Roundtable

AFRICAN STUDIES AND 4IR: IN SEARCH OF AN APPROPRIATE ANALYTICAL APPROACH

7th December 2020

14h00-19h00 (Via Zoom, Johannesburg Time)

ABSTRACTS

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1. **The Fourth Industrial Revolution: Universal Design, Affordability, Cultural Identity, and Ethical Orientation**

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Discussions on the impact and future directions of technology often proceed from an empirical point of view that seems to presume that the ebb and flow of technological developments is beyond the control of humankind, so that all that humanity can do is adjust to it. However, such an approach easily neglects several crucial normative considerations that could enhance the standing of individual human beings as rational users of technology rather than its slaves. These considerations are crucial in the Fourth Industrial Revolution, which combines artificial intelligence, robotics and real time transmission of information over the Internet, with implications on weighty moral issues such as personal choice, privacy and respect for the physiological and psychological integrity of the human person.

Consequently, in this paper, I propose the following four normative considerations that, in my view, ought to serve as analytical tools with which to gauge the level of Africa's technological advancement as well as to guide her response to the Fourth Industrial Revolution:

Universal design: this is defined in the United Nations Convention on the Rights of Persons with Disabilities as "necessary and appropriate modification and adjustments not imposing a disproportionate or undue burden, where needed in a particular case, to ensure to persons with disabilities the enjoyment or exercise on an equal basis with others of all human rights and fundamental freedoms". Down through history, designers of technology have often proceeded without any consideration for the needs of persons with disabilities, thereby denying them the opportunity to actualise their vast potential. The principle of universal design is intended to address this lack.

Affordability: during the Third Industrial Revolution, the inequality between the wealthy countries in the Northern Hemisphere and the poor ones in the Southern Hemisphere was regularly referred to as "the digital divide". It is urgent that during the Fourth Industrial Revolution, this gap is bridged through affordable technology to mitigate the rampant material want in Africa, thereby forestalling the perpetuation of marginalisation based on people's material circumstances.

Cultural Identity: as the literature on communalism and communitarianism illustrates, the liberal democratic vision of ethnically-blind societies violates the rights of individuals and groups to identify themselves with particular cultural formations. Such a vision also contravenes the UN International Covenant on Economic, Social and Cultural Rights of 1966. There is therefore need to ensure that the choice of technologies deployed in African societies takes cognisance of the worldviews of the said societies instead of subjecting them to a homogeneity created by their erstwhile colonisers.

Ethical Orientation: when humanity fails to assert its moral perspectives on the development of technology, they unwittingly capitulate to the moral perspectives of a few people highly knowledgeable in such technology. It is therefore necessary to formulate clear ethical guidelines to restrain developers and marketers of technologies from dehumanising the peoples of Africa by manipulatively imposing technological innovations on them. It is only through such an ethical framework that we can protect the individual's rights to personal choice, privacy and his or her physiological and psychological integrity. This fourth and last point touches on all the previous three considerations.

2. **Science and Racial Contract in Francophone Africa: Epistemological and Political Challenges**

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In spite of the nobility of its ambitions, science, as far as its acquisition, strategic distribution and use are concerned, has not always been as reasonable as expected. In Francophone Africa, the issue of science has a lot to do with racial and historical considerations. As we reflect on African studies and the Fourth Industrial Revolution, we cannot, As Africans, undermine the epistemological and the political issues which surround the question of science in Africa. These issues are perequesites to the genuine grasp of the 4IR. In Africa, Francophone countries seem to be more confronted with such problems. Most of them are still among the poorest countries of the world.

What is science and what is racial contract? How is science affected by racial and imperialist considerations in Africa? Which are the epistemological and the political manifestations of the African scientific extraversion and underdevelopment? What are

the ways forward today? These are the main questions I will try to respond to in this paper.

The first part of my reflection will deal with science and the racial contract. In this part I will try to define what science is and should be for us in Africa today. The works of some outstanding African philosophers such as Paulin Hountondji, Meinrad Hebga and Fabien Eboussi Boulaga will be helpful at this stage. *The Racial Contract* (1997) of Charles W. Mills will also be helpful here to understand the 500 years old theory of the Western project of domination over nonwhites.

The second part will be an attempt of critical description of how scientific underdevelopment is enforced against the interests of the African people through education systems, human sciences and philosophy, agricultural productions, treatment of raw materials, economics and the issue of the CFA currency, medicine, chemistry and high technoscience.

In the third part, I will open perspectives for a better management of scientific development mainly in African Francophone countries. For this to happen, we need to be more responsible today, to take and to enforce strong decisions about our educational systems, psychological reconstruction, self-appropriation of science and economical and political independence. Psychological reconstruction is the most important task before us today. Criticizing the West, though relevant to some extent, is no longer enough. If we really manage, as a free people, to achieve this mental reconstruction, then we will be able to appropriate and to develop science in Africa by ourselves and for ourselves. The thoughts and the lives of the above mentioned Africans outstanding philosophers could be very inspiring for us as far as this reconstruction is concerned.

3. Managing African knowledge production in a post-truth era of 4IR

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Today's mainstream profit-driven knowledge production and dissemination is rapidly restructuring the way scientific research is conducted through the technology of informatics. For their very existence, global scientific communities are now indelibly dependent upon the profit-motivated modus operandi of both multinational corporate industries and the international security interests of powerful oligarchies serving those corporate elites, staving off their future of threats of 'the masses' (Elbe 2010, 2012). Hence the commodification of results, the creation of product-demand and the rehearsal of military command and control operations staged 'abroad' in 'remote' populations – these agenda have all offshoots and by-products of scientific production which feature in the criteria for selecting research goals and for adjudicating theories.

In such a transformed knowledge economy, new norms of automated data management entail a transfigured understanding of scientific rigour and best research

conduct for individual scientists. Working as nodes in an extended network of cognitive operations (Huebner 2014), experimentalists and investigators become incorrigibly disengaged from the pre- or sub-digital world as it still exists for us (for the time being) 'outside the web'. Individuality will cede to collective perspectives as we move toward a world of new epistemic virtues and new criteria of credibility, accountability, and reliability.

Within the cyber net, the prioritising of mass consensus will yield alarming, practical aspects of scientific 'reliability', including the suppression of incommensurable data, censorship of controversy and reproduction through positive reinforcement of dogmatic, lockstep obedience typical of authoritarian epistemic regimes that prevailed in medieval Europe before the Enlightenment.

The patterns of domination over knowledge production in a post-truth era will likely occur by default, not through ignobility, as a function of technologies which allow for the manufacture of scientific consensus through a choice of judgment aggregation driven by best scientific practice: respecting maximal diversity, maintaining impartiality and sustaining systematic rigor in the processing of receiving inputs and refereeing decisions that determine the direction of content and application in scientific knowledge production and consolidation. When too many conflicting interests need to be served, the outcome will serve the interests of the dominant interests, rather than the most accurate. By relying on results of social choice theorists, this statistical inevitability can be recognised and pre-empted by those monitoring and refereeing the impact of global monopolies on knowledge reproduced in Africa for Africans.

A glimmer of optimism emerges by anticipating a future containing an informal transformative sector of referees monitoring the African knowledge economy from the electronic side-line. Universities in Africa have an obligation to train how to monitor and influence the terms of contractual engagement of workers in the mainstream mass assembly of knowledge. As the latter succumb through their professional obligations to best conduct codes in an electronically managed production monolith, the former must maintain a vanguard posture, to witness the interpretation of human needs, and measurement of their fulfilment, by that same monolith. Hermeneutic studies and critical social epistemology are going to be the core business of higher education for African applied ethics, for these are the very skills that are crucial in building resistance to co-optation either by fiscal or digital economics.

4. **On the Discourse of Community-based Participatory Research and Epistemic Justice in an African Context: A philosophical investigation**

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Upon encounter with Western scientific research, indigenous epistemologies are often discounted as non-conceptual knowledges, hierarchically inferior on account of a lack of scientificity as assessed according to prevailing Western standards of epistemology,

logic, scientific method and ethical theories. A like observation is made by contemporary African philosophers like Hountondji, who asserts traditional knowledge and technology continue to assume a marginal position in the present order of knowledge whilst reserving for the North the monopoly of invention through the labour of modern science. In light of the history of colonialism in Africa, the notion of cross-cultural discourse may therefore seem rather an elusive endeavour in participatory research wherein power relations are manifest between modern science and indigenous epistemologies. One of the challenges, I argue, repose on the rationalist and relativist dialectic on the proper conception of the notions of objectivity and truth in the conduct of cross-cultural discourse. Given that there is but one world within which we subsist, the veridicality of all propositional statements about the world must rest upon common experience – that is within the reach of human agency – and quite sensibly, albeit preliminary disagreements about the veridicality of a proposed hypothesis may exist in cross-cultural research, the conferring of truth-value thereon is ultimately conceded by familiar discursive procedures of justification which inhere in the praxis of consensus notwithstanding the various attitudes of epistemic enquiry or language games. The aim of this paper is to address this issue by proposing that we conceive of objectivity and truth in the province of human agency. I will make this concession from a construal of consensus established upon the virtues of an African discursive praxis, arguing *contra* Foucault that is it indeed possible to abstract formulations of cross-cultural discourse beyond the construct of power. Thus, this work may be read as a prolegomena to a theory of discourse in the African philosophical context. I seek to construct an autochthonous, emancipatory epistemological schema predicated upon a critical appropriation of the affluence of resources garnered from the cultural practices and philosophical insights of African traditional societies. And what is intended by consensus herein is a kind of dialogical procedure of considering a plurality of opinions or statements on whatever it is that is the case in that general category of propositions, in a community of interlocutors, that requires a particular kind of intellectual comportment; that of open-mindedness, accommodation, reciprocity and charity. In this construal, all positions of argumentation are disposed to change, contingent on the outcome of rational inquiry. Thus, no point of view is privileged over another. In so far as constructing such a theory, I attempt to bring to salience a critique on the supposition that modern western scientific discourse holds solely the faculty of legitimation in regard to knowledge, its production and valuation; a supposition whose instantiation may often ostensibly be apprehended as gilded impertinence or vulgar condescension particularly in research wherein communal discourse and/or participation is requisite.

5. **The Metaphysics of Technological Development and Being-African**

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The first two decades of the third millennium brought rapid technological, scientific, and subsequent industrial development to the African continent. Technological advancement is often perceived as the key postcolonial element of future development in Africa and is considered far more efficient and constructive than conventional international developmental aid. It is seen as the engine of progress generating spatial, economic, and social mobility. In this sense, technology acts as a means of becoming– becoming recognized, equal, perceived as adequate, regarded as developed.

Nevertheless, technology – and its life-world manifestations – has been interpreted as one of the biggest threats to future generations, or the future of humankind, by many scholars in various areas of science and knowledge, from philosophy and sociology to the interdisciplinary field of environmental science. Modern technology appears just as threatening in Africa as it does to other parts of the globe. Along with environmental, societal, and economic risks, it also brings consequences of a purely metaphysical kind. In this relation, I propose to study the questions of what it means to be human in the technological age and what does being-African mean in the rapidly evolving technoscape of Africa, primarily along the lines of Hans Jonas' and Martin Heidegger's diagnosis that modern technology has turned into a threat to a viable future of humankind.

Modern technology is not only smartphones in our hands and laptops on our desks. Modern technology and industrial development also mean toxic batteries, digital waste, rising gas emissions from coal power plants, plastic, medicinal, chemical, and nuclear waste, biotechnological manipulation of the human, animal, and plant genomes, digitalization and virtualization of people's lives and their relationships, etc.

As a mobilizing superpower, the process of digital globalization is further compressing the spatial and temporal dimensions to the point where all the relations vanish; this is the point in which all the oppositions coincide and *being* becomes one with *nothing*. At the same time, this is the point at which metaphysics – disenchanted – vanishes. Its replacement is offered by the post-metaphysical auto- mobilization, which makes it possible for man to become one with the machine, Donna Haraway's cyborg, the generator, or the (prime) mover that was never as immanent in the world-history as it is in the space-time of the post-metaphysical era. However, through becoming-one, did the world not diminish the privilege of being without the master, and subjugate all of us to the dictate of progress with rapid technological advancement? Is this not a clear indication of "the becoming black of the world" (Mbembe) rather than the beginning of a decolonial post-history?

Furthermore, what does it mean to be human in the post-metaphysical era? What does being- African mean in the age when being – reduced to a mere dataset – means either being-online or not being at all? What metaphysical consequences this kind of technological and spatial reconfigurations create?

6. **Challenging the Founding Fathers: Onto-futurism and posthumanism as new discourses for African philosophy**

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All too often, the narratives of African philosophy remain locked in the perspectives projected by the "founding fathers" of the field. Mbiti's projection of the "African concept of time" or Tempels' theory of "vital force" as the foundation of African ontology are still currency in African philosophical discussions, only professionally repackaged by thinkers informed by valid criticism of "ethnophilosophy".

My paper suggests that African philosophy needs to depart from its foundational discourses and venture onto new terrains. On two examples, the notions of "time" and of "the human", I would like to demonstrate how pivotal concepts of African philosophy have been interrogated by recent cutting-edge approaches developed in literary studies and cultural theory. Mbiti's statements about "African time" have implicitly been challenged by the conceptualizations of time developed in African sci-fi and Afrofuturism. On the other hand, the understanding of "humanity" or "the human", as represented by various versions of humanism, have been dismantled by discourses on posthumanism and ecocentred theoretical approaches.

In conclusion, I will demonstrate that, in many instances, such incisive philosophical critiques have been pioneered by African authors in African-language texts long before they were developed in "global" (understand: Anglophone) theoretical debates.

7. **Ideating African Indigenous Knowledge Systems for Africa's Participation in the 4IR: From Content Framework to Process Formation**

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The Fourth industrial revolution (4IR) with its envisioned benefits of increased productivity, enhanced decision making with digital based tools, qualitative and efficient processes, improved life expectance rate, etc. no doubt is a desideratum for the contemporary society. The need to prioritize skills and knowledge needed for the participation of Africa in the 4IR becomes imperative. The view of Francis E. Owusu-

Ansah and Gubela Mji that "knowledge or science, and its methods of investigation, cannot be divorced from a people's history, cultural content and worldview" (2013:1) makes the consideration of AIKS as possible tool for advancing an African participation in the 4IR realistic. Thus, if all scientific knowledge is first local knowledge as opined by Theophilus Okere (2004:22), then AIKS could be explored for enhancing knowledge and skills needed to contribute meaningfully in the 4IR.

This paper, employing the analytical method of philosophical rationalisation examines the methodical perspectives that would be appropriate to frame African Indigenous Knowledge Systems (AIKS) as a tool for advancing science and technology. It argued for the process form of ideating IKS against the content forms implicit in the various views on IKS. Ideating IKS from the content or praxis perspectives focuses on the good practices from the lived experiences of the indigenous people. Thus, case studies of the material depicting the ethical, social, technological, architectural, educational and economic practices at the local level are onften putforward in the conceptualising IKS. On the other hand, the process perspectives of IKS focuses on the exploration of the conceptual or theoretical framework of indigenous ways of knowing.

The paper observes that the dependence on the content framework is a major gap in the ideation of AIKS, as it inhibits the exploration of AIKS as an epistemological process. Hence, the inability of non-cultural practitioner to understanding and export for further usage, the indigenous practices elsewhere. Although, the content framework has helped in showcasing the value, significance and viability of IKS as an alternative way of knowing, the observed limitation however obviates scientific practices, hence, could impede the development of skills and knowledge forms required for the participation of Africa in the 4IR. The content framework also precludes the expansion of IKS beyond local application, thus making it geographical specified. The process approach on the other hand allows for the theoretical analysis and systematic understanding of the formations and development of IKS as it "reduces or dilutes, the location-specific nature of IKS by drawing on the greater universality of formal scientific knowledge" (Briggs 2013:234). Reducing the location-specifics of IKS is essential for the development of IKS as it makes IKS more acceptable both locally and internationally in building up scientific solutions to contemporary challenges. This is because process emphasizes the understanding of methods for analysing, questioning, observing, comprehending and rationalizing received or new idea/information. Thus, the process formation of IKS permits for wider and universalizing applicability of AIKS as a systematic tool for enhancing the advancement, measurement, and interpretation of technological innovations required for Africa's participation in the 4IR.

8. *Ntu'ology*'s Formal Causality Role in Generating an African Fourth Industrial Revolution Analytical System

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Most of the many questions raised in, or arising out of the debate concerning the problem of the appropriate analytical approach to framing apposite conditions of Africa's technological advancement, have an international or global dimension, and have increasingly tended to become the focus of a world-wide debate not only among policy-makers, to include International Organisations, but among professionals, such as philosophers, natural scientists, technologists, economists and so on.

Africa is scrounging theoretical approaches, methodological perspectives and sets of analytical tools principally from the Western and Eastern Worlds when she already possesses the theoretical bases out of which equally pertinent African indigenous methodologies could be drawn.I aim to explain concisely but in depth the importance of and urgency for Africans starting to generate theoretical bases for pertinent African indigenous methodologies in order to respond definitively to socio-economic and scientific transformations wrought by the Fourth Industrial Revolution.

My self-coined term *Ntu'ology* refers to a study, discourse, reasoning or discussion concerning Bantu wisdom which is considered to be the ultimate principle for classifying reality and values according to the seven "ntu" categories. These categories present a synoptic view of the salient features of the foundations of Bantu philosophical and religious traditions – traditions that encompass rules and beliefs that guide African called Bantu in the day-to-day judgments and decision-making processes. Thus, *ntu'ology* is an example of a theoretical framework which Africans already possess and could use to confront a lot of African reality issues. *Ntu'ology* is not be the sole theoretical base that is academically owned by Africans. Regrettably, Africa, which possesses strong theoretical foundations of indigenous knowledge of all kinds, is the same Africa that scrounges theoretical approaches, methodological perspectives and sets of analytical tools principally from the Western and Eastern Worlds' in order to cope with the temper of the times.

I shall subject the Fourth Industrial Revolution (4IR) as a whole to ntu'ological brief analysis. By questioning 4IR's definition, form, pattern, essence, wholeness, being a synthesis of many things, the archetype on which it is built, etc, *ntu'ology* shall be employed as a formal cause to enlighten us on what 4IR is intended and planned to be. Thus, an account of causes in terms of fundamental ntu'ology principles or general laws shall be generated. Such principles will not only be African in origin but also serve as a theoretical base out of which sector-specific theoretical approaches, methodological perspectives and sets of analytical tools for suiting Africa for 4RI could be drawn.

9. Indiscipline as a Collaborative Method

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Disruption is productive of something new. Not long-ago social scientists were treated with skepticism, seen as a threat to science and objectivity. Once the science wars died down, however, Science Studies burgeoned with diplomats moving between the disciplines of natural and the social, as well as the technical. In this paper we contend that the engagement of social scientists with natural scientists (and engineers) is more than just an *interference* exposing a moral conscience and a critical review of ideologies and procedures. The engagement is much more than that, yet still "disruptive" (which we here use synonymously with "innovation")

This paper explores - and develops upon - the concept of "indiscipline" as a programmatic agenda and a method for the intersection of 4IR and African Studies. We take the notion of indiscipline from W.J.T. Mitchell (1995), as a provocation for framing the way science, technology, society and innovation in African contexts intermingle. As a method, indiscipline 'stays with the trouble' and positions interference, interruption, confusion and disruption not as states to be avoided, but as the conditions for innovation (precisely because it exposes what is taken granted and habitual). Indiscipline can be defined as lack of behavioral control, lack of punishment, or non-adherence to rules (at least momentarily). Framed positively, indiscipline is the letting go of known habits, freedom from the fear of sanctions, and the transgression of social conventions.

With the aim of enabling collaborative knowledge production, we argue that researchers need to temporarily (yet deliberately) abandon hard-earned and hard learned disciplinary axioms, standards, codes and communicative habitus. Indiscipline as a method entails that experts consciously let go of acquired epistemological and symbolic academic capital; a seemingly playful change of roles with greater risks involved. While interdisciplinarity is the mutual and comparative bouncing off of set knowledges and epistemes, *indiscipline* is the acknowledgement that we both don't know and that the world is too complex to be accounted for by any single discipline. Beyond the liminal moment of rupture, collaborative uncertainty is grounding. Indiscipline is, then, the application of situated common sense in moments of technological change.

Mitchell (1995) proposes several productive aspects that we would like to reconsider for developing a method at the intersection of technology and social science:

1. Disciplinary self-reflexivity.

2. Resistance of 'whateverism' through an earnest interest in collaboration beyond tokenistic 'garlanding' (Bhabha & Mitchell 1995:81). In other words, we do not consider our engagement with colleagues in disciplines other than ours as decoration to display

our own open-mindedness but rather as reports on how we go about interrogating the limits of our disciplinary knowledge.

3. Avoiding one-to-one import and 'recycling' (Bhabha & Mitchell 1995: 52) of concepts from other disciplines but aim at dialectics of concepts and regard inference as amplification.

4. Analysis of the metaphysics of the object.

5. Analysis of the political economy of the object.

Our presentation will outline indiscipline and its potentials as a method. We apply this to gain insights into data on three consecutive interdisciplinary workshops on the Square-Kilometer-Array Telescope (with scope to include the analysis of other large scale technoscience projects on the continent).