

# An Opinion on “African Perspectives on the Global Digital Compact”

To everyone engaged in drafting and finalizing this important document:

Thank you all for your efforts, please accept my best wishes for an excellent final draft, which will impress the United Nations Secretary-General and the United Nations General Assembly. Of even greater importance and urgency for this vital work is fixing South Africa’s numerous sustainable development challenges, the most visible of which are the triple threats of inequality, poverty, and unemployment.

We must remove South Africa, and South Africans, from their disappointing, unnecessary, and potentially destabilizing positions as world champions in inequality, poverty, and unemployment, and in many of the performance indicators defining progress in achieving the Sustainable Development Goals. Some key relevant statistics in support of this statement are detailed in the statistical analyses provided in the document “[SOUTH AFRICA: INEQUALITY, POVERTY AND UNEMPLOYMENT IN NUMBERS.](#)”

Following the murders of 8 family members and two visitors in Imbali, Pietermaritzburg, on Thursday 20 April, 2023, it was most distressing to hear nearly all international news broadcasts report that “South Africa has one of the highest murder rates in the world” ([CNN](#); [DWE](#); [BBC](#); [Yahoo News](#); etc.). The triple threats of inequality, poverty, and unemployment, exacerbated by shortcomings in all human development deficiencies described by e.g., the SDGs, are historically well-known triggers for large-scale societal decays such as this, and the still unfolding tragedies in African countries in the Horn of Africa (Sudan, Ethiopia and Tigre, Somalia) and elsewhere.

The Global Digital Compact must of course extend its coverage to all countries in Africa, the good countries who must lead the way, the bad who must find ways out of their national miseries, and the ugly who must change their dehumanizing practices and return to the human values that are said to have originated in their home continent.

## The role of ICT, a.k.a. “digital everything,” in the amelioration of all SDG challenges.

It is a well-known fact that ICTs, in all their variants prior to, during, and after the current fixation on digitizing everything, digital world and clouds included, were and remain powerful tools for the sustainable development and survival of humanity and its living environment. Digital transformation, in my opinion, is merely a euphemism, or metaphor, for the process of “transforming” billions of tiny transistors switching on and off in a predictable programmed manner, into huge financial profits, or disaster:

4 April 2023: “AI Would Either End the World as We Know It, or Make Tons of Money”: [Sam Altman, CEO of OpenAI](#) which owns the phenomenally popular AI tool ChatGPT.

To many leading-edge ICT/AI industry innovators, either result of the new product, mass destruction or high profits, are fine if the results add to the social status of its creators and owners. Other responders argue that “advanced AI has gone too far and should be outlawed,” and that “we should ‘[destroy a rogue datacenter by airstrike](#)’ to stop the spread of a superhuman AGI<sup>1</sup>.”

Are these considerations part of the Digital Compact which we are dealing with?

The final version of the “African Perspectives on the Global Digital Compact” must address the challenges of leveraging “digital opportunities” available to address Africa’s debilitating state of human development, perhaps using South Africa as an excellent case study. South Africa is a continental leader in wealth and technological prowess, the latter restricted to the “economic and information haves”; and a continental and

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<sup>1</sup> **Artificial General Intelligence (AGI)**, a variant of artificial intelligence (AI) which can match, or surpass, the reasoning, rationality, and cognitive capacities of humans, through computer software and hardware designed for continuous machine learning (ML).

world leader in too many of the indicators that define the state of human misery and underdevelopment in Africa.

The numerous UN reports and resolutions associated with this Global Digital Compact are most welcome, recognising as they do the debilitating impacts of the triple threats and their intricate and intimate linkages with all seventeen SDGs. Sadly, perhaps of necessity, the UN family must focus on global challenges as they are mandated to do, leaving national challenges to their local UN offices, some of which are as dysfunctional as the governments they serve. We need to pull all stops to get them to focus more and intensify their efforts beyond the nice high-level reports which dominate the international discourse. I think, if we are to deal with poverty and inequality in Africa, we must share and localise the multilateral and multistakeholder engagements that the UN reports and resolutions promote, and seek a full coordinated national response in each country to all SDG challenges in a holistic action-oriented way.

One directly related statement that caught my attention is Recommendation 1A (global connectivity), in the Secretary-General's report [A/74/821](#), under the headings "*Consideration of the recommendations of the High-level Panel on Digital Cooperation*" and "*Inclusive digital economy and society*:"

*"Meaningful participation in today's digital age requires a high-speed broadband connection to the Internet. Countries report that 93 per cent of the world's population live within physical reach of mobile broadband or Internet services. However, only 53.6 per cent of the world's population now use the Internet, leaving an estimated 3.6 billion without access. The least developed countries are the least connected, at only 19 per cent of their populations"*

According to the most recent [World Bank Internet User Database](#), in 2020, South Africa recorded 70 internet users per 100 inhabitants, ranking fifth highest out of the 54 African countries, behind Morocco, Seychelles, Egypt, and Tunisia. In terms of fixed broadband penetration, a useful proxy for internet connected households, South Africa, the fourth wealthiest country in Africa, reported a low fixed broadband penetration of just 2.2% in 2020, ranking the country 13th out of the 54. This is a direct indication of South Africa's deep information inequalities, driven by the socioeconomic inequalities which impact ICT affordability. Similar continent-wide analyses would add value to the final digital compact for Africa.

I am also concerned over the continued use of "internet users per 100 population" as the dominant internet user indicator. The World Bank definition; "*Internet users are individuals who have used the Internet (from any location) in the last 3 months. The Internet can be used via a computer, mobile phone, personal digital assistant, games machine, digital TV etc.,*" is wholly misleading. The value of this indicator, as defined by the ITU, the World Bank, and many other high-level authorities in the ICT industry, is questionable:

- a. What value can be derived from access to the internet a few times every 3 months? Can such low usage help the poorest majority to overcome the poverty traps they find themselves in?
- b. Is a WhatsApp call, one seeking help from distant relatives to procure e.g., food for hungry rural dwellers, a valuable developmental quality internet usage? Providing food to stave off hunger is of course vital, but is this the best that the internet can do to stave off hunger and overcome socioeconomic inequality?
- c. South Africa's [ICASA reported for 2021](#) that smartphone penetration had exceeded 100%, and 4G/LTE coverage was 97.7%. These are all "digitally empowered" technologies, hence in effect, the so-called digital divide in South Africa has effectively been breached. But the South African Government's own analyses suggests that up to 76% South Africans survive in a state of chronic poverty, and that just 8.3% of South Africa's homes had 24/7 internet connections. Why?

The above brief discussions suggest two very relevant UN reports, which must be built into this UN African Perspectives on the Global Digital Compact:

1. Extract from "[The parlous state of poverty eradication](#)" report by Philip Alston, United Nations Special Rapporteur on extreme poverty and human rights, June 2014 - April 2020:

*By single-mindedly focusing on the World Bank's flawed international poverty line, the international community mistakenly gauges progress in eliminating poverty by reference to a standard of miserable subsistence rather than*

*an even minimally adequate standard of living. This in turn facilitates greatly exaggerated claims about the impending eradication of extreme poverty and downplays the parlous state of impoverishment in which billions of people still subsist.*

- Philip Alston's successor, the Belgian legal scholar and professor Olivier De Schutter, the current United Nations Special Rapporteur on Extreme Poverty and Human Rights, continues the warnings and entreaties of his predecessors. Professor De Schutter warns that ignoring the plight of the poor threatens all the economic models we have become reliant upon. His focus on children, in his report to the 76th session of the UN General Assembly on 20 October 2021 ([report A/76/177](#)), reminds us that all the technological advances in all the AI innovations and those still to come in the so-called 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> industrial revolutions, will come to nought if we don't develop, nurture, and safeguard the cognitive development of our future generations. With more than 60% of South Africa's children living in abject poverty, with unresponsive poorly equipped schools which fail to cater for their mental growth, Professor De Schutter's warnings and entreaties are timely:

*"Let me state things very simply: Children born in disadvantaged families are most likely to live in poverty when they grow up. In the United States, it was found that children who experienced poverty at any point during childhood were more than three times as likely to be poor at age 30 than those who were never poor. In Nordic countries, it would take at least four generations for those born in low-income households to reach the mean income in their society. In some countries such as Brazil, Colombia, or South Africa, this would take up to nine or even more generations."*

Nine or more generations, about 270 years, for 60% of South Africa's children to "catch up" with their wealthier compatriots?

*Child Poverty in South Africa: A Multiple Overlapping Deprivation Analysis (Statistics South Africa, 2020) finds that six out of ten children, or 62.1 per cent, are multidimensionally poor. This finding is consistent with an income poverty line that is based on the upper-bound poverty line, which finds that 67 per cent of children are located in income-poor families. UNICEF July 2020: <https://www.unicef.org/southafrica/media/4241/file/ZAF-multidimensional-child-poverty-analysis-policy-brief-07July-2020.pdf>*

The above is just a small sample of some of the thinking I believe should form the basis of the African Perspectives on the Global Digital Compact, extended of course to the whole continent. Other related issues are:

- What exactly is a "digital compact"? In both theory and practice, the digits referred to are minute pulses of electrical energy produced by switching on and off transistors 7 to 10 nanometres in size (one twenty thousandth the average width of a human hair), housed in integrated chips accommodating up to 42 million of these microswitches. These pulses are coded to produce a binary digital representation of the analogue inputs, processed, and disseminated using advanced digital technologies, and decoded back to their analogue formats for human consumption and use.
- Can these minute electrical pulses on their own resolve the numerous challenges facing humanity, its world, and the societies humanity has created? The answer clearly is an emphatic NO! Only people using digital switching and transmission technologies wisely can resolve human challenges and problems for the good of humankind. The digital technologies themselves are tools used to meet the desired objectives, they should not be the objectives themselves.

The "digital compact" should therefore ideally be people-centred in name and in substance, if it is to serve the needs of billions of people who have, through no fault of their own, been deprived of the knowledge they need to extricate themselves and their children from rigid inequality and poverty traps. That knowledge, acquired through literacy in reading, writing, mathematics, all the STEM disciplines, and all the humanities and social sciences, is not digital. Digital technologies are the means of processing and disseminating the required knowledge, and that knowledge is generally analogue in substance and form.

Similarly, and central to the African Perspective on the Global Digital Compact, is the immense hype, scare mongering, and false promises of untold power and wealth that can be derived from modern technological advances in the form of robotics, artificial intelligence, and of course, powerful computers and information

systems “located in clouds.” The importance of ALL Africans acquiring the awareness and knowledge to understand the basic principles and structures of the AI and robotics world, irrespective of their ages, genders, intellectual or societal status, cannot be overstated. Learners, educators, parents, and guardians, must be able to separate the facts from the fiction and hype which are so well popularized in the modern “digital” lexicon.

For example, the overhyped “Metaverse” and its implied [virtual classrooms in virtual clouds](#), will never be able to match the [nearly 3-millennium-year-old “Confucian” philosophy of learning](#): “*Tell me and I forget; Teach me and I may remember; Involve me and I learn*”.

Concerning the Confucian philosophy of learning quoted above, can it apply to “research” via ChatGPT? Arguments can be made that ChatGPT “tells” the user by producing the results of a query without active participation of the user besides posing the question; It may “teach” the user by producing the answers needed for rote learning; but it most certainly does not “involve” the user. “Learning” from ChatGPT is thus questionable, as is the tool’s potential for plagiarism and related forms of fraud.

Is the Metaverse overhyped? [Maybe](#); [Yes1](#); [Yes 2](#); [No1](#); [No2](#); [Yes and No](#); For poorly connected and economically poor Africans and their SMMEs, the Metaverse is 100% Hype.

### **ICT, AI, Employment and Jobs**

Employment, jobs, skills for jobs, are perhaps the most important and visible growth challenges faced by South Africa, and most nations on the African continent. The evidence is very visible on the streets of South Africa’s cities: fit able-bodied men, and a few women, in street corners desperately begging passing motorists for jobs; garbage collectors pushing or pulling massive highly degrading trolley-loads of garbage long distances just to eke out a living for themselves and their families.

South Africa holds the world record for unemployment, ranking 234<sup>th</sup> out of the 234 countries with valid unemployment statistics, according to the benchmark analysis on page 4 of the referenced document “[South Africa: Inequality, Poverty, and unemployment in Numbers](#)”. This document also shows South Africa as holding the world record in youth unemployment – a significant threat in the way of skills for the rapidly changing world of work. The [World Bank database](#) on youth unemployment lists South Africa holding the world rank of 234 out of 235, the last country being Djibouti with a reported youth unemployment rate of 81.1%, compared to South Africa’s rate of 59.6%, for the year 2020.

In the latest draft report for this digital compact, the chapter on labour speaks to the “Digital Economy” and “Digital Platforms” which “*could potentially provide alternative forms of work to alleviate mass unemployment,*” and “*global digital platforms can benefit developing countries by providing access to new technology, jobs, or skills.*”

The challenge of unemployment in South Africa is much bigger than the hope reflected by the choice of the verbs “can” and “could”. The digital compact should seek to change these verbs to focus on positive action-oriented verbs like “are” and “is”, which must of course follow the designs of effective counters for the debilitating horrors of wide-scale national unemployment, especially as it affects the youth.

The subject of unemployment is immensely difficult, and devastatingly important for the survival of nation-states. Unemployment demands intensive debates at national multistakeholder levels, debates that go far beyond the usual conferences, talk shops, or zoom meetings. Such meetings must address the uncomfortable possibility that seeking job creation from the ICT industry, especially in its 4 or more “industrial revolutions” and multiple “Gs” that promise much, but instead destroy jobs through simple cost-effective productivity improvements, and of course, large scale automation.

The world of work as we know it today is receiving rising levels of scrutiny, some seriously questioning its purpose and form: do humans work to live, or are they living to work? Was it always like that throughout 400,000 plus years of human evolutionary history? Or were there periods in that history where work was not toil, but a pleasurable contribution to the common good? Has the modern, mainly capitalist global economy, become the master of humankind instead of a tool used for good by humankind? There are numerous high-level debates amongst leading economists which suggests that capitalism is becoming the enemy of

democracy, e.g., LSE 2023: "[The Crisis of Democratic Capitalism](#)"; The New Yorker 2018: "[Is Capitalism a Threat to Democracy](#)"; Oxford Academic 2021: "[Is Global Capitalism Compatible with Democracy? Inequality, Insecurity, and Interdependence](#)"; Brookings 2020: "[Democracy is in deeper trouble than capitalism](#)" and many more.

An interesting, and surprising, departure from corporate character, was the World Bank's initial draft of its [World Development Report for 2019](#), which focussed on "The Changing Nature of Work". The initial draft was surprising, suggesting that nations should do away with rigid labour laws, allow mass automation of commerce and industry, tax the profits of such industries, and introduce effective universal basic income (UBI) schemes from those taxes to free humanity from the burdens of undignified poorly rewarding labour.

A key statement along those lines remains available online, in a [World Bank Presentation created in October 2018](#), which pleads for "Stronger Social Protection" - "**Protect People, Not Jobs**"

The early draft of this World Bank Development Report was subsequently withdrawn and rewritten following an international outcry from all major institutions with vested interests in the current relationships between economics and politics on the one hand, and labour and workers on the other. This includes highly influential multilateral organizations like the International Labour Organization (ILO), Oxfam International, and even many branches of the World Bank itself, who are committed to the preservation of work as it is today, and the role of labour who collectively fund those same institutions.

The debate is on. Must people work to live so that they can live to work? Or is it possible to return to the values of a much earlier human evolutionary period, up to and during the early parts of the Neolithic Revolution? During this evolutionary period, before humans "were civilised" as sarcastically described by some, work slowly transitioned to labour and toil, from a value system where work was given voluntarily, and with pleasure, for the benefit of the community. Publications relating to this period of human evolution include: [Olive Keogh](#) writing in the [Irish Times on 20 November 2020](#): "[Balancing life and work: there is a lot to learn from hunter-gatherers](#)"; and [Dr Peter Gray, April 2014](#): "[Why hunter-gatherers' work is play](#)", and many more, which must be consulted in the implementation stage of the GDC.

Regarding the link between ICT and the world of work, most authorities have stated, in hope more than proven fact, that ICTs can create jobs. Even intuitively, this cannot be so. ICTs are tools, which when used wisely and productively, improved productivity with, in most instances, a decrease in labour overheads (i.e., labour). ICTs created new jobs mainly during major network construction or expansion. Large scale automation, through tools like Machine Learning (ML), Network Function Virtualization (NFV), Software Defined Networking (SDN), and the "no-end-in-sight" Artificial Intelligence, are now possible, rendering human labour obsolete unnecessary overheads.

With the advent of AI, extended in massive scale automation using leading edge high capacity very low latency telecommunications networks like 5G wireless and very high-performance fibre optic cables, massive job cuts can be expected. AI controlled large-scale automated transport networks, and remote controlled commercial, and even military use drones, do improve productivity greatly, mostly at the expense of labour.

These are major considerations for the world of work, and the role of the integrated ICT ecosystem in it. They demand intense discussions with all multistakeholders, including very hostile ones like labour and political movements. If these discussions cannot deliver real applicable recommendations for the digital compact at this time, then the discussion process must be built into the digital compact, and undertaken as part of its delivery strategy.

#### **Artificial Intelligence: A short discussion of AI and its host the ICT Ecosystem:**

AI, a component of the ICT ecosystem, must be a critical component of the African Perspective on the Global Digital Compact. BUT - the Digital Compact must include a strong central component for the understanding of what AI really is, even if the technological and operational details are beyond the knowledge reach of lay persons. How does AI fit in the whole ICT ecosystems, especially the people at the core of these ecosystems? The complexity of AI, how it relates to both the analogue inputs and outputs of the users' information or



knowledge needs, and the digital processing and distribution functions of the host ICT ecosystem itself, will of course be beyond the understanding of most non-technological users, but all users need to understand the underlying simplicity of these relationships. Such understanding is vital for laypersons to understand the role of AI so that they can know and understand the vast opportunities, and dangers, of this vital component of the continuously evolving ICT ecosystem.

To explain what an ICT ecosystem is, we simply asked ChatGPT for a definition, the AI tool responded promptly:

*“An ICT ecosystem refers to the interconnected network of information and communication technologies, such as hardware, software, internet services, and communication networks, which work together to create a digital environment for the exchange and sharing of information, data, and knowledge. It includes various stakeholders such as technology companies, government organizations, educational institutions, and users who work together to create a functional ecosystem for the technological advancement and digital transformation of our society.”*

An excellent answer, thank you ChatGPT.

**AI Knowledge Sources:** There is a global abundance of excellent knowledge about the ICT ecosystem and its impact on the human condition. Research papers, studies, policies, opinions, multimedia information, leading edge technological papers, which cover AI from its conceptualization, suggested to have started in the [14<sup>th</sup> century](#), all the way through luminaries like the WWII era computer genius [Alan Turing](#), to its future speculated self-destruct after it destroys humanity (as warned by the late physicist [Stephen Hawking](#) and many others), are available in most libraries associated with knowledge, and online in the world’s ICT ecosystem via tools like AI. All human knowledge as we understand it today, which began in the deep evolutionary roots of our common ancestral home in Africa, is easily available to all humans who live on earth, through peer group knowledge sharing, and the learning institutions we have created. But humans have put a price on knowledge, an economic value which restricts its access to the economic haves and information-rich citizens of our world, those who can afford to pay for the knowledge itself, and the ICT tools needed to access it.

For example, recent scientific research findings suggest that the earliest hominin endowed with the still evolving cognitive skills required for intelligent thought, may have been the 6 to 7 million years old [Sahelanthropus tchadensis](#) (Smithsonian 2020) fossils discovered in the now [conflict-torn African country of Chad](#). Perhaps, if the early inhabitants of Chad had access to tools like ChatGPT, their descendants, who left their ancestral African homes to colonize the rest of the world in the OOA migrations (read November 2021 discussion at [“deep learning approach”](#)), they would have created human societies in far more egalitarian and caring ways than they are today. Racism, which seems to be raising its ugly head once more in so many developed nations; the current conflicts that threaten to unleash the sixth mass extinction on the world we live in; the very survival of populations far removed from the conflict areas; the numerous environmental setbacks unleashed by human greed for more of everything; the global health pandemics; could all these human challenges have been avoided if our ancestors had access to the knowledge that can be unleashed by tools like ChatGPT?

Much of the knowledge accumulated by our species to date is just plain wrong, no matter how well intentioned or popular it may be. For example, in the history of human evolution, the highly respected cognitive psychologist Professor [Steven Pinker](#) got it all wrong in his classic “The Better Angels of Our Nature”, which, perhaps fortunately, is receiving a growing amount of constructive criticism as human knowledge progresses; read e.g., [“John Gray: Steven Pinker is wrong about violence and war.”](#)

The above short discussion is a very small indication of the vast sources of knowledge about the ICT ecosystem and its latest prodigy AI that is available today, but inaccessible to many, especially those in Africa. The attempted African escape from poverty and deprivation today has developed a new deadly format compared to the seemingly less dangerous OOA migratory paths followed by today’s human ancestors hundreds of millennia ago. Such knowledge is essential if we are to shape the future through wise application of the knowledge of the past and present.

This short discussion would not be complete without reference to two key illustrative bodies of knowledge:

- AI in Economics: Economics, the major driver of human existence in all its productive and destructive aspects of human behaviour today, is discussed in "[Artificial intelligence in the field of economics March 2022](#)". This vital document traces the AI related visions of luminaries like 15<sup>th</sup>-16<sup>th</sup> century Leonardo da Vinci, through the WWII hero and acknowledged computer genius Alan Turing, to modern-day technological innovations like Machine Learning, neural networks, etc., which all add up to AI and its ICT ecosystems.
- A very modern and highly relevant video discussion by Google, an acknowledged global leader in both the ICT Ecosystem and its AI component:

"The AI revolution: Google's developers on the future of artificial intelligence," downloadable with the right AI tools from <https://www.youtube.com/watch?v=880TBXMuzmk>.

The video debate, recorded earlier this month on 16 April 2023, covers all aspects of AI, the opportunities and risks, the much-discussed hope that AI will save humanity from its current destructive trajectory, to the many prophets and merchants of doom, who either warn of the dangers of uncontrolled AI, or use AI maliciously to generate immense monetary profits and power over others.

The Google discussion is led by two exceptionally gifted representatives of the developing world – the Indian born CEO of Google, [Sundar Pichai](#), and Zimbabwean-born academic and AI specialist [James Manyika](#). The participation of these two "graduates" from Africa's and India's human development malaises gives much hope for Africa and all developing nations – the inherent intellectual capacities are available in nearly all new-born babies in all developing countries; the opportunities for all these new-born babies rising to the levels of Sundar and James are extremely limited, but these limitations are human creations, and can be overcome with the help of wise application of the ICT tools, including AI.

This history suggests that the path to AI has always been evolutionary, one generation's knowledge triggering the next generation's creativity and innovation, an evolutionary history that will continue unfolding for as long as the human species exists.

Knowing the long evolutionary history of the ICT ecosystem and its AI component can help us to demystify this vital industry, rescue it from the "digital clouds" of obfuscation, meaningless capitalist-driven marketing disinformation and hype. This vital technologically-driven ICT ecosystem must be returned to the service of humanity first, reconfiguring and repositioning the economic or material considerations to become supporters of humanity once more, instead of the current world order in which economies and autocratic leaders "own" all human means of production, the "human capital" described so eloquently in terms of slavery by Harvard Research Fellow Caitlin C. Rosenthal in "[The Messy Link Between Slave Owners and Modern Management](#)".

Other comments by globally renowned intellectuals include the following very brief extracts which can add value to the bibliography:

**Noam Chomsky View:** A world renowned and globally respected intellectual, [institute professor emeritus](#) at the [Massachusetts Institute of Technology \(MIT\)](#), and now laureate professor of linguistics at the University of Arizona, Professor Noam Chomsky, describes AI and ChatGPT as follows:

*"OpenAI's ChatGPT, Google's Bard and Microsoft's Sydney are marvels of machine learning. Roughly speaking, they take huge amounts of data, search for patterns in it and become increasingly proficient at generating statistically probable outputs — such as seemingly humanlike language and thought. These programs have been hailed as the first glimmers on the horizon of artificial general intelligence — that long-prophesied moment when mechanical minds surpass human brains not only quantitatively in terms of processing speed and memory size but also qualitatively in terms of intellectual insight, artistic creativity and every other distinctively human faculty."* NOTE: original article hidden behind a paywall [here](#), with an excellent open access discussion at "[Open Culture published on 10 February 2023](#)".

**Yuval Noah Harari View:** An academic peer of Noam Chomsky, Israeli Historian Professor [Yuval Noah Harari](#), sounded a warning of uncontrolled technologies used to modify humans and their behaviour:

[The Guardian, Wed 24 May 2017](#): "Are we about to witness the most unequal societies in history?"

*"Biotechnology and the rise of AI may split humankind into a small class of 'superhumans' and a huge underclass*

*of 'useless' people. Once the masses lose their economic and political power, inequality levels could spiral alarmingly"*

In a follow up article published in [Fortune magazine of 24 March 2023](#), Professor Harari stated:

*"A.I. is 'seizing the master key of civilization' and we 'cannot afford to lose'". Professor Harari believes that "when it comes to 'deploying humanity's most consequential technology, the race to dominate the market 'should not set the speed.' Instead, he argues, 'We should move at whatever speed enables us to get this right.'"*

Professor Harari also comments on the AI threats to artists and their creativity:

Concerning AI "eating" the culture of artists, some of whom "[have sued](#)" some techno industries for various breaches of copyright, loss of reputation, stature, and earnings. Professor Harari and his co-authors advise that the time to "reckon with AI" is now, "*before our politics, our economy and our daily life become dependent on it,*" adding, "*If we wait for the chaos to ensue, it will be too late to remedy it.*"

**An Artist's Perspective:** [Herbie Hancock, born 1940](#), is an internationally acclaimed jazz maestro. He was recognised as a child piano prodigy at age seven, attempted to satisfy his passion for science and engineering through college degree studies, which could not compete with his artistic gift. In circa 1987, he was approached by IBM to participate in an AI like experiment – computers would "listen to his musical creativity and style, and run a programme which could create new art identical to Herbie's music. Hancock's reaction was something like *"huh??? O.K., call me in ten years when you're done."* Ten months later they performed the experiment in a piano duet concert, featuring Herbie Hancock on acoustic piano, and Herbie Hancock hands-free on an IBM-driven acoustic grand piano playing computer-generated Hancock. That classic performance has been preserved for posterity at <https://www.youtube.com/watch?v=PFvjwSPahY>. This experiment was repeated many times over, attracting the participation of some of the most popular jazz artists of the time.

The collaboration between Herbie Hancock and IBM demonstrated that mutually beneficial relationships between artists and technology are not only possible but necessary, reinforcing both the arts and associated technological applications. Non-collaborative competition between artists and technology can be hostile and destructive; copy-cat plagiarisms of works of art in all disciplines and genres would do more than deprive creative artists of an income – it could also permanently destroy the world's art as we know and appreciate it. It is most unlikely, at least during my generation, that machine-created visual and musical art, like copies of da Vinci's "[Mona Lisa](#)" or Salvador Dalí's "[The Persistence of Memory](#)"; "[Beethoven's Moonlight Sonata](#)" or Pharoah Sanders' "[A Prayer Before Dawn](#)", will ever be appreciated as much as the original masterpieces. *"A.I. could rapidly eat the whole of human culture—everything we have produced over thousands of years—digest it, and begin to gush out a flood of new cultural artifacts."* Yuval Noah Harari, March 2023.

**Regulating AI:** Can AI be regulated? Nearly all countries are grappling with the complex challenge of regulating AI and its multitudes of uses, modes, purposes, etc. A comprehensive first glance of this complexity is provided by the Carnegie Endowment for International Peace in its 14 February 2023 article "[Lessons From the World's Two Experiments in AI Governance](#)". This complexity is captured in the opening sentence: *"Artificial intelligence (AI) is both omnipresent and conceptually slippery, making it notoriously hard to regulate."* The European Union and China are leaders in the field. They both seek a balance between (a) a horizontal approach in which a single comprehensive regulatory provision attempts to cover the broad spectrum of the omnipresent AI applications, including the "slippery applications" in which AI algorithms may themselves be deliberately designed to confuse and avoid regulatory attempts to control or unmask them; and (b) a vertical approach in which *"policymakers take a bespoke approach, creating different regulations to target different applications or types of AI"*. While the EU favours a horizontal approach and China leans towards a vertical approach, there is much necessary and/or mandatory overlaps between the two approaches.

The big question is whether AI designed for clandestine or nefarious purposes, or weaponised by states for mass destruction in global or local conflicts, can be regulated at all.

Fortunately, most AI applications and designs will be for virtuous or beneficial applications, and can thus be regulated irrespective of the difficulty in crafting effective regulatory systems for such moving, slippery



technological targets. Nearly all of Africa's regulators will find it immensely difficult to keep up with the challenges of regulating AI, and must therefore rely on evolving practices from advanced economies. The priority for African governments and their regulators is therefore to build broad public understanding of AI so that effective localized responses can be developed in time, and in the long run, regulations of AI designed specifically for local conditions and national growth objectives can be crafted.

Most African ICT regulatory institutions over the years have struggled to regulate their national ICT ecosystems for equitable access and productive use of ICTs for all. For example, up to 76% of the South African population who are classified by their own government as "chronically poor", have been "left behind" in the productive use of technological innovations in the exponentially increasing technologically-driven world. The regulation of AI, much of it created and developed in advanced, or rapidly advancing economies like China and South Korea, will be daunting.

The best approach for Africa, and virtually all developing, and many fully developed countries too, is to approach the regulation of AI from two specific, non-competing mutually supporting regulatory frameworks: (a) Regulating AI and related ICT ecosystems for high-level local and global applications and threats, even weaponised military applications if this ever becomes possible. This will enable some protection from the global multidimensional abuse of the ICT ecosystem; (b) Regulate the whole ICT ecosystem including its AI component, specifically for the young and the poor, who by far represent most of the African population. Failure to do this will just perpetuate the deep inequalities and multidimensional deprivations in Africa.

Regarding (b) in the preceding paragraph, Africans should begin the development of national policies, sector regulations, and multistakeholder investments in money and action, directed specifically at the "base of the pyramid" developmental challenges themselves; e.g., ICT for poverty Alleviation in ICT4SDG1, in which the primary objective is poverty, not ICT as has been the case until now. Similarly for all other sustainable development challenges, the primary focus should be the specific challenges themselves, not just the ICT component, built in the hope that ICT benefits would "trickle-down" to the poor. History has shown that "trickle-down" philosophies of development seldom work, in any country rich or poor.

Following the recommendations of the thinktank A4AI, which recommends that where inequality and poverty are deeply entrenched, ICT provision for the marginalized poor should favour public access; see recommendations in the [Alliance for Affordable Internet](#) (A4AI) reports for years [2018](#), [2019](#), and [2020](#). Such public platforms should be designed for the following:

- Multiuse public ICT access platforms, progressively equipped for broad-based applied research of ICT4SDG, including AI and its peripherals. For example the immense potential of [MITs FabLab](#) concepts have been used very well for early childhood development of the technological kind, in several countries. These platforms must be designed for the provision of all information and knowledge services needed, for both providers and victims, across the full range of SDG challenges. They must also be designed for large scale mass provision in all areas where poverty, poor connectivity, and inadequate user skills exist;
- The platforms should be owned and operated by SMME formal and informal businesses drawn from target communities, supported of course, by owner/operator training commensurate with their available knowledge bases and capabilities. An additional key ownership selection must focus on young children, leading therefore to owner/operators who are equipped to deal with very young children from poor communities. These will most likely be mature currently unemployed women from the community, who will have the capability to nurture young children through their early childhood technological learning journeys.

As SMME owned businesses, the failure rate will be extremely high. This must be viewed as normal in the world of human development. Perseverance in the face of high business failure rate is the secret of success: A leading Israeli politician once told me in a discussion at ITU, that Israel's business success in an extremely hostile environment could be attributed to the fact that they celebrate SMME failures as invaluable learning curves – SMME businesses in Israel are said to fail up to eleven times before the

continuous support they receive from state and local communities results in stable, sustainable SMME sector successes.

- Broad based support by all segments of society:
  - a. All government departments, institutions, provincial and municipal entities, must be helped to be fully participative seekers of solutions to the challenges, not causes of the challenges as most are now. Key authorities and responsibilities in need of development must aim at effective funding of ICT4SDG SMME startups, basic financial and systems management, policy, and regulatory development for the point of action at the base of the development pyramid, and implementation of them all within the entities' mandates, capabilities, and capacities.
  - b. Funding can be secured through mechanisms like South Africa's seemingly still-born [Digital Development Challenge Fund \(DDCF\)](#), provision for which has been made in the [National Integrated ICT Policy White Paper](#). There are excellent examples of such arrangements from the histories of several developed nations, like Finland and South Korea in their early years as underdeveloped economies; and from developing countries like Brazil as the nation struggled through socio-economic and political ideological competing challenges and changes; China and India which both experienced significant successes of the public access models, even in the face of significant hostility and suspicion by government and its agencies on such private sector entities. These histories have been documented and must be used for Africa's inequality and poverty challenges.
  - c. All educational institutions; higher learning institutions to conduct applied multidisciplinary research, especially the critical ethnographic disciplines, all of which must avoid the scourges of [Pilot-itis](#) and [Silo-itis](#) epidemics. Basic, middle, and high/academic/vocational educational facilities must support the proposed platforms as much as possible, but without ambitions or desires to control or own them;
  - d. The whole national ICT sector, directly through CSR programmes, and indirectly through the DDCF; (d) All local and multilateral development agencies and bilateral partnerships, expanded through the principles of SDG17; Integrated with existing and new civil society organizations and NGOs. Many large banks and other corporate entities have an interest in their nation's, and customer's living qualities. Most have invested much from their CSR activities. This should be encouraged, with e.g., corporates "adopting" community driven and owned public ICT access platforms, steering as many as they can towards success.
  - e. All collaborating or competing public institutions like labour movements, political parties which must build into their competing political ideologies new competitive political agendas which focus directly on the challenges of inequality, poverty, unemployment, and all interlinked SDG challenges.
  - f. The mass public access to ICT platforms must render themselves obsolete as soon as possible once their job is done, returning all ICT access models back to the dominant format of individual and household connectivity in the prevalent free market competitive models that have shaped the global ICT sector. Examples of this eventuality can be found in several countries, including Brazil and China, South Korea, Vietnam, and others.

The technologies, operations and management structures and processes, set up and training functions, sector structures, and systems, are all relatively simple to design and implement. What will be extremely difficult is to develop common cause and commitment amongst the very broad spectrum of multistakeholders, many of whom compete destructively amongst and between each other, and have no desire to collaborate. They are generally weak in top-level understanding and therefore collaboration.

The difficulty of getting aggressively competing organizations to collaborate must not be allowed to detract from the pro-poor development objective, failure of which will be felt by all competing organizations, irrespective of ideology or status. Overcoming this difficulty will need time and concerted marketing to capture hearts and minds, and political will.

#### **A few random related opinions and comments:**

- [The Guardian, 8 April 2023](#): In recent times, a new kind of weaponry – loosely called “AI” – has entered the race. In 2021, we belatedly discovered how worried the US government was about it. In 2021, the US government convened a [National Security Commission on Artificial Intelligence](#) to address the perceived threat of AI. The [commission warned](#) that China could soon replace the US as the world's “AI superpower”; that AI systems will be used (surprise, surprise!) in the “pursuit of power”; and that “AI will not stay in the domain of superpowers or the realm of science fiction”. It also urged President Biden to reject calls for a global ban on highly controversial AI-powered autonomous weapons, saying that China and Russia were unlikely to keep to any treaty they signed. [John Naughton](#)

- To say South Africa is on the precipice is an understatement; the state has collapsed. Ours has all the hallmarks of a “failed state”. However, the patient is not yet at the graveyard. She is in the intensive care unit and can still be rescued. Thus, public discourse must henceforth be about how to fix South Africa. But we need first to diagnose the disease and its causes in order to find an appropriate remedy. We also need to understand how we got here for us never to repeat the same mistakes. By [Brutus Malada](#) 05 Sep 2022 at <https://www.dailymaverick.co.za/opinionista/2022-09-05-lets-not-beat-about-the-bush-south-africa-is-a-failed-state-now-lets-all-stand-up-and-fix-it/>
- “The cloud is a metaphor for the Internet. It’s a rebranding of the Internet,” says Reuven Cohen, cofounder of Cloud Camp, a course for programmers. “That is why there is a raging debate. By virtue of being a metaphor, it’s open to different interpretations.” And, he adds, “it’s worth money.” MIT Technology Review 2011: <https://www.technologyreview.com/2011/10/31/257406/who-coined-cloud-computing/>

End of Opinion, Johannesburg, 29 April 2023.