Becoming an African Techpreneur:
Geopolitics of Investments in "Local" Kenyan Entrepreneurship

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Abstract

Entrepreneurs in Kenya are heterogenous, with diverse backgrounds, career goals, and personal histories. However, during five years of working long hours at the iHub, Nairobi's co-working space for technology entrepreneurs, we observed the emergence of the trope of the "Kenyan Techpreneur" that came to be latched onto by the state, development aid, and philanthropic sectors and gained its own circulatory power. Through an analysis of the figure of the Kenyan "Techpreneur" and its production in Nairobi, this paper reveals how imperial logics and structures continue to underpin apparently independent initiative, pointing to the limits of thinking in simple binary terms and to a need for inventive, cosmopolitan constructs of Kenyan entrepreneurism. In recent years, Kenyans figured as Techpreneurs have contested the narrow construction of its parameters, which ironically appear to disproportionately benefit non-Africans working in the Kenyan tech sector. Describing some of the quotidian ways that transnational geopolitics and capital continue to heavily shape what happens within the bounds of the nation-state and the "local" Kenyan tech scene, we seek to emphasize how the local is in fact heavily tied up with enduring imperial formations of neoliberal development. This is an important prompt for a global STS to bring new, more complex subjects into relief.

Keywords

STS; development; technology entrepreneurship; Silicon Savannah; Kenya

Introduction

The electricity and lights went out just as the final 2008 Kenyan election results were about to come in. It was already getting dark outside, and you could hear people beginning to celebrate, with the opposition candidate, Raila Odinga, in the lead and only a few thousand votes left to tally. But when the power returned, the news cut to the incumbent, Mwai Kibaki, about to be sworn in for his second term. What had just happened? The country quickly descended into chaos as what was seen as an illegitimate election outcome was widely contested in the streets. Unprecedented country-wide violence would eventually take 1,500 lives. The mainstream media did not cover much of the violence taking place around the city and so

to fill this gap in reporting, a handful of 20- and 30-something-year-old computer scientists and bloggers, both in-country and in the diaspora, responded with a crowdsourcing application.

Ushahidi, Swahili for "testimony," was developed by this ad hoc group of techies who built a quick prototype application that allowed people to send in reports of violence and other news in Kenya as the post-election violence unfolded. As the story goes, the techies realized that there were much wider use cases for this technology and set up a social enterprise in 2008 to provide crowdsourcing technologies ("helping people raise their voice and those who serve them to listen and respond better"). This was quickly picked up by donors and became one of Kenya's most well-known technology success stories.

By 2010, Ushahidi needed a workspace for their growing team, and with the support of Omidyar Network and Hivos, Ushahidi founders established the first co-working tech space in the country, the iHub. It quickly became the unofficial "Kenyan tech headquarters," an informal space with open seating for technologists, entrepreneurs, venture capitalists, and researchers to come network, collaborate and work on new ideas. We (Leo Mutuku and Angela Okune), joined in 2010 as one of the first handful of iHub staff, hired to establish a research arm that would conduct qualitative and quantitative studies to better understand technology uptake in the region.

As founding members of iHub Research, the research department of Nairobi's flagship co-working technology space, where we both worked from 2010–2015, we were structurally positioned to see the crying need for an STS perspective. We observed the emergence and production of "Silicon Savannah," the moniker used by many to describe Nairobi's start-up technology sector. With the iHub centrally positioned as a first pitstop for all visitors interested in learning more about the Nairobi tech scene, our position as researchers and iHub staff led us to experience both researching and being researched. This "double vision" engendered a particular reflexive sensibility and increasingly critical approach to the study of science and technology by our research team (c.f. Okune 2020). Operating outside of what was considered normative scholarship—as both a non-academic center and a team that was started by young women without advanced degrees, the work was engaged with widely, both within and beyond the Nairobi tech community. Several years after leaving the iHub, we reflected on our learnings and developed a collaborative exhibit for the 2018 Society for the Social Studies of Science (4S) annual meeting. Rather than expand in detail on the work we did at iHub Research (2018), in this essay we take the opportunity instead to situate Nairobi's "Silicon Savannah" more broadly. This is an attempt to avoid falling into the trap of discussing a "Science and Technology Studies (STS) in Kenya" as if there were such a distinct, nationally bounded STS. Like the other contributions to this thematic collection, we are writing against such unitary, static visions of culture, society, and science, attending instead to the nuanced ways that local histories and actors are entangled in wider transnational forces and "topographies of power" (Ferguson 2006).

Much ink has been spilled by academics, NGOs, and humanitarians on Kenya's post-election violence, most trying to understand "what went wrong?" Up to that point, Kenya had been widely perceived as East Africa's most stable, democratic center. Post-Election Violence, or PEV as commonly referred to in Kenya, was interpreted as illustrating the "problem of African tribalism." The 2007–08 Election Crisis officially ended on February 28, 2008, when Kibaki and Odinga signed a power-sharing agreement and created a coalition government. However, the reverberating effects of PEV have haunted Kenyan politics and society for now over a decade. PEV became justification for an influx of development projects to "strengthen Kenyan democracy" including supporting various e-government services. In the months leading up to the

2012 elections, international worry about a repeat of PEV led to another surge in international humanitarian aid, with various development tech projects funded in donor attempts to stymie potential violence. Although the 2012 elections were luckily not marked by any significant violence, some argue it was at the cost of open public debate and discourse (Gathara 2013). Others within the tech community critiqued the redundancy and lack of coordination of various crisis mapping initiatives (Iacucci 2013), and this post 2012 period, loosely marked the beginning of internal questioning and critiques of and by the start-up tech sector in Nairobi. Was it over hyped? Bad business? How much "social good" was it really doing anyway?

Building on a rich literature in development studies on expertise[1] and by critical technology scholars on the entanglements between philanthropy, development, and technoscience (Philip 2004; Irani 2019; Avle and Lindtner 2016), in what follows, we tie particular political moments in Kenya's history to articulations of entrepreneurship and business more broadly. Intertwining a political economy analysis with postcolonial perspectives has proved particularly generative to observe the convergences of politics and promises embedded in national figures and the development agendas transpiring in parallel. First, we track the emergence of the figure of the Kenyan Techpreneur during a moment of crisis within the 2008 post-election violence. With the advance of multi-party democracy and the technology policymaking that follows, we observe how this trope of the Techpreneur came to be latched onto by the state and development sector and has gained its own circulatory power. Without purporting to present a comprehensive history of technology or business in Kenya, instead, this historicizing is intended to attune interested readers to visions or practices of alternatives to the seemingly inevitable logics of neoliberal governmentality. In recent years, Kenyans figured as Techpreneurs have contested the narrow construction of its parameters, which ironically appear to disproportionately benefit non-Africans working in the Kenyan tech sector (Madowo 2020). We point out some ways that racial, ritualized inequities lurk under seemingly standard government policies and funder relations before posing some opportunities for future research.

Methodology

On a random bright Nairobi morning in 2015 — the year that we both stepped down from working at the iHub — you might have found Mary[2] up early behind the espresso machine steaming milk for the lattes that many iHubbers' joked is what kept the place running. Seated at the coffee bar in one corner of the room, you would have spotted John, a solo tech founder, hunched over his computer trying to bring a new product to life that would address a social challenge faced by many in Nairobi. Across the room sat Mark, a manager from one of the largest corporations in Nairobi tasked to lead his company's digitization and

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1 Including for example Timothy Mitchell's (2002) work on the project of economic reform in Egypt and the ways in which economic discourse works to format and reproduce the exclusions that make the economy possible; Julia Elyachar's (2012) work studying the ways that the "bottom of the pyramid" poor are reconfigured as the next source of new profit-making opportunities for corporations; David Mosse's (2005, 2011) ethnographic work looking at development aid policy, practice, and professionals; and Michael Goldman's (2006) work on the project of development as generated through the World Bank.

2 All names in this vignette are pseudonyms.

innovation efforts. Mark hoped that by spending a few days a week at the iHub—famous as the nerve-center of innovation in Nairobi—he might engage with "techies" in the space to come up with mobile phone application ideas that the company could build to keep up with competition.

Joel, the dedicated iHub security officer was probably vigorously shaking hands to welcome Jenny, a program officer visiting from the Washington, DC headquarters of a well-known philanthropic organization. She had a few meetings lined up that day with entrepreneurs introduced to her by iHub's community manager as potential grant recipients. Jude and Frank were university students chilling on bean bags positioned in the center of the room next to the foosball table. They had seen on Twitter that the iHub was a cool place for coders and was equipped with free, fast wi-fi, which they planned to take advantage of to make progress on their university coding project.

After five years of working long hours at the iHub, we came to develop deep relationships with many of these diverse iHub members who frequented the space for a great variety of reasons. We got used to the caravans of big black SUVs that meant some foreign dignitary was touring; the days when techies with foreign passports were noticeably absent because a government official was in the building verifying work permits; and the sudden appearance of usually infrequent members on pizza Fridays when everyone was treated to free lunch.

To us, tech entrepreneurs are heterogenous, with diverse backgrounds, career goals, and personal histories. However, we have noticed that understandings of "African techies" are frequently over-simplified and increasingly locked into a figuration that lacks nuance and is marked by deficit. We became interested in this articulated model that Kenyans working in the tech sector are often expected to fit into rather than one that is attuned to their own interests and goals.

Given that the goal of this thematic collection is to communicate how place structures STS worlds, we find it important to briefly locate ourselves for readers to better understand the "places" from which we are writing.[3] As the overall thematic collection argues, the places of STS worlds do not always cleanly map onto nation-state boundaries. As an authorial team, we represent different nationalities (Kenyan and American) and lived experiences structured by our positionalities as a Black African woman and White-Asian American woman. Nonetheless, we largely speak from our shared status as young elite urbanites steeped in a particular cosmopolitan worldview. Our worldview has been shaped by spending an important period of our 20s involved in the tech ecosystem in Nairobi. Our worldview may very well be representative of the tech ecosystem in Nairobi, but this worldview is not necessarily representative of all who work and contribute to the construction of Silicon Savannah.

For the development of this writing, we leveraged an autoethnographic approach, using our writing process as a primary means of inquiry. We have been close friends since 2010 when we began to work as colleagues at the iHub. Despite a growth in studies on innovation hubs, tech entrepreneurship and venture capital on the continent (e.g. Ndemo and Weiss 2017a, 2017b; Friederici, Wahome, and Graham 2020;

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[3] Aligning with feminist standpoint theory, we hold that locating ourselves increases the robustness of the analytic (Harding 1992; Hartsock 1997).

[Akinyemi and Osamuyi 2021](#)), since leaving the iHub in 2015, we have found little documentation from an insider's perspective on the ways that Silicon Savannah has shifted over the years and why.

So when offered the opportunity to re-visit and develop a narrative piece around the STS Across Borders collection initially developed in 2018 about iHub Research, we leveraged an autoethnographic approach to center our embodied experiences and evoke the richness and nuances that can only be gained from "knowing from within" ([Poulos 2021](#)) and "intimate co-authorship" ([Choy et al. 2009](#)).[4] Between September 2020 and May 2021, we met over a dozen times by Zoom specifically to develop this paper. These recorded discussions ran one to two hours each and helped surface our observations of how the tech ecosystem in Nairobi has changed and shifted over the last ten years. We probed each other for events we thought were significant in the construction of Silicon Savannah, legislation that we believed shaped its formation, and for key influencers and actors to develop a timeline of key events in Nairobi's tech scene.[5] We share audio clips from these discussions as published associated data on [STS Infrastructures](#) to support future research.

In working on this essay, we also came to realize that much of what we describe here appears as structural holdovers from enduring imperial formations. As "polities of dislocation, processes of dispersion, appropriation, and displacement," co-editors Ann Laura Stoler, Carole McGranahan and Peter Perdue write that imperial formations are not steady states but states of becoming ([2007, 8](#)). Rather than clearly fixed and marked by firm boundaries, in their understanding, imperial formations are marked by "inequitable treatment, hierarchical relations, and unequal rule …" ([ibid., 11](#)). In this essay, we track an enduring imperialist project of racial capitalism and its disciplining tactics by interweaving experiences from five years of strategizing and developing iHub Research with critical analysis of policy documents, research reports and funder narratives. We offer an analysis of the figure of the African technology entrepreneur ("Techpreneur") and its production in Nairobi to show how imperial logics and structures continue to underpin apparently independent initiative, pointing to the limits of thinking in simple binary terms and to a need for inventive, cosmopolitan constructs of Kenyan entrepreneurism. At different moments in the text, we tack between using "Kenyan Techpreneur" when we believe it is something specific to the Kenyan tech ecosystem and "African Techpreneur" when we believe it is their Black "Africanness" that donors and others are interested in (as opposed to their being Kenyan). While we don't have the space to expand on this point in this paper, we believe there are fruitful lines of inquiry related to interrogating the concept of "Africanness" as a trading chip for entrepreneurs (see for example work by Sakhile Matlhare ([2017](#)) who

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[4] Collaborative co-authorship across disciplines, stages of training, and institutions has become increasingly common. The Matsutake Research Group has described two ends of a spectrum of collaborative relations, the "Big Science" model (where labor is divided and framed around a stable research object) and "intimate co-authorship" which requires ongoing discussion and an investment of emotional labor ([Choy et al. 2009](#)). Along such a spectrum, our collaboration would fall on the side of intimate co-authorship. Similar to other intimate co-authors (see for example [Kaplan and Rose, 1993](#)), our approach to this research has been grounded on the intellectual and emotional synergy resulting from years of working together.

[5] See Okune [2020b](#) for a supplemental digital timeline.

looks at how African artists leverage "Africanness" as a professional trading chip). The capitalized use of "Techpreneur" refers to the imaginary trope rather than any particular individuals who work in tech entrepreneurship.

We believe that understanding how the "local" is in fact heavily tied up with enduring imperial formations of neoliberal development—especially International Financial Institutions (IFIs), and donor and philanthropic aid—that construct an investable figure of a Black "Technopreneur" is important for global science and technology studies.

2008 Turning Point

The Kenyan government drafted its first National ICT Policy in 1997 (Mwololo Waema 2005). At the time, the Moi government saw Internet technologies as a threat to its dictatorial regime and sought to keep it under control (Mureithi 2017). These factors coupled with expensive access to satellite internet infrastructure limited the growth of ICTs in Kenya in the twentieth century. The 1997 policy was never publicly published and despite growing official recognition of the Internet, the state-owned incumbent operator held a monopoly until 2007. But in late 2007 to early 2008, the elections securing the second term of Moi's successor, Mwai Kibaki, ended in wide-spread violence that killed over a thousand people. This Post-Election Violence, widely referred to amongst most Kenyans as "PEV," became a key turning point in stories about technology development in the country. We locate the emergence of the figure of the Kenyan Techpreneur in this moment of crisis, within the 2007/08 Kenyan post-election violence.[6]

PEV is a crucial part of the origin story for Ushahidi, a crowdsourcing platform to share information sourced from citizens on the ground and one of the most celebrated Kenyan technology success stories.[7] PEV began in 2007, which was also the year that Kenya's most popular mobile network operator, Safaricom, launched its now globally renowned mobile phone banking service, M-Pesa. The success of M-Pesa relied on the rapid uptake of mobile phones around the country; there were virtually no mobile connections in the 1990s but by 2010 over half of Kenyans had access to a mobile phone (ITU 2019). Today, the latest figures suggest that the vast majority of Kenyans have mobile phone access (Kibuacha 2021).

M-Pesa allows users to exchange cash for "e-float" on their phones and send e-float to other mobile phone users who can decide to convert their e-float back into cash. M-Pesa revolutionized financial transactions and remittances in the country, and within a year and a half of its launch, more than 8.5 million people had registered for the service and transferred $3.7 billion USD (equivalent to 10 percent of Kenya's

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[6] Despite locating growing articulation of the figure of the "Techpreneur" in the year 2008, we want to note that the government was moving toward greater adoption of technology innovations prior to the post-election violence. See for example the development of Kenya's 2004 E-Government Strategy (Republic of Kenya 2004); the National ICT policy drafted in 2006 and negotiations for a fiber optic network (Mwololo Waema 2005; Ministry of Information & Communications, Kenya 2006).

[7] As mentioned in the introduction, Ushahidi's founders later went on to establish the iHub which also came to be widely promoted as another "African tech success."

gross domestic product at that time) ([Mbiti and Weil 2011](#)). Such explosive growth sparked worldwide attention and discussion about the benefits and opportunities for socioeconomic growth.

From the ashes of the post-election violence rose the promise of African "technology for social good." The growth of technology innovations like M-Pesa and Ushahidi redirected attention away from what was seen widely around the country as a stolen election that brought Kibaki into his second presidential term. Kenya's "world class" technology sector emerged not only as the fix for an economy still struggling in the aftermath of structural adjustment policies, but also as the mediator of national unity and development. We suggest that the state was able to successfully deflect and "move on" from an election with little public trust in its integrity in part by leveraging the technological successes that emerged.

Some of the after-effects of PEV included increased donor investments in peace and security and an emphasis on national unity. In this period, the promises of technology for development emerged in tandem with an emergent cosmopolitan Kenyan Techpreneur identity. A techno-optimistic vision that with the right technology tools, the many challenges confronting Africans could be tackled to bring a better society, brought together the rationalities of state desires to "improve" society with personal ambitions ([Avle et al. 2020](#), [2016](#), [2019](#)). The power to change decades-old issues that had plagued the country appeared now—thanks to new technologies and their wide uptake—to be within the remit of an individual programmer (and his[8] start-up team).

Lilly Irani's ethnography of entrepreneurial citizenship in India points to its seductions, limits, and contradictions. "Entrepreneurial citizenship," she explained, "promises that citizens can construct markets, produce value and do nation building all at the same time" ([2019, 2](#)). However, as she learned in her study of technology designers and entrepreneurs, in fact only some projects and people are invested in and cultivated. "So who becomes an innovator and who becomes the innovator's other? . . . Who modernizes whom, and towards what horizon?" ([ibid., 3](#)). Irani's notion of entrepreneurial citizenship gives us the language to talk about the ways that diverse and sometimes opposing actors in Nairobi tech nonetheless share a belief in entrepreneurial innovators as a vehicle for national growth and the promise of a better future for all. The way that entrepreneurial innovation becomes a shared interest across diverse actors echoes earlier work by historian of development, Frederick Cooper who pointed out that "unlike other justifications of empire, development came to have as strong an appeal to nationalist elites as to colonizers" ([Cooper and Packard 1997, 64](#)).

Kenyan Techpreneurs

The category of "Small-Medium Enterprises (SMEs)"—another name often assigned to tech entrepreneurs—continues to be heavily invested in by global capital. For example, in 2018, a $50 million USD World Bank project loan entitled "Industry and Entrepreneurship Project for Kenya" was established to

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[8] We use male pronouns to emphasize the gendered dynamics of the contemporary tech sector and its current male dominance.

"strengthen the innovation and entrepreneurship ecosystem to improve the survival and growth rates of technology-enabled start-ups in Kenya through a stronger innovation and entrepreneurship ecosystem and talent base." In particular, the project includes a component to; "support SMEs in improving their managerial and technical skills and their use and access to technology, and contribute towards the creation of local content" (Republic of Kenya 2004).

Such development investments in technology entrepreneurship are not unique to Kenya. In response to critiques of big development projects as oppressive, universalizing and out of touch with on-the-ground realities, innovation scholars have noted a move towards investing in entrepreneurship (Irani 2015; Avle and Lindtner 2016; Ndemo and Weiss 2017a; Friederici, Ojanperä, and Graham 2017). Finance capital expanded into countries in the global South first with the growth of microlending projects that invested in cohorts of entrepreneurs in the early 2000s and more recently directly to individuals through digital micro-lending apps like Tala and Branch. An emphasis on technology entrepreneurship has grown over the last decade as philanthropies deriving wealth from the American technology sector like the Bill & Melinda Gates Foundation and Chan Zuckerberg Initiative have moved into the development sector. The growing promotion of the individual Techpreneur falls comfortably within a neoliberal development paradigm where problems are narrowly defined in ways that can be fixed through western-style scientific and technical solutions. Under such a paradigm, it is imagined that the "problems of poverty" can be addressed if the right people are given the right tools, rendering development highly individuated and establishing responsibility for oneself *on* oneself.

Policymakers, international donors, investors, and media have reified and held up this figure of the patriotic, friendly-to-the-West, African Techpreneur, celebrating his[9] alterity and individual genius and creativity, applied towards solving "Africa's problems." However, it is a certain kind of nationalism and patriotism which is authorized under dominant entrepreneurial computing parameters. For example, in August 2020, the Kenyan Presidential Digital Talent Programme (PDTP) hosted its fourth Innovation Award ceremony at the completion of a year-long training program which includes an internship in public and private sector, mentorship and multiple trainings. The 2020 award winner devised a system that uses camera surveillance around the city to capture images of speeding vehicles, sending the information to a database (presumably a centralized government database of license plates linked to mobile phone numbers) and then a text message to the driver's mobile phone instructing them to pay a speeding fine or be summoned to court. While it is unclear the data and infrastructure necessary to actually establish such a system are in place, that these are the kinds of ICT solutions being awarded and celebrated illustrates the kinds of acceptable "innovative" solutions authorized and supported by the state and private sector.[10] At the event, Kenya's ICT

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[9] Kenyan female tech entrepreneurs are an important and critical part of the Kenyan tech ecosystem, but we use male pronouns to emphasize the gendered dynamics of the contemporary tech sector and its current male dominance, including in abstract imaginaries denoting the "who" of the African Techpreneur.

[10] Emma Park and Kevin Donovan describe some of this entangled relationship between corporations and the Kenyan state in their work looking at Safaricom, Kenya's largest mobile network operator, who is behind the M-Pesa service, and

Authority CEO congratulated the winners and thanked the Chinese multinational telecommunications technology company sponsor saying:

> Huawei® has been a key partner in the DigiTalent program, showing their strong commitment to *supporting local ICT talent and local innovation*; we appreciate the support from them as well as other private sector partners who are critical to the success of this public-private collaboration that *expands the ICT talent pool in the country*. (Otieno 2020. Emphasis added by Okune and Mutuku)

Here we see that "local innovation" is in fact a euphemism for an ICT project that extends government surveillance and furthers tax collection from citizenry. "Local ICT talent" refers not to entrepreneurs with radical ideas that disrupt existing dominant systems, but to an African workforce that can code. The Deputy CEO of Huawei® Kenya also spoke at the event:

> Huawei® is very committed to supporting local ICT talent in as many ways as we can. The PDTP is a fantastic initiative *benefitting the government and the private sector*. We are delighted that we can not only provide our world-leading innovative products to the government, such as in the Konza Data Center, but also provide support for local innovation wherever possible. (Otieno 2020. Emphasis added by Okune and Mutuku)

We find the answer to the question of who benefits from investments in "local innovation" clearly stated; the banner of supporting local talent provides the necessary foil for multinational foreign firms to operate as normal. Such local talent building programs and awards appear part of a broader system of corporate social responsibility (CSR) that defuses and preempts critique about the state's close business relationships with foreign technology companies. Anthropologist Dinah Rajak has noted the growth of "empowerment through enterprise" where corporate capitalism catalyzes grass-roots capitalism with promises to uplift and empower the marginalized (2011, 185). The elevated status of corporations as vehicles of social improvement is based on their supposed ability to transcend local politics of national government and leverage the efficiency of business to offer goods and services to all people including those impoverished and excluded in the margins.

But moving the onus of "development" from publicly elected government to nondemocratic and unaccountable international institutions like the IMF, World Bank, Gates Foundation, and Chan Zuckerberg Initiative, not to mention corporations like Huawei® or Alphabet/Google®, is in fact profoundly anti-democratic and emphasizes how transnational geopolitics and capital heavily shape what happens within the bounds of the nation-state and the "local" Kenyan tech scene. The "local" then is in fact heavily tied up with an imperial formation of donor international organizations and philanthropies who expect the Kenyan Techpreneur to perform as the continent's technical savior, "solving Africa's[11] problems."

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a formerly state-held entity. Park and Donovan (2016) argue that Safaricom is a key example of how corporations, usually in close relationship with the state, shape the intimacies of everyday life in Kenya.

[11] Because "Kenya" alone is not wide enough "scale." See Avle et al. (2020) for more on scale.

This influence is particularly overt when exerted by institutions such as World Bank and the IMF who have, in several instances, placed explicit conditions on offering loans to Kenya, tied to policy changes. For instance, the Kenya Open Data initiative was a result of a World Bank conditional grant and technical assistance to invest in ICT infrastructure in Kenya. Similarly, the move to impose VAT tax on previously zero-rated mobile phones and computing equipment in 2013, was a direct push from the IMF. The first documented ICT policy guidelines developed in 1997 were as a result of funding from UNESCO (Mwololo Waema 2005). And the Kenya Education Network (KENET), a network of educational and research institutions that worked closely with the government in the early 2000s to flesh out an agenda to use ICTs for national development was in fact initiated by the United States Agency for International Development (USAID) (Kashorda 2020). We find both the conceptualization of the problem space (Scott 2004) as well as the expected standards and practices to be heavily determined by project funders and often—not unlike critiques of earlier generations of development interventions—out of sync with the perceptions and lived experiences of Kenyan citizens.

Kenyan Techpreneurs, Entangled

Thus far we have described the emergence of the figure of the Kenyan Techpreneur during a moment of crisis within the 2008 post-election violence. In the previous section, we noted how representations of this figure began to gain circulatory power through technology and national development policies. In this section, we turn now to discuss how the framing of the African Techpreneur as a subject of and for development ironically has disproportionately benefited non-Africans working in the Kenyan tech sector. A fundamental assumption in neoliberal rhetoric is that everyone has the potential to prosper in a capitalist system. But this belief, challenged by scholars and activists alike, ignores how inequalities grow under a regime of neoliberalism (Decker and McMahon 2020; Rodney 1972). As we will discuss in this section, in Nairobi, these growing inequalities are undergirded by racist and classist undertones and justified by national policies. Through brief policy analysis, we look at particular friction points in the smooth narratives articulated by the state and multinational organizations that project an individuated Kenyan Techpreneur as an ideal, more independent and productive citizen that can successfully work out their own future.

In the early 2000s as Kenya moved out of a twenty-four-year-long Moi government into a multiparty democracy and with the further advance of market liberalization, a paradigm of competition emerged—competition between political parties and competition between businesses. Despite government rhetoric about supporting "local businesses" to be "globally competitive" (Government of the Republic of Kenya 2007), their actions indicate otherwise. Instead of supporting the growth of Kenyan businesses, there is continued preference for non-Kenyan businesses, a move justified by the number of jobs created. For example, the architectural master plans for the Kenyan government's flagship Konza "smart city" project

were produced by American New York-based firm SHoP Architects (SHoP Architects n.d.). Such continued reliance by the state on external "expertise" makes calls for "local innovation" ring hollow.[12]

Ironically then, contrary to the image of an independent, local innovator who understands and serves the most marginalized African citizens (and in so doing also develops himself to be self-sustaining), we find the figure of the Kenyan Techpreneur in fact requires constant intervention from and legitimation through the external, Western expert. Rhetoric about the Kenyan Techpreneur's autonomy clashes with the reality that most of these individuals are in fact either directly or indirectly reporting higher up the hierarchy to foreign Venture Capitalists, private philanthropists, or international development aid instead of listening to their Kenyan customers. This kind of reporting to the "outside" replays a decades-old critique of development projects as giving excessive power to donors and international institutions instead of holding national governments accountable to their citizens (Ferguson 2006; Alawattage and Azure 2021; Goldman 2006).

For instance, in one of the first high profile news pieces about Nairobi's growing tech scene by *The New York Times* entitled "Inside Nairobi, the next Palo Alto?" the author wrote that Google®'s establishment in 2007 of a development office in the city was "Nairobi's highest-profile validation" (Zachary 2008). Since 2008, Nairobi has seen a spike in the establishment of regional headquarters for multinational technology companies like IBM® Research, Google®, and Microsoft®. These technology giants join humanitarian agencies also headquartered in Nairobi and the two sectors—one for profit and the other ostensibly for the alleviation of human suffering—increasingly work together towards the shared goal of "solving Africa's problems."

One of these "problems" is the lack of an appropriately skilled labor pool. A 2018 press release by the World Bank boasted of $50 million USD International Development Association (IDA) credit made available for Kenyan enterprises in order to "increase scale, innovation, and productivity" (World Bank 2018). The press release stated: "Currently, Kenya lacks the adequate skills that can produce a solid pool of internationally competitive, technology enabled businesses. SMEs, which are key drivers of the economy, face difficulties in improving their productivity due to poor managerial practices and information failures around how to upgrade" (ibid.). Such narratives about the under-skilled African Techpreneur have led to a multitude of programs run by a variety of actors to "improve" the Kenyan Techpreneur. These calls to "skill up" African Techpreneurs are the latest in the thirty-year-long history of capacity building projects. Like the earlier programs, capacity building programs for the African Techpreneur configure the issues as a technical fix and establish a new entourage of foreign "experts." The notion of capacity building indexes the assumption of white superiority and expertise (Pierre 2020; Kothari 2006) and depends on the construction of the incapacity of Africans and African countries. Like the many contradictions rife in the humanitarian development industry, rather than investing in national public systems (of education and science and

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[12] It is important to note that the Kenyan government may be limited to procure from certain vendors when they receive particular development funding. For example, if a company receives money from a USAID grant, third-party vendors must be approved in advance and are usually American companies.

research, for example), that individualized bootcamps, trainings, and workshops are seen as the solution reveals a continued neoliberal imperialism.

Key figures in the Kenyan tech scene have also emphasized a narrative about the deficits of the African university system. For example, Erik Hersman, co-founder of several companies viewed as business successes including Ushahidi and iHub has raised his disenchantment with Kenyan universities:

> I do not think universities will be the answer; at least, I have not seen them work for technology education. Graduates fresh out of university are, in general, not prepared to work in a technology company. They are not coming out of these institutions with the necessary skills. (Ndemo and Weiss 2017a, 52)

Interviews conducted with tech venture investors (mostly foreign) in Nairobi again also echoed this sentiment. In a 2015 interview that de la Chaux conducted in Nairobi, one investor mentioned:

> . . . you ask yourself, how does [this person] have a Master's in finance . . . or in management . . . but [they] can't present [their] idea! And you know, that's all you have. When we make our investment decisions, we don't have . . . the time to look at the company for a long time . . . you see them and you have to make your decision . . . quickly. So if they . . . cannot communicate their idea . . . if they cannot . . . sell it to us, then we can't give them the money. (de la Chaux and Okune 2017)

Such narratives about the deficit skills of Kenyan Techpreneurs have made them particularly attractive new subjects for familiar capacity building development projects. As one Kenyan tech start-up founder complained: "Kenyan tech entrepreneurs are probably some of the most 'capacitied' people in the world."

So when a Village Capital report[13] was released in 2017,[14] it made waves amongst the Nairobi tech community because it explicitly debunked some of these long-standing narratives about the lack of skills and capacity of Kenyan entrepreneurs. The researchers found that "cultural bias might be driving the perception of lower entrepreneurial skills" (Strachan Matranga, Bhattacharyya, and Baird 2017). The report found that investors' claims that emerging market entrepreneurs lacked experience was contrary to the evidence. The report concluded that investors use patterns as a proxy for potential: "Did the founder attend a prestigious university? Is the company affiliated with highly selective business networks? Were they recommended to the investor by a trusted source in their network?" The report found that more than ninety percent of funding for East African start-ups went to white immigrant founders[15] and the authors took issue

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[13] Referred to by some working in the Kenyan tech scene as "The" Village Capital report because of its widespread circulation and impact.

[14] While the full Village Capital report can be found here (2020), the Medium post that appears to have been circulated more widely.

[15] Like Friederici et al. (2020) who write about white immigrant entrepreneurs in Africa, we borrow the terminology of "white immigrant" rather than the more common usage of "expatriate" or "expat" to denaturalize the raced assumptions about who is an "immigrant" and who is an "expat."

with the "one-size-fits-all, Silicon Valley-style approach to investing" (Strachan Matranga, Bhattacharyya, and Baird 2017).

An effect of this "Silicon Valley-style approach" to investing is that white immigrant-founded technology start-ups in Nairobi continue to be the most successful in raising venture capital funding. For example, Sokowatch (Rebranded as Wasoko), Kasha and Branch International have all received recent additional capital investments. Co-founders of these companies—considered to be some of the latest African tech "successes"—include Daniel Yu, Joanna Bichsel, and Matthew Flannery.[16] Contributing to a discussion on what has been called "white fronting" within African tech start-up teams (Friederici et al. 2020; Madowo 2020; de la Chaux and Okune 2017), we note that some of these founders and other non-Kenyan working in Nairobi have faced the growing ire of Kenyan tech founders who have critiqued them for double dipping: representing "Africa" because of where their companies are headquartered while also gaining exclusive access to Silicon Valley funding in large part because of their nationality, existing social capital networks and embodiment of the expert and authoritative Silicon Valley Techpreneur.[17]

Keen to appear responsive to critiques that foreigners disproportionately succeed in the "local" Kenyan tech sector, the government introduced a Start-Up Bill in 2019 to ostensibly support the Kenyan Techpreneur. However, this legislation has been critiqued as supporting only incubators and those incubated (rather than entrepreneurs more generally). Labeled by many as a protectionist measure, the bill only allows those start-ups that are "majority-owned by one or more citizens of Kenya" but does not address the underlying issue of channeling more funding towards Kenyan entrepreneurs (Sakaja 2020, 405). The bill mentions that it seeks "to provide a framework to encourage growth and sustainable technological development and new *entrepreneurship employment*; to create a more favourable environment for innovation; to attract Kenyan talents and capital; and for connected purposes" (ibid., 399, emphasis added by Okune and Mutuku). The bill's use of the term "entrepreneurship employment" is revealing; the bill largely centers on certifying and registering start-ups,[18] a means of categorizing and regulating them through incubation hubs in a highly prescribed relationship. But the fallacy of the government's interest in "helping" its local tech entrepreneurs was revealed when around the same time, the Digital Services Tax (DST)—a 1.5 percent tax payable on income derived or accrued in Kenya from services offered through a

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[16] We do not want to assume the nationalities of these individuals but based on the location of their undergraduate educational institutions, we would venture to guess that they are American and Canadian citizens.

[17] Over the last two years, perhaps in response to the growing pressure from Kenyan techies as well as increasing pressure from funders and donors also seeking to respond to these shifts in discourse about racial justice and critiques of continued foreign extraction, white foreign (co)founders of many of the successful tech start-ups have stepped back and the faces representing these companies are increasingly Black African men, reminiscent of the period of "Africanization" that occurred during decolonization in the 1960s when white faces were replaced by black faces. Important to recall, many postcolonial scholars have critiqued (Fanon [1952] 1986, [1961] 1963; Ngugi wa Thiong'o 1986) the fact that despite the change in leadership, many of the underlying colonial systems of extraction and racial oppression were not dismantled.

[18] Or as one critical article wrote, "double registering" (see Bonyo 2020).

digital marketplace — was announced, another way for the government to extract further from residents and non-residents alike.

The latest in what has been called a regime of "over-taxation" can be attributed to poor economic performance in recent years and a general shortfall in government funding from tax revenues. The introduction of taxes like the DST in addition to other taxes and licenses that entrepreneurs are subjected to is widely seen as creating an increasingly hostile environment for technology start-ups in Kenya. While such measures are ostensibly meant to ensure that global big tech companies such as Uber® pay their fair share of taxes, the net effect is that it also creates a new burden for Kenyan tech entrepreneurs with fledgling businesses who also come under this new tax bracket.

The latest National ICT Policy (2019) includes a clause on what is called "equity participation" where only companies with at least thirty percent substantive Kenyan ownership will be licensed to provide ICT services in Kenya. We read this as a response to the growing influence of non-Kenyan individuals and companies in the Kenyan ICT sector but believe that attempting such a "local" form of belonging misunderstands the already TRANSnational[19] character of the technology sector in Kenya. Scholars of globalization have written about the politics of belonging and growing claims of autochthony (literally meaning "born from the soil") mobilized in response to the increased movement of people, goods, and ideas across borders. As Peter Geschiere wrote a decade ago:

> . . .[a]n increasing obsession with localist forms of belonging seems to be the flipside of such globalization in many contexts, despite all their differences, (2011, 322).

This statement holds true today with an interest in promoting the "local" technology sector appearing as a response to take-over of the industry by foreigners. With growing public critiques of the raced hierarchies and uneven distribution of tech capital in Nairobi, investing in the figure of the Black African Techpreneur (constituted as the Other to the hegemonic figure of the White Silicon Valley Techpreneur) has subsequently been positioned as the answer. But bringing in Grace Musila's critique of the concept of "Afropolitan" offers an important lens here. Musila points out that combining the terms "Africa" and "cosmopolitanism" only serves to negate the original meaning of the notion of cosmopolitanism by signaling a particular location in the world. Musila provocatively asks:

> Why the need to qualify one's cosmopolitanism? The very necessity of qualifying Africans' being in the world only makes sense when we assume that, ordinarily, Africans are not of the world. ... [I]n qualifying our belonging to the world, Africans effectively reiterate our non-belonging; our qualified access to a cosmopolitan identity as already marked in particular normative grammars that single us out as wanting — in both senses of the term. (2016, 112)

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[19] We borrow the capitalized TRANS prefix (across, beyond, to change thoroughly) from the theme of the 2018 annual meeting of the Society for the Social Studies of Science which sought to engage issues broadly construed by the prefix "TRANS" especially by the "problematic and evolving status of 'nations' in processes of global ordering." (For more see 4S 2018).

So solutions that only reify the figure of the African Techpreneur—instead of turning a critical gaze on the underlying logics and commitments to scale, competition, and "creative" and "entrepreneurial spirit"— place the responsibility again on the individual "entrepreneurial citizen" (Irani 2019) to refashion himself in the mode of what is required by shifting demands of investors (donors, the state, venture capitalists).

We argue that rather than simply raising up individuals, thereby continuing to extend an imperial formation based on neoliberal logics of market-driven, individualist "development,"[20] more focus is needed on unraveling the systems and structures that perpetuate inequality. For example, we must look at the travel and immigration policies that shape the internal raced hierarchies of who is considered and compensated as an expert.

Under the Kenya Citizenship and Immigration Act 2012 Laws of Kenya, a class D work permit is issued to a person in "possession of skills or qualifications that are not available in Kenya and whose engagement in that employment will be of benefit to Kenya" (Kenya Citizenship and Immigration Regulations 2012). This means that a foreigner is not supposed to be hired for skills that you can find in Kenya. Angela saw this play out in particular at one of her fieldwork research sites, Akamai,[21] a research lab with Nairobi-based staff of approximately fifty people, half Kenyan and half immigrants primarily hailing from Europe and North America. The Kenyan immigration policy—that foreigners must be experts with rare skills that cannot be found in-country—was used to justify why all of the executive level directors and upper rung of the organizational hierarchy were non-Kenyans and why below a certain "line" in the organization chart, all staff were Black Kenyans. Combined with naturalized assumptions that those at the top of an organization earn the most, the Kenyan immigration policy—ostensibly in place to protect local Kenyans from losing their jobs to foreigners—paradoxically justifies why foreigners are paid significantly more than many Kenyans.

That foreigners are paid more not necessarily because of the quality of their work, but because of their nationality has been noted elsewhere by anthropologists of global capital (Appel 2018, 2019). It is also of little surprise to many Kenyans in Nairobi: "Foreigners cannot be hired at the analyst level" an associate explained to Angela when she tried to tactfully ask why there was such a noticeable divide between those who occupied positions of upper management and those lower in the organizational hierarchy. Tracing the capital, policies, and discourse around tech entrepreneurship in Africa allows us to focus not only on what kinds of projects are authorized because they fall within the normal parameters of "computing," but also how different populations are asked to contribute to those projects—as experts, students, workers, research subjects, and sources of "local" knowledge.

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[20] By "development" we refer to the intellectual and capital apparatus that projects a particular ideological framework for producing subjects and objects (Escobar 1995).
[21] A pseudonym.

Conclusion: Complicating the Kenyan Techpreneur

Some of the most successful Kenyan tech entrepreneurs—many who are not on the "hackathon" circuit or did not emerge from being incubated within a technology start-up hub—developed products that were sparked from their own first-hand experiential knowledge of issues in the city and country. Many of these businesses do not have venture capital backing nor are they at international scale. However, as Nicolas Friederici et al. (2020) and Tayo Akinyemi and Osarumen Osamuyi (2021) point out, these businesses are some of the most impactful because they have their own notion of "success" that are not tied to Silicon Valley metrics of scale. The capacity building programs, and funding schemes described in this essay positioned the figure of the African Techpreneur as deficient subjects, in need of expert guidance and correction. Members of the Kenyan and wider African technology community are increasingly positioning themselves as political actors challenging the authority of those who presume to improve them.

Nevertheless, it is important to take heed of lessons learned by feminist scholars who have long discussed how a willingness to live *for* and *through* work still renders subjects "supremely functional for capitalist purposes" (Weeks 2011, 12). As Clapperton Mavhunga (2017) and others have cautioned, there is risk of uncritical discipleship in the *Africa is Rising* frenzy, fed by corporate missionaries driving the conversation on Science, Technology, and Innovation (STI). We therefore suggest that until the legitimating discourse of the technology entrepreneurship work itself is challenged, the Techpreneur is at risk of being a subject in their own dispossession.[22]

Despite this risk, scholars should not simply cynically disregard the figure of the entrepreneur. With the growing informality of world economies and increasing importance of entrepreneurs of all kinds in many different sectors, scholars will need to think well about this contradictory figure. There is need to follow its many different trajectories. For example, one of the first computer science graduates in Kenya was 33-year-old computer science lecturer at the University of Nairobi, Kariuki Gathitu. A little known figure in national history, we learned from a footnote in a thin history booklet that Gathitu joined with activist scholars Ngũgĩ wa Thiong'o, Maina wa Kinyatti, and Willy Mutunga as part of the Kenyan progressive socialist Mwakenya movement (*Muungano wa Wazalendo wa Kukomboa* Kenya or the Union of Patriots for the Liberation of Kenya) (Friedrich-Ebert-Stiftung and Citizens for Justice 2003). As a lead recruiter for the Mwakenya, Gathitu mobilized students and faculty at the university for Kenyan multi-party democracy. A generation later, Gathitu's son, also named Kariuki Gathitu, became a technology entrepreneur in Nairobi, based at the iHub.

In this essay, we looked at the popularized figure of the African Techpreneur as a celebrated citizen-subject. But African (tech)entrepreneurs, like all people, have multiplex subjectivities (Rosaldo [1989] 1993)

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[22] This builds on recent work by scholars of labor and technology like Mary Gray and Siddharth Suri (2019), Sarah Roberts (2019), and Lilly Irani and M. Six Silberman (2013) who have looked at growing subcontracted "gig" work and the informalization of labor. The conditions under which digital tech work is being conducted by Africans have been recently discussed on social media platforms in Nairobi after a 2022 TIME magazine article entitled "Inside Facebook's African Sweatshop" circulated widely (Perrigo 2022).

and intersectional identities ([Crenshaw 1991](#)). This complexity is flattened and often lost in attempts to generalize "African Techpreneurs" and have them perform the appropriate "investable" Silicon Valley standardized pitches which focus on the success of their business idea without recognizing the other areas in which tech entrepreneurs may also be active. Processes of racialization have "served to fix social subjects in place and time, no matter their spatial location, to delimit privilege and possibilities, to open opportunities to some while excluding the range of racialized others" ([Goldberg 1993, 206](#)). As Lilly Irani and Kavita Philip ([2018](#)) have emphasized, capitalism regulates some differences profitably while violently suppressing and disciplining others. It will take sustained work to disentangle some of the important calls for autonomy and self-reliance from the tech industry to carve out cross-disciplinary spaces protected from co-optation to explore futures that go beyond individual profit and gains.

We have sought to tell a story that situates a strand of social studies of technology that emerged from the iHub within a broader context of Kenyan ICT policy and investments by donors, the state and venture capitalists. This context is what STS lives and contends with in Kenya. In illustrating how imperial logics and structures continue to underpin apparently independent initiative in Kenya, we call attention to these limits of thinking in simple binary terms and point to a need for inventive, cosmopolitan constructs of Kenyan entrepreneurism. Understanding how the local is in fact heavily tied up with enduring imperial formations of neoliberal development is an important prompt for a global STS to bring new, more complex subjects into relief.

Acknowledgements

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Data Availability

Supplemental data published in this original research article can be accessed in STS Infrastructures at: https://n2t.net/ark:/81416/p4b01b.

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