governmental authorities to circumscribe populations and map the country. Julia Zenker's study explores the consequences of introducing new taxonomies into traditional medicine. Since South African healers often refer to knowledge involving dreams and ancestral ties, this study investigates the interpretation of such explanations in relation to standardised

and de-individualised regulations, and how new standards may alter the kinds of issues dealt with by traditional healers.

Vinh-Kim Nguyen's study focuses on the US Presidential Emergency Programme for AIDS Relief (PEPFAR) in Ivory Coast, a *de facto* parallel health system that produces new forms of biomedically-mediated social relations, disrupting social norms and forms with profound social and political consequences. This study describes the impact of PEPFAR on the social relations and subjectivities of people living with HIV; it identifies the procedures, protocols, and institutional strategies by which PEPFAR renders populations accessible to treatment and the long-term effects of this; and it examines the impact of social triage (inclusion or exclusion from benefits) on social relations. Ruth Prince's study analyses biomedical practices, forms of organisation, and legal regimes aimed at controlling the AIDS epidemic and providing access to ART, examining how these practices are transformed in the local context. Large flows of humanitarian aid (organisations, money, experts, and technologies) make Western Kenya an apt site for studying how efforts directed at the health of individuals and populations link them to governmental, non-governmental, and transnational organisations.

Axis 4: Biomedical Experimentation and Health Interventions

The fourth axis centres on the research aspect of biomedicine, epidemiology, and pharmacology. As in other sciences, experiments are the standard form for producing knowledge in biomedicine. However, the context inevitably influences the process of experimentation: randomised clinical trials, humanitarian medical interventions in disaster zones, and efforts to contain deadly epidemics call for different experimental modalities. Extreme conditions compel and enable health care institutions and professionals to rapidly develop strategies to contain crises and their devastating consequences. Such emergency approaches give rise to new forms of governmentality and "experimentality", wherein new strategies are tested, research and policies are re-ordered, and provisional solutions are often transformed into robust forms of health care.

Experimentation, however, presupposes standardisation: some factors must be held constant. Crisis interventions normally follow blueprints that are based on previous experiences and supplemented with "lessons learned". Adapting the classical experimental model – evidence of efficacy justifies intervention – these interventions look for evidence to confirm that they have been effective and that valuable lessons for future interventions have been learned. Initial findings suggest that crisis approaches are increasingly applied in non-disastrous situations, thus routinising states of emergency.

Wenzel Geissler's study of two institutions that historically dominated medical research interventions sheds light on changing forms of experimentation in post-independence public health research in Kenya. Whereas earlier experiments reflected

the aims of a developmentalist nation-state and mainly responded to scientific interests and medical exigencies, contemporary clinical trial regimes tend to be detached from national frameworks and governed by transnational expertise and regulatory principles, making them less flexible but lending them enormous weight. René Gerrets' research explores demographic surveillance systems (DSSs), vital public health tools for assessing the population-level effects of diseases and disease control measures in poor countries. This study investigates popular engagement with DSSs – ranging from cooperation to outright sabotage – and evolving scientific standardisation requirements, experimental models, and forms of governance. Along similar lines, Virginie Tallio's study examines the experimentation with new regimes of health governance in post-war Angola.

Stacey Langwick's research explores how traditional medicines spark novel forms of scientific experimentation, shifting the boundaries between science and non-science. It compares three laboratories that explore the medical properties of plants, examining the work of scientists with healers and plant substances, and their organisational work with (inter-)national bodies. Julie Laplante's project examines how traditional medicine is fitted within a scientific randomised controlled trial (RCT). It hypothesises that RCT is an open-ended path of knowledge production with predictable and contingent elements, wherein fears of resistance to biopharmaceuticals function as triggers. Julia Zenker's study investigates how different actors in South Africa are trying to modernise traditional medicine (TM). In public discourses, TM is depicted as part of a rainbow nation, a legitimation for the new post-apartheid state. In practice, it is a locus for healers to negotiate the terms and conditions for their integration into the new health care system. This study explores this cooperation between TM, biomedicine and intersecting intellectual property rights as fields of experimentality.

Thamar Klein's research examines how biomedical facilities and the operating theatre become sites for defining, discovering, and inventing the pathological and the normal, sex and identity. It looks at people who deploy biomedicine to modify their bodies and whose identities are transitioning within or beyond the male/female binary. Babette Müller-Rockstroh's research examines clients' and professionals' experimentation with standardised HIV counselling, testing, and antiretroviral therapy. Touted as a humanitarian intervention for women and children, ART presupposes compliant bodies yet enables "resistant" sexual behaviour. This study explores how governmentality and experimentation co-develop in legal, socio-cultural, organisational, and economic terms to frame a new "politics of the womb". Vinh-Kim Nguyen's research examines how AIDS programmes in Ivory Coast are supplanting state service provision. It focuses on the new forms of social triage that are used in enrolling or excluding beneficiaries. Similarly, Ruth Prince's research explores how the AIDS epidemic is reconfiguring public health interventions, and the consequences this has on forms of governance and on experiences of health, illness, and suffering.