associated with UNISA university of south africa

OCCASIONAL PAPER 87

Modern Technologies and Imperialism

Authors: Mondli Hlatshwayo

February 2024

ABOUT IGD

The IGD is an independent foreign policy think tank dedicated to the analysis of and dialogue on the evolving international political and economic environment, and the role of Africa and South Africa. It advances a balanced, relevant and policy-oriented analysis, debate and documentation of South Africa's role in international relations and diplomacy.

The IGD strives for a prosperous and peaceful Africa in a progressive global order through cutting edge policy research and analysis, catalytic dialogue and stakeholder interface on global dynamics that have an impact on South Africa and Africa.

3rd Floor Robert Sobukwe Building
263 Nana Sita Street
Pretoria South Africa

+27123376082

info@igd.org.za
www.igd.org.za

About the author

Mondli Hlatshwayo is an associate professor at the University of Johannesburg's Faculty of Education, Johannesburg, South Africa.

Acknowledgments

His technological research and work are supported by the University of Johannesburg. But the opinions expressed in this article are his own, not those of his sponsor

Introduction

Colonialism and imperialism as well as the subservient status of nearly all Global South (GS) nations are seldom considered in analyses of the Fourth Industrial Revolution (4IR). This article argues that imperialism and colonization have placed many countries of the Global South (GS) in a subordinate role as the Global North (GN) extracts minerals and other resources from the GS to advance its own technology and development. The struggles for independence in the GS, though positive as founded on progressive principles, did not alter the subordinate role played by the GS, particularly in Africa. The rest of the article discusses how modern-day technological innovations of the GN are based on the subjugations of the GS through the extraction of minerals and other resources to support the economies of the United States of America (USA) and the rest of the GN. The subjugation is not just about the countries of the GS; it is also about the super-exploited workers of the GS.

The absence of imperialism and colonialism in the Fourth Industrial Revolution discourse

Tshilidzi Marwala, the former principal of the University of Johannesburg and a leading proponent of the 4IR in Africa obscures the politics of racism, imperialism, and capitalism (Xing & Marwala 2017). Similar to this, Schwab (2017) urges the GS to embrace the 4IR as if Belgium and other GN countries had not carried out the largest-scale genocide in the DRC. Congo was ruled by Belgian King Leopold II from 1885 to 1908. It is estimated that between 10 and 15 million people perished under this King's rule. The people of Congo discovered that his army and the labour conditions of those involved in extracting resources for the Belgian economy were unbearable (Marull 2023).

For example, the Industrial Revolution of England, starting in 1760, forced the indigenous people to battle against pillage, local population subjection, land expropriation, and generalised brutality, the effects of which can still be seen in South Africa, India, and other countries of the GS. Moreover, it is evident that the racist, imperialist state of England utilised the minerals and other resources of South Africa and India to industrialise and underpin its economy (Majeed & Hofmeyr 2015).

Africa's human resources were also being plundered, in addition to the minerals and other riches belonging to the GS. Between 10 million and 12 million productive, healthy, strong, and fit Africans were brought to the Americas over the Atlantic Ocean as a result of transatlantic enslavement between the 16th and the 19th centuries. As part of the Europeans' economic growth, slaves laboured on plantations and in processing facilities throughout the USA (Lewis 2023). Land theft and genocide against

indigenous populations resulted in the creation of the United States of America, a nation that has since become powerful politically, militarily, culturally, and economically. In 1783, the USA gained official recognition as a nation (EagleWoman 2014).

Following World War II, the USA solidified its position as an empire, seizing and ruling several islands and utilising them as its military outposts (Immerwahr 2019). To safeguard its military, political, and economic interests, the USA has a sizable military presence across the world. The country has a lengthy history of invading countries and organising coups to overthrow legitimate governments (Bouchrika 2023).

The United States has 29 military sites spread over 15 African nations, according to a 2019 report from Stephen Townsend, the head of AFRICOM, to the Senate Armed Services Committee. (Turise 2020). The United States of America maintains a robust military presence in Africa, which among other things makes it easier for American corporations to mine cobalt for use in electronics like laptops, smartphones, electric cars, tablets, and other gadgets. Companies like Apple, Google, Dell, and Microsoft are named in one of the largest lawsuits filed by the families of children who were killed or seriously injured while mining cobalt (The Guardian 2019).

According to 2023 research by the global human rights organisation, Amnesty International, the Democratic Republic of the Congo (DRC) possesses the greatest cobalt reserves and the eighth largest copper deposits in the world. In other words, the DRC has the minerals used for producing lithium batteries for renewable energies, and other advanced technologies. Cobalt is also used in producing cellphones, aero planes, computers, and other technologies. On the other hand, the people of the DRC—women and children—are victimised on a daily basis by those who are raping them and their minerals. Countries such as the DRC, South Africa, and others in the GS were colonised violently by the countries of the GN, such as the United Kingdom, Belgium, and France, and these days by the United States of America. The history of colonisation and imperialism has led to these countries and their people playing a subordinate role in the development of new technologies, despite the liberation of these countries (Amnesty International 2022).

The primary motivation for the United States of America's participation in Africa has always been the country's aim to further its economic interests through resource and mineral extraction. Africa is a major provider of primary materials and resources for digital and other technologies, including so-called green energy technologies, and is rich in natural resources, according to the United States. According to Baskaran (2023), Africa has up to 85% of the world's manganese, 80% of its platinum and chromium, 47% of its cobalt, 21% of its graphite, and 6% of its copper (Baskaran (2023).

One important measure of a country's development is its use of technology. Advanced technological nations are able to use their people resources and technological capabilities to raise the standard of living for residents in their respective regions. The quality of life for citizens of those technologically sophisticated industrial nations has increased as a result of their reliance on cutting-edge innovations like high-speed rail, robotics, artificial intelligence, and data. In 2023, a global survey of 17000 people living in 87 countries showed that the USA (4), UK (5), Germany (7), and France (12) were leading as

countries with technological expertise (US News & World Report 2023). This means these countries have the skills and the capacity to design new technologies and these technologies are accessible to their public (Johnson 2023).

Former colonised nations like South Korea, China, and Singapore rank among the top nations in the world for technological proficiency (US News & World Report 2023). According to International TEFL Academy (2023), Shanghai, China, and Seoul, South Korea, rank among the top ten cities in the world for public transportation networks. These cities have frequently surpassed the GN in terms of affordable, effective, and efficient public transportation. These nations frequently build their development on the triple helix, which calls for collaboration between the public sector, academic institutions, and private industry (Wong et al. 2007). In order for this development nexus to become a quadruple helix, I contend that communities and workers should be included since they have a critical role to play in development. These are the exceptions here, as countries of the GS such as South Korea, China, and others were able to develop their technologies despite being former colonies. This was probably caused by the fact that the leaders of these former colonies were able to chart a state-led, university and knowledge centre, and often despotic developmental pathways that prioritized their countries as centers of technological advancement. These changes were particularly complicated since, for instance, the United States of America encouraged South Korea's growth in order to counter what was thought to be the communist menace in Asia.

Technologies supported by government and universities for private benefit.

For a comprehensive analysis of the DRC case, please look at Siddarth Kara's latest book 'Cobalt Red: How the Blood of the Congo Powers Our Lives'. In terms of the Israeli case, please read the work of Elia Zureik. One of his texts is titled 'Colonialism, surveillance and population control'. He has one that looks at the use of Israel's surveillance technology in Angola. Another one that's very relevant is 'Settler Colonialism, Neoliberalism and Cyber Surveillance: The Case of Israel'. Andy Clarno's book 'Neoliberal Apartheid: Palestine/Israel and South Africa After 1994' is also useful. He makes connections between Israel's cybertechnologies, which are being used on Palestinians, and the privatization of security in South Africa.

Africa and portions of the GS send their minerals and other natural resources to the GN to be processed into digital technology such as high-speed trains, cellphones, computers, and drones. The part that businesses, governments, and universities in the GN play in the creation of knowledge about digital technologies is something that labour researchers and academics sometimes overlook. There is a strong triple helix—a partnership based on research between governments/states, business, and universities—in all nations with advanced technology. Since universities are primary places to get information that leads to the creation of advanced technology, they play a significant role in the production of new technologies.

Sophisticated understanding of fields like computer science, chemistry, quantum physics, electronics engineering, internet, and other university-based disciplines is this central. Without Pentagon financing, the United States' technical military might would be unthinkable. Universities that prioritise research, like Massachusetts Institute of Technology, rely on the federal government and state governments of the United States. However, the primary issue is that the digital military industrial complex appropriates research results for its own profit, which enriches private persons and organisations (Hlatshwayo 2023).

As stated by Haslanger et al. (2019:1), "There is a compelling literature indicating that a great deal of this spending [by the Pentagon] will not increase national security, but are better understood as the business plans for ensuring the continued profitability of the weapons industry." One example of such spending is the proposed $1.7 trillion nuclear weapons upgrades.

The governments and peoples of the GS are then charged a higher premium for all these digital goods, the supply of which can be traced back to Africa and the GS. For example, cobalt used in computer manufacturing is mined in the DRC, for example. That is why Kweet (2019:1) exclaimed :

> Silicon Valley corporations are taking over the digital economy in the Global South, and nobody is paying attention. In South Africa, Google and Facebook dominate the online advertising industry, and are considered an existential threat to local media. Uber has captured so much of the traditional taxi industry that drivers have been petrol bombed in the “South African taxi wars”. Similar battles have broken out in Kenya”.

The inferior status of GS workers, whose working conditions are often set by GN corporations and states, goes hand in hand with the absence of technical sovereignty of nations such as South Africa.

What about the workers of Global South? Discussion and conclusion

What about the workers in the Global South? Like their governments and populations, workers in the GS are in an extremely precarious position when it comes to the production and service technologies of the imperialist countries. First, the introduction of new technologies in countries like Germany is often discussed and debated with the German unions through national collective bargaining and the works council. This means that when technologies are introduced by the German multinational corporations operating in South Africa, Industriegewerkschaft Metall (IG Metall) has already had extensive consultation with the companies to protect the interests of their members. In addition, IG Metall collaborates with the German Federal Government to conduct research that will help the union and its members engage with the 4IR and its technologies (Masondo 2010).

For example, IG Metall has a partnership with the Ruhr-University Bochum and the German Federal Government. The 4IR project seeks to help the union proactively respond to new technologies, AI, and robotics. The union is able to experiment with designing robots that are controlled by workers (Reuter et al., 2017).

For instance, IG Metall collaborates with the German Federal Government and Ruhr-University Bochum. The 4IR initiative aims to assist the union in anticipating and adapting to robots, AI, and emerging technologies. According to Reuter et al. (2017), the union has the authority to test the design of robots that are operated by employees. According to Smith (2013), the GN's welfare state and the Global South's precarious employment are products of the Global South's super-exploitation, where the GN's and its workers' high standards of living are supported by the region's cheap salaries and resources (Smith 2018).

Workers and the people of the GS will have to fight for the democratisation of the economy, the workplace, and politics as well. The GS south will need to progressively expand its manufacturing and processing of minerals in tandem with its economic, mining, and resource arrangements. Scientists, engineers, and labourers in the GS rely heavily on knowledge and technology transfers from their institutions in South Africa (US News & World Report 2023).

Worker education has to take into account the political economy of imperialism and how countries and the peoples of the GS are located in a subordinate position. Building alliances with the oppressed people of Congo where these minerals used in manufacturing advanced technologies is going to be crucial in the struggle against imperialism.

Any cooperation between workers in the GN and the South ought to be based on honesty. It is a fact that workers in the GS are at the bottom of the value chain when it comes to the development of new technologies. Therefore, via research and education, it will be crucial to increase these workers' competence so that they can negotiate with employers from the GN from the very beginning of the conceptualization of new technologies.

References

Amnesty International. 2022. Democratic Republic of Congo. https://www.amnesty.org/en/location/africa/east-africa-the-horn-and-great-lakes/democratic-republic-of-the-congo/report-democratic-republic-of-the-congo/

Baskaran, G. 2023. “Prospects for U.S. Minerals Engagement with Africa” CSIS 29 August 2023, https://www.csis.org/analysis/prospects-us-minerals-engagement-africa

Bobineau, J., 2016. The History of the Democratic Republic of Congo–An Introduction. The Democratic Republic of the Congo. Problems, Progress and Prospects. Berlin, Germany, LIT Verlag, pp.11-28.

Bouchrika, I. 2023. Major U.S. Military Bases and Installations in 2023 – Domestic & Overseas

Major U.S. Military Bases and Installations in 2023 – Domestic & Overseas

https://research.com/education/major-u-s-military-bases-and-installations#TOC2

EagleWoman, A.T., 2014. The ongoing traumatic experience of genocide for American Indians and Alaska Natives in the United States: The call to recognize full human rights as set forth in the UN Declaration on the Rights of Indigenous Peoples. Am. Indian LJ, 3, p.424.

Haslanger, S.; King, J.; McDowell, C; and Redwine, R. 2019. Editorial: The Danger to Civilian Science https://web.mit.edu/fnl/volume/315/editorial.html

Immerwahr, D. 2019. “How the US has hidden its empire” https://www.theguardian.com/news/2019/feb/15/the-us-hidden-empire-overseas-territories-united-states-guam-puerto-rico-american-samoa

International TEFL Academy. The Top 9 Public Transportation Systems Around the World29 June 2023, https://www.internationalteflacademy.com/blog/the-top-10-public-transportation-systems-around-the-world

Johnson, S. 2023. “Top 10 Countries for Technological Expertise”, US News & World Report, 6 September 2023, https://www.usnews.com/news/best-countries/slideshows/top-10-countries-for-technological-expertise

Kwet, M. 2019. digital-colonialism-is-threatening-the-global-south Aljazeera, 13 March 2019

Lewis, Thomas. "transatlantic slave trade". Encyclopedia Britannica, 10 Oct. 2023, https://www.britannica.com/money/topic/transatlantic-slave-trade. Accessed 28 October 2023.

Majeed, J. and Hofmeyr, I., 2015. Introduction: India and South Africa–Comparisons, Confluences, Contrasts. African Studies, 74(2), pp.149-156.

Marull, Ramon, 2023. The Free State of the Congo, a hidden history of genocide. https://ajuntament.barcelona.cat/gabinetpostal/lestat-lliure-del-congo-un-genocidi-a-lombra/?lang=en

Masondo, D. VW in Germany and South Africa. South African Labour Bulletin, Volume 34, No3. August /September 2010. 10 – 12.

Reuter, M., H. Oberc, M. Wannöffel, D. Kreimeier, J. Klippert, P. Pawlicki and B. Kuhlenkötter. (2017). Learning Factories' Trainings as an Enabler of Proactive Workers' Participation Regarding Industrie 4.0. Procedia Manufacturing, 9(2017): 354-360. https://doi.org/10.1016/j.promfg.2017.04.020.

Schwab, K., 2017. The fourth industrial revolution. Currency.

Sigmund, P.E., 1977. The overthrow of Allende and the politics of Chile, 1964-1976. University of Pittsburgh Press.

Smith, J. 2018. Imperialism in the Twenty-First Century: Globalization, Super-Exploitation, and Capitalism's Final Crisis. Monthly Review Press. New York.

The Guardian. 2019. Apple and Google named in US lawsuit over Congolese child cobalt mining deaths. The Guardian, 16 December 2019,

https://www.theguardian.com/global-development/2019/dec/16/apple-and-google-named-in-us-lawsuit-over-congolese-child-cobalt-mining-deaths

Turse, N. 2020. "Pentagon's own map of U.S, bases in Africa contradicts its claim of "light" footprint". The Intercept, 27 February 2020, https://theintercept.com/2020/02/27/africa-us-military-bases-africom/

US News & World Report. 2023. These Countries Have the Most Technological Expertise

https://www.usnews.com/news/best-countries/rankings/technological-expertiseWong, P.K., Ho, Y.P. and Singh, A., 2007. Towards an "entrepreneurial university" model to support knowledge-based economic development: the case of the National University of Singapore. World Development, 35(6), pp.941-958.

Xing, B. and Marwala, T., 2017. Implications of the fourth industrial age on higher education. arXiv preprint arXiv:1703.09643.