

Power Inequities: Observations on the Development of Information and Communication Technologies, from an African Place

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ABSTRACT

Using power to achieve political goals is not a new strategy. This paper unpacks observations about the use of power in the development of information and communication technologies (ICTs) in Africa. This analysis shows the use of unequal powers by non-African academics, development actors and technical experts (including the power to set the agenda, fund and build), embedded deeply in the current structures of ICT development for Africa. It also looks at how benefits accrue to non-local development actors and outlines some of the unmitigated risks for Africa.

CCS CONCEPTS

• Information Systems; • World Wide Web; • Web Applications; • Social Networks; • Social and Professional Topics; • User Characteristics; Computing / Technology Policy; • Applied Computing; • Human-Centered Computing;

KEYWORDS

Politics, power, ICT, Africa

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1 INTRODUCTION

The advantages and blessings of information and communication technologies (ICTs) are well established in the literature and understood by the private sector. The development of ICTs has been heralded as a driver of economic growth, a revolutionary force in learning, a factor in the increase in productivity through what is called the 4th Industrial Revolution, and an important part of the management of health, including the management of pandemics. Some advocate for access to ICTs to be seen as a human right. Such narratives extol the benefits and opportunities provided by ICT for the connected. Solutionists argue that ‘unconnectedness’ needs to be (urgently) solved by ICT developments so these benefits can be imparted to all.

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However, there is an array of other voices that claim that ICTs are increasing inequality, sustaining digital imperialism, and providing a new vehicle for colonialism, a vehicle that enables the extraction of personal information and surveillance, and that facilitates the privatisation of the benefits and socialisation of the costs.

Power structures are deeply embedded in the current ICT structures and wielded to gain political advantage at all levels. Here, power is regarded as the capacity or force to influence events, in this case in ICT development. In this paper, I assess the wielding of power by foreigners, those who influence events in geographical locations and situations they were not born into and do not live permanently. I provide a preliminary reflective analysis of my experiences with geo-technopolitics in Africa and observations about foreign actors enacting their (open or hidden) political goals through interactions in knowledge systems (like conferences) and in the development and operation of ICT artefacts. Geo-technopolitics emerge when ICT equipment, knowledge systems, and extraneous models of intervention are imported for use outside of the context in which they were conceptualised and designed.

The aim of this paper is to bring observed power-enactments by foreign experts to the fore. The paper does not deal with the underlying structures of hegemonic power embedded in ICT systems and their governance. It is hoped that the paper will provide an (uneasy) checklist, augmenting discussions on ethical behaviour in ICT development.

In the sections that follow, I first describe the method used, after which I identify and provide insights into the observed wielding of power by foreigners. Subsequently, I provide an analysis of the agency of these powers, structured according to frameworks provided by Burawoy and Appiah. In the final part, I discuss these agencies with respect to the African environment, followed by some brief conclusions.

2 METHOD

For the past 20 years, I have lived in Zambia and Zimbabwe and travelled extensively in Africa. I have disclosed my various positions in previous works, especially when assessing foreign solutions imported into Africa [33]. For this paper, using Burawoy’s extended case method [6], I have analysed over 10 years of participant observations during national and international conferences in Africa, Europe, and the United States of America. Between 2010 and 2020, I attended over fifty conferences in various disciplines, of which over twenty focused on ICT; other conferences pertained to mechanical engineering, mathematics, energy, and health (full list of conferences available at <http://www.vanstam.net/gertjan-van-stam>).

I augment my observations with reflections on 10 years of conversations on the subject of the use of power by foreigners with academics in their African working environments.

I did not keep numerical records of the frequency of the incidence of the observations presented in this paper. The observations relate to a varied mix of foreign actors. Some are quite conscious of their privileges and actively avoid using their power, others wield a selection of them; there is also a limited – but quite visible – group that actively use them, whether consciously or not.

The observations shared in this paper were reflected upon with African and other non-European and non-American peers. In discussing these sensitive issues, I used an interactive approach, which Franz Fanon describes as follows: “I took advantage of a certain air of trust, of relaxation; in each instance I waited until my subject no longer hesitated to talk to me quite openly – that is, until he was sure that he would not offend me” [11], p. 128.

3 OBSERVED POWERS

This section presents the different kinds of powers I observed being used by foreign stakeholders engaged in ICT development in Africa.

Power to categorise. A dominant hegemony depends on universalism, an ideology that is based on the existence of a universalised, representational scheme. In pursuit of universalism, powers are used to impose homogenous, Eurocentric categories in conversations about ICTs and their design. These categories are disconnected from African realities or inputs [30], for example 5G. The subsequent labelling of identities and activities is socio-political, as it happens according to these categorisations.

Categories are described mainly in English, but also in French, Spanish, and Portuguese. These languages are not commonly spoken in Africa, erasing conceptualisations and contributions described in Africa’s widely spoken languages. As a result, the power to categorise crowds out the development of local, African conventions [5] and the use of indigenous languages.

In contemporary ICT development, categorising powers are manifested in algorithms and artificial intelligence. These algorithms are known not to serve the subalternised, because of the lack of input from under-sampled majorities in the training datasets [14].

Power to fund. In ICT development, especially when framed as aid, powerful Northern-based institutions and elites are in charge of funding [22]. For instance, well-endowed universities and international institutions act as gatekeepers for access to extraneous funders and research. As a result of pillage and plunder [20], in Africa, many ICT professionals are not able to meet the basic expenses of ICT development. Therefore, cooperation, programme design, and implementation require ‘dancing to the tune of money’. At the same time, financial risks are assessed by non-African agencies – such as Standard & Poor’s, Moody’s, and the Fitch Group – in a financial and economic system that is linked to a non-African world, set at the Bretton Woods Conference in 1944 in New Hampshire. For projects funded by non-African funders, priority setting in relation to what should be funded, and subsequent expense approval, is mostly undertaken outside of Africa and aligned with non-African interests.

Power to travel. Many foreign ICT professionals, whether researchers or developers, carry passports that allow them to travel

at will. Although certain (African) countries require visas, and thus declaration of the purpose of visit, visitors can easily declare their purpose of travel as ‘holiday’ and gain entry. African ICT professionals carrying African passports often do not have such freedom of movement [24]. Visa application procedures demand trips to embassies located in capital cities or neighbouring countries. Often, procedures demand paternalistic oversight, requiring reference letters, disclosure of personal information about finances and social accounts, and even a guarantor.

Power to demand entitlements. Entitlements are often claimed on the basis of previous achievements claimed by foreign ICT experts and the fact that they have condescended to visit the less-endowed. Entitlement and opportunism lead many foreigners to (accept to) sit in the front row or at the high table at conferences and the like, making a clear public statement about who the powers holders are.

Power to speak first. Often attributed to class and status, as if geo-classifications are natural, foreigners are often seen to take the opportunity to speak first. Possibly because they are trained to fight for ‘speaking time’ or due to a need to prove their worth, visiting professionals are quick to ask leading questions. Local etiquette may demand careful timing in relation to when to contribute to community deliberations, according to position and perceived status; the first speaker often sets the playing field while the last speaker provides the summary of proceedings and outcomes, when all have contributed.

Power to set the agenda. In line with the saying, ‘the one who pays the fiddle calls the tune’, those in positions of power are used to setting the agenda. Agenda setting is a political act that determines the topics of discussion and the frame for negotiations. Agendas, whether ICT research agendas or the contemporary subjects of ICT discussions, are set from ‘seats of power’, outside the African continent. Through agenda setting, foreigners organise and control conversations. In Africa, the focus is mostly on the ‘continuous present moment’ [32] while stewardship over achievements from the past and the ongoing present are the main areas of attention. Foreign agenda setting, however, is often linked to actions for the creation of an envisioned future and priorities described in economic or monetary terms, productivity and efficiency, according to Eurocentric understandings.

Power to survey. In many situations, digitisation allows the indiscriminate transmission of real-time, or semi-real time, information about people and their environments. This information can be meta-data, but also specific data on what happens socially, economically, or in health and education. The processing of this data provides political power to intervene in line with non-African priorities. The process of counting and measuring feeds into surveying and surveillance, providing inputs for regulatory powers.

Power to make visible. By processing data sets that reside in platforms outside the African continent, non-Africa based researchers and developers act upon their deductions. Publications are done without African scrutiny, sometimes with the omission or negation of contributions by African authors [e.g., 4]. Such publications *speak about* instead of *converse with*, or describe what is *done for* instead of *done with*, communities. Researchers in Western-based universities are observed to rely on Western-based ethical assessments and their Western-judged reputations, and send papers

to Western-based journals, which are peer-reviewed by Western-based colleagues. This *making visible* is done without submission to – or the permission of – Southern-based colleagues, peers, or authorities.

Power to represent. Foreign professionals have been seen to manage, control and combine information flows by representing information from one geographical location in another geographical location. As such, they set themselves up to act as a ‘clearing house’ and ‘management centre’ for information, amassing information from which they claim the privilege to represent. Such representations often appear unaligned with local, morally-guided practices for managing knowledge ‘properly’, which involve respect for the gatekeepers that guard, for instance, moral taboos [23].

Power to apprehend and build. Systems of partnerships and mentorships are set up for non-African based professionals to have quick and easy access to the most current, emerging ideas. These come through international hackathons, innovation prizes, and mentoring offers. With little cost, Western partners are seen to learn from Africa and use their technological advantages to build technologies and solutions. This power and ability pre-empt the development of basic capacity to produce in Africa, allowing non-African experts to position themselves as sites of organisation.

Power to socially control. Through reference to homogenised global institutional rankings of universities and corruption indexes, delegates from those institution are observed to exert considerable social control. Self-proclaimed supremacy leads to asymmetries of power in partnerships, for instance, in research [16], and a ‘failing Africa’/‘white saviour’ narrative.

In practice, the distribution and display of the observed powers is highly variable, depending on the circumstances. For instance, they are less pronounced when significant African powers are in the vicinity, for instance, when a high-ranking minister is in the room. However, the display of power is more pronounced in conferences, where like-minded foreign individuals often flock together and ‘highjack’ proceedings. In general, it seems that in health science the powers described in this paper are less pronounced. However, in meetings and conferences with a technical or mathematical orientation, the powers appear to be actively wielded by foreign professionals. It seems that, the more ‘material’ the subject or the more set in a belief system of universality (one-size-fits-all), the more the powers are expressed.

4 ASSESSMENT OF OBSERVED POWERS

In this section, I assess the powers observed using three schemes of categorisation.

Categorising powers. To structure reflections on power, Burawoy proposed four categories: domination, silencing, objectification, and normalisation. Drawing from my previous work, Figure 1 presents the assessment of the observations along these headings [32].

Of particular interest is Kwame Appiah’s observations regarding class, taken from his experience in Ghana (Asante Kingdom), the United Kingdom and the United States [3]. When matching his views with the observations presented here, one can imagine international class distinctions. This is ‘Orientalism’, as described by Said [28]. ‘Geo-politics’ is the focus on the interests of (Western

Power	Explanation	Example	Mediation
Domination	Effect of prolonged and surreptitious power struggles	Rhetoric of the struggles between centres and peripheries	Being inert
Silencing	Ideology in the interest of dominant elites	Orations by persons from non-local authorities	Restricting or refraining from speaking
Objectification	Assessment informed by oriental/external, natural and social categorising	Enforcing norms in situations where there are dynamic and integrative epistemologies	Using long-term, oral means of data collection
Normalisation	Reducing the world to categories	Judging activities using extraneous categorisations	Using trans-disciplinary approaches

Figure 1: Burawoy’s four categories of power and their mediation

Power base	Description	Example	Mediation
Belief system	Essentialistic views of the benefits of ICTs	Body-of-knowledge framed by experience and beliefs valorised in Euramerica	Orthopraxis (<i>acting right</i>)
Sovereignty	Institutions, procedures and precepts that govern sovereignty	Echo chambers of normative knowledge at international conferences	Value epistemologies
Colour	Segregation based on observable distinctions	Race and location-affiliated negation and affirmation, dominance and resistance	Conversations
Class	Created social hierarchies sustaining in-groups and out-groups	Orientalistic generalities about <i>them</i> and <i>us</i> enmeshed in social fabric	Intersectionality
Culture	Community building to live life with others	Exchange, adoption and assimilation of practices	Respect

Figure 2: Appiah’s identity categories and their mediation

countries and their elite, as framed in Eurocentric philosophies and ideologies. When analysing power-wielding using identity frames, with their ‘in-groups’ and ‘out-groups’, as described by Appiah, the following emerges (Figure 2).

In the third assessment, I match the powers described with the main interrogative words that are important in terms of the circumstance and control of human action (Figure 3).

Future analysis could review how the powers described in this paper map onto ideologies and are subject to cultural filters set by *modernism*, or ideas on what *development* entails. In relation to the latter, for instance, there is a notion that the developing world lacks certain ICTs to be able to become *like the developed world*.

5 DISCUSSION

Fanon vividly describes the trauma inflicted by continuous and demeaning powers, describing cases where so-called ‘black’ people were categorised as inferior (or worse) by actors embedded in a dominant imperialistic culture [10]. Nancy Murphy and George Ellis present on the moral nature of the universe [25]. The existence

Interrogation	Power	Aim
Why	Agenda setting, front seat, speak first	Fits Eurocentric agendas that yield benefits for the already powerful
Where	Travel	Priority for actions where powerful can travel (cities or nearby rural areas); action taken where the powerful decide 'a certain lack' should be alleviated
What	Categorisation, surveying, funding	What fits a universalised scheme gets done, what does not is made invisible; where money flows, things get done
When	Funding, agenda setting	Activities are set by funding patterns, fitting foreign conceptualised agendas
Who	Make visible, represent	Those recognised as suppliers of information and data for foreign experts
How	Social control, make visible	In line with Eurocentric valorised methods
With what	Build	Using methods and activities that can be controlled and done outside of Africa

Figure 3: Powers and their aims

of such a moral grounding is corroborated by the work of Zimbabwean philosopher Munyaradzi Mawere, his many collaborators, and others.

The use of power is the subject of much study in the field of political science. On the geo-politics of the power bestowed by technology, Iginio Gagliardone describes its existence in Ethiopia [12]. Linnet Taylor and Dennis Broeders argue convincingly how datafication yields more power to the powerful [34]. In view of the oppression of African research and development, the esteemed Ugandan researcher Mahmood Mamdani urges us to examine foreign involvement in technologies for power and profit [18].

In previous works, I described exploitative behaviour as a product of the 'terrible three': orientalism, imperialism and colonialism [32]. As such, the powers and unmitigated risks described in this paper are harbingers of the continuous exploitation of African resources. This exploitation, among other things, constitutes epistemic violence, which can only be countered by insisting on matters of attitude and morality, beliefs and values, and sustaining a multiplicity of knowledge systems [31]. In ICT, an Orientalistic view entails the implicit or explicit contempt of non-Western contributions, resulting in social and scientific exclusion, discrimination, hostility, patriarchy, disenfranchisement, and objectification. The powers identified in this paper appear to be closely linked to neo-liberal views, capitalistic markets and tech-solutionism, which are, in principal, undemocratic and often benefit non-African private actors. This interlinking with imported systems stifles the finding of ICT solutions aligned with the collective behaviour of non-consumers that aim for mutual support and solidarity. Power shapes the technologies that exist and that will be developed.

The use of powers described in this paper is a significant ethical problem. Their inappropriateness becomes obvious when one turns the narrative around. None of the observed powers would be acceptable behaviour by an African when interacting outside of her/his continent. However, foreign actors get away with such behaviour in line with their partial perspectives. Worse still, the powers described here provide the benchmarks against which ICT developments are measured. The powers are reminiscent of pervasive and historical – in other words, colonial – ways of interacting.

The underlying ideologies and belief systems blind moral offenders to their own offences.

The benefits of these powers. The use of the powers described in this paper align with a supremacist hegemony that brings their users many benefits. For instance, the dominance of non-indigenous African languages provides political advantages to non-African players [19]. The wielding of these powers diminishes the agency of 'the other'. Such a theft causes trauma in ICT experts in Africa [10]. The trauma is amplified by an ICT-development environment saturated by non-African supremacy that does not value (and actively devalues) inputs from Africa. The result is a psychological colonisation.

The imbalance in power results in the accrual of the benefits of ICT developments to actors outside of Africa. The engine for this accrual is an ongoing coloniality in professional circles (like universities) and the acceptance of neo-liberal and capitalistic framings [27]. Accepting foreign domination allows for the import of dominant, foreign thought systems as well as having to pay rent for information that might well have been apprehended from Africa. This apprehension of power and overruling of local agency can work against the people being (mis)represented [26]. In this way, a periphery is created and sustained that can only hope to supply raw data [13, 18].

With the ability to move at will in Africa, non-African stakeholders can take information from one part and test and develop it in other areas. In such a way, non-African ICT professionals keep control of ICT developments, worldwide, and manage the benefits for themselves and their local industries.

Self-denial and stigma. Withstanding the powers presented in this paper is disposed of by those powers as subversive. These objections are amplified through the narrative of a 'failing Africa', or bifurcations such as classifications like 'traditional' and 'modern'. As regularly and emotionally pointed out by respondents in their African workspaces, the result is structural self-denial by many in Africa, a feeling or sense of subordination arising from decennia of being bombarded by the narrative of 'failing', of not 'being good enough', and stigmatisation.

Witnessing an individual eagerness to publish, the research groups in the West seem to be engaged in a 'Game of Thrones' competition for 'who is best'. Research offers for PhD candidates from Africa in Europe or the United States (e.g., in digital health information system [DHIS] studies in Norway, or ICT4D training in England) complicates matters significantly. When reviewing technical presentations done by presenters from Africa under non-African supervision, one senses a degree of hypocrisy when hearing African realities filtered through non-African, Eurocentric frames. When confronted, the presenters claim they would lose their position, being non-compliant, whether or not what they presented made sense for Africans themselves, cf. [15].

Possibly, this self-denial paves the way for undeserved privileges (of perspectives) to be expressed. Reflecting over 10 years of observations, it appears that a certain apathy has taken hold. An apathy that does not confront whitewashing or the self-exaltation of non-Africans in their international exploits. There seems a level of resignation to the idea that ICT researchers and developers in Africa do not deserve the opportunities that are being denied to them, that

developments are 'better being taken up' by non-Africans, in non-African countries.

Coloniality. Colonialism is pervasive in ubiquitous computing, as it is embedded in industrial capitalism and part of a knowledge enterprise that depends on Eurocentric valorisation [9]. The domination of foreign powers, pursuing their national, political and commercial interests, gives the illusion of freedom and perpetuates colonial gestures. The presence of coloniality – long-standing patterns of power that define relations seeking valorisation in Eurocentric centres [17] – appears to desensitise the interlocutors to the power-laden manner of interactions.

Context projections. The wielding of power can be viewed as the projection of 'the powerful' of their own ICT-enabled and infused environment onto African societies – as if what exists outside of Africa will naturally come to Africa too. Non-African experts are trained and (mostly) work and live in technological societies that focus on serving individuals, using technology 'to amplify human intent' [35]. Thus, strongholds of claims of utility link in with the supremacy of individuality, a sentiment that is not echoed in most parts of Africa.

In Africa, technological societies are scarce. For instance, everyday life for many people is not aligned with a connected world. In the meantime, many of the powers described in this paper can only function within a technological society. These powers, thus, work when one accepts narratives of scarcity and lack of agency.

Countering disempowering powers. Accepting claims to superiority of non-African experts in relation to ICT development in Africa results in indignity, discrimination and the dehumanisation of local experts. This result negates 'other ways of knowing' in ICTs. It was possibly for this reason that Zambia-trained Michael Bura-woy argued for a reflective approach, which he likened a 'kamikaze' to existing theories [6].

Undeserved powers separate people and result in the misalignment of conversations with those in an African context. As a result, many ICT-development outcomes appear unsustainable in an African place. These issues bring up questions of relevance about the infusion of non-local perspectives, as their utility is controversial. This issue was already raised by Ahmat *et al.* [1] in 2014, who questioned the relevance of a foreign-inspired ICT4D research agenda.

Using the powers described reinforces bifurcations and promotes thinking in bifurcated constructs such as centres and peripheries, design and use, users and non-users. These divides erase, ignore, and transcend the specifics of technological encounters in ICT in Africa. For the non-African researcher, they hamper the emergence of a local understanding of ICT in, for instance, rural African communities, cf. [22]. These issues were frequently expressed to me by many colleagues in Africa, however, they find remarkably little employ in the literature on technology [31], where reflection on the effects of the powers enjoyed by foreign ICT experts are rare. In all likelihood, the wielding of the observed powers prevents those who wield them from seeing the historical and political setting of ICT 'development assistance'. In relation to digital welfare, the Special Rapporteur on Extreme Poverty and Human Rights, Philip Alston, in his report to the UN General Assembly concluded, among other things: "in order to reduce the harm caused by incorrect assumptions and mistaken design choices, digital [...] systems should be

co-designed by their intended users and evaluated in a participatory manner" [2].

I have marvelled at the confusion experienced by African participants during international conferences when observing the behaviour of dominant, non-African delegates. This confusion is most visible in settings framed by development narratives. The concepts and personal behaviour of many non-African participants do not measure up. Representative of sentiments expressed to me on various occasions, I quote one participant from an island in the Pacific looking back to attending an international ICT conference in Africa, who asked rhetorically:

"Why did I come here? I have seen no recognition of the works by non-Western ancestors. I have seen Western professors joggling for access to areas where they were not born nor do live. I have seen professors using the event to jostle for position among themselves. I have seen disrespect for non-Western contributions. In the meantime, contributions from Southerners seem to speak to Eurocentric audiences only, not to the context where I am living in. I have found little to bring home to justify the investment of my community to bring me here, unfortunately." (Personal communication, African capital, 2019)

I have observed several pockets of resistance, mostly outside of the natural sciences. There is a demand for the emancipation of polyvocality, diversity and multiple perspectives in ICT. These are, for instance, inspired by feminism concerned with the operation of power and patriarchy [7]. Objections to the powers that seek to universalise can be witnessed in works on counter narratives on economic life [29] or situated knowledge, also in engineering [21]. Of course, any set way-of-knowing tends to obscure other-ways-of-knowing.

Ethical conflict mediation through orientation. With the bifurcation of the natural and social sciences, it appears that many practitioners and students in ICT development have turned a blind eye to demands for ethical behaviour. Technical opportunities and narratives of underdevelopment and perceived ignorance seem to limit many an outlook. However, whether or not an ICT intervention should take place is a valid question that should appear on the agenda of natural science experts. Actually, during my education to become a skilled engineer, I was never required to attend a class on the ethics and question the 'creation of technology'. There appears to be an active resistance and, possibly, resentment towards engaging with the ethical implications of power-distances embedded in the dominant practices of technology creation.

Power is contingent on the acceptance of the structures that harbour them; for instance, notions of individual ownership or capitalistic economic systems, which are alien to many in Africa. Therefore, accepting the powers of these systems allows for the appropriation of agency by the systems that espouse them. However, there are hope-giving exercises that aim for ethical behaviour. An example are the Principles for Innovation and Technology in Development developed by UNICEF, or the minimum ethical standards in ICT4D research [8, 10]. It is telling, however, that the editors of the latter are Western-based researchers, who ultimately report to Western universities.

6 CONCLUSIONS

By exposing the imbalance of power and unmitigated risks involved in embodied interactions in ICT development, I hope to illustrate that ‘bringing ICT to Africa’ is not merely an issue of the translation or adaptation of technologies from the West to Africa, but one that requires dialogue and the constructing of a conversation in which all can grow in understanding. A communicative action is needed that aims to create equality in relationships, with the understanding of the existence of various normative systems. To counter debilitating powers, space must be allowed for alternative ideas to the hegemonic ones. The aim must be a common, shared value system. There is urgent need to foster respect (and African self-respect) for African input in ICT development.

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