African AI Art – an ethnographic study into the portrayal of Africa in StableDiffusion

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1. Introduction

Western representations of modern Africa in popular culture and media depict the continent on two extremes. As rolling landscapes dotted with acacia trees, devoid of infrastructure and separate from contemporary life. On the other side, Africa is portrayed as a place where nothing but misery brews, a place of strife, corruption, civil wars and poverty. These stereotypes lack nuance and show very little in between. Africa, the region and people are a mosaic of experiences with diverse communities, encounters and wisdom, not a monolith of predefined destinies. These stereotypes exist as a relic of colonialism and haunt the portrayal of Africa in media and images that form the basis of the datasets scraped from the internet and on which text-to-image generative models are trained.

In recent years, there has been a rapid rise in generative artificial intelligence art that allows users to produce art and naturalistic images that are based on data learning. Simply by writing a prompt describing the image a user has in mind, the machine learning model generates a product that references thousands of pre-existing images and artworks that fit the command of the user (Bianchi et al. 2022). Millions of synthetic images are generated daily and are used for personal exploration, in industry, for art and content development. Many of these artworks are clear depictions that come together in pastel landscapes of undulating hills and textured details that exude creativity and cohesion. Simultaneously, many artworks come out as distorted faces, limbless bodies and as a darker product of biased data. While AI-generated art and images offer a site for creative curatorship, production and exploration, they can perpetuate and amplify existing experiences of power. Focussing on how the generative AI art models represent and misrepresent the world places a magnifying lens on the socio-economic contexts and epistemes that produce them.

This research paper is grounded theoretically in literature but geographically in Africa, the land and intangible collective. While much research has explored the proliferation of stereotyping in synthetic media, there is a gap in the literature on how Africa is represented. This study aims to explore how Africa, the continent, its people, existing histories and culture, are portrayed in images generated by StableDiffusion, an open-source text-to-image generative model. Through traditional and synthetic ethnographic inquiry, StableDiffusion will be looked at critically as a form of knowledge production where the visual tropes depicted in the images offer a site where the complex issues in Africa can simultaneously be interrogated and traced. By generating images based on the demographic markers of 13 interview participants and analysing these alongside participants, the implications of synthetic media and the role visual media play in identity formation, cultural memory and

imagining futures, will be explored. How colonial memory is rearticulated in imagery and haunts the present is explored alongside participants, raising questions as to how we can pave the way for a more benevolent and just socio-digital future. Through a descriptive articulation of the data collected, the stories, encounters and perspectives of individuals from across the continent are centred.

2. Theoretical Grounding

2.1 Artificial Intelligence

To understand the functioning and application of StableDiffusion and other text-to-image generators it is essential to consider its base - artificial intelligence (AI). AI is viewed as one of the technological advances that will shape modern society (Mohamed, Png, and Isaac 2020). Dominant narratives mystify AI as an abstract technology as something intangible and not grounded in the natural world (Crawford 2021). AI can best be understood as a social and political ideology that is both embodied and material (Crawford 2021). It is made from natural resources, infrastructures, human labour, existing histories and classification. AI exists in a socio-technical system, shaped by, interacting and shaping what is social (Johnson and Verdicchio 2017).

Artificial intelligence is embedded within the ecosystems of culture, law, economy and regulation from which it arises (Hagerty and Rubinov 2019). Big tech companies develop AI into the platform economy within the framework of extractive capitalism (Çetin 2021). Technology companies centred in the Global North steer algorithms, policy and the automation of transactions, driving the current digital economy (UN Report 2022). The global digital divide excludes many individuals from participating in the design and development of AI technologies and the large majority of research and analysis of AI is concentrated in the West (Hagerty and Rubinov 2019). The digital divide is present across intersecting identity markers of race, gender, class and ability (Hagerty and Rubinov 2019).

If we look at the materiality of artificial intelligence, the things, people and places, we trouble the mainstream myths of it. Theorist Jussi Parikka suggests that we think of media as an extension of the earth (2015). At the heart of all technology are the natural resources that create it (Parikka 2015). Finite rare earth minerals make up essential elements of technology (Kate and Paglen 2021). AI depends on supply chains, industrial infrastructure, and human labour that cross the globe. Technology ecosystems favour profit and plunder, destabilizing local economies and industries, extracting data, and concentrating power and resources in the West. Corporate imaginaries fail to show the long-lasting costs and histories of the materials required to build, train and maintain computational infrastructures. Achille Mbembe urges us to examine the relenting promise of infrastructure today as entangled with the past (Cupers, 2021). The cry to modernize, develop and deliver progress is ensnared with the colonial way of knowing, doing and being (Cupers, 2021).

2.2 Data as Material

Shoshana Zuboff defines surveillance capitalism as a "new economic order that claims human experience as free raw material for hidden commercial practices of extraction, prediction and sales" (Zuboff 2019). Modern computing depends heavily on data for the creation of intelligent algorithms to carry out tasks. Data serves as the means through which artificially intelligent machines make sense of the world, morphing into social actors by computationally distinguishing between "fact" and "falsehood" (Cooper 2022). Put differently, data is an essential part of manufacturing the "intelligence" and "knowledge" of AI. Data is fundamentally human as people generate data and decide what, why, where and how data will be stored. "Data will always bare the marks of its history" (Rosenberg 2017) making it essential to asses why, how and in what way certain realities are consistently legible through data and others not (Cooper 2022). Similarly in automation and AI, data functions as material that represents information and claims about the world, but in a form a computer can use to solve tasks.

Individuals from lower-income countries are likely to be radically underrepresented in data. A report released by the World Economic Forum in 2018 indicated that an average household in the US generates a data point every six seconds. Similarly, in Mozambique due to limited internet access, the average household produces zero data points ("How to Prevent Discriminatory Outcomes in Machine Learning" 2018). As data plays an ever-increasing social role, to be misrepresented in or erased from a dataset can lead to further marginalisation and significant long-term ramifications.

2.3 Synthetic media

As text-to-image models continue to gain prominence it is important to take a step back and consider generative AI images in their socio-technical context. If we move away from the spectacle that these images are often granted, we can begin to unpack the deeper literacy to try and understand where they come from. Eryk Salvaggio of *Cybernetic Forests* proposes that AI-generated images can be read as infographics (2022). Matti Pohjonen's research extends this stating that synthetic images can be thought of as trace archives, aggregations of structures of knowledge that reflect the data on which they've been trained as well as the political, historical, cultural, and socio-technical dynamics from which they emerge (Pohjonen 2020). In this way, they are archives of knowledge at any given historical time.

StableDiffusion is one example of an AI image generator. It exists with an open-source model that is free to use and forms the backbone of many mobile applications and similar tools that you find online. Stable Diffusion is powered by Latent Diffusion, a breakthrough text-to-image synthesis technique that operates by breaking down the process of generating an image into a succession of applications of denoising autoencoders ("StableDiffusion Home Page" 2022). The model was trained on the LAION-400M dataset which scrapes unfiltered, non-curated image-text pairs from the internet ("StableDiffusion Home Page" 2022). This data set was first intended for research, and StableDiffusion's model does not contain any filters to

mitigate bias that might exist in the dataset, including stereotypical, problematic and toxic content (Bianchi et al. 2022). Stable Diffusion was developed in the United Kingdom in collaboration with the Ludwig Maximilian University of Munich ("StableDiffusion Home Page" 2022).

Research conducted in 2022 showed that StableDiffusion depicted significant bias across intersecting identity markers (Bianchi et al. 2022). The research expressed that simple user prompts generated images that perpetuated dangerous ethnic, racial, gender and class stereotypes. For example, the prompt of *an attractive person* generated images of the "White ideal" with straight hair and blue eyes, while the prompt of *a thug* generated images of people with characteristically black traits. Further, when prompted with *an exotic person* the machine produced images that displayed non-European features, such as darker skin and Afro-ethnic hair (Bianchi et al. 2022). This stereotyping perpetuates the legacy of whiteness, and exoticization those who deviate from it. While research has been conducted into the data asymmetries and algorithmic bias of StableDiffusion and similar models, little research has explored how stereotypes of the African continent emerge.

2.4 Representations of Africa

As a legacy of colonialism and slavery, Africa has been represented as the 'hopeless' and needy "dark continent" with little corrective action in Western media (Oguh 2015). Since the late 19th century, Africa has been categorized by tribal anarchy, civil war, corruption, incompetent leadership, hunger and rampant disease (Oguh 2015). The dominant representation tends to ignore the actualities, cultural nuances and economic processes that take place on the continent, often passing over significant success stories (Oguh 2015). While it can be naive to argue that horrific events don't take place on the African continent, there is a distinct emphasis on victim-oriented writing, reductive narratives and 'poverty porn', as well as undue attention to the calamities in Africa (Oguh 2015). White saviour imagery is used regularly in media for populist philanthropic initiatives like Live Aid and *Kony 2012* rather than outlining the historical contexts that give rise to many of the complex issues on the African continent (Faloyin 2023). With this, the promise of more funds comes packaged together with oppressive sympathy. Similarly, Africa is often represented as a homogenous and undifferentiated continent, regarding African traditions and rituals as constant, static and unchanging, rather than dynamic and multi-layered (Harth 2012). As such, Africans are generally regarded as the same, despite the vast diversity in ethnicity, religion, beliefs and values.

These representations, grounded in colonial thinking and imperialism, persist today and have been widely covered in academia yet Western media maintains its colonial representation of Africa as helpless, corrupt and war-torn, despite recent economic and political growth and development (Harth 2012). Such representations lead to stereotyping, a validation of white privilege, paternalistic ways of thinking, misinformation, deep prejudices and a fear of foreigners (Oguh 2015). These stereotypes run the risk of Africa not attracting significant

foreign investment if it continues to be depicted as a place of lack, and not one of a thriving, busy and growing economy and cultural melting pot (Harth 2012). Similarly, a large body of literature indicates that when individuals are repeatedly exposed to stereotypical images, whether real or fabricated, social categories are undergirded (Bianchi et al. 2022). These stereotypes then amplify discrimination and violence against stereotyped people (Bianchi et al. 2022).

2.5 Africa and the post-colonial

Africa is a mosaic of over 1 billion experiences, and a multitude of different cultures, ethnicities and modes of being. Identity formation in post-colonial Africa is a complex and multifaceted process that is deeply intertwined with the legacy of colonialism. In post-colonial Africa, the past is central to the identity and contemporary experiences of its citizens, as well as how it is perceived from the outside. The post-denomination grounds the current socio-political milieu, structure and functioning in the often unresolved entrenched and historical violence of the past (Houssay-Holzschuch 2021).

Post-colonial African identity emerges as a construct shaped by historical trauma, resistance and the constant negotiation of power dynamics. Edward Said's theory of Orientalism offers a lens through which one can understand how Western representations of Africa have historically contributed to the construction of a hegemonic identity that positions Africa as the "other" (Said 2003). The exoticization of Africa reveals how the continent has been historically depicted as a mysterious, dark and sinister "other" in popular culture and media. Such portrayals continue to be pervasive and perpetuate stereotypes and reinforce Eurocentric perceptions of the continent (Wasserman 2018).

Further, Achille Mbembe speaks about the enduring influence of colonialism on African identity, as well as the need to decolonise these identities (Mbembe 2001). Christina Sharpe's concept of the "orthology of the wake" references post-colonial Africa as a site where violent legacies of colonialism continue to haunt the present (Sharpe 2016). Hauntology is a philosophical and cultural theory concept first developed by Jacques Derrida that suggests the past is a constant, haunting presence in our understanding of the world (1993). This idea was developed further by Ayo A. Coly who uses the theoretical framework to discern elusive hauntology in the texts of African women (2019). In the wake of colonialism's violent history, and the processes of neo-colonialism still present on the continent today, Africa is engaged in an ongoing process of identity formation, informed by the collective memory of resistance and resilience that challenges the Eurocentric narratives that have defined the continent. Hauntology allows one to observe and deconstruct colonial tropes and stereotypes that continue to surface in contemporary representations of Africa.

3. Methodology

The above critical orientation provides a foundational understanding of how AI and its associated technologies are enmeshed in a complex web of colonial legacies, neo-

colonialism, extraction and exploitation. It offers a foundation to frame the qualitative approach of my research and analysis to explore AI's implications in the context of synthetic media, the representations of Africa, as well as the important role visual media plays in identity formation, cultural memory and imagining futures. In this research paper, I use the case study method. The representation of Africa and her people in generative AI art is the case. Africa, the continent and intangible collective is the field site of my research. This research project employs an ethnographic multi-methods approach that integrates both classical and contemporary principles and practical methodologies, within a qualitative framework. To explore my findings I use inductive analysis and descriptive articulation of the themes, concepts and patterns that arose. This research approach allows for an in-depth investigation of the concepts and constructs under study where the perceptions and experiences of participants are fundamental in understanding and exploring StableDiffusion and its associated systems within the situational context of contemporary Africa.

3.1 Research design

I use the case study method because of its ability to uncover a range of social, political and cultural factors related to the representation of Africa in synthetic images, the systems from which they arise and the socio-cultural implications on the individuals 'portrayed'. Early developer of the case study method Gluckman "hit on the idea of scrutinizing particular situations of conflict as complexes of connected incidents that are occurring in the field, in order to isolate and identity the actual mechanisms underlying the development of the conflict" (Handleman 2006). In this, I attempt to connect the diverse events and encounters to discern the underlying mechanisms at work. Critics of the case study method argue that it is overly subjective and casual determinism leads to the findings, and with this, the framework leaves too much room for the researcher's interpretation (Flyvberg 1998). Supporters of the method state social sciences and cultural studies cannot be solely reliant on 'context-independent theory' when examining social dynamics (Campbell 1975). As a case site, Africa has embedded themes of culture, community, identity, coloniality and power relations, and although not all of these are explored in-depth in this study they are key to understanding the representation of Africa in synthetic images, how people on the continent engage with the technology and what future imaginations of it might look like.

3.2 Interviews

A total of 13 qualitative interviews were conducted over four months from May 2023 to August 2023 the research period with participants from across the African continent or African diaspora. 12 of these interviews took place over Zoom and other online video call methods. Throughout my interview process, I endeavoured to interview individuals from diverse backgrounds to capture a broad spectrum of experiences, insights, and cultures. All individuals I interviewed were of African descent and had lived in Africa for some time. I interviewed three Nigerians, three Ghanaians, five South Africans, one Egyptian, one Somalian, and one Trinidadian. To respect the anonymity of the individuals who took part in

my research study I will refer to them as Participant, 1, 2, 3 etc. Participant 3, the interviewee from Trinidad showed interest in my study and asked to participate as someone from the African diaspora. The ages of the interviewees ranged from 19 to 32. I found participants through my network and referrals, as well as the Masakhane community, a grassroots organisation whose aim is to strengthen NLP research in African languages.

3.3 Structuring the approach

Each participant I interviewed provided the information that was used to generate images specific to them. In this way, participants are embedded both in the images that were generated as well as in the process of unpacking the images and representations. Before each interview, I asked participants to share a series of identity markers that were used as the prompts to generate images. These demographic markers were age, gender identity, ethnicity, country of origin, and socio-economic class. I further asked them to provide anything that they felt was particularly salient. Using these identity markers, I generated three sets of images using StableDiffusion. Each set comprised of three images. The first set focussed on the physical characteristics provided by the interviewee, the second included socio-economic class and the third looked solely at ethnicity and culture. The prompt format that I used to generate the images was:

1) A *Age*-year-old, *Ethnicity* person, from *Country of Origin,* who is *gender identity*

2) A *Age*-year-old, *Ethnicity* person, from *Country of Origin,* who is *gender identity,* who is *socio-economic class*

3) *Ethnicity* culture

It is important to note the lexicon of the prompt here. Prompts can be modified to alter nuances in the images and to guide aesthetics, content and style. While exploring datasets qualitatively is close to impossible due to public availability and scale, prompting can be a way to reveal archival traces and historical memory. Recent work on 'prompt engineering', the process of creating and adjusting prompts, has been looked at as a qualitative method of interacting with machines and machine learning models (Carter 2023). In this way, the trial-and-error process of developing prompts draws similarities to the sustained and recurring engagement of ethnographic fieldwork (Carter 2023).

The prompt engineering I used in this study was designed as an entry point to explore representation as it relates to the individual, the collective and distinct cultures, through the same system of identity markers that StableDiffusion is trained on and orients itself by. Similarly, I chose the continent of Africa, and not an individual country or culture, as the field site of my study because this is how the continent is often perceived from the socio-cultural contexts from where AI arises. While many further elements could have been explored here, these provide a well-rounded scope for this study.

3.4 Bias, reflexivity and positionality

This research aims to centre African perspectives as they relate to how they are represented in synthetic media, a technology and image production process that is designed, developed and implemented in the Global North. In doing so I remained reflexive of my positionality, the socio-economic and geographical contexts in which I have been raised and educated, and that have inevitably shaped the way I approach and understand the world. Thambinathan and Kinsella (2021) state that "critical reflexivity is powerful for examining researchers' epistemological assumptions, their situatedness with respect to the research, and crucial in addressing power dynamics in research". I am a white first-generation South African woman, now living in Berlin, Germany. I grew up in post-apartheid South Africa and my ancestry played a role in colonisation. I attended the University of Cape Town during the Rhodes Must Fall protests, which made me question my epistemological framing, and confronted me with the complexities of identity politics in post-colonial Africa. Moving to Europe highlighted for me how colonial visual hauntology is still weaponised across the globe. This has made me conscious and sensitive to the issues of the representation of Africa in a way that others on the continent or outside might not be. I am further conducting this research from a Western institution and knowledge production system (Hayes 2021).

During this research project I have worked to practice critical reflexivity, recognising that subjectivity is inevitable in qualitative research (Joseph, Earland & Ahmed, 2021). I have further aimed to shift my research position to one of discussion and learning (Thambinathan & Kinsella, 2021), co-creating knowledge as opposed to approaching my data collection with pre-defined notions of what information I need to gather. Joseph, Earland, and Ahmed's (2021) guide to research aims to use a critical reflexive lens to challenge the researcher's positionality. I worked to allow the participants to decide, via the discussion, what was of most importance, and what the story was (Thambinathan & Kinsella, 202). Bhattacharjee cautions that interpretation and analysis of findings in qualitative research undertakings can be determined by the observational ability of the researcher (Bhattacherjee 2012). Colin Bell warns that 'both the researcher's and the respondents' position in the social structure will determine what he or she will see' (Bell and Newby 1971). In my research process, it was vital, both in my explanation of what AI is and my discussion of the images generated, to remain neutral and open to all perspectives.

3.5 Data analysis

'Soft' qualitative data was collected through interviews with participants and images generated by StableDiffusion. I include 'hard' quantitative data to understand contributing factors such as historical and contemporary context, public discourse, perception, and theoretical grounding. Analysing my data consisted of categorising the properties and concepts of what was exhibited. While analysing the data I made use of Atlas.ti to help me code, organise and manage my data and analysis. Atlas.ti is a computer-assisted software programme for qualitative data analysis. This allowed me to code, analyse and efficiently

categorise my data. Thematic Analysis is "a method for systematically identifying, organising, and offering insights into patterns of meaning (themes) across a data set" (Braun and Clarke 2012) These themes may be clearly outlined by the interviewee or be deducted by the researcher (Preiser, Garcia, Hill *et al.* 2021*)*. The number of times a topic comes up is not necessarily indicative of its importance, instead, the researcher decides what is relevant and meaningful, often concerning the research question (Braun and Clarke 2012). The process of coding, while gaining a deeper understanding of the themes emerging in my research, allowed me to make analytical and creative connections between themes and the patterns that emerged. I use a descriptive research paradigm to explore my findings and through thick description and critical analysis of the encounters of the participants, their beliefs, values and positions are expressed and meaning is made.

4. Content and analysis

The discussion in this chapter aims to reflect the varied ways in which people across the African continent are portrayed in StableDiffusion, centring the perspectives of the participants in the study. This is not the full story of the African continent, only partial, and even within this one hears the sometimes competing and different narratives. The analysis and interpretation of the data brought forward many different perspectives, that while varied shined light on a coherent truth. The narrative of historical violence is omnipresent among all the participants. It was evident from the interviews that traces of colonial empires, their legacy and the associated visual hauntology lived within the synthetic images produced by StableDiffusion. However, and most essentially, the prevailing cultural authority and sense of pride are distinct across all interviews and are another way in which the participants were united in their responses.

Image 1: Collage of images where participants could relate to elements of the media generated

4.1 Portrayals

In the images generated through StableDiffusion, *how* participants were 'portrayed' drew reference to the individual, the collective, culture and identity formation. In prompt formats 1 and 2 the images generated were generally headshots, framing the characters brought forward from their shoulders upward. Prompt format 3, focussing on ethnicity and culture, brought forward groups, textures and movement. In prompt format 1 and 2, participants could identify, if not themselves then with others in their broader community, with certain elements within the synthetic media produced. Accurate representations brought forward in interviews included natural hair, facial features, adornment, make-up and ethnicities. In other cases, these same features were misrepresentations. Sometimes, these paradoxes would exist within the same image with certain features showing accurate representation while others were erroneous according to the participants. An example of this is Image 2 where the woman depicted has green eyes, uncharacteristic of a Sotho woman, yet she has a small gap between her front teeth. The gap tooth was highlighted by the associated participant as a subtle common trope amongst women like her.
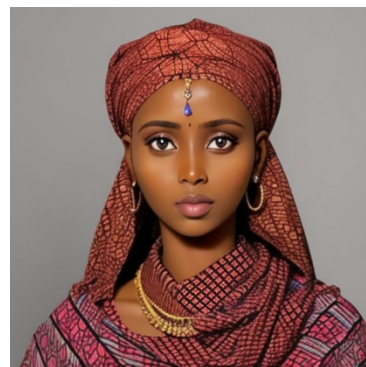

*Image 2: Generated with prompt format 2, **Image 3**: Generated with prompt format 2*

Across the board, certain character traits in the images brought opposing responses from participants. An example of this is body type. When an individual related to the body type in the images, they didn't ask for more diversity to be included. Similarly, when a participant's body type wasn't included, they asked for more diversity in body types. The way we see ourselves in images frames what is missing, what we would like to see and where we fit in more broadly within the community. In semiotic analysis, signs in images become signifiers that lead to interpretation -- what is included can be considered as important as what is excluded.

Each time a participant examined an image, they considered the prompt and how this related to their communities and collective. Individuals and identities don't exist in silos, we draw from those around us and orient ourselves on who we know and what we have learnt. How

we relate to those around us plays an important role in understanding how we are positioned within society. Oftentimes, if an individual couldn't see themselves in an image they related what was depicted more broadly to their demographic and personal context, expressing "I've seen someone like her in town" or "I'm happy to see the diversity in skin colour" that was expressed in the images. This shows how identity and individual perception operate within contexts, values, space and time.

4.2 Culture

Culture and identity are not immutable, they are fluid and morphing, taking on different shapes and drawing from different places and contexts. For one of the participants, a Somali woman in her late 20s, the images generated encapsulated many East African cultures, unifying and paying homage to the women of the region. She saw this as a "beautiful union" sharing the Swahili word *'pamoja'* meaning bringing together. Referring to Image 3, in the veil she saw Sudan, in her face, she saw Ethiopia, Rwanda and Somalia. She had grown up in West Africa and had returned to East Africa in recent years, exploring the countries of the region. She shared how she had been discovering parts of her identity that she couldn't fully experience when she was living in other parts of Africa that weren't closely linked to her roots. In this way, the coalescing of East African cultures was meaningful to her as she could trace her path and history in what was represented.

While this participant felt the blend of cultures paid homage to her experiences and identity, many participants felt this was indicative of how the continent is misunderstood. As the world becomes increasingly globalised, ways of being, knowing, dressing and engaging are adopted from our neighbours and other sides of the world. However, the degree to which distinct cultures were inaccurately portrayed can be said to be reflective of how Africa is misunderstood in Western imagination, and amplified in the images generated. One participant, a Fulani male, expressed this sentiment saying "The issue is that they use the same imagery to represent all of the Africans". If we consider the images that exist on the internet, that have been categorised, labelled and grouped, the idea of 'Africa' as one predetermined monolith comes forward and is sustained again and again.

Each interview participant could specify elements in the images that drew from different cultures including dress, adornment and props. One participant, an Igbo female, shared this sentiment. The only element of Image 10 that resonated with her as truly Igbo was the calabash in her hands, which plays an important role in Igbo ceremonies. While the calabash is endowed with appropriate significance with the placement at the heart of the image, the engravings on the calabash are not typical for what you would see in this context and can be said to pull reference from Ancient Egyptian hieroglyphs.

*Image 4: Generated with prompt format 3, **Image 5**: Generated with prompt format 3*

Similarly, a Ghanaian, Ashanti male in his twenties, outlined the coalescing of cultures as seen in Image 4 noting Masai, Ndebele and East African gold and Ancient Egypt references from the images generated by the prompt *Ashanti culture*. These can be seen in the shape and style of the jewellery adorning the women, in the way their skirts are worn and in the beads on their foreheads. What surprised him is that there was no kente cloth present in the images, stating that kente and Ghana are almost synonymous and that should be a simple thing to be reflected in the images. A simple Google image search of *Ashanti culture* shows pages of individuals dressed in kente cloth. These images are what form the basis of the LAION dataset used as references for the synthetic media generated. This shines a light on and questions the epistemological assumptions, algorithms and logic used in generating the images.

Culture morphs and changes, adjusts forms and pulls from different places. It is continuously recreating or overwriting new meanings and values, drawing from neighbours and influenced by external forces and systems. Trying to manage cultural representation within machine learning systems is not as simple as acquiring more accurate data and categorisation. It is difficult to fix culture in a time and place. Artificial intelligence is shaped by its social context at all phases of design, development and implementation, and takes on distinct forms in different places and spaces (Hagerty and Rubinov 2019). Culture is heterogeneous and ever-changing, requiring nuanced and dynamic understandings of social contexts (Hagerty and Rubinov 2019). Amongst cultures, there exists a cross-pollination of ideas and trends that are constantly negotiating with one another and amongst different individuals, factions and belief systems of that culture.

This blending of cultural references reflects the gaps in knowledge that exist in the understanding of African cultures globally. It is common for distinct cultural characteristics, textures and traditions to be grouped and simplified. This othering can be noted in the way Africa is reduced and made palatable in media with little considered effort placed into differentiating between cultural differences.   In the West's imagination, Africa is often perceived as one country, a singular monolith of homogenous culture, people, landscape and knowledge. How Africa is understood outside of the continent has real-life implications for

the continent and its people. Across all interviews, the prevailing sentiment that was shared regarding Africa and African cultures was one of pride, distinct cultural authority and a place of royalty. This is the story that should be expressed in generative AI art.

4.3 Stereotyping

Throughout my research, several harmful stereotypes that are rooted in historical violence were perpetuated in the synthetic media that emerged. The violence of the image is a multifaceted concept that punctuates the ability of visual representations to convey, perpetuate or inflict violence on both the individual and the collective. Violent images bear witness to atrocities, expose harsh realities of human suffering and conflict, and often demand a social and political response (Sontag, 2004). The portrayal of Africa and her people in synthetic media is linked to a complex set of historical and contemporary social circumstances, processes and dynamics that interconnect imperceptibly through time, space and material.

The 'African Safari' trope was referenced by five participants and is the tendency to reduce Africa to rolling landscapes and depicts a separation from contemporary life. This stereotype is closely linked to the 'Savage African' trope that has attached to it the idea that Africans have sinned, and are savage, wild and primitive (Mbembe 2001). This trope was a tool of the colonial empire and was used as justification for the land grabs, brutal occupation and treatment of people during imperialization and colonisation (Wasserman 2018). This trope runs the risk of deepening the exoticization of Africa and the othering of the continent's citizens.

Image 6 was generated using the prompt exploring physical characteristics. Upon seeing the image the participant, a Zulu male, shared that he could count the number of times he had spent time in a rural area on one hand having lived in a city his entire life. He added that "notwithstanding the socio-economic barriers, these images are all in nature which lines up with depictions of Africa as devoid of infrastructure and development".

Image 6: *Generated with prompt format 1,*
Image 7: Generated with prompt format 2, *Image 8*: *Generated with prompt format 1*
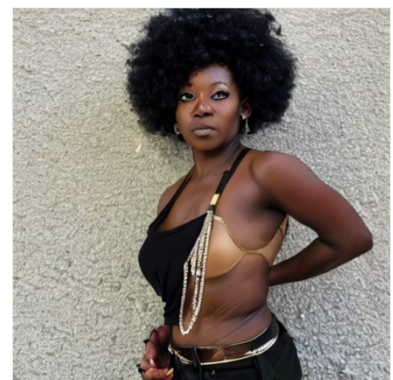
Similarly, about Image 7, the participant shared that he was puzzled by the separation between modernity and contemporary life considering this image was generated with the attribution of 'upper class'. He wished to see a black Zulu male in a suit in the corporate world or a creative excelling in their field. During his AP African Studies in high school, he remembered a lesson that stayed with him and later led him to study international relations and politics. This was, "the key lesson I learned on the colonial image that is constantly sustained over time of a black body is kind of this uncivilised person roaming around in your street." The 'African safari' trope was brought forward in more subtle ways in further images and interviews. Some participants shared that they would have liked to have seen different backgrounds like office buildings and domestic spaces, and not just trees and greenery. This shows a disconnect between the images and the participants' lived experiences and depicts how stereotypes are immortalised in synthetic media and have long-lasting ramifications that can play a role in identity formation and even, in one case, contribute to steering what career path someone chooses to follow.

A further stereotype that appeared through the images and conversations during my research was the "sexualised black bodies" trope. The fetishization of African female bodies emerged from the colonial narrative that characterized them as grotesque and hypersexual. (Coly 2019). The sexualisation and objectification of black bodies during colonisation are a theoretical hinge where colonial voyeuristic agendas and ideologies that are still embedded in some contemporary engagements and representations of African female bodies can be seen (Coly 2019). These portrayals often haunt present-day writings and media production of black female bodies. Further, the sexualisation of the black African male body is a common trope used throughout history and is still present in contemporary discourses. The black male body as strong and sexualised is closely linked to the 'African Savage' trope, of African men as 'primitive' warriors. Grounded in the slave trade and colonial subjugation, the notion that the Black man is solely suited for manual labour and should evoke fear has persisted and continues to manifest in contemporary popular culture.

In the images and conversations explored, five participants shared that they felt the bodies and figures that emerged in the images were overly and overtly sexualised and objectified. About the figure in Image 8, the participant, a Cape Town creative, questioned who this woman was, stating it felt disturbing for the body to be contorted in the way it was, an abstraction without ownership. She felt the image asked the viewer to stare and examine her body. About Image 7, the male, Zulu participant noted that images generated from his demographic markers often featured well-built men with exposed chests, a common depiction of Zulu men. The images clearly show that the representational legacy of colonisation is still present, haunting the depictions of black bodies in popular culture and media, and the further proliferation of this in synthetic media.

Closely related to the African Safari stereotype is the popularised imagery and poverty porn of Africa as a place where nothing but misery brews, of hardship and pervasive poverty.

While the continent faces many complex issues, populist philanthropic imagery has created this archetype. How this stereotype became visible during interviews was more subtle, delicate and insinuated than the previous stereotypes discussed.

Image 9: *Generated with prompt format 2*, *Image 10*: *Generated with prompt format 2*

Image 9 related to a participant who requested that 'graduate student' be included as an identity marker and designated 'middle-class' as their socio-economic status. They are gender non-conforming. They felt the image was an inaccurate portrayal of this but might resonate with individuals within their demographic across the country. They acknowledged the sobering context of youth unemployment in South Africa while reflecting on the images and their presence within them. As they contemplated the broader socio-economic landscape of their country, they subtly relinquished the labels 'graduate student' and 'middle-class,' recognizing their relative privilege and positioning within the larger cultural narrative. This nuanced shift underscores that the images failed to adequately represent their particular socio-economic status, inadvertently relegating it to the background.

Further, upon viewing Image 10 generated to represent her socio-economic status as 'middle class,' the participant, a Somali woman, expressed reservation. She questioned whether she had chosen the wrong attribute and if 'upper class' might be more accurate. Though not explicitly stating that the signifiers in the image did not align with her perception of a middle-class lifestyle, it was evident that there was a disconnect. She found the depictions in the image incongruent with her own life and her understanding of middle-class standards within her context.

Stereotypes and misrepresentations have continued to shape perceptions of Africa and its diverse communities. Across all the interviews, harmful stereotypes were expressed in images generated through StableDiffusion, running the risk of amplifying existing prejudice and fortifying social categories. Visual media has been used throughout history to document and

depict acts of violence, serving as critical evidentiary records of historical events (Sontag, 2004). Old imagery and photography from oppressed regions of the world can influence our current sense of place, our sense of being as well as our sense of belonging (Sealy 2016). This form of violence encapsulates symbolic violence, where images can perpetuate stereotypes, prejudices and hierarchies, reinforcing power imbalances, experiences of power and systemic inequalities (Bourdieu, 1991). Deconstructing the processes that give rise to these prejudices and tropes, and exploring how they appear in synthetic media can shine a light on the representation legacies and socio-technical dynamics that give rise to them. This might confront the status quo that sustains these oppressive systems and encourages us to respond, but also raises questions as to how we engage with and interrogate synthetic media without amplifying harmful imagery.

4.4 The machine

How artificial intelligence was imaged and understood by participants came forward in the lexicon used in describing StableDiffusion and the opaque nature of machine learning processes. It was evident that individuals understood that StableDiffusion drew upon existing media, yet used language that highlighted the 'black box' nature of machine learning systems. Participant 11 stood out by stating that the AI system had 'misidentified' the original faces it referenced, a poetic observation that sheds light on the privacy and copyright concerns that loom large in discussions about generative AI art. Additionally, several participants mentioned the feeling of having "seen that face before," hinting at the repetitive and derivative nature that sometimes characterises synthetic images. The participant's language and perceptions of AI reveal the hazy nature of the technology. One participant, a Trinidadian male, offered a unique perspective on this. He noted that what struck him in Image 4 was the vivid sense of movement and action, which he related to the dynamics of an Ashanti wedding or funeral. However, he highlighted the absence of specific contextual markers that would distinguish it as a particular cultural ritual or gathering. This observation underscores the importance of comprehending the contextual nuances within the AI system's processes for generating such images.

Data emerged as a recurring theme in the interviews, with participants expressing concerns about the quality and availability of data for African people. This issue highlights a historiographical bias is present even before data collection begins, and points to an epistemic contestation of whose stories are told and by whom (Onuoha 2016). One participant encapsulated this sentiment, stating, "I feel that it's very clear that it pulled from stereotypes of how black people have been fashioned. I don't expect it to depict black people with any ounce of humanity. Given that even in the real world, traditional media and new media still fail at highlighting our humanities." This poignant reflection highlights the critical question of whose stories are being told and the urgency of rectifying historical biases and misrepresentations in the AI-generated narrative of Africa.

4.5 Imagined futures

Maybe we are all AI. And maybe we are not, all at once...and AI and us are all part of the frothing foliage of emergence that does not allocate intelligence in a fixed manner. – Bayo Akomolafe (2023)

Future imaginings of exploring the representation of Africa in synthetic media offer a glimpse into the potential for new stories and how the technology can be understood. AI's coloniality is vast and complex, existing across systems of imperialism, extraction, data and epistemological assumptions. Adolfo Albán's *re-existence* is a strategy of "questioning and making visible the practices of racialisation, exclusion and marginalisation, procuring the redefining and re-signifying of life in conditions of dignity and self-determination" (Hafiz 2020). Some participants spoke of the possibility of creating their 'own' data to craft representations that authentically reflect themselves, their communities, identities and cultures. Some spoke of different knowledge systems and logic, and how this can be embedded in AI systems. For one participant, the depiction of Zulu culture engendered a sense of stillness and finality. The degree to which it misrepresented his culture elevated him, and the whole of Africa by extrapolation, above the prevailing systems, narratives and depictions. To him, what came forward didn't matter anymore. He was evasive. What was appearing didn't have a hold on him.

The need for a more inclusive and culturally sensitive language became evident during my interview process. Language plays a pivotal role in shaping our understanding of AI-generated content and, by extension, the diverse cultures and societies it portrays. The structure of my research project was indirectly questioned by two participants, revealing the limitations of generalised identity markers. A participant's comment, "narrow-minded and generalized identity markers will always be generalizations," highlights the challenges of encapsulating diverse identities within simplistic categories. This sentiment was echoed by another participant, who recognised that the process of generating images with identity markers is a limiting framework. Identity markers have a longstanding history of discrimination and exclusion. Racial and ethnic identity markers have been used to justify discrimination and oppression and enforce traditional gender bias. Similarly, the term 'intelligence' is linked to the coloniality of power, a history of eugenics and the value-neutrality of AI (Crawford 2021).

The images generated often perpetuated stereotypes and violent imagery, and my research design asked participants to unpack and face these stereotypes. Elements of archival images that show up in the present help us to deconstruct and rearticulate the systems of visualisation that have historically brought racialised bodies into focus and ask us to question how this has contributed to Western ideas of progress (Sealy 2016). By deconstructing these visual elements, as done in this research study, are the processes of racialisation and exclusion made clear? Has the bio-politic that sustains it been confronted? Or does a shift toward a more

inclusive and responsive typology pave the way for a richer and more equitable engagement with AI? How do we heal what is materialised in data and experiences of power?

These questions prompt consideration for future research that moves beyond oppressive frameworks, and encourages us to question our assumptions and framing of the world. It asks us to weave through systems, to find soft places to rest and dream in digital debris. New imaginings of technology are needed, ones that give space for creative solutions in theory and practice, that prevent the ossification of academic discourse and that trouble our understanding of AI.

5. Conclusion

This study set out on an exploratory process to understand how Africa, the place and intangible collective, are represented in generative AI art and synthetic media. The critical analysis and exploration of the themes and patterns that emerged guided the reader on a narrative journey that centred on the encounters and perspectives of the participants. Generative AI models are situated forms of knowledge production where the visual tropes depicted in the images offer a site where the complex issues in Africa can simultaneously be interrogated and traced.

Many stereotypical images and hauntologies were reproduced in the images generated in StableDiffusion, both in subtle and overt ways and were rife with colonial power imbalances. Through the interviews with participants, it was clear that visual representation holds a significant place in shaping identity within post-colonial African society, where ruptures, exclusions, and gaps persist in daily life. While many of the images that were generated propagated stereotypical tropes what shone brightest was a common thread of cultural pride and honour binding the varied contexts, locations and nationalities of the participants. The interviews contribute a dynamic understanding of the forces at play in contemporary Africa and the role visual imagery and representation play in identity formation, calling for a deeper examination of StableDiffusion as a trace archive.

This study showed that a qualitative research framework that employs both synthetic and traditional ethnographic techniques is useful in understanding both the societal implications of artificially intelligent machines, as well as the historical structures and frameworks of knowledge that produced them. A critical limitation of this research is the diversity in the sample size of participants, providing only a small partial picture in the context of a continent. Language barriers and access to participants prevented non-English participants. Additionally, the nature of remote research and the digital divide meant that only those with an internet connection and computer could partake. This is an area where further research could be conducted that aims to centre the stories of a wider, more varied group of participants. The research approach used demographic markers to interrogate the categorisation that forms a fundamental part of the ontologies of AI. Perhaps next time, the interviewees might be the prompt engineers themselves and choose what they would like to

include. This study contributes to the growing field of research exploring how the coloniality of power and machine learning models are connected, but from an African perspective. It shines a light on processes of exclusion and marginalisation, how the representation legacy of Africa that remains as a result of colonisation appears in synthetic images and the impacts that this has on post-colonial identity formation on the continent.

The aim of the interviews was not to provide a universal truth about the phenomena, but instead to explore visual imagery in generative models that reflect underlying historical and cultural dynamics. In depicting the lived experiences and tangible realities of participants, the implications of these visual tropes can be interpreted both as they relate to the individual, and to the dynamics and their limits within these models. Future imaginations of how we engage and interpret generative models that trouble existing epistemological structures are needed. It provokes questioning how must, or can, we shift where, how and in what way data is generated and who holds claim to this. What this reframing will look like is yet unknown but I propose reflections into the ways in which we examine these questions and contemplate if a decolonial AI can contribute to transformative justice.

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