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“Lighting a dark continent”: Imaginaries of energy transition in Senegal

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ABSTRACT

Electrification is increasingly proposed as a solution to the problem of Africa’s development. International organizations hope to light ‘a dark continent’, converting solar panels and global investment into jobs and thereby aiding Africa’s emergence into the global economy. Such straightforward expectations, however, are at odds with longstanding research in Science and Technology Studies (STS) and on-the-ground realities. This article examines the proposed energy transition in Senegal, drawing on over eight months of ethnographic observation at three sites: an energy conference in Dakar; the National Ecovillage Agency (ANEV), a body implementing the national energy project; and an energy development NGO designing alternative solutions for Africa’s poor. Using the STS concept of sociotechnical imaginaries, this article highlights two visions of the transition: an internationalist discourse in which technologies like solar panels, supported by foreign aid, are expected to transform society; and a locally embedded approach in which social conditions determine desirable futures, assisted by technology. The former is shown to create dependence on the universalist imaginaries of the industrial world, while the latter is reduced to a scramble for development projects and funding. Africa’s emergence, I argue, requires greater attentiveness to social and political institution building than to kW-hours and foreign dollars.

1. Introduction

The idea of development seems as old as modern Africa itself. For almost as long, there have been promises of Africa’s ‘emergence’. In the mid-1960s, as anthropologist James Ferguson has observed, “everyone knew Africa was ‘emerging’ ([1], 1)”. Abundant natural resources and the promise of industrial development suggested that newly independent states like Zambia were finally on the cusp of speedy growth and modernization. Yet the arrival of Western-style modernity to Zambia’s copperbelt towns was both “vividly remembered and manifestly unreal ([1], 13)”. The decline of Zambian copper on the world market, a production slowdown, and growing debt, resulted in a new “and perhaps irreversible trend”—“as one man expressed it, ‘From now on, it’s just down, down, down’ ([1], 13)”. Development, which appeared to proponents such as Walter Rostow to be a matter of linear “take-off”, from “traditional” to “high-consumption” societies [2], turned out to be a mirage: emergence was as elusive for Zambia as it has been for the entire continent.

Today, the continent is again awash with promises of just such development and rapid emergence. Kenya Vision 2030 will transform Kenya “into a newly industrializing, middle-income country providing a high quality of life to all its citizens by 2030 [3]”. The Emergent Senegal Plan (*Plan Sénégal Émergent*) calls for “an emerging Senegal in 2035 with social solidarity and the rule of law [4]”. In 2017, the Government of Côte d’Ivoire hosted the second Conference on the

Emergence of Africa, with support from the World Bank, the African Development Bank (AfDB), and the United Nations Development Program (UNDP) [5]. Nowhere is the promise of emergence more pronounced than in the energy sector. In an article titled, “Lighting a dark continent: The power shortages that have been holding Africa back are at last easing”, the *Economist* reports of an Africa that “has the potential to jump from being the world’s electricity laggard to a leader in renewables—if inefficient governments don’t hold it back [6]”.

The view of Africa as ‘the dark continent’ is as old as the writings of Britain’s Henry Morton Stanley and Joseph Conrad [7–9], who used such terms around the time Neville Chamberlain was speaking of the “conditions of undeveloped estates” in need of “Imperial assistance [10]”. With renewables, the *Economist* observes, “Africa has some of the world’s best potential sites for wind, solar and hydropower [6]”. Since the launch of the World Bank and International Finance Corporation’s (IFC) Lighting Africa project in 2009 [11], international organizations and celebrities have attempted to capitalize on this potential by working toward Africa’s ‘energy transition’. Barack Obama announced the Power Africa initiative of USAID in 2013 [12]; the rapper Akon launched his own Akon Lighting Africa in 2014 with another Senegalese-American celebrity, Thione Niang [13]; and ex-French minister Jean-Louis Borloo established *Energie pour l’Afrique* in 2015 [14]. Britain’s Department for International Development (DFID) in 2015 called for a “solar boost to release Africa’s untapped energy potential” with its Energy Africa campaign: the “best of British expertise and

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ingenuity” will “take on” low levels of access, inefficient markets, policy barriers and under-investment [15].

Despite the bracing campaign language, which recalls the eminent technology historian Thomas Hughes’ [16] use of the military metaphor of a “reverse salient” the African energy discourse sometimes makes the development of an entire continent seem as simple as flipping a switch. As Bob Geldof, rock star campaigner and member of the Africa Progress Panel, asserts, “we needed the technology to exist before we could electrify a continent, and now this exists ... This is the moment, this is doable, this is the moment where Africa powers up, switches on and goes for it [15]”. The need for the powerful solution is matched only by the magnitude of the perceived problem. Akon Lighting Africa points out that 600–650 million Africans don’t have access to electricity, “particularly in rural areas ([17], 2)”. Without electricity, the Akon initiative claims, children cannot study at night and, without proper light, “economic activities are practically non-existent, safety is a concern and hospitals cannot fully function ([17], 2)”. “Energy permits access to water, health, education, agriculture, service and industrial employment, security and regional stability” Borloo’s organization echoes, concluding that, “without energy there is nothing [18]”.

But Africa existed long before the energy transition. Indeed, what the the emergence or take-off of the 1970s [1,2], the dark continent metaphor [7–9], imperial assistance [10], and today’s renewable transition all have in common is an effort by outsiders to impose their own understandings on local realities. Across time, the diverse realities of development have failed to live up to dominant, economic and technologically informed visions of how society everywhere should progress. Critical development scholars observe that outsider cures are frequently worse than the diseases [19], asserting a unitary and often wrongly remembered history of the developer’s past to motivate ill-conceived interventions into the developing world’s present [20]. Thus, African history is told in terms of succeeding deficits: yesterday Africa was thought to lack culture, more recently development, and today energy technology. Always Africa has been less-than-modern [1,9,10].

Counteracting these ideas, critics have taught us to look at development as a social process: involving contestations over how to define territory [26], where Africa is seen through a colonizing, Eurocentric gaze [27]; placing technological intervention over social consequences, in some cases displacing millions [22]; and favoring European subjectivity [28] and Western rationality, thereby violently erasing other ways of thinking as backward or obsolescent [24]. These processes are carried out by modernizing states [22] and international institutions such as the World Bank that depoliticize development [29] or co-opt criticism to further their interventionist agendas [30].

Scholars of Science, Technology and Society (STS) have long been attentive to the intertwining of culture and technology, particularly in modernization narratives that reduce, in Sheila Jasanoff’s terms, “multiple varieties of human misery and disempowerment” to a single, often unsuitable narrative of human progress ([21], 256). Jasanoff’s critique attends to *who* is constructing particular discourses, and how that construction in turn occludes other ideas or people from speaking *their* truths to power. By deploying the narrative of development, wealthy industrial nations can enact their own visions of progress, flattening in the process multiple senses of pasts and futures found in the localities to be developed [21–24].

In this article, I examine such flattening in articulations of the African energy transition at three organizational sites in Senegal: an energy conference in Dakar; the National Ecovillage Agency (ANEV), a body implementing the national energy project; and an international NGO designing alternative solutions for Africa’s poor. The connecting thread through all three cases is the erasure of local history in favor of an imagined future disconnected from a past with its own felt needs for political emancipation and social transformation. In each case, on-the-ground realities are sacrificed on the altar of kW-hours, solar panels, and the dream of emergence. The first case focuses on how an internationalist discourse of energy transition frames Africa as a continent

needing imported technological solutions and financial support, ignoring prior local histories with solar energy. The second case looks at a national project to install solar panels in half of Senegal’s villages that gets dismissed by its supposed beneficiaries for being motivated by ‘purely politics’. As a result, a new state agency dismantles a pre-existing network of local organizations committed to transforming their communities. The third concerns an international NGO’s turn to technology, non-local, flip-of-the switch solutions to unlock international development aid. Consequently, the organization’s own history and community-oriented culture lose out to market logic.

To frame the analysis, I use the concept of “sociotechnical imaginaries”, defined by Jasanoff and Sang-Hyun Kim as “collectively held, institutionally stabilized, and publicly performed visions of desirable futures animated by shared understandings of forms of social life and social order attainable through, and supportive of, advances in science and technology ([25], 4)”. The concept of sociotechnical imaginaries enables us to understand technoscientific change with an integrated view of “material, moral, and social landscapes”.¹ As such, it is helpful in exploring the broader systems of meaning in which the current solar development of Africa is embedded.

Research at the three sites reveals two competing sociotechnical imaginaries of development at work. One begins with *technologies* (e.g., solar panels) that, together with aid for Africa, are expected to transform society in accordance with presumed universal models of development. Another begins with *society* and brings in only those technological or material necessities that will enable a nation’s or region’s desired futures to connect to its past. In each of the three cases, the universalizing narrative of technologically driven development is privileged, often with the backing of international organizations. The second, more historically, socially, and politically situated approaches are less visible, and often remains unfunded and ignored in the attempt to force a technical development trajectory imported from abroad.

The concept of sociotechnical imaginaries challenges the dominant thinking found in the discourses of both development and the African energy transition.² Development often stresses the deployment of particular technologies and particular kinds of ‘know-how’ to advance economic aims like ‘industrializing’, attaining ‘middle income’ status, or achieving ‘total’ electrification [31], as if consumption does not differ geographically for reasons that are as cultural as they are economic [32]. Rather than push a view that is anti-electrification or anti-development, I want to show how the cultural gets subsumed to more universal-seeming ideas like economy or technology.

To begin with, the universal narrative takes outside assumptions about progress as the starting-point, reinforcing foreign (such as British, Chinese, French, German, or U.S.) power, and assuming economic development, even mass consumption as the end-points of choice [2]. Against such economic, technological, and political universalisms, I use the concept of a sociotechnical imaginary to display the energy transition as a social process, embedded within *specific* collectives engaged at *specific* times and places to create a better world. This accords well with the ethnographic work of Jamie Cross tracing the international preoccupation with ‘bottom of the pyramid’ technologies such as solar lanterns [33], Ian Scoones’ work demonstrating the messy and “unruly politics” of transformations [34], and David Ockwell, Rob Byrne et al. who write on “pro-poor green transformations” as part of work done on “multiple possible pathways” to sustainable futures [35,36]. It is also quite in line with Jonathan Cloke et al. [37] whose “Social Energy Systems (SES)” approach to energy projects looks at the “ways in which the purposes, promises, and pitfalls of community solar projects are

¹ As Jasanoff has pointed out it makes little sense to speak of “just science”, or “just technology” as if advances in one are not essential to the other. The terms “technoscience” and the “technoscientific” are used by STS scholars to capture this intertwining of science and technology so frequently observed today.

² By imaginaries I especially do not mean “not real”. Imaginaries refer to *aspirational* projects: viz., desires to be realized that guide how the world is seen to be [23].

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