

African Spacemaking. Critical Narratives and Urban Co-Creation in Five Virtual Reality (VR) Productions

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Abstract

The emerging use of Extended Reality (XR) by African artists and collectives is sparking a revival of a “third space” in urban storytelling. Addressing topics ranging from expropriation in Lagos to public surveillance in Nairobi, a new wave of artists is appropriating the spatial dimensions of virtual reality to interrogate the neocolonial dynamics of urbanization in African cities. This forms what we term “*spacemaking*” or, the production of virtual worlds and critical practices in the act of narrative expression. These narratives range from postcolonial to Afrofuturist, vary in interactivity or forms of address, and, fundamentally, centre the pluriversal identities of the people and places that construct urban city centres in Africa. This study is a contextual analysis of five XR works produced by African directors and Africa-based artists/collectives, developed from in-depth interviews with each creator. The works, countries, and creators in discussion include: “The Other Dakar” (dir. Selly Raby Kane, Senegal, 2017), “Spirit Robot” (dir. Johnathan Dotse, Ghana, 2017), “Azibuye – The Occupation” (dir. Dylan Valley, South Africa, 2020), “Lagos at Large” (Jumoke Sanwo, Nigeria, 2019), and “African Space Makers” (dir. TheNrbBusCollective, Kenya, 2020). Our findings reveal how artists have co-created with their cities in their VR productions, foregrounding Africa-based spatial modalities in an otherwise Westernized technology. These practices derive from decolonial lineages in spatial thinking and arts activism, while integrating new technologies into innovative expressions of agency, resistance, and transformation in postcolonial times. Decentring consumption or distribution of VR media, this research presents the narratives of production and co-creation that demonstrate new possibilities for how the arts and storytelling are core parts of shaping how we imagine public space.

Keywords: third space, 360-degree filmmaking, urban storytelling, co-creation, arts activism

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Introduction

Urban space belongs to the people, yet too often is organized by the economic interests of a select few. When making decisions about urban geography, many policymakers and politicians rely on urban data that prioritize industrial projects and commercial activity to the everyday lives of people living within it. As Ghanaian political philosopher Ato Sekyi-Otu quotes of Martiniquan political philosopher Frantz Fanon, “the manifest measure of ‘colonial exploitation’ and the palpable index of its ‘totalitarian character’” is found “in the magnitude of the physical and metaphysical chasm dividing the colonizer and the colonized” (Sekyi-Otu, 1996, p. 77). The “palpable index” as measured today can be seen in the fact that African cities are 29% more expensive than European cities with similar income levels and citizens pay 55% more for housing, 42% more for transport and 35% more for food (World Bank, 2017). As the population is expected to double by 2050, African cities will soon become megacities and these trends may become the fundamental reason behind new social uprisings.

This article demonstrates how 360-degree filmmaking constructs a new vantage point from which artists interact with and imagine public space in a critical way. While the early development of 360-degree camera technology was driven by its functional use for urban data capture and mapmaking with the launch of the panoramic images of Google’s Street View in 2007 (McQuire, 2019), the increased accessibility of 360-degree cameras and mobile-based headsets, such as the Google Cardboard, have expanded the tools for spatial geography into more critical and artistic domains. For XR artists in Africa, spatial mapping takes on a new focus—one that is embodied, sensory, and relevant to the political realities their communities inhabit.

Using virtual reality (VR) for urban storytelling, a new wave of XR artists is appropriating virtual space to critique the neocolonial dynamics of urbanization. Addressing topics ranging from expropriation in Lagos to public surveillance in Nairobi, these artists are doing what we term “spacemaking” or, the production of virtual worlds, a “third space” as theorized by Homi K. Bhabha, through critical practices and narrative expression. These narratives range from postcolonial to Afrofuturist, vary in interactivity or forms of address, and, fundamentally, centre the pluriversal identities of the people and places that construct urban city centres in Africa.

Notably, virtual reality works pose limitations as media in that the protocol for open access to and long-term preservation of independent content is only now being researched and established. Because of the rapid changes of VR hardware manufacturing and a lack of standardization with media formats within the commercial industry, many virtual reality works are hidden from view and some are even obsolete (Ensom and McConchie, 2021, p. 52). Organizations such as the Open Documentary Lab at the Massachusetts Institute of Technology as well as the Tate Modern Museum have addressed this issue through documentation initiatives, such as curating a web-based database like Docubase or developing recommendations for preservation of works in a museum context. While much work is yet to be done in archiving and curating 360-degree films for further research, this article contributes to this effort through a series of conversations that argue for the relevance of such work in fields of urban planning and related fields, particularly with regards to perspectives from the Global South.

Methodology

Our study includes close readings of five exemplary virtual reality works coupled with contextual analysis and in-depth interviews with the directors of each work. The interviews were conducted primarily through Zoom and Whatsapp, with one in social VR using VRChat. Our research embraces multimodality as discursive praxis, drawing not only from cultural and media theory but also from accounts of media production and the artistic process within the field. One of the co-authors, Vincenzo Cavallo, is also an XR practitioner based in Africa for more than fifteen years and directly involved in the production of one of the five analysed works. By centring the narratives of creators within the continent, this study traces how each of their productions is tied to the emergence of a discourse that challenges global developmentalism from the margins.

Our close reading includes an analysis of the narrative and aesthetic techniques of each VR work. We look at how these African artists and collectives have uniquely appropriated XR as an artform through their perspectives as African artists and/or through co-creation with local people and perspectives. Through the in-depth interviews, we consider how VR integrates with the sociopolitical, discursive, and artistic interests of each author. We also asked each author how their ideas have evolved through the production process and how artmaking as an act is situated in the historical-social context of artmaking in their cities. What ensued are radical perspectives that entirely reframe the way virtual reality and spatial computing is understood all together.

The field of interactive documentary (referred to as i-docs) positions the artform as between narrative journalism, fine arts, and social activism (Dowling, 2021), and is defined by its creative use of digital tools such as drones, locative media, and the web to tell stories in a socially-driven way. Many i-docs are made to engage audiences and rely on the consumer to play an “active role” in “defining the content” (Toursel and Useille, 2019, pg. 338). With the “immersive turn” that arrived with XR (Extended Reality) technologies and the onset of projects largely funded by technology companies and the humanitarian space, the position of the media consumer, often a Western user placed within a distant context of journalistic news, quickly became problematized much like in the early days of documentary film and its construction of an ethnic other (Rose, 2018; Crawford-Holland, 2018). In our approach, rather than focus on questions about audience reception, we select VR works in which the creators and their communities are precisely the locus from which meaning is derived. We focus on the labour of production, its socio-cultural contexts, and the performances of subjectivity involved in the making of the work.

The selected VR films, cities, and authors in discussion are: *The Other Dakar*” (dir. Selly Raby Kane, Dakar, 2017), *“Spirit Robot”* (dir. Johnathan Dotse, Accra, 2017), *“Azibuye – The Occupation”* (dir. Dylan Valley, Johannesburg, 2020), *“Lagos at Large”* (Jumoke Sanwo, Lagos, 2019), and *“African Space Makers”* (dir. TheNrbBusCollective, Nairobi, 2020). All of these films are 360 videos accessed by a virtual reality (VR) headset, of which only *African Space Makers (ASM)* offers narrative interactivity through gaze. The criteria for selecting these works include its relevance to the topic of urbanization in Africa, aesthetic innovation using 360 videos, and engagement with local arts scenes. These approaches counter dominant trends in VR filmmaking about Africa in which

directors rely on naturalistic realism, are not from the locations depicted, and thus have little to no investment in the creative culture in the city.

Our approach unravels new meanings to the concept of virtual reality itself that are more applicable to the varied spatial contexts and complex identities of the Global South. In their work, these artists critique a functionalist approach to space, both at the level of perception in virtual reality and that of everyday, public space in radical acts of narrative construction. By also highlighting issues of identity and the constraints of artistic engagement with public space, we emphasize the need for more financial and political support for the creative sector in urban cities across Africa, and how a discourse for spacemaking may contribute to enacting further change.

Virtual Reality and Spatial Politics

Virtual or not, politics is ultimately about negotiating space; as the Marxist scholar Franz Fanon articulated, the spatial is an inherently decolonial plane (Fanon, 1990). Writing within the context of British colonialism more than half a century ago. Born in colonial rule, Franz Fanon established the spatial as inherently decolonial (Fanon, 1990).

Preceding Foucault and the “spatial turn” of social theory, Fanon's spatial metaphor of being a prisoner of a “fixed position” in a “compartmentalized” society captures the essence of being in the colonial world. Thus, the existential position and conditions from which spatial thinking has emerged inherently holds a decolonial ethos tied to lived realities in relation to oppressive power structures (Fanon, 2020; Sekyi-Otu, 1996).

A compartmentalized space of its own, VR brings the spatial modality back to the fore, serving as a discursive tool for critiquing urban developmentalism. Given that space is an operative concept of decolonization, we argue that virtual reality is predisposed for analysing compartments, boundaries, and unjust spatial relationships and power dynamics. Seeing “space” in post and neo-colonial cities as Fanon suggested, as the manifestation, cause, and consequence of imperialism and social injustice, African and African based artists are adopting spatial technologies such as virtual reality and 360 video for expressing the complexities of urban identity.

Virtual reality (VR) as defined in the nonfiction media field loosely refers to 360-degree media experiences accessed through a head-mounted display (HMD) (Rose, 2018) (Uricchio, 2016). Like the photographic camera, the technology of virtual reality comes from linear perspectivism in Western visual culture (Lorenzin, 2021), a fraught lineage of military-industrial development (Farouki, 2009), and the colonial fantasy to control space, information, and identity of Euro-centric worldviews (Hillis, 1999). In this way, the prevailing aesthetic language of VR has codes and biases baked in its form, such as “naturalistic realism,” which media scholar and filmmaker Deniz Tortum describes as an aesthetic that replicates “forms of perception mimetic to real world experience,” similarly to continuity editing in early cinema.

Naturalistic realism, Tortum argues, limits the creative potential of the medium and undergirds Silicon Valley's techno-solutionist claims of VR being able to place you “in the shoes” of others (Tortum 2016), an approach critiqued for creating “spectral voyeurs” rather than real exchange with the characters' lives (Crawford-Holland, 2018). Naturalistic realism is used in many acclaimed nonfiction VR works created for Western audiences to depict communities impacted by global poverty and conflict,

including those based in Africa, producing the guise of first-hand experience in a “touristic gaze” while actually erasing the voices of people of marginalized identities (Nakamura, 2020).

Spacemaking is precisely the opposite. Spacemaking decolonizes subverts the paradigm of naturalistic spatial perception by instead privileging the creative act of spatial production. As postcolonial theorist Homi Bhaba argues in *The Location of Culture*, the production of meaning is not in between the “I and the You” in a statement, but rather requires that “these two places be mobilized in the passage through a “third space,” or, “an empty space of non-representability that opens up between signifiers (identity and difference, self and other) in performative play (Kipfer 2011, pg. 93). Spacemaking encompasses the production of a 'third space' through performances of subjectivity and its interrelated social processes. This spacemaking does not automate communication through a one-to-one channel, to “empathize” with a racialized Other, but rather requires actors to reposition themselves, and look at the ordering boundaries from a different perspective. In the hands of spacemakers, XR holds the power to “open the way to conceptualizing Third Space as an international culture, based not on the exoticism of multiculturalism or the diversity of cultures, but on the inscription and articulation of culture’s hybridity” (Bhabha, 1994, pg. 38-39).

African spacemakers are those drawing from a range of creative tools to empower political autonomy in face of the global. Virtual reality can be seen as a productive analogue for urban developmentalism, and the way in which artists and their communities have engaged with the technology during its production hold important insights about the medium. Spacemaking is a form of expression that centres the socio-political value of marginality as a space of resistance and political innovation (bell hooks, 1989). It is precisely through the activation of decolonial sense-making that the arts become a mode for repositioning one's self and their ordering boundaries from a different perspective (Mignolo, 2013). Thus, we propose spacemaking as a transdisciplinary tool that brings critical discourse, media arts practice, and arts activism together with policy and urban planning. The artists featured in this study are pioneering decolonial storytelling methods in which the ultimate objective is not automatizing empathy but rather deconstructing the spatial impositions of colonial cities and making space for hybridized identities.

Spacemaking using 360 video

In the following table, each work is classified according to their aesthetic strategies, methodological approach, and socio-political intentions. This study does not aspire to or seek to propose a singular continuity in aesthetic or approach but rather embraces multiplicity. In constructing a “third space,” spacemaking opens up “possibilities for multiple meanings and demographic plurality,” “a world where many worlds fit,” rather than rely on “one to one cultural translations” (Kothari et al., 2019). Some of these artists have been focusing on dispossession, gentrification, and resistance, while others focus on speculating alternative realities through Afro-futurist mysticism. Each of these creators use VR to make space for alternative modes for thinking and being.

	<u>Aesthetic Strategy</u>	<u>Methodological Approach</u>	<u>Socio-Political Intention</u>
African Space Makers	Afropunk, DIY, slapstick comedy, Self-reflexive address	Co-creation with art collectives, Performative Reenactment of Self, Psychogeographic Intervention	Inspire youth in challenging post colonial boundaries and fight for non commercial creative spaces
Lagos at Large	Narrative parody, Deconstructing tourism, Collage, Urban poetry, Drifting, discover the city	Auto-fiction, Psychogeographic intervention, Contemporary arts and Postcoloniality	Inspiring a new vision of Lagos, discuss transnational citizenship, the role of the diaspora coming back, the privatization and dispossession of public space
Azibuye - The Occupation	360 Cinema Verite, Neo-Marxism	Co-create with art collective, Appropriate capitalistic gaze	Discuss post-apartheid into materialist analysis beyond race
Pandora / Spirit Robot	Looking through the lens of futurity Afrofuturism, observing from within	Observing techno-culture in Accra	Inspire youth to see Africa as producers, Techno-Progressive
The Other Dakar	Magical Realism, Afro-mysticism, Afro-futurism, Drifting	Short story, Costume and set design	Connect the role of artists and indigenous mystics in the city

Table 1. Five case studies of XR Spacemaking

1. *African Space Makers: Afro-Punk Gamification of the 'Third Space'*

African Space Makers, weaves five different 360 videos with a central interactive-choose-your-own-adventure in which the user takes part. In this work, which is directed by one of the co-authors of this paper, Vincenzo Cavallo with the Nrb Bus Collective, the third space is represented by a liminal space in which the protagonists break the fourth wall in referencing themselves as the filmmakers. Choosing an avatar to follow, the user “becomes” the director and tours around the city with a videographer and an audio-technician. *African Space Makers* strategically centres the filmmakers and conditions of production with all its contradictions at the centre of the narration. The video makers are usually the observers but, in this case, they are observed and judged by the object of their investigation and the user who is in their shoes feels both uncomfortable and thrilled by the experience. Nobody asks you to empathize with the filmmakers or any other of the subjects encountered, on the contrary you are asked to listen and understand, you are given the power of choosing among predetermined options but your decision-making does not count at all, the interaction is just a fake and you will have to do what they want you to do.



African Space Making embraces the psychogeographic strategy of *détournement*, a rerouting, or hijacking (Debord, 1994), as an aesthetic and a methodology that comes from the world of street art and political activism. The choice of using the Mockumentary as a stylistic form is inspired by the street art film documentary “Exit through the Gift Shop” (Banksy, 2010) while the participatory script writing process relies on previous experiences of collective forms of art creation, developed from and by the same art collectives that are both the object and the subject of the immersive experience. The participatory approach of African Space Makers is exemplified by the episode featuring the Chokora Fashion Collection from the slums of Kibera, in that high-end fashion is hijacked by the aesthetics of the garbage collectors. The participatory session ended with the creation of a new phrase, “let’s chokorize it,” which means “appropriate.” The episode ends with a scene in which members of the collective informally organize a fashion parade on a red carpet in the middle of a mall just outside Kibera.

It is because of this AfroPunk ethos that the theatrical re-enactment of the artists involved and the way the technology is used are both meant to deconstruct neocolonialism and neoliberalism through satire rather than trying to make the user

“feel good about feeling bad” (Nakurama, 2020). The artists are trying to represent themselves in relation with and within the context of privacy deprivation, religious oppression, environmental apocalypse, public space dispossession, but they are not asking the user to be themselves and that’s the main point-- you are an observer and even in your best intention you need to be re-educated, your perspective needs to be decolonized through this absurd game.

African Space Makers gamifies the “third space” by providing a space to creative collectives living in marginal parts of the city centre of Nairobi to re-enact their practices of liberation, from different socio-political perspectives and physical locations and by forcing the privileged audience to listen and choose what the collectives already choose for them. These stories are performed in a ludic way making fun of postmodernity interactivity and its contradictions without falling into any unitary political rhetoric. Using both interactivity and systemic constraints of VR, the authors decided to deliberately bring awareness to the fine line between agency and suppression, the privatization of public spaces and spaces of resistance, and ultimately, aims to draw young people in and participate in the creation of a new reality. Ultimately it suggests that the only way to decolonize the city is by first “experiencing it”, which means to ignore the boundaries, both the physical and the mental ones and be where you shall not be, even if you feel uncomfortable.

2. *Lagos at Large: Afro-Diasporic Identity, Memory, and Spatial Divides*

Lagos at Large explores the diasporic identity of Afro-Europeans and their experience of the postcolonial city. The opening scene depicts a resounding call to prayer, instantly recognizable at a bodily level to many, then transitions into progressive Afrobeats overlaid with a poetic narration by Njideka, a character who guides users through an experience “returning” to Nigeria after living abroad. “There’s a prism to which someone not living in the city looks at a city— it’s very touristic,” Sanwo says.



Through her style of narration that parodies a city tour, Sanwo draws people into the gentrification of Lagos, looking critically at the juxtaposition between the crowded mainland city and the pristine beaches of the neighbouring island. This narration style,

which draws from parody and self-reflection, highlights both the social inequities of land and how the colonial order is reproduced by the elite.

Before working with VR, Sanwo explains that that she had been interested in exploring the boundaries of the city as the manifestation and instrument of social injustice.

I have been interested in dispossession [and how] people don't have access to public space. Everything has been commercialized. People don't have access to spaces [other] than bus stops. I'm trying to engage in the new normal ... The public is no longer public... Now all the beaches have been privatized ... that's the reality ... This is a distinctive feature of every post-colonial city. In Lagos it is very evident. The island is for the colonialists and the mainland for the colonized, then after independence the elite takes the space of the colonialists and the social hierarchy still exists thanks to the same form of spatial violence.

It was through VR, however, that Sanwo began more explicitly experimenting with how narrative elements, such as diasporic identity, are tied to the spatially embodied expression of space itself. Approaching VR as a “memory box,” Sanwo aimed to bring a contemporary postcolonial temporality to experience. For Sanwo, themes of nostalgia and memory are compatible with VR as a medium, which she sees as a restorative tool:

I had been thinking about how to document the phenomenologies of the now for the future, because I come from a post-colonial society, we have a lot of absences and erasures, and all of these many challenges in terms of reflection on history and how history is perceived or recorded.... So, I inserted people in different places, at the beach for example... as well with the park at the end scene... I tried to insert people in these different locations, as an act of resistance ... so we actively brought in the people and shot there ... We also did a bit of layering using my own green screen.

Through the use of layering 360 video, Sanwo repopulated privatized spaces with people to restore the meaning of a public. Embracing the fragmented nature of the image, Sanwo aims to restore aspects of cultural memory that are lost in the rapid pace of urbanization and change. When Sanwo was creating the work, she was not thinking as much about the audience as much as she was in documenting her present experience, using VR as a tool to stitch together subjective experience.

Another technique Sanwo uses to express postcolonial subjecthood is through the narrative voice of an Afro-European narrator of mixed race. Fascinated by how an Austrian-Nigerian friend of mixed race described her desire to return to Lagos, Sanwo interspersed auto-fictional elements of her own experience to construct the character of Njideka. In this way, *Lagos at Large* reflects a dialogue between Sanwo's identity and that of a broader Nigerian diasporic community to construct a collective experience. Through this narrator, Sanwo touches upon the tensions between the romantic lens coloured by diasporic longing, and the sound and structures of the city, a bustling metropolis that in many ways speaks for itself. “The architecture is the third character in *Lagos at Large*,” said Jumoke Sanwo. Anchored by iconic sites in Lagos, from its buses and public squares to the marketplace, *Lagos at Large* captures the effect of navigating a busy city through sound and constant movement. “I wanted [the narrative] to be very much authentic to the realities of producing the work in Lagos,” she said.

Lagos is a city of spatial divide, a place of many inroads, many liminal spaces. She is not Black, she is not white – she is in between these spaces. She is a space of neutrality, an entry point....How do you reflect without objectifying ... I wanted a gaze that was present without being too present. An observer [and] a space of neutrality.

In *Lagos at Large*, space-making involves both imaginary and material space, the physical and the psychological which can finally coexist in the virtual world. In this way Sanwo breaks the rigid dichotomies of the colonial organization of spaces to create a “third space” in which the diasporic Afro-European identity of the narrator becomes the hybrid dimension of a unique set of affinities through which the conditions and locations of social and cultural exclusion are unveiled. *Lagos at Large* reflects on different physical and symbolic human conditions that are indeed the result of how the post-colonial city has closed or opened locations of cultural exchange. Sanwo highlights the boundaries of spatial injustice and subverts the order of post-colonial dispossession by occupying the space using psychogeographic interventions. *Lagos at Large* creates a “third space” in which conflicting political actors can coexist temporarily in a sort of place of neutrality and romantic contemplation of the colonial boundaries that continue to shape the life and trajectories of the post-colonial citizens.

3. *Azibuye - Post-Apartheid Sensibilities and Decolonizing Postcoloniality*

Azibuye —*The Occupation* depicts inside a mansion in Johannesburg that had been vacant for 20 years, now occupied by Black artist-activists Marcelle and Ivan. Addressing the ongoing issue of land redistribution in post-Apartheid South Africa—72 percent of the nation's private arable land is owned by white people although Black South Africans make up 80 percent of the population (Land Audit Report, 2017) — *Azibuye* challenges the user's relation to private property at an embodied level.



One of Dylan Valley's aims with this piece was to bring attention to the systematic dispossession of land that Black South Africans have faced, while also bringing nuance to

the interpersonal dynamics at the heart of contestation. “[Marcelle and Ivan] see the occupation as an art project or installation, but at the same time as a protest against the broader system of neoliberal capitalism,” said Dylan Valley, particularly addressing that of a postcolonial state. While Valley knew about this story and this specific collective in the past, he was not interested in making a traditional film about them because many others had already approached the occupants and this issue (“what do I have to add to the story?” he asked himself). After the opportunity to work with 360 VR, however, Valley changed his mind. In our interview, Valley shares that:

The story came to me after I had the 360 opportunity. [Originally] I wanted to do a story about [the] uber sharing economy and digital exploitation, [because of the] many strikes in South Africa and then I realized it would not work with 360. So then I thought: what about that story? Azibuye was there in the back of my mind... I thought, 'this is it.' There must be a synergy between the story and the medium. I knew it could have been a good story but if it wasn't for the 360 video I would not have done it, it just would not have made any sense. [emphasis added]

In his aesthetic strategy, Valley appropriates the user's experience of the 360 videos, which usually is consumed through a capitalistic gaze. For instance, 360 videos are often used in real estate to give full, visual access that proposes potential ownership of the property, or used to create a “touristic gaze” over racialized Others who have little to no agency in the image (Nakamura 2020). In *Azibuye*, the user's capitalistic gaze in VR and the occupant's presence within the space contrasts the explicit lack of presence of the owner of the mansion. “You have this access to space that he doesn't have,” says Valley, “not seeing [him] actually makes it more uncomfortable that you're there.” This dynamic is pronounced in the climactic moment of *Azibuye* near the end of the film:

Suddenly you hear a voice [and] someone answers the phone [while] you are in the house.... 'Oh shit this is the owner.' When you realize this, you feel you are in someone else's space. This was my intention in Azibuye. Hearing his voice only over the phone while being inside the house gives you a different sense of proximity and distance... We actually hear his voice saying, 'This is my house. I don't actually want you in that house. This is hurting me,' which is what he said and, “you are trespassing my house and now I'm losing out on a house that I bought. I had to live through apartheid [as a Black South African] and I don't even have access to my own house.' And one of the reviewers of the film said it made her feel like an intruder in the house.

Valley terms this psychogeographic strategy as invoking a “hegemonic voice,” in which the prism of power infiltrates the user's own frame of reference to their experience. The hegemonic voice in *Azibuye* upends the capitalistic gaze onto itself by the emphatic assertion by the owner that the occupants, and by extension the user, do not own this space; it belongs to him. Thus, *Azibuye* goes beyond challenging the racial order imposed by the apartheid system and its legacy by including an unexpected twist in which the audience discovers that the owner of the house is Black. Dylan Valley states:

Six comrades left the house when they found out that a Black guy was the owner. This is not part of the film because they left much before we arrived. They had an internal

disagreement because some did not agree with the idea of keeping the house occupied despite the owner was Black while for the others what really counted was not the color of the skin but the fact that the property was obtained by capitalist means in an unjust and unequal society in which the end of apartheid did not change the life of the majority...Initially I was worried that [incorporating] his voice [in the film] would have made the occupants feel very bad...But actually, they didn't mind all that. They thought it was good. They liked that addition of having his voice in it. They thought it was really funny, actually. They're very firm in their conviction [and] their ideology and know where they stand in terms of that house. They've actually had conversations with the homeowner before. So for them, it was kind of like hearing an old friend complain about something. They already knew what he was going to say...For them, it was kind of like a time machine in a way. It's like going back in time a few months ago. It's really quite something. I think all these different experiences were going through their minds as well as for me. It's really weird watching a VR film in the space you filmed in.

The use of virtual reality as a medium brought about the complex and contrasting bodily affects the filmmaker, audiences, and protagonists experienced depending on their level of engagement with the issue. From the filmmaker's point of view, the use of virtual reality also influenced the production process, and subsequently the story, at multiple stages in a co-creative way. "They were new to 360 so there was an excitement [and] a different energy that created a more horizontal situation, less hierarchical," said Valley.

Like the production process of *African Space Makers*, a spirit of play emerged through the use of a new technology in a way that contrasted with approaching a set with a more clear and defined filmmaking agenda. The mutual attitude of figuring things out bred a more experimental and synergetic approach to working together. Moreover, the technicalities of the 360 camera itself, such that 360 filmmaking requires the camera operator to remove themselves from the field of view, led to the protagonists feeling more candid in their own space in a way that heightened the verité objectives of the documentary.

Making *Azibuye* changed Valley's approach to the analysis of the causes and the effects of social injustice in his own country. "Something deeply clicked after *Azibuye*," he said, "It made me think about other possibilities of talking about spatial violence, what it means, and renovating neglected spaces," he said. In this way, Valley's artistic direction took a new direction, to question the use of private property in the post-apartheid city, such as in the case of another occupation in Cape Town, in which thousands of people evicted due to gentrification are living in an old hospital, for his next project.

4. *Spirit Robot* - Afrofuturist take on Virtual Reality

Spirit Robot is a VR documentary about the Chale Wote Street Art Festival in Accra, a large-scale cultural event founded in 2011 by the art collective ACCRA[dot]ALT. Subtitled "Renaissance on the Streets of Accra," *Spirit Robot* uses virtual reality to evoke the energy of Chale Wote through immersing users directly "into" the crowd, applying aesthetic techniques and themes drawn from the festival while simultaneously innovating VR as an artform.



Spirit Robot begins with the opening scene of a dancer in a caged apparatus from which she began her performance, who then emerges into the centre of the crowd. “Arts is an expressive space to create and imagine a different kind of world [with] new possibilities for all life outside of existing circumstances,” the piece narrates shortly afterward, highlighting the main goals of Chale Wote to “break creative boundaries” and bring art, music, dance and performance out of the galleries and onto the streets. This initiative is in response to the lack of infrastructural support for the arts in Accra, which has led artists to take matters into their own hands and build community through public art making and gathering. In this way, Chale Wote is a public demand for more investment in the arts, and the organizers call out its appeal to corporations and institutions, many of which explicitly use its images for marketing or station their products at the festival for financial gain without compensating the artists for fair use of their work, as evidence to the cultural value of the creative industry (ACCRA dot Alt 2015). Involving public murals, photography exhibitions, installations, live performances, street boxing, parades, design labs, and more, Chalte Wote breathes with life and the flurry of people that make up the bustling city of Accra.

Authored by Ghanaian artist and technophile Jonathan Dotse, the prehistory of *Spirit Robot* actually dates back to 2015, in the early days of 360 filmmaking. Following Google's release of the Cardboard in 2014, Dotse successfully reverse engineered a VR headset using recycled fabrics and PlayStation 2 CD cases and customized the mobile software protocols to best fit his needs. To exhibit this headset, Dotse decided to produce his own VR work, *Pandora* (2015) with Accra-based start-up Nubian VR featuring local actress Doris Mamley Djangmah, as opposed to pre-using existing 360 videos online, in order to “exhibit a prototype African electronic device, [...] share [his] love of technological innovation with other African youth, [and] promote Ghana as a

place where technology is not only consumed but also produced” (Electric South, 2019). As he explains, “Pandora [paints] an allegory about the transformative potential of VR in Africa, but with an implied warning to respect this power.”

Dotse's earliest memory of “virtual reality” wasn't from a headset, but from reading on the bus - immersed in William Gibson's fictional cyberpunk universes. Inspired by Western science fiction, Dotse had learned how to code and tinker with different technologies, teaching himself the fundamental mechanics of VR headsets and networked media. Given that the cyberpunk aesthetic has come largely from Western imperialist histories, Dotse expresses having “a lot of work in translating [and] finding analogues to those ideas” with his own cultural identity. To this end, Dotse draws from Afrofuturism to appropriate cyberpunk, leveraging the alienating specter of virtual reality to capture the techno-cultures in Accra. To create “deeply immersive experiences through narrative world-building” in his XR praxis, Dotse draws from partly-ethnographically methods rooted in the hybrid techno-cultures of Accra. In our interview, Dotse states that:

Overtime, I found a way to approach [Western technology and African identity] simultaneously mostly by taking inspiration from how these interactions happen over here [in Accra] by observing how science and technology interfaces with life here ... how people naturally integrate those different concepts of tradition and technology as my basis for exploring these ideas. [For example] these guys called the 'sakawa' boys, who are involved in lots of spamming and electronic crime related activities, managed to integrate African spirituality to their business. And so you have these guys who are very tech savvy, not necessarily highly educated, but very fluent in modern technology eventually creating this ecosystem around African spirituality in terms of finding ways to adapt existing traditional practices that have been used to grant luck and good fortune in African cultures and brought that into this technological space. Its very uniqueness gave me an idea of what to expect going forward.

The hybrid epistemologies of African spirituality and hacking modern technologies is rooted in Ghana's broader techno-culture, from the excess of refurbished goods at massive flea markets to pervasive data farming and cybercrime. Some proponents of “sakawa,” a Ghanaian term for Internet-based fraud drawing from African spiritualism, even consider internet scamming as a form of reparations against Western exploitation of Africa throughout history. This cultural hybridity and hacktivist spirit holds particular resonance when considering how Ghana is impacted by hazardous e-waste due to the over combustion of electronics and poorly regulated global flows (Yeung 2019). Self-identifying as “techno-progressive,” Dotse views technology as both the problem and the solution to sociopolitical issues, viewing African-led technological development youth to enable a future of critical, hybrid relations to technology that integrates African identity into the very fabric of its development. In doing so, Dotse has developed his own framework as a Ghanaian native for pragmatically working with virtual reality in African contexts. Just as the alternative cultural scene of Chale Wote enabled Dotse to exhibit his VR headset and first work, Dotse continued to approach the city as a collaborator rather than a point of tension in *Spirit Robot*.

Just like the 360 camera uniquely reinforced theatrical re-enactment in *African Space Makers* and verite filmmaking in *Azibuye*, for *Spirit Robot*, it created a collective voice out

of the crowd. Throughout the piece, the bustling crowds and people that make it up take on an almost singular identity and presence, reflected by the filmmaker becoming a member of the crowd like anyone else. “There are no boundaries between you and the people around you,” he said, a sentiment shared by Jumoke Sanwo in filming *Lagos at Large*. “I had to find cover right after pressing the record [...] if the crowd was dense enough, I could just melt into it,” he said. Sure enough, the participants of the festival are constantly interacting with the camera throughout *Spirit Robot*; in one scene, a man dressed as an angel spirit gesticulates towards the camera and in another, people take photos of the camera, reflecting a dual interactivity between the filmmaker and the subjects being filmed. Dotse also plays with the circularity of 360 video and how users must interact with the apparatus in order to understand the story and be a part of it. Finally, the centrality of the crowd and position of being in the crowd is solidified in the last scene of *Spirit Robot*, which is a timelapse of the festival from a distanced point of view, where the sheer number of people are made apparent. In this way, the way virtual reality makes an active participant of the story reflects the synergy between the ethos of the Chale Wote Festival and virtual reality as a medium, producing a transcendent “third space” in which users can entertain this identity through a new Ghanaian form of technological appropriation.

5. *The Other Dakar - Preserving the Mysticism of the City*

The Other Dakar follows a young girl named Maguette as she walks through mystical zones in Dakar, encounters various spirits, and signs a contract to access the city's secrets. Authored by Selly Raby Kane, a prominent fashion designer and multimedia artist from Senegal, *The Other Dakar* blends elaborate costume and set designs with graphical visual effects in virtual reality to create a 'third space' that hybridizes traditional vernacular culture in Dakar with the modern artistic identity of the city.

Like the Chale Wote Street Arts Festival, *The Other Dakar* draws from Afrofuturistic aesthetic modalities grounded in mythologies local to the city, specifically, the Lebou community in Dakar. Differently from *Spirit Robot*, however, *The Other Dakar* follows a fictional story that evokes a sense of magical realism. “I wanted to explore those invisible worlds,” said Kane, “[our team] had identified many places in the city that were charged with a mystical energy so we wanted people through the VR experience to discover places that count for us in Dakar, but also make a tour of all those entities that are in the city.”

Before and during production, Kane sourced mystically charged spaces preserved by the Lebou community, offering an alternative view of the post-colonial city impacted by French grids. By integrating aspects of Lebou oral traditions, which link its geographic origins to its proximity with the Senegal River and bodies of water, Kane's work makes visible the vernacular cultures that shape Dakar public spaces. In our interview, Kane states that:

You can feel [the energy] at the healing ceremonies. You can feel them when there is tuuru, the tuuru is the large-scale sacrifices that are done by the Lebou community and generally they pour milk and other things into the ocean and that's an offering for the spirits of the cards to continue to protect the city. Those are the moments where I really feel that some people are taking care of a world that I cannot see for myself, and for many people in the country.



In one scene, Maguette encounters a spirit in a graveyard-like area covered in forestry. The set references oral legends such as Daour, a protector of the fishermen and residents of Dakar. In this space, the spirit says:

I am the heart of Dakar. I see the unseen, tomorrow, and the day after. I feed Dakar with divine inspiration. I am an artist. Indeed, we artists hold the secret wonders of the city. Dakar needs to hear her artists. I only speak through them. Now listen! I am everywhere. Follow my lead, obey my warnings. Peace be upon you.

In this scene, Kane cements her analogue between the vernacular and pre-colonial culture of Dakar with modern artists in the city, articulating a hybrid identity as protectors of the metropolis. In Kane's conception, the root of artistry of Dakar comes from its oral traditions, and preserving this history is an integral part of contemporary art-making practices. Through forming an affinity between vernacular mysticism and modern artistry, Kane also is articulating a political solidarity to the post-colonial city structures that misrepresent the spiritual core of its indigenous people. Liora Bigon and Thomas Hart's study of the entanglements between vernacular and postcolonial urban planning cultures in Dakar found that contrary to assumptions in city planning literature, indigenous spatial practices have permeated in most of the Westernized parts of Dakar and in the region. For instance, a key component of pre-colonial settlements in Dakar had been the pènc, known as a public square, a central place for communal activities, often organized around one or several large trees. Although the colonial French urban grid conflicted with vernacular settlements, displacing many of the eleven original

pèncs, the Lebou community were hardly passive receivers; rather, through pockets of privately owned Lebou land, “the grid-pènc relational interactions became intimately entangled and hybridized” and maintained a dual relation in the city (Bigon and Hart, 2018, p. 204) Just as the way ancient vernacular designs have been woven into the grid in the very city centre, Kane uses virtual reality to reinscribe the centrality of these spaces. Once again, the relation between the private property and the commons is at the centre of the artist's reflection, the dispossession and the reappropriation at the centre of the political proposition.

There are many stories that I want to tell about Dakar and some propositions about reality - visible, invisible, material, subtle - those contrasts that I really want to put into film and it's supported by many things that happened in the past two years, such as the restitution of African heritage and many things that happened for the continent.

Using 360, Kane reports the need for having a higher level of awareness of the set direction. As a fiction piece, each element of the scene was highly curated, heightening the specificities of art direction in the process. In this way, the 360-degree filmmaking style brought participants into the author's world, this world it's ultimately political in both its aesthetic and magical realism, the proposition again is to break with the rigid thinking of functionalism, imposed by western colonial ideologies, and re-centre the role of mysticism and spiritualism in post-colonial urban planning.

Conclusion

This is an intervention. A message from that space in the margin that is a site of creativity and power, that inclusive space where we recover ourselves, where we move in solidarity to erase the category colonized/ colonizer. Marginality as a site of resistance. Enter that space. Let us meet there. Enter that space. We greet you as liberation.
(bell hooks, 1989)

Spacemaking, as exemplified by the five artists of this study, offers a framework for bridging virtual reality praxis with broader spatial discourse in public policy, urban planning, and related fields across the humanities and social sciences. In contrast to contemporary approaches to XR that attempt to automate empathy, spacemaking embraces the appropriation of technology as a technique for subverting broader techno-cultural discourses, embracing the position of cultural hybridity and marginality in their expressions. Feminist theorist and educator bell hooks argues that to seek true liberation one must choose marginality (bell hooks, 1989). One must choose to occupy the space outside the binary between colonizer-colonized, hegemonic centre-periphery, and us-them in order to create a location of possibility. Marginality is not only a place of deprivation, it's not simply a place of self-pity or nihilism, nor is it a way to claim attention or help by using XR as a humanitarian tool. On the contrary, marginality can be seen as a privileged perspective.

Marginality... is the site of radical possibility, a space of resistance...a central location for the production of a counter hegemonic discourse that is not just found in words but in

habits of being and the way one lives. As such I was not speaking of a marginality one wishes to lose - to give up or surrender as part of moving into the centre - but rather as a site one stays in, clings to even because it nourishes one's capacity to resist. It offers one the possibility of a radical perspective from which to see and create, to imagine alternatives. (Ibidem.)

It is not a coincidence that these artists have chosen to approach the city from a marginal perspective- from the art collectives of African Space Makers, the diaspora living in the mainland of Lagos, and the squatters of Johannesburg, the street artists of Accra, and the urban mystics of Dakar. For these artists embracing the “third space” as a practice which involves multimodality as the only possible hybrid and unique dimension was not necessarily a conscious choice; it was a logical consequence of being part of and living in African cities impacted by neocolonial spatial violence, constrained by physical and mental boundaries. The decision of the authors to approach storytelling from these spaces of marginality, with the intention of challenging narratives rather than approaching from the constricted lens of humanitarianism or aid, connects these XR pieces, and ultimately makes them radically different from many other XR works made in Africa that adopted empathy as the core idea behind their narrative of the oppressed.

This article has explored how artists from five urban hubs in Africa have used XR to critically interrogate urban developmentalism and the privatization of public space, and in doing so, constructed innovative spatial languages that recentre the voices of Africa-based art collectives and the creative culture of their cities. For the artists in our study, XR as a medium offers the possibility to approach topics of neocolonialism and capitalist exploitation from a fresh vantage point and also plays an important role for their critical narratives to emerge. Using 360-degree video enabled a more democratized and participatory production process in which the authors, cast, and crew needed to co-create with their local surroundings, simultaneously shaping how their narratives are told. Moreover, spacemaking afforded artists a new type of creative freedom detached from conventions found in their traditional filmmaking contexts, such as linear fiction and documentary, offering new avenues from which critical narratives can emerge.

In this sense the “third space” becomes not only the place of a new identity but also the only possible way of describing the political dimension from which these artists are operating, the real reasons and the true practices behind all these works. The “third space” allows us not to succumb, not to generalize the “*multitude*” (Michael Hardt & Antonio Negri, 2004) into a singular political identity, but rather acknowledging the active construction of many forms of identities that are all challenging the same form of spatial violence experienced or simply observed by the artists behind these 360-degree works.

Together, spacemakers are reviving Fanon's legacy of spatial thinking while at the same time pioneering multimodal artforms, new technologies and new forms of co-creation strategies, all of this by putting performances in urban spaces at the centre of their work. The technological appropriation is shaped by the old colonial and postcolonial struggles rather than the new market based on automatized emotions, in this way XR becomes a tool to engage with the ongoing critical discourses occurring at the margins of urban life by whoever and however wants to engage with it. Each one of these

experiences are spacemaking in their unique contexts by way of disrupting social and identarian boundaries through innovative artistic processes. Spacemaking through XR for these authors became a unique way to reconfigure the margin and the centre in an attempt of redefining the first and giving them a new hierarchy, a new socio-political and cultural status. Spacemaking from the margins is an act that can help civil society and social movements in general to reflect the social injustice behind the neocolonial city of the present and engage with urban policy makers and citizens in new ways.

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