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Kenyan Rock Art: protecting the past, facilitating the future through immersive technologies, archaeology, and drama education

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ABSTRACT

This article responds to Olof Franck's vision of a less didactic and more creative approach to Education for Sustainable Development. We consider how a multidisciplinary applied theatre project, bringing together Earth Sciences, Ancient Rock Art, storytelling, digital technology, and drama education knowledges and techniques can foster a more creative approach. The article is rooted in our analysis of the *African Rock Art: protecting the past, facilitating the future* project. We reflect on the challenges and possibilities of engaging with issues of climate crisis, responsibility, agency, and action in the Korogocho informal settlements in Nairobi, Kenya.

KEYWORDS

Climate change; drama education; Kenya; Rock Art; young people

Introduction

In this article, we aim to engage with the possibilities and complexities of using multidisciplinary applied theatre and drama education approaches to explore the climate crisis with young people. *African Rock Art: protecting the past, facilitating the future* (*The Rock Art Safari*) was a project that combined a digital resource and accompanying drama education workshops. These were created by C&T, a theatre and technology company, a Kenyan drama practitioner, Peter Mwashu Litonde, Selina Busby, Royal Central School of Speech and Drama (Central), working in partnership with the Earth Sciences department at the National Museum of Kenya, and the Trust for African Rock Art, both based in Nairobi, Kenya. This creative resource for sustainable education was delivered in 50 Kenyan primary schools in an informal housing settlement within Nairobi during May, June, and July of 2023, and then is due to delivered to 30 schools in the UK between January and June 2024.

The article opens by outlining the context in which the project took place and key decisions made regarding the approach we adopted. Applied Theatre and drama education projects that involve aspects of climate change awareness or education for sustainable development have become a common practice but, as with all applied theatre work

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that harbours intentions to stimulate potential changes in behaviour, they are not without complex and troubling aspects. As a field, we need to be mindful of the value we can have in this arena as well as the problematic nature of working with issues surrounding climate change, activism, and education with young people as a focus. When creating the *Rock Art Safari* the team were conscious of three specific problem areas: firstly, we were wary of positioning the young people as being responsible for finding solutions to problems they have inherited; secondly, we did not want to exacerbate climate anxiety and thirdly we were apprehensive about over-simplifying climate change as a global issue that is deeply connected to inequality, race, poverty and injustice and which more acutely affects those living precarious lives particularly those in the global south. Throughout the article, we engage with Una Chaudhuri's consideration of what can theatre do in the face of climate change (Chaudhuri 1994, 23–31). But in engaging with this provocation, we need to be mindful of wider socioeconomic injustice as well as colonial legacies, racism, and complexities of action and agency. We conclude by asserting that theatre can do little in isolation but, when harnessed alongside local communities, customs, ideologies, and critical questioning together with an interdisciplinary approach to applied theatre practice, it may offer opportunities to imaginatively reconsider what can be done in the face of climate crisis.

The start of a Kenyan *Rock Art Safari* – a process drama exploring ancient, culture and climate change

Welcome to the [Nairobi National] museum. Thousands of years ago our ancestors made the first works of art in our history. Remember in their times they had no paper, they had no paint, they had no pens, they just used stones to mark carvings on to the faces of rocks around them. Thousands of years later these works of art survive often in some of Kenya's most remote places. However climate change threatens them in ways they never would have imagined. Our mission here is twofold: first is to capture them in digital technology so that others can have an opportunity to experience their beauty. That is what I am just about to do together with my friends. Secondly, we will need you to help us understand them. We need to be able to use the past so we can look into the future – sometimes when you're in the middle of things, it's hard to see what is coming up. Next, I am going to be in the middle of all these places and when I have returned to you with this digital material, I will need your fresh eyes to help us understand what they tell us about the future of our country and our shared planet. Let's go. (2023 web address not yet available)

The text above is spoken by Litonde to set the scene for a drama workshop and digital Rock Art safari resource. The drama work, which is delivered both by the digital resource itself in partnership with a face-to-face facilitator, is based around this prehistoric art that is being lost due to climate change. In archaeology, rock art is the term used for human-made markings placed on natural surfaces, typically vertical stone surfaces (Indigenous Peoples Literature 2022). Rock Art is a global phenomenon that is found in many culturally diverse regions of the world including Kenya. *The Rock Art Safari* offers a digital resource designed to be delivered through digital technology and an in-person facilitator simultaneously to create drama workshops which use the threat climate change poses to ancient rock art as a framing device. It features Kenyan rock art sites which are being eroded due to extreme weather conditions. The Rock Art sites that the project explored

are exposed to the air and elements, extreme temperatures, lack of cloud cover, and desertification in Northern Kenya which creates heat stress in the rocks. Climate and energy scientist, Adam Markham, suggests that this stress will accelerate the degradation in the markings and potentially the rocks themselves (Markham 2021).

Through the *Rock Art Safari* which combines immersive sound, virtual reality, archaeology, storytelling, and applied theatre and drama education techniques, young people living in Korogocho, an informal housing settlement in Kenya, are invited to consider how they might engage with climate change action. The resource uses filmed footage created in both 2D and 3D (or virtual reality), arial drone footage and binaural sound recordings to create the sensation that the young people are immersed in the landscape where the rock art is located. There are also interviews filmed at the sites with earth scientists and rock art experts explaining what is known about the art and the people who created it. Alongside these, the resource also starts a facilitation process by setting up drama activities that the in-room facilitator then takes over with the young people in the classroom. In this way, the resource and the live facilitation are interwoven.

The resource could be used by any teacher, to facilitate a live workshop but Litonde facilitated the work both through the footage and live in the room, and in the Kenyan schools the children were excited to see the man on the television in the room with them. His opening sequence, quoted above, also meant that the children were placed in role as earth scientists and climate activists in an almost conspiratorial manner in which they were helping him find solutions and investigate the eroding of the art in partnership with him both via the resource and live in the room. This involvement was further enhanced by the dedicated WhatsApp number he gave the children on business cards and in his invitation to call the 'hot line' with ideas and suggestions in the days and weeks following the workshop.

The drama activities are based around storytelling and image theatre work and the devising of short performance pieces. All these elements are combined to create a form of what may very loosely be described as a process drama for children. The project was designed to draw on two of Dorothy Heathcote's models of classroom drama: Mantle of the Expert and the Commission Model. While both approaches demonstrate the core hallmarks of what is commonly referred to as 'Process Drama', typically using drama to 'walk in other people's shoes', the Commission Model departs from these standards by inviting students to actively engage with real-world problems and challenges through the lens of drama reference (Mantel of the Expert 2023). By using these techniques together, the project team was optimistic that the resources and workshops created would strike a balance between pedagogies that Franck and Osbeck describe as being 'informative' and 'existential' (2018, 137).

In this project a fictional frame was created which placed the young people in role as earth scientists, climate scientists, or climate activists with the rock art being framed as a mystery to solve and by engaging with this process, the young people are invited to explore their agency in protecting the legacy of their own heritage. We aimed to offer just enough information about rock art and climate change without reducing the workshops to being solely didactic and to offer young people the opportunity to engage with both their cultural heritage and current world issues with creativity, imagination, and a sense of agency. Franck and Osbeck summarise that this blended method

may also be the best approach to take within the work of developing didactical strategies for teaching children to reflect upon and communicate problems and possibilities in relation to global as well as national and local challenges relating to the concept of sustainability (2018, 134) and climate change.

This work was funded by Central as an 18-month Knowledge Exchange project, running between January 2023 and June 2024. In the UK, Knowledge Exchange projects are, broadly speaking, projects which bring together universities and industry partners to share expertise and develop ideas, designs, and research that are only possible through a collaborative process. The *Rock Art Safari* brought together knowledge and expertise from partners including C&T, Litonde, who lives and works in the area in which the school workshops were to be delivered, and Busby, an applied theatre and drama education researcher. C&T already has a well-developed programme of work in Korogochi working with Litonde, digitally facilitating drama work for over ten years. C&T and Busby worked together in 2022 to create a digital treasure hunt to uncover the hidden history of Croome House, a National Trust Property in the UK's Midlands. The *Rock Art Safari* project brought two new organisations into this pre-existing partnership: the Trust for African Rock Art (TARA) – a non-government organisation who record and disseminate recordings of rock art and whose founding members hold the information about how to locate the sites we captured – and earth scientists from The National Museum of Kenya. These scientists were a vital part of the project as they contributed an understanding of the natural materials used to create the rock art and its surroundings. This multidisciplinary team worked together using C&T's accessible digital platform to create a fusion of drama and technology to bring these historic, remote artworks to young Kenyans living in some of the poorest communities in Nairobi. Using skills and knowledge from all five partners we invited the school children to see the rock art, make their own decisions about the focus of the workshops and bring the rock art sites to life in informative, vibrant, creative ways.

To create the digital resource, in January 2023, the team visited six rock art sites across remote areas in northern Kenya. In each of these locations, the sites were captured in 360° immersive video, drone footage, photographs, and binaural sound recordings in order to capture the atmosphere of the sites as well as the art itself. Interviews with Earth Scientist, John Mwangi and rock art expert, David Coulson, were recorded in situ. Discussions between Mwangi and Litonde, were filmed talking about the project in Swahili and English and sections of the drama workshops facilitated to camera by Litonde were also recorded in Swahili and English at the rock art sites. There is also recorded footage at the Nairobi Museum with Mwangi and Litonde (Figure 1). These materials were used to create a digitally facilitated participatory drama experience exploring the history and significance of these rock art sites. This VR and 2D/3D experience contains mysteries to unravel, tasks to solve, and challenges for the young people to undertake. The challenge for the young people in the classroom sessions, and after, is to find ways of preserving the art from the damage resulting from climate crisis while decoding the symbols depicted in the artworks. The drama work focuses on a range of fun activities, games, and storytelling and through this climate injustice is explored as well as the potential actions young people can undertake in their everyday lives.

All the activities combine accessible technology with face-to-face live drama techniques. Whilst playful, this experience is designed to be a learning tool exploring these



Figure 1. Mwashi and Mwangi discussing rock art.

remote sites, providing access to them through digital technology and drama storytelling activities. C&T's digital platform, Prospero, is a hybrid platform combining features of an Online Distance Learning system (ODL) and a digital facilitation tool. However, whilst many ODL platforms proceed from the notion that the user is the learner (i.e. a student directly accessing a website interface), Prospero proceeds from the notion that a teacher, facilitator, or theatre practitioner acts as an intermediary between the digital resource and the workshop participants. This requires a different approach to designing learning experiences; an approach that needs to anticipate the pedagogic capacities of often hugely different remote facilitators operating in diverse classroom or workshop settings.

The drama work embedded into the resource and also delivered by Litonde tackles the subject of climate change through the beauty of the rock art and the 'mysteries' it holds today. The children are focused on unlocking the secrets of the symbols and markings, interpreting what people of the past might have been communicating and in turn making stories and performances as messages for the children of the future. Climate change is woven through the resource and accompanying applied theatre and drama education activities that are in line with Olof Franck and Christina Osbeck's vision of an approach to sustainable education which outlines how non-didactic teaching methods that draw on fiction enable children to imagine new possibilities (2017, 58) are embedded. However, the climate crisis is clearly an emotive issue to work on with young children that may easily distress participants. It is important to note that as applied theatre and drama education practitioners and researchers working with climate change or climate crisis as a theme, we are presented with three key areas of concern as outlined in the Introduction: responsibility, climate anxiety, over-simplification. We are impacted by the heightened sense of responsibility and anxiety young people experience when discussing climate change Busby witnessed when researching a performance of *The Trials* in the UK 2022.

The Trials, performed at the Donmar Warehouse Theatre, written by Dawn King, was a main stage theatre production featuring a jury of 12 young people who hold the world's

elders to account for their crimes against the planet and for creating climate catastrophe. It is what Chaudhuri describe as 'Ecological Theater' (1994, 28). This pioneering project, devised by Phil McCormack – the Donmar's Director of Participation – cast non-actor trained young people and involved a series of workshops that engaged with 1317 participants between the ages of 12 and 19. Following this process, 211 young people took part in a further two weeks of intensive workshops at Central. The process provided these 211 young people with an opportunity to explore theatre and the climate crisis, to devise and create new works with theatre professionals and climate experts, and to audition with a leading creative team and the Donmar's Casting Director. During the intensive workshops it unsurprisingly became apparent that many of the young people were extremely well informed about climate change and noticeably many of the young people across all the age groups involved were anxious, extremely so, about the future of the planet and climate catastrophe. The workshops were focused on possibilities, hope, and action, drilling down into what individuals could do to make climate positive changes and to inspire community change in order to raise wider awareness. Despite the positivity of the Donmar project and the upbeat delivery that emphasised that there is hope for change there was, at times, an overwhelming atmosphere of anxiety in the room and a strong sense of anger from the young people that it would be they who were expected to make choices that might avoid climate catastrophe. In the Rock Art Safari planning stages, the team was keen to find ways to avoid this specifically as we were working with young people who both currently were living lives deeply affected by climate change on a daily basis. At the same time, their communities have contributed much less to the factors that create climate change than those living in the Global North. We were mindful of Franck and Osbeck's concern that the complexities of looking at climate change and its intersection with social injustice is often oversimplified. When reflecting on *The Trails*, the *Rock Art Safari* team also considered if it was possible to use theatre or drama education to raise awareness and encourage climate change activism without overburdening the young people.

We looked to excellent case studies from across the globe for guidance during the planning stages of this project. Joanne Catherine Jordan's (2020) work on personal storytelling in Dhaka, which considers the challenges of using personal stories and the ethics of care needed for staging the personal, influenced our planning and resulted in us using the fictional framing of the process drama. We thus placed the children in role rather than working with material they offered from their everyday lives. Wan-Jung Wang's (2017) article exploring a community devising in Taiwan that merged personal stories, fictional accounts of climate change and traditional dance forms influenced our thinking about cultural traditions that might be helpful for us in classroom settings. This article encouraged our inclusion of physical games and movement work and also to include Mancala, the ancient turn based game played with stones. This was particularly useful as many of the rock art sites included human-made indentations the surfaces of rocks that resembled the 'board' used to play Mancala. Conversations with Katherine Dawson in 2023, who leads the 'Arts-Integrated Participatory Action Research for Climate Resilience' project bringing together schools and teachers with staff and students from the University of Texas, proved to be invaluable. This work brings together theatre makers, young people, and scientists to explore creatively how young people living in Austin, Texas can adapt to climate change. We were unable to bring earth scientists into the classroom with

us, but Dawson's work encouraged us to incorporate their presence into the drama workshops via the digital resource and Litonde's on-screen discussions with them. Perhaps most influential to our thinking about the projects was the work of Dennis Gupa in the Philippines (2023). Gupa's emphasis on applied theatre's ability to create a sense of shared, rather than individual, responsibility for activism helped us to think about the ways in which our process drama brought young people together in role to solve the mysteries of the communications held within the rock art and the real issues of climate change and removed the sense that the young people were working alone. As mentioned previously, three areas of concern remained through the planning and implementation stages of the project – responsibility, climate anxiety, and the over-simplification of the issue. We now move on to consider each of these in turn.

Challenge 1: Placing too much responsibility for change on young people

Education for sustainability programmes that position young people as change makers within their homes and communities are problematic and have been criticised for some time. Larsson (2012), Ideland and Malmberg (2015) have all been critical of educational programmes that assign young people the responsibility for changing behaviour with regard to climate change. Ideland and Malmberg also draw attention to the sense of personal guilt such project can result in. Dahlbeck (2014) has considered the damaging effects on young people that the juxtaposing of fear and hope creates in education for sustainability. Naomi Klein's (2014) work on halting climate change simultaneously functions as a critique of current socioeconomic models since, she claims, to achieve the former requires the rejection of capitalism. More problematically, in their co-authored book, *How to Change Everything: The young human's guide to protecting the planet and each other*, Klein and Steffoff (2021) call on young people to take responsibility for protecting the planet and for educating their peers and adults in their communities. This stance too easily glosses over the culpability of the older generation and of their greater levels of responsibility for the climate crisis, disavowing adults as needing to make change and take action. Instead, this burden is placed on young people, potentially creating the personal sense of guilt and anxiety Larsson, Ideland, and Malmberg warn educators to be wary of. This sense of overburdening the young people with responsibility felt still more pertinent when working with young people living in an informal housing settlement on the edge of one of the largest landfill sites in Africa. The location of the workshops with the communities in Korogocho in turn exacerbated challenge number three, the over-simplification of the issues surrounding climate change, as discussed below.

While it is clear that young people can and do take an active role in finding solutions, taking action, and calling for political change, and that young people have an important part to play, it is vital for their voices to be heard in this arena. But this must be balanced with over-burdening them with creating and implementing solutions to such a huge global challenge. Adolescent climate activist, Greta Thunberg, declared in 2019 that adults are 'hopeful that young people are going to save the world, but we are not. There is simply not enough time to wait for us to grow up and become the ones in charge' (Thunberg 2019, 40). The question of responsibility in both the sense of who is responsible for making changes that might slow or halt climate change, and who has the responsibility of making political decisions that enforce change is complex when

working with young people. Young people did not create the conditions that have led us to the current crisis, and yet they will be the people most affected by climate change. Young people are part of finding a solution but only part. There is a delicate balance to be struck between alerting and educating young people about the problem, listening to their ideas and potential solutions, amplifying their voices and not passing all the responsibility to them to solve the issues because they will be the ones dealing with the direct consequences of our actions in the future. There is a danger that, as applied theatre and drama education practitioners, we fall into what Trebbe Johnson describes as the 'Scare-Scold-Rally Trap' (2018, 52). Johnson asserts that this pattern goes 'things are bad out there. They're getting worse and that's our fault. But if we mend our ways, it may not be too late' (2018, 53). In other words, first we terrify young people about what is going to happen to the planet, then we lay the blame on human behaviour and then we use these things as a call to action. Although it is clear that there are elements of truth conveyed in all three stages of the scare, scold rally formula, scientists at the Tyndall Centre for Climate Change Research suggest that it does not work because it results in people verbally acknowledging what could and should be done but generates little or no meaningful action. They summarise that the lack of action is a result of the scaring and scolding process desensitising people to the issue and at the same time removing any hope that things can be changed (Tompkins et al. 2009). The lack of optimism, the awareness of how little individuals can do results in a sense of complacency or apathy, which potentially trips into anxiety and depression about humankind's doomed existence.

In order to try to avoid over-burdening the young people in our project with the responsibility for finding solutions to climate change, we focused the project on rock art rather than directly on the climate. We also created an immersive environment in which they could explore the art and the sites in which it is located. We wrapped this virtual reality resource into a process drama exploring the rock art as holding messages from the people of the past to people today and in the future. The Rock Art Safari focused on supporting learners in the informal schools of Korogocho with the aim of introducing children to these historic cultural sites and their significance virtually; allowing them to experience locations they would be very unlikely to ever visit in person. By using digital technology, particularly the gaming combined with live interaction, we were inviting a more playful way of engaging with rock art and potential implications of climate change. In this way, Prensky's (2001) idea that digital technology has a social aspect that involves active engagement can be seen in the young people's activities in the Rock Art Safari. In a social learning space entwined with the making of performances and storytelling, young people were also processing digital information, sounds, and images of rock art and were given scope to follow sections of the workshop that caught their attention, making choices about what to look at, and in what order; when to actively engage with each other and the live drama aided and guided by the facilitator in the room. To enable this work to happen C&T provided local artists with a touring rig of VR headsets linked to the Prospero platform via mobile data connections, meaning any school would be able to access these experiences. There were drama workshop leaders facilitating an in-person programme of workshops alongside the VR experience. Chaudhuri suggests that theatre can bring 'ecological issues to centre stage' (Chaudhuri 1994, 24). While we did not attempt to do that in this project we did 'join ecological concerns

with the protocols of “site-specific” theatre, creating works that directly engage the ecological problems of a particular environment’ (Chaudhuri 1994, 24), by using digital technology to bring the ‘site’ to the children.

Challenge 2: How to avoid creating or exacerbating climate change anxiety?

Unsurprisingly, climate change anxiety, or climate depression, has been well-documented in recent years in both adults and young people (Palinkas and Wong 2020). Emotional distress in response to climate change is particularly rife among young people as they contemplate what their futures will look like. In a study completed by the Lancet that interviewed 10,000 16–25-year-olds from 10 countries it summarised that 60% of young people felt extremely concerned about the climate crisis and 50% stated that climate change impacted their daily lives (Hickman et al. 2021, e863). Our workshops were to take place with young people in Kenya – a country where, in June 2019, President Uhuru Kenyatta made mental wellbeing a national priority. He formed a National Mental Health Taskforce which published a report identifying a mental health crisis in the country and which also showed climate change was a contributing factor to this problem. Little research has been carried out on climate change anxiety in Kenya or Africa leading Lukoye Atwoli, Joy Muhia and Zul Merali to claim that there is “‘dire need for more research” into the issue across Africa’ (2022, 87). Even though, as yet there is no published research data available, the Rock Art Safari team were acutely aware of the depth of feelings surrounding climate change and the high levels of anxiety and distress that accompany the subject area and consequently were very conscious that any work in this area needs to avoid exacerbating this.

Although the Rock Art Safari project team wanted to avoid creating climate anxiety and maintain climate as a key focus of the project, a brief look at recent research into applied work in this area reveals the challenges of such work. Canadian health researchers O’Grady et al. (2023) identify three strengths – or positives – of using theatre as a medium through which to discuss climate change on young people’s mental health. These are theatre’s ‘exploratory nature’, its ‘flexible temporality’ and its ‘capacity building’ (2023, 85). The researchers specifically refer to theatre having the ability to create a so-called safe space for discussion which does not stimulate distress, and for inviting young indigenous people to ‘explore their own experiences without their voices being co-opted by typical deficit-based narratives’ (2023, 85). They also identified two challenges in doing so: one being young people’s lack of interest in the subject matter and one relating to short-term projects’ inability to affect change (O’Grady et al. 2023, 82). While both the positives and the challenges listed here are ones that those of us within the disciplines of drama education and applied theatre are familiar with and may have some sympathy with, this conclusion feels a little too simplistic.

As well as potentially overestimating the impacts of applied theatre as a change-making process and the inability of any practice to create a truly safe space, these conclusions dismiss active engagement in the climate crisis projects as evidence that young participants are not interested in climate change, and this is troubling. It seems to us that there are two gaps in reaching such a conclusion that might also be worth considering. Firstly, this so-called lack of interest might also be a direct consequence of the

hopelessness that young people feel in the face of climate change which they are powerless to address and thus understandably can result in climate anxiety and therefore disengagement. Secondly, rather than lack of interest, the young people in the projects surveyed by O'Grady et al., had more direct and immediate crises competing for their attention. Urvashi Sahni's Keynote Address at the International Drama Education Research Institute (2022 University of Warwick) outlines in some detail why young people, who might be described as 'bare citizens' (Appadurai 2013, 118) are juggling multiple crises such as poverty, homelessness, hunger, gender-based violence, lack of health services, sanitation, education and that these immediate concerns – some of which are exacerbated by climate change – are immediately life-threatening. In other words, young people prioritise the crisis that is in front of them, rather than a global crisis which can feel more distant. In many places, including Korogocho, where our workshops took place, the injustice of climate change is experienced as what Rob Nixon (2011) describes as 'slow violence'. Slow violence happens over time, is less apparent than a flash flood, tsunami, or forest fire, but the effects of this slower less dramatic form of climate change are no less life-threatening (Nixon 2011) even if it is less obviously apparent like a fire or a flood. This slow violence is steadily inflicted on those 'bare citizens' that live at the intersections of the injustices of class, gender, race and poverty, social and spatial injustice, housing insecurity, disease, water, and power scarcity, leading to deeper poverty and often death. Nixon states that we need to hear stories of climate change and its impacts from those who are rendered invisible through poverty.

It seems that as applied theatre practitioners working with climate change pedagogy, we are in a precarious position. Nixon calls for the stories of those living with the slow violence of climate change to be told and amplified. Franck and Osbeck tell us to be mindful of oversimplification and overburdening young people, yet young people are suffering *both* from the effects of climate change and the threat of what is to come. Chaudhuri's consideration of what can theatre do, becomes more pressing along with the question of, how can this be done? Chaudhuri and Shoni Enelow discuss the turn-to-site specific performance that theatre makers took to in the early part of the century, to address climate change. They discuss their 'realization that "culture" is (part of) the nature of our species, and that it's conversely true that the non-human world is both shaped by and experienced through elements of this culture' (2014, 29). In their Ecocide project, rather than staging performance within a site-specific area or venue to emphasise 'nature', they adopted an opposite approach that 'embraced' the divisions between theatre and the outside to emphasise the outside more comprehensively and to theatrically heighten the issue of climate change using all the illusionary effects a theatre space can create (2014, 29). In the *Rock Art Safari*, we were attempting to bring the outside into the drama classroom and the rock art itself demonstrated the permanence of the changes humankind can make on its environment. The *Rock Art Safari* took the children on the journey that we went on in order to film the rock art sites and included footage of the journey from the lush greenery at the start of trip to the deserts of the north. At several points climate change was featured strongly in the films. The drive through Lake Turkana Wind Power Project with its impressive 365 wind turbines is juxtaposed with drone footage of steep rocky gullies where rivers once flowed. We climbed through the gullies to film herds of rock art giraffes. Watching

these sequences led the children to wonder why people drew giraffes in a place where clearly no giraffes could live today, as they watched the drone footage survey the whole area it became clear to them, as it did to us when we stood in gullies, that once there were rivers in this area which now rocks and desert and if there were rivers, there were plants and trees and maybe herds of giraffe (Figure 2). They asked if their ancestors carved into the rock what they were seeing in front of them. Mwangi and Coulson explained in the video interviews with Litonde that we can never be sure, but that it seems likely. Here climate change's slow violence on the landscape of Kenya is evident for the children to see. Chaudhuri suggests that 'theatre can become the site of a much needed ecological consciousness' (1994, 28). In the *Rock Art Safari*, the theatre is facilitated in Kenya by Litonde in the form of a process drama which we hoped would raise consciousness of climate change without raising anxiety levels in the classroom, with the visuals of a landscape changed forever by climate change.

Litonde has collaborated with C&T for over a decade, leading youth projects in Korogocho schools and community settings. He is one of very few theatre practitioners living and practising in the informal housing settlement. His own lived experiences as part of the wider Korogocho community and his training and experience in community development make him uniquely placed to lead such programmes of applied drama activities. This project required Litonde to fuse digital technology, 360° video, music, visual arts and both Heathcote's Mantle of the Expert and the Commissioning frames live in classroom settings. Litonde's experience delivering community action projects enabled him to adopt a style of facilitation within the frame of the activist striving for climate justice. Observing Litonde delivering workshops in schools, the relationship of these models was clearly evident. Litonde fluctuated between two facilitation techniques; firstly, an often highly rhetorical style (working with groups of over 60 students, in large, inhospitable warehouse-like spaces), acting as both an instructor and a catalyst, prompting students to action, and secondly, in smaller groupwork, where he would adopt a more questioning, hesitant style, seeking to frame students as fellow explorers in this journey



Figure 2. Rock art depiction of a giraffe.

of discovery. This worked synergistically with the Heathcotian frames, students were being asked to embrace four potential roles: digital curators, earth and/or climate scientists, and climate activists who are striving to understand the impacts of climate change on their cultural heritage. The frames fluctuated between Heathcote's third level (Agent), seventh level (Researcher), and ninth level (Artist) of Frame Distance, whilst holding the reality of the real world commission, namely to act as digital curators of their heritage, in counterbalance to this fiction (Mantle of the Expert [2023](#)).

At the core of the vision for the project was C&T's online distance learning and curation platform, Prospero. Developed to support C&T's online participatory drama projects, Prospero provides C&T and other arts and cultural organisations with a digital toolkit from which they can build their own creative learning resources and share these online. This means they can reach new audiences in ways that resonate with young people and that challenge the idea that digital work is inherently unsocial. Rooted in drama methodologies, Prospero, and therefore the *Rock Art Safari*, is an interdisciplinary tool, offering functionality that facilitates learning across artforms and opportunities for the heritage sector. The system offers a sophisticated set of tools, but at its core is its ability to integrate applied theatre methods with virtual and augmented reality, smartphones, tablets, AI, motion-tracking, and GPS into immersive learning experiences. Prospero's use of web-based technologies means that it is broadly 'platform agnostic', meaning it is not reliant on any proprietorial system or software (such as Apple's iOS or Google's Android for smartphone apps) thus allowing it to be accessible to anyone with a browser and internet connection. This type of open access makes it ideal for working in places such as Korogocho where access to hardware and data is often limited and priced at a premium, making it inaccessible to our target participants. Korogocho has virtually no landline telephones and never has had them, but smartphones are commonplace, and it is currently estimated that 52 million smartphone connections are active in Kenya (Further Africa [2023](#)).

For these reasons Prospero seemed ideally suited for this project. Firstly, it would be accessible via web browsers to a large demographic of Korogocho: it would also work as effectively on a Chromebook with a basic smartphone and mobile data connection, as it would be a high-specification computer. This means the resources could be easily accessed in the 'Informal Schools', with little electricity or broadband. Secondly, Litonde could seamlessly integrate instructional tasks and videos alongside 360° immersive video content. Similarly, binaural sound of these environments could be layered over this footage, meaning the experience would feel multi-sensory. Thirdly, virtual reality experiences are often only available via expensive and inaccessible specialist hardware (for example, Meta's Quest system or Play Station games consoles) but Prospero streams 360° video through web browsers to any smartphones taking advantage of their built-in gyroscopes. Thus, by using Prospero, the *Rock Art Safari* can be cheaply distributed to anyone through the devices in their pockets. Cheap smartphone headsets can make the experience even more immersive – ideal for use in Korogocho. Finally, C&T has optimised Prospero's data and server usage to ensure the running of the platform produces the minimum carbon footprint possible. Whilst the system is not entirely carbon neutral, C&T has a policy of offsetting its annual carbon footprint by investing in certified tree planting projects in Kenya and so the use of technology is possible, exciting, and an excellent medium to bring the *Rock Art* to the children of Korogocho.

We were optimistic at the outset that the digital elements of the project would both give access to the inaccessible rock art sites and be inviting for the young people. We hoped that the structure of the work focussing on the contemporary cutting-edge digital technology and the legacy of rock art, would spotlight the attention away from direct global climate crisis and by inviting agency for possible actions to save the cultural legacy, we also hoped that the immersive technology, ancient art, story-telling and, drama and active agency for the young people to direct their attention to different parts of the resource at their own choosing would reduce any climate change anxiety that could be created by creating drama specifically about the climate crisis. There was a sense of wonder in the room at these moments as the children puzzled out what could have happened to the environment and why the rock art giraffes were there – and what the people of the past were trying to say to them. Climate change was present in the room, but the children were not anxious, they were curious, excited even. Gently Litonde lead the children from a discussion about what they have seen into a storytelling activity that ends in short, devised pieces of drama where the children create images of things, they would like the people of the future to know about life for them now. Some of these involved climate change directly, some did not, but the many that did, included personal reflection from the children about their everyday lives and their lived experiences of the climate and the things they and their families can do. The planting of trees became a focus of many of the sessions. The multidisciplinary *Rock Art Safari* and the mysteries contained within it, allowed the slow violence of climate change be explored gently and with much humour. Maybe we achieved the first part of Nixon's edict, although the stories were not amplified to those beyond the drama classroom. Litonde directed the children to tell stories of the past, the present, and the future, there was no direct instruction to find solutions to climate change and yet that is precisely where many of the children took the drama, they chose to take responsibility and pick up the burden of looking for answers.

Challenge 3: The over-simplification of climate change

Franck and Osbeck, when considering the complexity of education for sustainable development, claim that it oversimplifies both young people's ability to make changes to the current crisis and the complexity of climate injustice. They ask if it is possible for such programmes to: 'Highlight ... social challenges in global perspectives, with a focus on justice and equity without ... pretending that social sustainability is a non-controversial goal, reachable without raising questions of personal requirements ...' (Franck and Osbeck 2018, 134). This perhaps is the hardest of the challenges. The oversimplification of both the causes and solutions to climate change is difficult to unravel. The children talked about planting trees and recycling, but this will not by itself, of course, change things on a global scale. The complexity of the interweaving together of poverty, inequality, social justice, and climate change loomed over our heads as we planned and delivered the workshops which were to be delivered in Korogocho, an informal housing settlement on one of largest landfill sites in Kenya.

Korogocho is in fact overshadowed by a huge landfill site, which the inhabitants of the region use as a source of income and food. In a community where there is no social, nor economic justice addressing climate change concerns is challenging, as the climate crisis

is one of many potential and immediate crises that the people living here face daily; sourcing water, food, electricity, and education take priority. Inhabitants of the world's informal housing settlements are some of the most disenfranchised people across the globe and therefore potentially have the least ability to effect the changes needed to address climate crisis, while simultaneously being less responsible for it. The inhabitants of Korogocho are some of the most economically disadvantaged people living in Kenya today. It is one of the largest informal housing settlements in Kenya with an estimated 150,000 people living within an area of about 1.5 square miles. Korogocho first started to attract inhabitants, mostly quarry workers and their families, in the 1960s. In the 1980s it grew rapidly as informal housing settlements from the centre of Nairobi were evicted and as internal migration numbers increased as people moved from rural regions of the north which were becoming too arid to grow crops, to find work and support themselves (GDCl 2024). As with other informal housing settlements within or close to large cities, its population and size are hard to measure as they are ever changing, ever growing and spreading where they can, with new people arriving each month due to internal migration. Also, like other large-scale informal housing settlements, Korogocho does not consist of a homogeneous group of people. Korogocho encompasses eight urban villages, each with their own name and distinct cultural practices; each of whose inhabitants have limited access to water, sanitation, education, health services, electricity, and basic services. As such the inhabitants of Korogocho are inversely and directly affected by climate change and as we discovered, acutely aware of the dangers it poses to them, and their communities.

Climate scholar Leon Sealey-Huggins has written extensively about the interconnections between social injustice and climate injustice, strongly making the point that the connections between colonialism and the climate crisis are rarely discussed and the 'ways in which the past is not a finished entity it is a process that stretches into the present and into the future' need to be made more explicit. His research draws the conclusion that 'we cannot understand climate change, either in the Caribbean or globally, without considering the social relations of contemporary forms of capitalism' (Sealey Huggins 2018, 100).

Climate change is having a significant impact on Kenya. In 2010, German Sociologist Ulrich Beck identified climate change as a global injustice, highlighting that those in the global south will, and in fact already are, disproportionately suffering its effects the most, particularly those with colonial legacies with industrial infrastructures that were built for profit. The Intergovernmental Panel's report on Climate Change (2022) identifies West and East Africa, South Asia, and Central and South America as being at the highest levels of vulnerability to the negative impacts of the climate crisis. The eco scholar and artist Jennifer Willett, outlines the social injustices facing Kenya in detail stating that 'nearly half of Kenya's 40 million citizens live in poverty. The middle class is growing but so many people are still abjectly impoverished ... and life expectancy is only 62 years' (2015, 42). In Kenya, Willett says that it is estimated that:

... 80% of the country is arid or semi-arid. Yet, the principle means of livelihood from majority of Kenyans is based on access to productive land. Further, in many areas of the country the local economy is entirely dependent on a consistent and adequate November rainy season, and without these rains, livelihoods are ruined. But local climates are changing with widespread diminished annual precipitation. Exploring these impacts of climate change in rural

Kenya is an analytically productive case in the intersecting forces of injustice and degraded environments that combine to form a slow justice. (2015, 42)

In Korogocho few children complete primary education because of poverty where the stark choice for families is food or education. The choice becomes harder as the children move from primary school to secondary school or beyond when the young people are needed to generate money for the family. Primary school education is free in Kenya but currently there are only two public schools serving Korogocho between them taking roughly 4000 children. In addition, there are several informal schools supported by NGOs and private schools, in both cases where certificates achieved are not recognised as being valid or useful and teachers, resources, and electricity are in short supply. Only 18.2% of these schools have electricity. Social injustice, colonial legacies, and climate injustice come together ensuring that marginalised groups, particularly women and children are economically disadvantaged with the homeless and those living in informal housing settlements being especially vulnerable to climate change itself and also climate anxiety and depression (Doran 2016).

The young people living in Korogocho, for whom we designed the Rock Art Safari, have an ever-present reminder of Sealy-Huggin's assessment of the social relations of capitalism and its effects on the climate in the form of Dandora – the landfill site covering 30 acres of land that overshadows the informal housing settlement (Environmental Justice Map 2023). The people living in Korogocho are impacted directly on a daily basis by the pollutants that result from the wider city of Nairobi's waste. The children living here do so with a constant sensory reminder that climate injustice is part of their lives, and that the impacts of climate change are having a negative effect by damaging both their physical and mental health. Rather than focusing directly on climate change, the Rock Art took them into the past and showed them things that do not form part of their everyday lives using this lens and the fictional frame of the process drama allowed us to explore climate change at a distance. In the classroom, the young people were particularly excited by their ancestry, the art itself, their culture, and the history of Kenya. Their sense of ownership over the rock art was strong and they were highly motivated in the sessions to find ways of preserving it. They were particularly taken, and delighted by the idea that the dry and arid areas where the rock art was filmed in likelihood areas of rainforest when the markings were made on the stones.

These elements were fed into the dramas they made and the stories they told as part of the workshops, and many have featured rainforests and tales of migrating giraffe. One child said to Litonde that they did not know about rock art and that it provides a new way to think about climate patterns – the things that change and the things that don't. It is clear from the workshops that far from being disinterested in climate change the children in Korogocho are very interested and were so long before the *Rock Art Safari*. One said that 'It is important to take care of our environment for the future and now we can think about how to use technology and the museum to help us do this'; while another said that as children, they must be responsible and not drop litter and they should plant more trees and recycle. These are not things that are covered in the workshops but comments like it and many others come up in the discussions and plays and storytelling that are part of the resource. One group made an installation of found objects that could have been recycled rather than just discarded;

another used twigs, leaves branches, rocks, and pebbles to create a set while talking about thinking of creative ways to re-use natural resources. One group of children made colourful costumes overnight from old woven bags and surprised the team by wearing them to the second workshop to show that everything has a second use. Through each workshop it was clear that these young people, like those in *The Trials* project in London, know a good deal about the effects of climate change and have a good working knowledge of practical grassroot activism.

There were numerous pedagogic and creative benefits to this approach. For example, commonly shared global challenges could be interrogated through a mix of experiences, cultures, and values. Different modes of theatre-making, born of different geographic and cultural traditions could be brought together. Many barriers to participation – such as social or economic disadvantage, or disability – could be challenged by opening up more accessible modes of participation made possible through technology. However, another core benefit was the reduced carbon footprint of such digitally distributed activity. A theatre practice facilitated by digital exchange almost inevitably has a lower carbon footprint than a practice that depends on extensive transportation requirements, moving actors, facilitators, sets, and costumes between often disparate venues and locations. C&T could sustain six-month collaborative projects between schools in the UK, US, Australia, and Kenya, involving thousands of young people across multiple workshops and sessions with a comparatively low carbon footprint.

One of the underlying principles of the *Rock Art Safari* project was to consider climate change refracted through the ancient markings on the stones; this art was a hook to engage the young people. The process drama elements positioned the young people as earth scientists and climate activists investigating rock art legacy preservation. We suggest that it is important to raise critical awareness of climate change in line with Kershaw's directive while harnessing the potential for young people's agency in an indirect way using play and engagement as ways into the work. On the ground in Korogocho, the project team saw learning through play enriched by digital resources facilitated and active engagement that the children are extremely enthusiastic about. They created tableaux of people creating art, playing ancient games, and made short pieces of drama that contained ideas for tackling climate change as well as telling stories about both imagined pasts and futures. They also left messages and photos on the projects dedicated WhatsApp number for the fictional agency they were researching for while in their role as scientists and activists after the workshops.

The school teachers on seeing the levels of the young students' excitement and engagement have requested that the workshops, originally designed as one two-hour session, were delivered in two two-hour sessions. What we witnessed in Kenya was an extraordinary level of enthusiasm and active engagement so much so that the project leads in Kenya are already being asked to come back and deliver the workshop to other groups in the school. That is not to say that the project was not without limitations, the first of these being the short nature of the work. Although Litonde works with these schools on an on-going basis the *Rock Arts Safari* was designed as a one or two workshop package that the children would then have long-term access to via the website and the Prospero platform. Secondly, the children had already considered what changes they could make as individuals and the project failed to generate new ways for them to actively work against climate change. It did however give them more information about the long-

term effects and damage climate change brings. Thirdly although actions to be taken were articulated eloquently by all the young people, it is currently hard for us to ascertain whether these actions have been undertaken or if they have changed their behaviour in any way due to the short-term funding of the project.

Conclusion

As we were planning the project, the avoidance of exacerbating both climate anxiety and overburdening young people with responsibility, and the avoidance of oversimplification of climate injustice, weighed heavy on our minds. Three key aspects of the project played pivotal roles in mitigating these challenges. Firstly Litonde, a drama facilitator who himself grew up and currently lives in Korogocho, secondly our process drama methodology and thirdly our use of digital technology to bring both the beauty and surroundings of the rock art to the children and its use as a basis for the workshops. To date the Rock Art Safari has been experienced by 500 children, with each group of 30–60 young people making theatre, telling stories, finding creative and imaginative ways of preserving the rock art, and thinking about the small ways they can contribute to slowing down the impact of climate change, and writing messages for future generations. This was a short-term intervention and is unlikely to make large changes to the young people's lives or their personal experiences of climate change. But it is clear that the young people were having fun, engaging with cultural heritage and digital technology, performing stories they have created and in the workshops themselves. Thus far there has been no evidence of anxiety; concern and deep thinking yes, but no anxiety. However, as a team we are acutely aware that challenge number three is not fully worked through in this project. The oversimplification of the issue of climate change and its interconnections with colonialism, poverty, and injustice was not fully tackled or embedded into this project. Nor is the oversimplification of practically addressing the crisis itself. A pilot project consisting of one or two drama workshops and immersive technology are incapable of doing these things. Perhaps even a long-term theatre intervention is not capable of this either. As Project leads, we return to Chaudhuri's consideration of what can theatre do, and her provocation that theatre 'must play a role' (1994, 25). Maybe, by working with other disciplines, applied theatre practitioners have a role to play in creatively approaching this urgent, difficult subject matter. We can discover playful and engaging ways to raise consciousness and harness critical thinking.

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