Book Review

Gussai Sheikheldin. *Liberation and Technology: Development Possibilities in Pursuing Technological Autonomy*. Dar es Salaam: Mkuki na Nyota, 2018. Pp. xxvi, 174.
ISBN 978-9987-08-329-9.

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David Edgerton, a prominent British historian of technology, wrote in 1999 warning on a danger of subscribing to technological determinism. Technological determinism assumes that technologies that are in use in a certain society determines societal change. Citing, Edgerton revealed that determinist perspective on technology had become almost "an article of faith in the United States between 1940 and 1960". He added that criticism to technological determinism is justified because of its "naïve progressivist accounts of technical and social change, a present-centred historiography, and the view that technical change is determined only by Nature".[434] Despite this warning, some social scholars of technology, including Gussai Sheikheldin, cannot envision a social development and change in the societies of the Global South without adoption of appropriate technologies. This is no different to an affirmation of technological determinism inevitability. To support his line of thinking, Sheikheldin presents a binary of "two extremes which sees one part lacking the basics of modern life aided by

[434] David Edgerton. "From Innovation to Use: Ten Eclectic Theses on the Historiography of Technology." *History and Technology* Volume 16 No. 2 (1999): 111-136. DOI: 10.1080/07341519908581961

contemporary technological systems" and the second part which "can be called hyper-technologized, or ultra-technologized" (xii). This binary, among other things, is examined in detail in his book, *Liberation and Technology*.

With an introduction and six chapters, Sheikheldin's *Liberation and Technology* has successfully ducked one of the limitations of technological determinism namely, the politically insensitive characteristic. He ducks this by suggesting that the global South nations should adopt state-driven adoption of technologies that suit their ecological conditions, fits their people and that reduce dependence on foreign technologies. One would say, he is calling for delinking from the global technical development as a way attaining social development to individual nations of the South. Such a proposition is not fundamentally novel. In the politics and history of social development, delinking is a paradigm that surfaced in the early postcolonial development practice in the South through the industrialization drive. The drive sought to cut or reduce dependence on the global North industrial outputs. Sheikheldin acknowledges that drive by citing the video documentary sources which were produced by Ali A. Mazrui under the series title, *The Africans: A Triple Heritage* (1986). Theoretically, delinking is one of the arguments that has connection with the underdevelopment and world system theorists like Samir Amin.[435] Thus, Sheikheldin is implicitly borrowing from the world system movement by calling for

[435] Samir Amin, *Delinking: Towards a Polycentric World* (London: Zed Books, 1990); idem., "A Note on the Concept of Delinking" in *Review* 10 (3) (Winter 1987), p.435-444.

technological solutions from within the global South, especially in the African continent. Unlike the delinking proponents, Sheikheldin acknowledges to need to fuse local and foreign technological solutions. In particular, his political affiliation emerges in the main argument of the book which "is that if developing societies seek genuine human and socioeconomic development then they need to seek technological autonomy" that "implies a relative independence from external manipulation…from other societies with greater economic, political and military power" (xv). It also emerges in the title of the book through the word *Liberation* for it bares solidarity with the dominated or underdeveloped nations. Through Sheikheldin's book, scholars of social and historical studies of technology see more evidence which reveal that technology is neither a value-free nor apolitical phenomenon.[436]

The central argument is discussed in a significant breadth in Chapter Two of the book. The argument is elaborated through a framework, the framework of technological autonomy. The framework depicts "a set of concepts and relationships that can be used to build theories and explanations about technological autonomy" (25). The crucial aspect in the framework is its comprehensiveness in that it aspires to translate technological autonomy into food security, presence of basic infrastructures, good education and good health care at societal and national level. Such a comprehensive framework denotes that a nation will only attain technological autonomy upon tackling all development challenges because there is no challenge that does

[436] Cf. Langdon Winner, *Autonomous Technology: Technics-out-of-Control as a Theme in Political Thought* (Cambridge, MA: The MIT Press, 1977).

not entail technological change or solutions. It is from such a conjecture that Sheikheldin calls for technological change among the global South countries, especially those found in Africa. To achieve a technological change, African countries have to invest in technological localization and in the increase of technological capabilities. Investing in the two issues will break the postcolonial technological dependency which, citing David Haug[437], is also known as technological colonialism. Technological colonialism was endemic in Africa between 1960s and 2000 because the nations imported grandiose technological solutions that were not adapted to the local conditions and local manpower to manage them, hence their grand failure. Technological autonomy is postulated as an anti-thesis of technological colonialism aimed at providing sustainable and lasting technological solutions for broad societal development.

As demonstrated in Chapter Two, the framework of technological autonomy presents a roadmap towards a socio-technical change. The concepts and relationships towards the said change are introduced in Chapter Two as a way of unpacking the framework. Chapters Three, Four and Five are discussing in detail the concepts and relationships introduced in Chapter Two. For instance, Chapter Three analyses agents of technological change at social and state levels and how the agents influence technological localization – a key concept in the framework.

[437] David M. Haug, "The International Transfer of Technology: Lessons that East Europe Can Learn from the Failed Third World Experience", in *Harvard Journal of Law and Technology* 5 (2) (Spring 1992): 209-240.

The call for socio-technical change as put forth in Sheikheldin's Liberation and Technology is genuine for most, if not all, African countries if they seek to determine the course of their social and economic development with limited or no foreign interventions. But it is extremely important to consider the deep effects of colonialism on bringing this change and, probably, the lack of political will among political actors. Sheikheldin would have been right to inspire African countries to adopt his framework of technological autonomy by not only citing the failed stories of megaprojects like the Aswan High Dam and *Ujamaa* but also by surmising success stories from elsewhere. For instance, the success stories of Japanese socio-technical change between 1868 and 1931 could have been recounted in the book to demonstrate the plausibility of the framework, and therefore strengthen the argument of the book. Theoretically, the book could also have drawn from Mikael Hård and Andrew Jamison's *Hubris and Hybrids: A Cultural History of Technology and Science* that was published in 2005. This is because most of the concepts discussed in *Liberation and Technology* are also examined on global level in that earlier publication. Finally, it could be a good addition if Sheikheldin's Liberation and Technology could have juxtaposed the framework of technological autonomy in an era of technological globalisation because the book is presenting possible solutions for the 21st century.

Notwithstanding the failings of the book identified above, *Liberation and Technology* is a good text for high school and undergraduate students. This is because it offers key introductions and definitions on concepts of technology,

appropriate technology, technological localizations and technological capabilities. It also uses uncomplicated and cogent language for such levels of learning. The book is also good to social scholars of technology as it provides instances of the relationship between technology, society and politics. The cases of failed technologies in Chapter Six serves to validate such relationship following the footsteps of James Scott's *Seeing Like a State*.