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Decolonizing imperial epistemologies in African environmental historiography: chemical violence, postcoloniality and new narratives of the toxic epidemic in Africa

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ABSTRACT

African history and environmental history have had negligible impact on each other. The field of environmental history has had limited traction in influencing the writing of African history and generating critical discourses that urgently frame the continent's postcolonial experiences beyond hegemonic and imperial epistemologies. Consequently, much of African environmental history research has struggled to appeal to postcolonial scholarship and provide relevant conceptual and methodological frameworks rooted in the objective imperatives of the present. This paper invites African environmental historians to generate urgent scholarship that concretely engages with postcolonial encounters and the contemporary manifestations of historical subaltern vulnerabilities. Through this, African environmental history research should seek to construct narratives that prompt the imperative for accountability, culpability, empowerment and the imagination of alternative ways of writing the past into the present. The paper appropriates and deploys slow "chemical violence" as a concept through which postcoloniality can be conscripted to construct new analytical and methodological pathways in the writing of African environmental history.

Keywords

Postcolonialism, slow violence, toxic, Africa, environmental history, wasteocene

Introduction

African environmental history literature has intently focused on the relationship between the colonial encounters and degraded environments, but very little of that research has emerged as the conceptual and analytical fulcrum for postcolonial scholarship (Stoler 2013, 10). A huge corpus of environmental history research has focused on the role of colonial scientists, colonial environmental knowledge and the technocratic order of colonial conservation and environmental governance (Beinart 2008; Grove 1996; Showers 2005; Tilley 2011). Subsequently, African environmental history became entrapped in the colonial complex and could not wander far out of this conceptual maze to address the legacies of empire and postcolonial situations. Much of this scholarship took for granted the colonial environmental regimes and failed to refocus on the interconnectedness between degraded environments and

decadent materialities of imperial projects and the many ways in which these continued to define contemporary spaces and landscapes in postcolonial Africa.

The colonial past and the postcolonial present are connected through material residues and debris that are indelibly etched on human bodies, cells of life and the physical natural infrastructure. The 'debris' of empire constitute the degraded humanity from colonial assault, the assailed and broken landscapes and the brutalized ecologies and the chemical sedimentation embedded in biological tissues that still confront and shape the politics of the present. Debris are the fragments of structural violence, the transgenerational shrapnel of chemical violence. Chemical violence in turn, is the disproportionate and devastating impact of environmental toxins on indigenous people, indigenous lands and their future generations (Loboiron 2021, 87). Like most forms of colonial violence, it is deliberate, systematic and systemic. It was based on a racialized denial of humanity for black people within a bifurcated colonial state consisting of citizens (white settlers) and subjects (Africans) (Mamdani 2006).

However, chemical violence as a distinct form of colonial encounter has received very limited attention from African environmental history literature. The focus has been on the more visible and well documented forms of structural violence such as land dispossession, natural resource extraction and displacement of indigenous communities and suppression of local knowledge systems. The emergence of "slow violence" (Nixon 2011) as an analytical tool for the environmental humanities to track temporalities of toxicities and their afterlives and the aftermaths of chemical violence has not stimulated as much critical discourses on the subject in Africa as it did in the global north. Slow violence refers to the gradual, dispersed and cumulative exposure to environmental toxins whose impact is not immediately quantifiable but manifests subtly across many generations in many forms as afterlives. The many ways and forms in which these toxic afterlives crossed temporal boundaries of the colonial past to be activated in the postcolonial present has received very little if any systematic historiographical attention in Africa.

This scholarly neglect and negligence could be explained by two factors: the unavailability of tangible evidence in the colonial archive that concretely documents the perpetration of chemical violence, and the deliberate invisibilisation and casualization of chemical exposure and chemical death of disposable "native" bodies. The disposability of colonial subjects routinised chemical genocides and the construction of the native body as less than human in settler imaginaries reified and legitimated colonial structural violence (King 2019, Belcourt 2015, Belcourt 2020, Boisseron 2018, Kim 2017). Colonial epistemologies and scientific knowledge concealed the chemical violence and its disproportionately devastating impact on indigenous people and future generations. This lacuna has been reproduced in much of African environmental history scholarship and the chemical violence of colonial rule is entombed and occluded, yet its toxic potency festers and lurks in contemporary communities.

This paper engages this historiographical void and discusses conceptual pathways for reframing African environmental history within postcolonial studies and recentering the focus towards integrating the colonial past and the imperial presence. Postcolonialism subsumes temporalities of beginnings and end into continuities and complexities of historical and chronological thinking (Prakash 1996, 188). It emphasizes the interconnectedness, fluidity and continuities between past and present, colonial and postcolonial, north and south. However, formative postcolonial theory came under a lot of criticism for being too theoretical, more textual and less engaged with the contemporary realities and conditions of social and economic suffering (Dirlik 1994; William 1997; Callincos 1995). Postcolonial revisionist scholarship has emphasized more constructive integration of postcolonial approaches to African Studies in ways that furthers epistemology and methodology (Abrahamsen 2003). Also, postcolonial studies have a penchant to morph into alibi narratives if they are not placed within adequate frameworks of analysis (Spivak 1999, 1). This is quite common when the representation of the colonized and colonies (re)produces postcolonial knowledge that securely places colonialism/imperialism in the past.

In line with these critiques of postcolonial theories, this paper draws on the concept of chemical violence to engage with temporalities of toxicities in a broader postcolonial analytical framework that juxtaposes contemporaneity and historicity as immediate and urgent ontologies that require address and redress. The paper provokes new methodological and proactive conceptual approaches for the writing of urgent and relevant environmental histories that are pertinent to the challenges and subjective experiences of postcolonial African communities. The paper calls for decolonial oriented methodologies of writing African environmental history that transcends the limitations imposed by colonial sources and to coopt our sensorial perceptions and bodily experiences with contemporary landscapes and communities and showing how residues of the past have a preponderance as toxic legacies of chemical violence. It argues for narratives of historical and environmental knowledge that fosters empowerment of subalterns, prompts the quest for accountability, and challenges the culture of impunity and contest hegemonic discourses that entrench the pervasive culture of environmental violence in Africa. Consequently, the paper connects with the broader environmental humanities literature that has urged the discipline to recentre itself as a knowledge regime and medium through which scientific facts are translated into ‘politically realizable’ policy decisions (Sörlin and Warde 2007).

Colonial chemical violence, toxic temporalities and postcolonial susceptibilities in Africa

The 19th century in Europe was dubbed the “arsenic century”, a unique poison epoch that has been subject to much scrutiny by medical historians and social historians (Wharton 2011;

Parascandola 2012). While the European poison century and the concomitant chemical violence has received widespread attention, the colonies and Africa's globalization and integration into the poison empires is under researched (Arnold 2016). This negligence inadvertently conceals the multiple layers of slow violence and scuttles the quest for historical accountability and culpability. The case of Vietnam and the use of Agent Orange poison illustrates how neglect, strategic suppression of information, erasure and the invisibilisation of victims of chemical violence can be deployed to construct plausible deniability by the perpetrators (Adelson and Taverna 2021). Thus, historical narratives that can excavate the multi-layered temporalities of toxicities and connect them to contemporary human susceptibilities and vulnerabilities in Africa are an essential brand of critical and analytical postcolonial scholarship that will empower communities and prompt remedial action.

African communities were conscripted into the poison empires by colonial capitalist enterprise from approximately around the late 19th century to the early 20th century. Expansion of European colonial settlements into the hinterlands instrumentalized poisons to contain pests and diseases. Poisons were used to tame the 'wilderness' and rid it of vermin and species of flora and fauna deemed undesirable and invasive for white settler colonial projects (Mavhunga 2011). Also, colonial agricultural expansion relied on pesticides, herbicides and fungicides. Furthermore, mineral extraction, metallurgy and industrial processes in colonial Africa generated toxic waste that was deposited on landscapes and biological bodies. For instance, during the first decade of the 20th century, drums of arsenic poison were imported into eastern Africa for the booming colonial export leather industry and the toxic waste was washed down rivers poisoning water and the land (Sunseri 2018). Additionally, bio-medical research for tropical diseases' control used African bodies as test subjects (Bonhome 2020). The regimes of political entomology constructed for colonial pest and disease control mobilized massive compulsory pest eradication campaigns that coercively recruited African labour to conduct the toxic sprays under dangerous conditions (Scoones 2014; Doro and Swart 2019; Brown 2003; Uledi and Hove 2019; Howards 1907). In most colonies, pest control was enforced by ordinances and legislation that empowered the white settler state to use chemicals without restraint and to compulsorily enforce pest destruction campaigns in African areas (Mwatwara 2014; Gilfoyle 2003; Peloquin 2013). Colonial mining technologies also employed extractive technologies that exposed millions to slow chemical violence, disease and death while simultaneously chemicalizing landscapes with persistent and non-biodegradable toxins such as lead and arsenic (Pesa 2022).

This chemical avalanche did not expire with the end of formal empire but endured in many protracted forms as "toxic timescapes of colonialism" and "subaltern timescapes of contamination" (Wright 2023, 173; Ferdinand 2023; Davies 2023; Ilengo and Armiero 2023, 188). Toxic residues crossed the temporal boundaries and etched themselves into soils, water,

genetic material and biological cells of life unleashing a subtle but deadly spiral of chemical violence and an epidemic of disease. Toxicities, poisonous chemicals, and toxic exposure manifests in different time scales and generations of the human life cycle (Müller and Nielsen, 2023). Armiero (2021) designated the current global epoch as the 'wasteocene', warranted by the distinct preponderance of toxic waste, wasted relationships, wasted people and wasted ecologies generated by colonial capitalist production. In Zambia, the colonial mining and smelting industry bequeathed the legacy of lead poisoning of children from the toxic soils resulting in brain damage, paralysis and blindness (Carrington 2017). In South Africa, the profligacy of the colonial gold mining establishment left behind toxic tailing storage facilities and problems of acid mine drainage that threaten water supplies and the health and well-being of marginalised black communities (Olalde 2015; Chetty, Pillay and Humphries 2021). Toxic waste from historic gold mines constitutes the single largest threat to contemporary South Africa's water resources and human health (Durand 2012). An insidious and underdiagnosed Silicosis and Tuberculosis (TB) epidemic generated by the colonial gold mines has also had far reaching deleterious effects on public health and livelihoods in postcolonial communities in southern Africa (McCulloch 2009; McCulloch 2013; Marks 2006; Trapido et al 1998).

Arsenic poisoning from historic mines and dipping sites contaminates underground water supplies and threaten human and animal health (Ramudzuli 2021). In Burkina Faso and Ghana, the arsenic concentration of ground water supplies in gold mining areas is high resulting in skin disorders, keratosis, melanosis and skin tumours (Smedley 2006; Smedley and Kinniburgh 2002). Residues of chemical and bacteriological weapons used against black nationalist movements by colonial regimes such as anthrax, XV, sarin, mustard gas, parathion, thallium, strychnine, arsenic and cyanide have embedded into human bodies and landscapes (Coovadia 2021; Martinez 2003; Cross 2017). A clandestine government's bio-chemical weapons program in colonial Zimbabwe during the 1970s resulted in the largest outbreak of anthrax disease in modern history in 1980 that left more than 180 people dead (Coen 2009). Anthrax has remained enzootic in the country and outbreaks have occurred sporadically.[1]

Therefore, the imperative for more robust multidisciplinary studies of toxic historical landscapes in Africa and the extent to which they impact present communities is urgent. Similar studies in North America have not only unearthed the pervasive contamination of soils and water sources by toxins such as arsenic from historical gold mining sites but prompted environmental clean-up programs (Sandlos et al. 2019).[2] To this end, inter-disciplinary research that integrates environmental history methods and fields of environmental and medical sciences such as ecotoxicology, environmental forensics, environmental chemistry and epidemiological studies are imperative for a much robust engagement with how colonial chemical violence still alters life forms and its toxic postcolonial manifestations (Worster 1996). Thus, environmental history scholarship in Africa requires significant postcolonial vindication

and utility in how it can produce relevant knowledge that works and empowers communities in dismantling structural vulnerabilities and susceptibilities that entrap them. It must deconstruct "ignorance" of toxic legacies, disrupt hegemonies and systemic processes that entrench vulnerabilities and chemically compromise subaltern bodies. It must be strategically deployed to conscientize present and future generations about the toxic hazards that stalk them. Environmental historians must engage the pervasive corrosive processes of colonial regimes and ruination and how these weighed in the past, weigh in the present and will weigh in the future. Tracking the "shifting patches of ruination" (Tsing 2015, 206) is an endeavor that could afford a vantage epistemological gaze.

Postcolonial and decolonial methodologies for examining chemical violence in Africa

The terrains of chemical violence are occluded, opaque and without immediate physical and concrete evidence that can be urgently presented as proof. The tangibilities or the substantial and perceptible material of bodies are not always available to demonstrate culpability and enforce historical accountability. Tangible bodies are the currency that purchase attention, empathy and sympathy to endorse or legitimize narratives. Tangible bodies serialize and memorialize the commission of violence, and without bodies to display for spectacle and legitimation, history often acquits and absolves. In the absence of tangible materialities the historical plot recedes into the classic murder mystery conundrum of "no body, no crime." This is the methodological and conceptual enigma that makes the investigation of chemical violence in Africa and the colonies more intractable. Chemical violence is obscured within 'epistemic violence', a systematic obliteration of the traces of the 'other' and its concomitant precarious subjectivities (Spivak 1999, 266). Stefania Barca (2014, 542) refers to this epistemic obliteration as "narrative violence." Colonial toxic narratives are engineered and domesticated to either conceal and obliterate subaltern victims from collective memory or manage the emotional responses and public sentiments (Armiero 2021). The colonial archive is hostile and indifferent to the experiences of marginalized subjects and much of colonial scientific knowledge and technical expertise was not always competent (Saha 2022, 2; Showers 1989). The discernment of chemical violence and the quantification of its severity and costs across time is thus problematic. Also, marginalized groups are often invisible in official memory and policy planning where their chemical exposure and chemical death is framed either as "accidental" or "ordinary" (Davis 1995). Hegemonic toxic narratives conceal the victims from view and expunge them from mordenity, invisibilise the violence and normalize the injustice (Armiero: 2021, 19; Barca 2020).

How then do we frame effective and urgent histories from the disparate fragments of colonial sources constructed to suppress and enforce rigid denialist ontologies on culpability

and responsibility for pollution and chemical exposure? The models developed for constructing scientific knowledge on toxicology, pollution and contamination during much of the 20th century were based on threshold theories of harm, 'assimilative capacity' and the body-centric logic (Nash 2006; Loboiron 2021). Assimilative capacity implied the maximum limit to which a body could be exposed to pollution without succumbing to physical harm. These techno-scientific regimes codified in official colonial techno-scientific thought espoused visible and quantifiable bodily harm and threshold limit values as sole admissible evidence of poisoning. Subsequently, much of scientific research on chemical contamination and pollution conducted by public and private entities documented the toxic risks in ameliorated and mitigated terms such that much of the damage escaped institutional scrutiny across many decades (Pesa 2022). Thus, human bodies / animal bodies that could not be urgently quantified under the threshold regimes' gaze are invisible from the official count. Critical decolonial discourses have contested these colonial body-centric and threshold value theories, but they are yet to find methodological and conceptual articulation in the body of current African environmental history scholarship. Murphy (2017) calls for critical discourses that illuminate the expansive and intrusive chemical relations of capitalism that entangles life forms to create chemically altered and reconstituted lives, or what she calls the 'alterlives'. The afterlives of empire's chemical violence in Africa are not only aftermaths, but what I prefer to refer to as 'alterments', chemically altered moments in which biological life and livelihoods are conditioned to stunt and despair. It is a form of subtle structural violence that cause harm to people in a way that constrains and deprives them from their potential quality of life (Liboiron 2021, 87).

These entombed subaltern toxic experiences must be framed urgently and with an immediacy that conveys meaning and lived experience. Our methodologies must be able to conjure and make sensorially available all the encounters ostracized and censored by the colonial archives. Other sensory methods of historical reconstruction can be useful to discern latent forms of violence that are not immediately accessible through sight. Both Hunt (2013) and Azoulay (2013) emphasized the urgency to appropriate other sensory techniques such as hearing and listening for images and sounds in the eye of memory while reading the colonial archive or working in terrains without physical evidence to discern the invisible forms of violence. Thus, embodiment of other senses such as the imagination can be used to discern the weak traces in the archival sources and create alternative narratives that produce meaning through reenacting in our minds the experiences of the past (Chakrabarty 2009). A vicarious imaginative approach towards the writing of environmental history involves using the limited fragments in archival sources to recreate alternate scenarios and simulate the multiple possibilities to recreate and reenact suppressed experiences that are not presented in the sources. It is a logical and deductive process of parsing the archive for traces of chemical exposure that are implicitly or inadvertently referenced and intricately linking these in a

narrative thread that demonstrates the scale and extent of impact to humans and dramatizes vividly how chemical death was administered. Subsequently, the absence of concrete sources that directly show the perpetration of chemical violence in scientifically verifiable and quantitative terms should not distract the writing of histories of colonial chemical violence, rather it should open pathways for new ways of thinking and imagining the quantification of this type of violence so that it is not buried and forgotten due to lack of evidence.

Ironically, the proof technicality has been deployed consistently to deny culpability by those who deliberately and systematically suppressed the evidence that could constitute the proof through either manipulated scientific and expert knowledge, destruction of records or censorship. However, chemical relations and the trail that connect entities and bodies to each other cannot be erased and if these can be established, visualised, reenacted and visibilised from the colonial archive then a strong case of chemical violence can be made. Bodies can be deployed as powerful sensorial windows into expunged toxic experiences and be used vicariously, viscerally and corporeally to reconstruct the invisibilised encounters of chemical violence. Consequently, overwhelming evidence is not required to constitute the basis of credible narratives of chemical violence. If we can sensorially demonstrate embodied experiences of disproportionate exposure, then we have established the chief premises for chemical violence and our analytical focus must shift to other parameters such as enforcing accountability, culpability, contesting cultures of impunity, empowering affected communities and remedying the toxicities lodged in bodies and landscapes. To this end, historical studies of generations and toxic timescapes can also provide a useful conceptual perspective on the global fight against the toxic epidemic (Müller and Nilsen 2023, 27). It is an approach against erasure, strategic historical amnesia, colonial marginalization and the transgenerational stratification of alterlives and alterments. It would “reanimate arrested histories” and provoke a critical rethink of empire and its place beyond the epistemological domains of coloniality. To posit empire in post coloniality is to give it relevance and purpose in the construction of the present not in a fatalistic way, but in a manner that challenges its perpetuation and entrenchment in people’s lives.

It must be emphasized, however, that while the colonial archive is a major repository of historical data that can be used for the reconstruction of experiences of slow chemical violence in Africa, there are many other alternative sources from which these experiences can be more objectively gleaned. Our attention must focus on oral histories, stories and narratives from below that document personal lived experiences in toxic environments and how individuals have made sense of their respective vulnerabilities to diseases and chemical exposure across time. Toxic biographies and ‘guerilla narratives’, as Armiero (2021) calls them, can constitute a new social archive that can afford a much exhaustive and extensive gaze on the conditions, nature and extent of chemical violence. Other alternative sources could include literary

material, fiction, historical documentaries and films that have portrayed some of the atrocities perpetrated on indigenous populations in Africa during colonial rule.[3]

In all these reconstructive endeavors, the motif of urgency and immediacy must be emphasized to reinforce the pervasive precarity that stalks postcolonial life systems within chemicalized landscapes and toxic relationships of production, subsistence and existence. The deadly encounters in colonial pasts should be presented in ways that evokes and prompts proactive engagement with the colonial presence. Beyond its perpetuation as molecular and toxic cellular material much of the toxic legacies endure within the infrastructure of colonial chemical violence that still abounds in many imperial forms. The imperial formations are the power relationships underlying exposure, marginalization, visibility and disposability. The infrastructure is the more enduring socio-economic and political cultures that dispense chemical violence in the present and these entities must not be underestimated. The colonial matrix of power relations manifests themselves in the present day in multifaceted forms that wreak havoc on postcolonial Africa, preventing economic development and unleashing epistemic violence (Ndlovu-Gatsheni 2013, ix). Forms of colonial labour regimes, racialized exposure, expendability of non-white bodies, suppression of knowledge, construction of ignorance, misinformation/green washing, genocide, denial of responsibility and the rapacious culture of impunity still endure. The hierarchical, racialized and hegemonic structures of empire still abound. Thus, engaging with these entities is critical towards extending the frontiers of postcolonial epistemologies in African environmental history.

The new disciplinary frontier in African environmental history

I posit that postcoloniality in African environmental history should not seek economic restitutions, reparations, historical pity, collective guilt or commiserations. It is not an epistemic indictment or a discourse of vengeance. Postcoloniality is a quest for historical accountability, culpability and empowerment of the marginalized subalterns through new forms of knowledge that dismantle toxic hegemonic propaganda that entrenches susceptibilities and vulnerabilities built across centuries of colonial relations. Postcolonialism's identity should be its political commitment to the marginalized and recovering the subject position of the subalterns (Appiah, 1991). The epistemological objective of postcolonial discourses must not just end with knowing or knowledge production, but appropriate new knowledge into processes of action and doing things. To know is not enough, people must be empowered to understand and act. Postcolonial theory must be underlined by postcolonial activism and political action to address the concrete and fundamental questions of human survival and the future. As Mudimbe (1988, 188) puts it, history must function as both "a discourse of knowledge and a discourse of power." Therefore, toxic legacies, chemical violence and the toxic epidemic must constitute a new frontier in analytical postcolonial African environmental history scholarship.

The relationships of "wasting away" that produces wasted people still lie at the core of the global capitalist economy and its neocolonial order, where peripheries constitute geographic zones for disposing hazardous chemicals and toxic waste (Müller, 2019). Global environmental governance, despite its "green" platitudes, has remained detached from this toxic threat and the accompanying chemical violence to communities in the Global South.[4] The agenda and focus has been on the "climate crisis" and cutting carbon emissions to the detriment of the toxic epidemic. The toxic epidemic is perhaps the most neglected but most insidious and fatal catastrophe confronting Africa and the Global South during the last and this century. However, according to United Nations figures toxic contamination is the single largest cause of premature death in the world, and if we factor the scales of disproportionality of exposure and institutionalized toxic global relations it is common knowledge where most of these deaths occur (Bergman et al 2013). The historical and institutionalized disruption of knowledge, memories and narratives of invisibilisation has distorted contemporary understanding of toxicities, their legacies and the many new forms in which chemical violence is foisted upon oblivious communities under new postcolonial banners and development-oriented green rhetoric.

Dismantling the toxic hegemonies and its attendant infrastructure of slow violence requires new epistemic approaches that are framed to resist, empower, bring to account and structure a new disciplinary outlook that generates relevant knowledge for the grassroots and subalterns. The merits of these new approaches are that they must be rooted in concrete human experiences and framed to respond to conditions that threaten human survival — particularly the survival of the historically marginalized and those made invisible by dominant global hegemonies. This is "activist scholarship" and part of the movement of resistance against the "wasteocene logic" and its perpetuation of ruination, othering and wasting away that Marco Armiero proposes. African environmental history discourses must assume the liberation mantle, and dismantle the core logic of western modernity (Ndlovu-Gatsheni 2013, 4). A new historiographical frontier must mobilize, energize, galvanize and activate the capacity to imagine new communities and contest the inherent structural violence in all its forms. For that to happen, African environmental history must find traction in postcolonial African scholarship and establish empirical grounding as a proactive and relevant discipline. It must produce and communicate discourses that engage and are relevant to the concrete social and economic miseries of the subalterns. Environmental history has the potential to wield influence that can transcend the narrow disciplinary confines into realms of policy making and informing public opinion.

Notes

[1] See https://dailynewsegypt.com/2020/01/14/at-least-31-zimbabweans-affected-by-anthrax/, accessed March 11, 2023, and https://mg.co.za/article/2000-12-18-zimbabwe-on-brink-of-anthrax-epidemic/, accessed March 11, 2023.
[2] The toxic legacies project in Canada examines the history and legacy of arsenic contamination at Giant mine and engages local communities in the affected areas. The project also includes a major federal remediation project. See http://www.toxiclegacies.com/project/the-yellowknives-dene-and-arsenic/. Accessed on May 9, 2023.
[3] See the colonial films website that contains hundreds of documentaries on life in the British colonies available at http://www.colonialfilm.org.uk.
[4] The export of hazardous chemicals banned for use in the global north to Africa and the Global South constitutes one of the major aspects of chemical violence that appears legitimized and condoned. During 2018 and 2019 the United Kingdom and the European Union approved the export of 141,000 tons of pesticides banned for use in Europe (because of negative health effects) to Africa. See Kairu 2022.

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