Chapter 3
The Normativity of Kenya's Tech Story

"I come from the land of M-Pesa", was how a Kenyan technology expert introduced herself to a German audience (September 2015),[1] referring to the reduction of Kenya's tech scene to the mobile phone application M-Pesa (see Chapter 1). According to her, it was M-Pesa's success story and the subsequent emergence of iHub, the first technology hub on the African continent, that had resulted in Nairobi becoming the role model for an 'African' place of technology development. Since 2015, Kenya has ranked among the four largest tech scenes on the continent, but its success stories are better known internationally than those of the three other leading countries – Nigeria, South Africa, and Egypt (Disrupt Africa 2021; Giuliani and Ajadi 2019: n.p.). Therefore, how Kenyan technology developers share their experiences, attract investors, and legitimate their technological endeavors in the media serves as a role model for other tech scenes on the African continent (Pollio 2020: 2724f.). Against the background of Kenya's pole media position, this chapter explores the specificity of media coverage of Kenyan technology development and reveals that only a single story about the tech scene exists. Regardless of the format, storyteller, or audience, the founding story of Nairobi's tech scene always starts with the success of M-Pesa and Ushahidi in 2007–2008 – as I did in this book. The story is narrated in the same way and with the same content, no matter by or for whom it is told, or through which form of media it is published.

As discursive singularity produces hegemony, I analyze the narrative characteristics of the singularized story and their normative effects. Whereas Chapter 2 claimed that economic and industrial policies discursively stage Kenyan technology entrepreneurs as the protagonists of national progress,

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1   Panel discussion on 'Digital Human Rights and Development Agencies' at Stiftung für neue Verantwortung in Berlin.

this chapter shows that it is not only state actors that responsibilize technology entrepreneurs to bring about change, but also the mediatized stories about and from Nairobi's tech scene. By analyzing its founding story, I highlight two things: first, I show that the story becomes universalized through the use of narrative characteristics from the "master narrative of technoscientific progress" (Davies and Horst 2016: 33) and the prevailing colonial imaginations of a place on the African continent.[2] Second, I demonstrate that the continuous reproduction of the master narrative's belief in societal progress driven by technologies and the exoticization of technology, their users, and developers, materializes norms. In this regard, I argue that the presences and absences of people, things, and circumstances in the story constitute "sediments of norms and practices" (Czarniawska 2004: 48) and drive affects within Kenya's tech scene.

   To illustrate this argument, I first retell the singularized founding story of Kenya's tech scene by drawing on various sources that all recount revolutionary but smooth transformations, heroism, and amazement at technological innovation made in Kenya. Second, I analyze these narrative characteristics to show that the presence of linearity, heroism, and unexpectedness, and the absence of challenges and daily life circumstances manifest a tech-deterministic and exoticized image of technology developers who are single-handedly solving the struggles of an impoverished 'Africa'. As such, the master narrative of technoscientific progress and the colonial imaginations serve as hegemonic ideologies that narratively establish plausibility and legitimacy for technological endeavors in Nairobi. Third, this chapter emphasizes the normativity of the story, that is, the performative production of norms that affect how Kenyan technology developers and their technologies act, feel, and work. Finally, it claims that the narrative singularization of Nairobi's tech story portrays an ahistorical, apolitical, and exoticized image of Kenyan technology development and thus, totalizes the belief in societal development through technology and science. The technology developers' emotional investment in their work offers an insight into how the story affectively narrows the developers' possibilities of

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2   Whereas this chapter analyses the narrative characteristics of the existing story about Nairobi's tech scene, Chapters 4 and 5 focus on the actors of science communication. I show that storytellers can be technology developers themselves, PR staff of innovative workplaces, or (international) journalists, and that Kenyan storytellers often deliberately construct their narratives to match the technoscientific and colonial imaginations of their audiences (who are mainly funders from outside Africa).

action and makes them comply with precarious working conditions, as well as (Western) norms of technoscientific progress and (colonial) affects that *other* Kenyan technology development.

3.1   The Single Story about Kenyan Technology Development

The people who tell stories about technology development in Nairobi are diverse, as are the intended audiences, and the stories' formats. Perhaps a makerspace's newsletter tells the story of a member's innovative idea in order to gain legitimacy in the eyes of investors (see Chapter 5), international journalists report on their visits to innovative workplaces in Nairobi, rewriting what they heard from the visitor guides (see Chapter 4) or a Kenyan newspaper such as the *Daily Nation* applauds Barack Obama's appreciation for Kenyan technology entrepreneurship (Ondeng 2015). Famous storytellers such as Mark Zuckerberg or Barack Obama, Kenyan tech influencers such as Juliana Rotich or Erik Hersman, and even the more 'invisible' staff of innovative tech hubs and startups in Nairobi have one thing in common: their public stories about technology development in Kenya are similar to each other. In fact, they are so similar to each other that the story about the Kenyan tech scene remains the same, even though it is told by many actors through different media outlets – in blogs, on websites, by the guides who lead the daily visitor groups through workplaces, in newspapers, and in the few academic accounts of Kenyan technology development (e.g., Friederici 2016; Gathege and Moraa 2013; Graham 2019; Kusimba 2018; Marchant 2015; Ndemo and Weiß 2017; Poggiali 2016).

During my research visits, I did not once encounter a story about the emergence of Nairobi's tech scene that differed from the accounts I had read and heard about from abroad. Although the repetition of the same few success stories of the same technology entrepreneurs is a common phenomenon in science communication, Andrea Pollio (2020: 2720f.), who researched the startup sector in Cape Town, encountered differing founding stories during his fieldwork. Furthermore, the genealogy of technology development in Ghana is explained by the worldwide internet penetration in the early 1990s and thus, does not refer to a single successful innovation (such as M-Pesa in Kenya) as a historical starting point (Foster et al. 2004). Against this background of diverse historical accounts of the emergence of tech scenes, my surprise about the uni-

formity of Kenya's tech story became the starting point of my research interest in the singularization of a story.

In the following, I reproduce the founding story of Nairobi's tech scene, including the importance of technology development to the country's economy and the rapid pace of the Silicon Savannah's development, in order to analyze its narrative characteristics thereafter. I use different sources –authors, voices, and observations – to reproduce the story, although I could have also cited only a single source, as they all tell the same story.

"The Rise of Silicon Savannah and Africa's Tech Movement"[3]
It was the end of 2007 when a couple of technology developers met in Nairobi to build a software program with which everyone who had access to the internet could map the election process in Kenya. Immediately following the election, which was subject to numerous claims of manipulation, massive violent protests took place, and this software, Ushahidi (Kiswahili for testimony), was used to map and comment on the post-election violence (Marchant 2015: 8; Manske 2014: 14; Ushahidi 2020). This previously unforeseen ability to make humanitarian emergencies transparent through a digital tool caused the open-source software to gain a lot of international recognition. By 2018, 22,000 various actors in 154 different countries used Ushahidi; for example, the project *Document Hate* used the software during the US election in 2016 and humanitarian volunteers used it to map the aftermath of the earthquake in Haiti in 2012 (BBC 2016; Cessou 2018). While Ushahidi started to receive international praise in 2008, the mobile operator Safaricom, supported by the Vodafone Group, introduced M-Pesa in Kenya (Manske 2014: 10). M-Pesa is a mobile banking platform that allows people to send money to others via their mobile phone. This application revolutionized the banking sector because, for the first time, people without access to a bank account were included in formalized money transfers (Marchant 2015: 8). By the end of 2019, M-Pesa had 23.6 million active users (Otieno 2019) who had made Safaricom 62.9 billion Kenyan shillings which constituted 28% of the mobile operator's total revenue in 2018 (Alushula 2019).

Following these successful Kenyan innovations, venture capitalist firms, accelerators, international corporations such as Google and Microsoft, and development agencies began to invest heavily in Nairobi as a place of technological knowledge production (Disrupt Africa 2021: 10; Microsoft 2019; PSCU 2021). Various donors, such as the philanthropic investor Pierre Omidyar's

Omidyar Network and the Dutch development agency HIVOS, funded the first permanent Kenyan co-working space where technicians, investors, tech companies, developers, and researchers could meet to co-work, talk, and network (Macharia and Mutuku 2014; Sanderson 2015: 6). This space, iHub, opened its doors in 2010. From then on, Nairobi's tech scene grew organically from an Ushahidi office and the iHub co-working space to a variety of creative workplaces in the same building (de Bastion 2013: 7). According to Erik Hersman, one of the founders of iHub and other successful tech companies in Nairobi, iHub feels like "a high-tech community space one could find anywhere in the world, but with a Kenyan flavor" (2013: 62). Nowadays, Kenya is known as the *Silicon Savannah* and acts as a role model for Africa by "fuel[ing] an ecosystem of innovation and technology that allows people to develop enterprises that creatively solve problems around them using technology, while shaping the way African innovation is viewed by the world" (iHub 2017: n.p.).

The social impact of a technological innovation is the main priority for Nairobi's tech entrepreneurs. The internet modem BRCK, for example, caters for internet connection during power cuts and various mobile phone apps address agricultural and health problems, especially in rural areas (Köckritz 2017). Kenyan tech entrepreneurs defy their challenging environment in which "more Africans have access to cell phone service than piped water" (Parke 2016: n.p.) and help their country leapfrog particular stages – landlines for example – and lift citizens out of poverty (Mutua and Alliy 2012: 3ff.; *The Economist* 2016). Bitange Ndemo, Kenya's former Permanent Secretary of the Ministry of Information and Technology, praised the challenges faced by many in African contexts because, he said, they offer entrepreneurial possibilities: "God has been great with Africa because he has given us too many problems. And the moment you solve one, you will succeed" (Interview, April 2017). Also, Ban Ki-Moon, the former Secretary-General of the United Nations, has no doubt that local innovative ideas will revolutionize Kenya to achieve national progress. During his visit to iHub, he predicted that innovations made in Nairobi would lead to 50 percent more national productivity than in the past and compared them to the development of steam power which revolutionized Europe (United Nations 2014).

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3   Title of 2015 Hruby and Bright article.

The persistent story of the emergence of Kenya's technology development sector is told to apply for funding, to gain legitimacy, to share experiences, and to build identities, and the variety of actors and media formats that tell the story and its singularization leverage the narration's productive power. To shed light on the performative productivity of the single story, I analyze the story's narrative characteristics, and its entanglement in the master narrative of techno-scientific progress and colonial imaginations of 'an Africa'. Further, I depict its affective creation of norms regarding Kenyan technology developers, their innovations, and their users.

3.2   Heroism and its Missing Parts: The Universalization of a Partial Story

Technology developers in Nairobi are ambivalent about the constant media coverage of their work. On the one hand, the once-fascinating newness of innovative technology in Kenya legitimated the media hype but on the other, the coverage had arduous effects on their daily work. A former iHub employee stated that she understood why the emergence of the startup scene in Nairobi is fascinating:

> It was something new, a new culture that we hadn't experienced before. iHub was the first space having a very relaxed, very different feel than the other *kawaida*[4] offices. People are used to rigid structures of being at work at 8am and wearing a suit. Instead, iHub is a place where people listen to music with their iPhones as they work and where they are allowed to wear whatever they want. (Interview, March 2017)

However, one tech company founder criticized the local, regional, and international media's reporting of the story of Kenya's technology development, saying: "There are some cool Africans doing some really cool stuff and it's really normal considering the progression of the country and its various industries" (Interview, April 2017). According to her, media "sensationalize everything" (ibid.) instead of covering a story about new technologies in Kenya as an ordinary circumstance. While tech developers are annoyed by the sensationalization of their work (see Section 3.4), research has demonstrated that

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4   Kiswahili for 'usual'.

sensationalizing and inflating technological promises is a major characteristic in science communication. Storytellers inflate the motivation and effects of technological endeavors because they have to convince as many actors as possible with their story (Brown et al. 2003: 3; Chapter 5).

My analysis of the sensationalized story of technological innovation in the Silicon Savannah divides the narrative characteristics into presences and absences, both of which shape the story's content. The three present characteristics – linearity, heroism, and unexpectedness – and the three absent characteristics – daily life, its sometimes unmanageable challenges, and complex contextualization – are the themes that occur most frequently in the media stories and in the interviews I conducted. I conclude the story's content analysis by arguing that the narrative characteristics reproduce tech-deterministic beliefs of development based on the praise of neoliberal entrepreneurship and colonial imaginations and thus, present technology development in Nairobi as smooth labor that easily brings about societal transformation.

Presences: Linearity, Heroism, and Unexpectedness

Linearity

One striking aspect when listening to or reading the story of Nairobi's tech scene is the temporal linearity of the events that led to its establishment. Ushahidi and M-Pesa are framed as the first Kenyan innovations and, following their success, the glass fiber cable that linked the United Arab Emirates and the East African coast further boosted digital labor (Graham et al. 2015). The subsequent opening of iHub initiated the institutionalization of Nairobi's technology development scene. In this vein, Figure 3 is a perfect example of how every historical incident – for example, the introduction of M-Pesa to Kenyan mobile phone customers, the founding of Ushahidi, and infrastructural novelties such as the first undersea cable leading to East Africa – are presented as a stringent order of events that naturally led to iHub's foundation.

Figure 3: *The Rise of Kenya's Tech Scene (Source: Manske 2014: 20).*
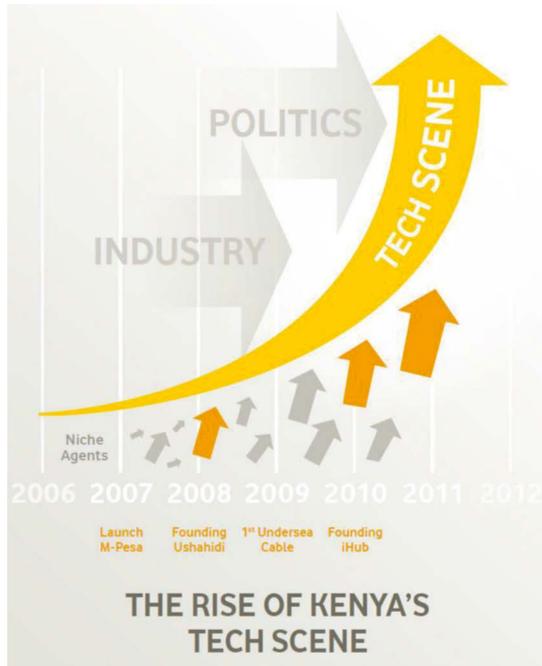
The story's linearity and coherence is remarkable. Told in retrospect, whether in the form of a written story or the diagram in Figure 3, the development of Nairobi's tech scene seems to have happened as a smooth process. For example, the steady increase of startups settling close to or in the same building as iHub is referred to as "organic growth" of the tech scene (Interview, co-founder of BRCK, November 2015). Any setbacks, barriers, or other challenges that may have occurred during the early years of the technology development sector are absent from the story. Indeed, if challenges are mentioned, it is only to show how they were overcome through science and technology; for example, the reporting of violence after the 2007 election through Ushahidi, and M-Pesa as the solution to lack of access to traditional banking. Thus, the events that occurred in the tech scene are knitted together in a temporally and causally linear way to create coherence and plausibility regarding the developments in Kenya.

Heroism

The uplifting story of becoming the Silicon Savannah revolves around the "heroic plot, in which science contributes to shaping societal futures, to realizing societal values and to solving societal problems" (Felt and Fochler 2012: 6). Consequently, the story always stars a heroic technology entrepreneur and a charismatic technology which solves context-specific problems. The main heroes of the Kenyan tech story are a handful of committed individuals who founded the putative base for Nairobi's technology community: Ushahidi, iHub, and BRCK. Media accounts call Erik Hersman, the co-founder of, amongst others, iHub and BRCK, the "founding father of Kenya's tech scene" (Rybak 2019: n.p.) who "harnesses Africa's boundless spirit of innovation" (TED n.d.). And Juliana Rotich, co-founder of Ushahidi (amongst others), has been called "the face of a successful African continent" (Claus Stäcker cited in Pelz 2019: n.p.) while former German Chancellor Merkel described her as an "inspiration for countless people in Africa" (Pelz 2019: n.p.). Hersman and Rotich are both publicly depicted as pioneers who started a movement of innovative people that develop technology to solve the context-specific problems of 'Africa'. Only a few other Kenyan technology entrepreneurs are also portrayed as emancipated individual knowledge workers who are heroes and saviors within a challenging African environment. Stories about Kenya's tech scene describe them as enduring Prometheans when working for higher aims than just their own survival (see Sørensen 2008: 88).

The heroic tech developers share the spotlight with additional protagonists; namely 'charismatic' technologies that either have already conquered the Kenyan market or promise to do so. According to Morgan G. Ames (2015: 110), technologies that do not lose their auspicious promises and visions are "charismatic objects". In her research, Ames shows that charismatic power sticks to a technology "even when an object's actions do not match its promises" (ibid.). She uses the *One Laptop per Child* project in which laptops, called XOs, were to be sold to families in Latin American countries for US$100 each (at the time, the average laptop retailed for US$1000) as an example. Although the features of the XO laptop never existed or worked, for example, the initial promises of a laptop that was manually chargeable (ibid.), easily repairable, and cheap (ibid.: 112), journalists and the tech community continued to discuss and praise these features. Thus, Ames concludes that the XO laptop "embodied and performed its charisma, and the discussion around the machine amplified and perpetuated these promises" (ibid.: 110).

In the case of Kenya, technologies' charisma is made up of economic success and promises to be societally transformative: a technology or its company has to possess these attributes to be charismatic enough for media coverage. However, such examples are still rare in Nairobi, so that startups and technologies, once presented as successful by the media, seldom lose their reputation as a success model. Thus, Kenya's tech story repeatedly refers to a few chosen technologies and their companies. It "always mentions the same brands – iHub and M-Pesa, iHub and M-Pesa, iHub and M-Pesa", according to a public relations manager (Interview, March 2017). Additionally, the fact that M-Pesa is the product of a multi-national cooperation does not weaken the praise of the app as a "homegrown" Kenyan innovation (Nitsche 2019 in *Deutsche Welle*). The charisma of technologies also sticks to its inventors; for example, the founder of a once successful app is still celebrated although the company does not exist anymore (Research Diary, April 5, 2017).

Overall, the few protagonists of Nairobi's tech story not only possess a manifested success status through the repetition of their names, but also achieved this status because they became a part of the "master narrative of technoscientific progress" (Davies and Horst 2016: 33). This specific narrative brings together tech-deterministic beliefs that understand "science and technology [as an] unconditional good" for solving societal problems and, as such, form "the basis for economic prosperity and cultural enlightenment" (ibid.). Therefore, the narrative plot around heroic tech entrepreneurs and charismatic technologies that solve long-standing societal challenges in Kenya reproduces the beliefs within the master narrative of technoscientific progress.

Unexpectedness

As well as the hegemonic belief in progress through science and technology, Nairobi's tech story includes narrative characteristics that are context-specific. In particular, international media always depict technology development in Kenya as a stark contrast between a seemingly modern and a supposedly backward daily life. On the one hand, the story tells of shiny workplaces and entrepreneurial technology developers who work in a country where cashless payment is normal, where mobile phone networks function trouble-free even in the countryside, and where enormous amounts of capital flow within the real estate sector. On the other hand, it depicts a country in which the political elite is corrupt, where tribalism separates society, where people suffer from poverty, and where infrastructural deficiencies cause unbearable traffic

jams (e.g., Cessou 2018 in *Le Monde diplomatique*; Schubert 2018 in *Frankfurter Allgemeine Zeitung*; Köckritz 2017 in *DIE ZEIT*). This narrated contrast supports Barbara Czarniawska's (2004: 9) analysis that "[n]arrative thrives on the contrast between the ordinary, what is 'normal', usual, and expected, and the 'abnormal', unusual, and unexpected". In the case of Nairobi's tech story, the occurrence of technology development seems an unexpected activity in Kenya, in stark contrast to the 'normal' media coverage on Africa that focuses on disasters (see Nothias 2014).

While I was responsible for the social media accounts of a Kenyan makerspace during my working participant observation, it became clear to me why someone might be surprised to hear of technology development in an African country. During that time, I constantly looked for hashtags to broaden the audience for social media photos of the makerspace. One day, I came across the hashtag *#africanengineering* on Instagram and found that its associated pictures only showed 'improvised' fixes such as a cooling box made from a plastic box, a fan and a ventilation pipe, tools that had been repaired with duct tape or a car that had been given a loading area in the front by fixing a wooden plate on the hood (Research Diary, April 20, 2017).[5]

Eleanor Marchant (2018: 91) observes that "nothing sells a story of 'pivoting' from failure to success" better than a story about technological innovation. Aware of this, the tech scene in Cape Town consciously decided to 'improve' the storytelling about their work by using Nairobi as a role model and started to feature especially marginalized people who have been unexpectedly successful in their entrepreneurial endeavors (Pollio 2020: 2725). However, this can backfire; such 'success' stories mainly result in astonished journalists asking how a postcolonial country is able to transform into a "modern economic force" – as Kavita Philip (2016: 288) found out in the case of India's IT sector. According to her, "[p]opular global analytics ... tend to deploy a model of linear transition from backward to entrepreneurial nation, narrating a development from colonial to emerging economy" (ibid.: 277) while leaving complexities aside.

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5   A follow-up on the hashtag revealed that the first photo showing a digital technology was posted at the end of 2017. It was an advertisement for a dating app targeting "African working professionals". In September 2018, the first post about an innovative hardware technology celebrated a Nigerian robotics engineer who had gained support from Apple. Other hashtags used on this post included #blackengineers, #blackexcellence, and #blackmindsmatter (see Chapter 11).

In the story of Kenya's technology development sector, the teleological understanding of development is expressed through the constantly cited increasing mobile phone and internet penetration in East Africa and the heralded 'leapfrogging' of landlines (Mutua and Alliy 2012: 3ff.). Furthermore, exclamations such as "Tech changes Africa!" (Interview, public relations manager, March 2017), Kenya's entitlement to be known as the Silicon Savannah (Hruby and Bright 2015), and the comparison of Kenyan innovations with the effects of steam power in Europe (United Nations 2014) entangle Kenya's technology development sector in Western historiography. As such, the narrative characteristic of unexpectedness and wonder positions Kenya within an understanding of progress that is teleologically oriented towards the economic development of industrialized countries and, therefore, causes the alignment of development agendas along European (and East Asian) role models (see Chapter 2).

Overall, the single story transforms putative facts about daily life in Kenya into perceivable emotions, such as wonder, in order to engage and affect the story's audience. In this regard, the tech scene's context is depicted as a contrast between two spheres – the modern and the backward. This simplification and homogenization of Kenyan daily lives is an example of how storytelling is involved in "global coloniality" (Ndlovu-Gatsheni 2014: 182) which predominantly describes African contexts through absences, lacks, and "nothingness" (Mbembe 2001: 10). The still existing colonial power asymmetries also determine how stories about science and technology in Kenya are told: "[P]ositive futures [can only be envisioned] as an antithesis to the perceived present deficiencies and backwardness" (Müller-Mahn 2020: 157).

Absences: Daily (Work) Life and its Complexities

Causal and temporal linearity, heroic protagonists, and affective unexpectedness are the most visible narrative characteristics of Kenya's tech story. However, to analyze the normativity of stories it is also important to consider what is missing from the story in order to understand in what way streamlining occurs.

As mentioned above, the challenges of entrepreneurs or organizations are only told in retrospect if they were managed well. In this vein, a Kenyan technology journalist told me that most media coverage "take[s] away the flesh of the story" because, even when they do acknowledge the existence of challenges, they fail to state that the downside of entrepreneurial work is probably more

prevalent than its upside (Interview, April 2017).[6] The rare and superficial references to challenges cause the narrative deletion of the technology developers' feelings. In this regard, Avle et al. (2017: 476) claim that the "bodily and viscerally-felt dimension of technology production" is absent from technologies' success stories. They refer to the daily life of a Ghanaian entrepreneur to illustrate the kind of work not mentioned in media stories:

> [He] described how doing everyday things like visiting prospective clients was a physically laborious process, one that required doing things like queuing, walking under a hot sun, sitting long hours in traffic etc. on top of contending with bureaucratic issues and business culture that made negotiations protracted. (ibid.)

Personal experiences that characterize entrepreneurship and knowledge production, such as stress, routine work, and timeframes that are "notoriously behind schedule" (Felt and Fochler 2012: 8), are neither told nor problematized publicly. Instead, labor and its conditions are relegated to the background of Nairobi's tech story while creativity and knowledge are celebrated as abundant resources that flow naturally. Making "capital dance" (Sørensen 2008: 91) is presented as happening automatically without having to put much effort into the work of technology development.

It is not only the difficult and strenuous daily working conditions that are absent from Nairobi's tech story, but also the existence of companies that "just want to make money" without necessarily "changing Africa" with their product (Interview, public relations manager, March 2017). Two technology experts expounded:

> Joseph: The startups that get hyped in the news, they are very few. The guys who are actually doing the proper work on the ground, you know, doing a lot of profits with viable businesses, you will hardly ever hear about them. … They are quietly doing their thing and making lots of money. You don't hear the stories of successful tech companies that are able to build their five-story office building with their own money.
> Glory: They don't have that sexy ring to their business and they don't consider

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6   Chapter 5 depicts the differences between Kenyan tech development that strives to be perfect and challenge-free and Silicon Valley's maker ethos that celebrates the benefits of failures, such as failing prototypes, failing business ideas, and failing companies in general.

themselves as startups but as *watu wa biashara*.[7] Those guys are actually the ones who make the major changes in the ecosystem although you never hear about them. (Interview, March 2017)

It is not entirely the journalists' fault that they cover neither discomforting working conditions nor businesses without a charismatic promise of social impact. According to John Law (1994: 156), everyday life simply does not fit into streamlined and heroic stories because most of the stories' audiences only take/have the time for a quick overview of the issues that are relevant for them. He illustrates the deletion of everyday life with the following question: Do stories "talk of heroes and villains: of Little Red Riding Hood and the Big Bad Wolf ... [o]r ... heroes [who] are effaced in due process, in duties and legalities?" (ibid.: 150).

In Nairobi's tech scene, where stories are produced and performed to gain legitimacy and build identities (see Chapters 4, 5, and 6), both emotional daily life and the broader contexts of entrepreneurial work are stripped away from the singularized story. In this respect, a tech expert criticized the fact that neither the political nor the historical context of why a technology became successful are covered. He explained that Ushahidi only became successful because of the specific circumstances in Kenya at the time of its release. In his opinion, the only reason the software gained so much attention during and after the post-election violence in 2007–2008 was because Kenyan radio and TV were not broadcasting as usual. According to him, Ushahidi "came up in a vacuum" that provided the opportunity for its success (Interview, April 2017). As such, the fact that "success is contextual" (ibid.) is missing from the tech scene's story.

In summary, my analysis of the presences and absences in the founding story of Kenya's tech scene results in the insight that the story manifests an understanding of technology development as a teleological process of societal development. The narrative characteristics of linear and heroic transformation reproduce the tech-deterministic convictions of the master narrative of technoscientific progress. Technology is assumed to be an apolitical and ahistorical tool that inevitably improves human life (Cherlet 2014: 775; Dickel and Schrape 2017: 53). I argue that the tech story positions Kenya in postcolonial development narratives due to its combination of technology's portrayal as modern and progressive and the narration of the unexpectedness of Kenyan technology development. In this manner, heroic technology developers and charis-

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7   Kiswahili for 'business people'.

matic technologies are depicted as 'saving Africa'. Overall, the story's analysis has shown that Western technoscientific norms and colonial imaginations serve as universal ideologies to narratively establish plausibility and legitimacy for technological endeavors in Nairobi.

3.3 Precarity and Exoticization: The Narrative Production of Norms and Affects

Developing the argument of a story's impact further, this section examines how the totalizing narration regarding Kenya's tech scene affects its audiences and materializes norms. In general, stories about technological endeavors have to emotionalize their audiences in order to stimulate actions by investors, governments, and engineers who should be interpellated to work for national goals. To achieve such an affective call to action, Sarah R. Davies and Maja Horst (2016: 142) claim that technological promises have to be carefully constructed:

> On the one hand, they have to be concrete and convincing enough that they can be used as a reason for making particular actions and decisions in the present (such as allocating special funding). On the other hand, they have to be somewhat vague or fragile so that we understand that these technological opportunities will not arrive without investment or dedicated resources.

The following analysis shows that the continuous reproduction and circulation of Kenya's tech story increases its "affective value" (Ahmed 2004b: 120) while creating powerful affective "attachments to normative (and often precarious) working conditions" (Cockayne 2016: 458). However, the affective story not only encourages tech developers to accept or even celebrate their precarity, it also evokes pressure, anxiety, and anger about having to act according to global norms and Western imaginations of what constitutes being a Kenyan tech entrepreneur. Based on ethnographic data, I shed light on the performative productivity of Kenya's tech story and expose the specific norms and affects that shape how Kenyan technology developers and their technologies act, feel, and work.

Heroism and Linearity as Drivers of Responsibilization

The overarching single story celebrates Kenyan technology entrepreneurs as heroes who work within a challenging African environment by using their creativity to combat long-standing problems and, as such, support national progress – be that in economic or societal terms. The effects of this narrated heroism and the above-described teleology of development are manifold and ambivalent for Kenyan tech entrepreneurs. Positively connoted feelings such as excitement and passion mix with uncomfortable emotions such as anxiety and the feeling of pressure. This ambivalence in affects appears characteristic for working environments in which 'success' and self-fulfillment are primary goals (see Ahmed 2010; Armano and Murgia 2013).

In almost every one of my conversations with tech entrepreneurs, I heard statements such as "My projects were my life" (Interview, former tech hub employee, March 2017), "Work has to be uncomfortable to gain progress" (Interview, mechanical lead at makerspace, April 2017) and "He is always performing; going to bed at 3am and waking up early" (Research Diary, April 28, 2017). These statements teem with sacrifice and show that work is the highest priority in the entrepreneurs' lives – often without any criticism of their strenuous working conditions. In this manner, most startups cherish their flexible work and creative workplaces that are visited by celebrities such as Mark Zuckerberg and Ban-Ki Moon. In addition to the heroic celebration of tech entrepreneurship, the linear story of Nairobi's tech scene and the widely circulated manuals of how to be a tech entrepreneur, mockingly titled by my interview partner as, for example, "'Five Things to Do to Get Investment', [or] 'Two Things You Have to Do if You Want to Start a Co-Working Place'" (Interview, technology journalist, April 2017), convey an image of tech entrepreneurship as easy. These, invariably positive, accounts prevent (challenging) experiences from being told publicly. A tech expert explained:

> A lot of people fall for the hype, the whole glamour thing, you know, the press thing. You get coverage, you speak about your thing, you go to conferences, but your business is suffering and you won't admit it openly. Because you have to keep up appearances and say, "We are killing it!" and "We are working 20 hours a day which is a fantastic thing! We only sleep for four hours a day. That's us!" (Interview, April 2017)

The media absence of stresses and strains involved normalizes knowledge workers' precarity. This normalization is not only a Kenyan issue, but a global phenomenon that has been widely discussed in academia (Anwar and Graham 2021; Brophy 2006; Cockayne 2016; de Peuter 2011; Lorey 2006). Interpreting this specific storytelling and normalization using Ahmed's analysis of the "subtle affective mechanisms" of happiness (Ahmed in Schmitz and Ahmed 2014: 103), we see that the positive heroic narrations of Kenya's tech story encourage its readers and protagonists to follow a promising path of self-fulfillment. According to Ahmed, affirmative sentences such as "I just want you to be happy, so do this, do that" (ibid.) do not explicitly prohibit any action, but subtly influence people to feel that a certain path is the best (and happiest) way to follow.

In the case of Kenya's tech scene, the subtle affective encouragements to work entrepreneurially have various effects: "People make decisions without having full information. I see people saying spontaneously: 'Let's come over and do a startup'" (Interview, tech journalist, April 2017). This means that the hyped stories on science, technology, and innovation cause a business mentality of "lets do anything and see what sticks" instead of "lets have a plan" (Interview, former tech hub employee, March 2017). Technologists who have been in the tech scene for a while problematize this way of working. They criticize startups that try their luck with every interesting business idea they have and constantly attend competitions hoping to win prize money. Focusing on winning money means that:

> you do not have time to actually build a working product. There is nothing wrong with selling your story, but at the end of the day it's less about the story, it's about what product you have produced; if it works and if it is scalable and viable. (Interview, freelancer, March 2017)

The narrated excitement, smoothness, and linearity of knowledge work not only leads to uninformed business decisions, but also incorrect assumptions about the timescales involved in the making of a technology. These include the assumption that the development of a new technology is a fast process. Non-engineers often approach makerspaces to ask for support in materializing their idea. Usually, they tell the makers about their wishes and imagination with the expectation that they will deliver a final product within two days. These expectations annoy the makerspace members because they are supposed to be "geniuses" who are able to defy the reiterative process of building tech-

nologies (Interview, mechanical lead at makerspace, April 2017). The underlying "Myth of the Lonely Only Entrepreneur" (Schoonhoven and Romanelli 2001: 385) imagines technology development as moments of genius ideas which entrepreneurs can implement and build smoothly without any substantial challenges. Although the "larger than life image" feels flattering (Interview, freelancer, March 2017), it becomes problematic when it results in unrealistic expectations within business relations. Overall, the narrative characteristics of linearity and smoothness in the story of Kenya's tech scene and the absence of daily (challenging) working conditions put pressure on technology developers to work quickly and flexibly in order to meet the normative imagination of brilliant and inventive entrepreneurs.

Another factor that puts pressure on tech developers is that the single story celebrates their technologies as transformative. As Kenyan tech developers gain the opportunity to think about their technological ideas, they also feel "the societal obligation to deliver" the solutions promised by tech stories (Brown et al. 2003: 5). In this regard, the recurring references to structural crises and poverty in Kenya prompt the necessity of revolutionary technology. In particular, the depiction of Ushahidi tells of great social impact and successful scaling: the software is now used in over 120 countries and by about 20 million people (Interview, co-founder of Ushahidi, April 2017). This ubiquitous success story makes numerous actors like those that invest in Kenya impatient for the next technological success (Interview, tech expert, November 2015; Marchant 2018: 140). Therefore, most technology developers in Nairobi feel under pressure as they are expected to innovate "biiiiiiig things, although normally you make baby steps" when developing a new technology (Interview, former Permanent Secretary of the Ministry of Information and Technology, April 2017). As there has been no new candidate to generate a media frenzy since M-Pesa, Ushahidi, and BRCK, the former Permanent Secretary of the Ministry of Information and Technology hopes that "another success like M-Pesa" will come soon (ibid.), so that tech entrepreneurs are (temporarily) relieved of the pressure to deliver success stories.

To sum up, the single story produces powerful norms and ambivalent affects. The linearity of technological work and the absence of labor conditions within the story create an image of a smooth entrepreneurial work life in which technologists are fast-working geniuses who embrace the flexibility of creative work. Additionally, the heroic portrayal of a few technology developers who are celebrated as 'saving Africa' with their technology set the norm for technology to come: it should foster national progress. Therefore, the normative story re-

sults in the responsibilization of technology developers to change their contexts into better worlds and thus, to work for higher aims than just running a normal business. Further, this responsibilization and normativity evoke ambivalent emotions. Kenyan tech developers feel excited and self-fulfilled, yet at the same time, they feel anxious and pressured to live up to the imagined tech worker.

Wonder and Unexpectedness as Drivers of Exoticization

As analyzed above, the story about technology development in Kenya revolves around a stark contrast. The tech scene and digital technologies in general are contrasted with 'Afro-pessimistic' accounts of political, infrastructural, and societal challenges. The results of this narration are wonder at the unexpectedness of finding "a good thing" such as the existence of high-tech developers in Kenya (Interview, tech journalist, April 2017). The narrative characteristic of unexpectedness, mainly used by international media, results in absurdities as recounted by a laughing iHub employee:

> Even now during the relocation of iHub, people come and say 'Oh my god, that's iHub! This place is so amazing!' And I am like: 'Those people are looking at bags of cement...' (Interview, March 2017)

The employee wondered why international visitors are amazed by a construction site and criticized, like many other people working in the tech sector, the "narrative that Western media has of tech in Kenya" (ibid.). As depicted in the story recounted in Section 3.2, Kenya's tech story includes the comparison of the number of smartphones with the number of leopards or toothbrushes in Africa to show that digital devices are important and numerous on the African continent. A Kenyan tech journalist furiously attacked these comparisons:

> Why do you need to compare mobile phones with toothbrushes or toilets for you to create content?! It's the whole thing of portrayal, projection, and how people speak about Africa and Africans. (Interview, April 2017)

The narrated astonishment at Kenya's technology development sector and the resulting framing of "new postcolonial technopolitics" into "familiar colonial frames" (Philip 2016: 277) have made technology developers feel that they are

not taken "seriously as a viable business but seen as an NGO that is changing Africa with new technologies" (Interview, iHub employee, March 2017).

Contrasting Afro-pessimism with technology development and the silencing of daily life create an *exoticization* of Kenyan technology developers, the technologies and their users. In this regard, the usage of the buzz phrase 'Silicon Savannah' to describe Kenya without any further context of the actual work being done is commonly criticized:

> Calling us Silicon Savannah is ridiculous, I think. Silicon Valley is called Silicon Valley because they used to make silicon chips there…. And until now, we have never made silicon chips here…. And I think by calling us Silicon Savannah, you ignore some of the important appreciable differences of a local, contextual thing. We are not just a Silicon Valley 2.0! (Interview, intellectual property law expert, April 2017)

The attempt to contextualize Nairobi's tech scene has exoticizing effects. Labelling Kenya's technology scene as the Silicon Savannah and expressing wonder about knowledge production in an African country produce "a reductive and fantasized vision – caught between colonial imagination and neoliberalism – of what Africa is, and what it means to be African" (Nothias 2014: 335). This means that the neoliberal responsibilization of tech entrepreneurs to solve long-standing societal problems merges with the colonial trajectories that exoticize technology made in Kenya (see Chapter 4). The affective narrations of unexpectedness and the recurring contextualization of technology development with infrastructural disasters or nature images demonstrate that affectivity is linked to historicity (see Ahmed 2004b: 120). Thus, the historical path dependencies of colonialism stick to the narrative characteristics of Kenya's tech story.

I argue that the colonially-stained story positions Kenya as a global *other* of technology development by assuming that it has different needs and motivations from the 'usual places' of technoscientific knowledge production. This exoticizing *othering* affects technology developers materially and bodily. They feel[8] that they have to build technology that exclusively caters for the needs of customers who are marginalized – and in the context of Kenya's tech scene, this

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8   The obligation to build impact technologies is not only a feeling: Chapter 6 shows that tech entrepreneurs are also *materially* limited in developing such technologies due to the amount of funding available.

customer group consists mainly of rural farmers and people in need of health care. Hence, the revolutionary language around technoscience and the colonial imaginations about a place on the African continent set the norm for innovating 'technology for good' – and therefore narrow the possibilities of what technology to build. Technology is only valued as innovative and successful if it has a social impact that has already been agreed on by development agendas. Consequently, it is not only the international media that exoticizes Kenya's tech context; having seen that they achieve more funding and support when reproducing the colonial imaginations of Western actors means that local storytellers copy the international ones (see Chapter 6).

3.4   Conclusion: A Narrative Closure of Kenyan Technology Development

Although the media hype around the so-called Silicon Savannah mobilizes investment, governmental support, and committed engineers to develop a local tech community, many tech developers articulate a feeling of deep insecurity about whether they are working in a hyped bubble. "The fear of illusion" (Interview, tech journalist, April 2017) is evoked by the singularized Kenyan tech story because, according to a tech hub employee, "[i]t's dangerous when you are not able to distinguish what's fluff and what's real. … The story can be fine, the story can be fantastic, but when you clear the story, what can you actually see?" (Interview, March 2017). As Kenya's tech story does not include any details of entrepreneurial challenges, it evokes the desire for research insights, such as a "database on startups to have a full picture of what is happening on the ground" (ibid.). A Kenyan tech researcher observed that the only insight that the largest Kenyan tech hub publishes is the number of their members and startups:

> Fine, we have a number of members, but so what? What does this number do? The questions that should be asked are about the activities of members and startups. What are they doing at the tech hub? Where are the companies after their time at the hub? Are they making money? You can't just say we have a thousand companies who have passed through our tech hub. So what? There are more who passed through Java [a popular coffee shop chain]. (Interview, March 2017)

Many entrepreneurs criticize the tech scene's focus on storytelling because they feel that the hyped story makes their daily work more difficult as, often, they are not able to meet the expectations of the story's audience as well as their own responsibilities (see also Marchant 2018: 140).

To recap, this chapter has analyzed how a partial story is narrated in a totalizing way and the normative and affective effects that the singularized story about Nairobi's tech scene has on the people working there. Thus, the story is only a partial representation of the people, workplaces, and technologies, yet it still 'matters' (Cameron 2012: 586) as it produces affects and norms of how to work entrepreneurially and develop technology in postcolonial Kenya. Concretely, this means that the narrative characteristics of linearity and heroism and the absence of the daily life of tech workers depict a (false) image of a smooth entrepreneurial work life. Additionally, the depiction of heroic technology developers and charismatic technologies that 'save Africa' reproduce the tech-deterministic convictions of the master narrative of technoscientific progress, namely that technoscience always leads to economic progress and positive societal change. Unexpectedness was also revealed as another narrative characteristic of the single story. The narrated surprise about technological work in a country that is more known for depressing Afro-pessimist narrations of natural catastrophes, poverty, and political corruption signifies the 'global coloniality' that is inherent in media stories about technology. Overall, the analyzed story uses Western teleology and colonial imaginations as hegemonic ideologies to establish plausibility and legitimacy for technological endeavors in Nairobi.

Furthermore, I have argued that the singularization of Kenya's tech story makes technology developers and their innovations affectively comply with the norms of technoscientific progress and teleological societal development. The chapter emphasized that technology developers in Kenya are supposed to work quickly and flexibly, like mythologized and globally heralded innovative geniuses, and their innovations have to foster Kenya's progress by solving long-standing societal problems. Moreover, as societal problems are defined by development agendas, the prospective users of new technologies should be marginalized communities, especially the rural poor. The heroic and charismatic depiction of tech entrepreneurs and their innovations evoke feelings of excitement and self-fulfillment among often precariously situated tech developers. It also creates pressure to act according to global norms while at the same time evoking anger about imaginations that do not treat Kenyan developers as equals to other technology developers globally.

Altogether, the analysis of the mediatized story has brought to the fore that narrative totalization is achieved by stories that refer to master narratives possessing a hegemonic position. Technoscientific progress and the teleology of societal development responsibilize technology developers to solve structural problems and exoticize technology made in Kenya. As such, the streamlined story materializes norms and circulates affects that narrow the possibilities of technology developers and their technologies. The story 'narratively closes' (McNamara 2017: 272) Kenya's global positionality into an *other* of technocapitalism and pushes its tech entrepreneurs into the inevitability of societal development through technoscience.[9]

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9 Ouma et al. (2019: 351) criticize the modernist assumptions of current discourses on technology because their teleological understanding of a country's development is a reason for the capitalist continuation of power asymmetries and the assumption of technology being apolitical. See Section 4.4 for more criticism of tech-deterministic development agendas.