

Caribbeanist casualties: Interrogating the application of structural vulnerability to forensic anthropology

Isis Dwyer^{a,*}, Delande Justinvil^b, Andreana Cunningham^a

^a Department of Anthropology, University of Florida, Gainesville, FL, USA

^b Department of Anthropology, American University, Washington D.C., USA

ARTICLE INFO

Keywords:

Forensic anthropology
Afro-Caribbean
Structural violence
Migration
Biocultural approaches

ABSTRACT

Biocultural approaches are instrumental to the evolution of forensic anthropology, and this practice must first reckon with its own violences before it can ethically address structural violence at large. We take up the issue of coerced migrations of Caribbean populations and forensic practice at the southern border of the United States, to problematize how forensic identification standards contribute to the casualties of ethnic erasures and potentially exacerbate structural vulnerability of Black Caribbean populations. We put forward that forensic anthropology is complicit in maintaining inequality in death and identification for Black Caribbean migrants through the absence of necessary reference data and methods of population-affinity estimation, and the adoption of fundamentally flawed linguistic constructions of Blackness. Pushing forensic anthropology to continue engaging with the colonial logics that have shaped its understanding and motivation for quantifying human biologies is key in efforts toward a progressive disciplinary future.

1. Introduction

The racial capitalism [1] that is foundational to the United States, has sustained structural inequities that continue to have material consequences for historically marginalized peoples. A frequent consequence of marginalization and structural violence, especially on multiple axes of oppression, is an early death. The Structural Vulnerability Profile [2] uses skeletal and dental biomarkers to call attention to the embodiment of inequity in decedents in the United States. This intervention prompts forensic anthropologists to connect the embodiment of social and structural inequities to skeletal biomarkers of stress, and how that informs understanding of decedents' lived experiences. In an attempt to decentralize hereditary variation in forensic identification methods, the SVP encourages forensic anthropologists to "shift from predicting social categories to identifying the biologized factors that stem from living within them" [2]. The paradigm shift presented by the SVP, as a method that aims beyond improving individual decedent identification and towards contributions to ongoing research, public policy and discourse surrounding systemic inequities in this country, is an opportunity for forensic anthropology to critically reflect on itself as an institution and the hegemonies it produces and reproduces through methodological developments.

In addition to examining the ways social, political and economic hierarchies pattern health outcomes, analyses of structural vulnerability also confront the ways that "institutions and practices designed to offer care and assistance can also, at times unintentionally, contribute to health risks and poor health outcomes" [3]. In order for the SVP to push this discipline to "live up to its disciplinary potential, but also to transcend the racist foundations on which it was built" [2; p. 4), sets of parameters, measures, and interventions must be made to address the vulnerabilities produced by institutions and practices of forensic anthropology, not just individuals themselves. The greatest potential of the SVP in its current iteration, lies in its ability to call attention to structures of inequity - specifically those within the discipline. Before we can address "upstream" factors such as sociopolitical, economic, and environmental health determinants [2], forensic anthropology must reckon with its role as a potential "downstream" factor.

The shortcomings of forensic anthropology with regards to its standards of identification in Black and Afro/descendant populations demonstrate that structural violence does not necessarily end when an individual dies. Necroviolence, represents violence performed or produced through offensive and/or inhumane treatment of human remains [4]. Our decision to center Black and/or Afro-descendant groups stems not only from our positionalities as Afro-Caribbean scholars, but also the

* Corresponding author. Department of Anthropology, University of Florida, 330 Newell Drive, Gainesville, FL, 32603, USA.

E-mail address: isisdwyer@ufl.edu (I. Dwyer).

unique intersection of racism, colonialism, and anti-Blackness that has shaped forensic understandings of these populations in the United States. We build upon the impetus of necropolitical violence at the U.S.-Mexico border to explore how current standards of forensic ancestry estimation produce violent ethnic erasures of Black Caribbean peoples - and the potential of biocultural approaches such as the Structural Vulnerability Profile to redress these errors. By evaluating these erasures methodologically and theoretically, we aim to shed light on the necessity of critical biocultural approaches and activist anthropologies to mobilize the potentials of a Structural Vulnerability Profile towards the human-centered disciplinary advancement of forensic anthropology beyond a medico-legal auxiliary practice.

2. Border(ed) violence

“We cannot deceive ourselves about where we’re coming from in order to get where we need to go.”

William C. Anderson, *The Nation on No Map*

In 2021, the world watched in horror as U.S. Customs and Border Protection agents brutally removed over 14,000 Haitian refugees from the Del Rio encampment, evoking memories of slave patrols as mounted Border Patrol agents chased and whipped fleeing refugees. This was but the latest in a decades-long saga of U.S.-sponsored limitations of Haitian relief and refuge across its Central American border, from excluding Haitians from immigration relief in 1997 to “metering” - a tactic to delay asylum application - Haitian migrants in Tijuana in 2016. In 1962, the United States denied asylum to the first boat of Haitians fleeing the Duvalier dictatorship. In 1972, mass migrations of Haitians were turned away by the U.S. government, in stark contrast to the reception of contemporaneous acceptance of Cuban refugees fleeing from a communist regime. From 1981 to 1991, the United States interdicted nearly 25,000 Haitians at sea - regardless of whether or not they were bound for the United States.

For the past sixty years, Haitian migrants have been targeted by violent anti-Black immigration policy and enforcement. The United States has closed its borders and networks of support to Haitian refugees despite knowing the dangers faced by Black migrants traveling through Latin America [5]. Black migrants are simultaneously invisible and hypervisible, consistently erased from the national narratives and advocacy surrounding migration, while being disproportionately detained and deported [6] as a result of the intersectional violence of anti-Blackness, racialized policing, and xenophobia they experience. Haitian migrants, along with other Black Caribbean migrants from countries like Jamaica and the Dominican Republic are among the least likely to be granted asylum - with under 6% of applications granted [7]. Delays and denials of border passage force migrants to risk crossing more dangerous, potentially fatal border regions [4].

While the epidemic of migrant death along the southern border of the United States remains at the forefront of humanitarian work in forensic anthropology [8], Black and/or Afro-descendant migrants remain largely absent from our

advocacy, literature and research despite their increased vulnerability [9]. Inequality in death and identification calls attention to the difference in forensic resource allocation provided to decedents of marginalized identities [10]. We put forward that forensic anthropology is complicit in maintaining inequality in death and identification for Black Caribbean migrants through both the absence of necessary reference data and methods of population-affinity estimation and the adoption of fundamentally flawed linguistic constructions of Blackness.

2.1. Who is the undocumented border crosser?

The demographics of undocumented migrants at the U.S.-Mexico border have changed significantly over the past decade, as Mexican migrants accounted for only 37% of 2021 encounters with the U.S.

Border Patrol [11]. In fact, recently published data on 2021 border encounters demonstrates the marked increase of encounters with migrants from countries that have not historically migrated across the U.S.-Mexico border - including Venezuela, Nicaragua, and Haiti [11]. While these demographics have evolved, overall forensic standards for recognizing undocumented migrants have not. In the context of the southern U.S. border, forensic anthropologists often employ Undocumented Border-Crosser (UBC) profiles to designate cases as potential foreign national and/or migrant decedents (Table 1). Across the southwestern border states, UBC profiles are defined by material culture, geographic location of the recovery site, and Southwest Hispanic/Latin American population-affinity as determined by the analysis of nonmetric traits and patterns of craniometric variation [12]. Despite decades of migration across the southwestern border, Black Caribbean migrants are excluded from nearly all definitions of UBC profiles. UBC profiles have become contingent on Latin-American/Hispanic ancestry, as described below in Anderson [12]:

For example, if skeletal remains, without any personal effects, are found in an area of the desert known to be used to traffic illegal migrants, and are deemed to be biologically consistent with Southwest Hispanic ancestry, this individual will likely be included as an UBC if no missing Americans are consistent in physical attributes. However, if this same set of skeletal remains appeared consistent with Polynesian ancestry, then no such placement would occur until further investigation could be accomplished.

However, it remains unclear what further analysis entails and what results would prompt further investigation. Cultural profiles developed in association with UBC designations almost exclusively center Latin American material culture and iconography [13]. The success of institutions such as Pima County Office of the Medical Examiner (PCOME) and Operation Identification (OpID) is predicated on the specialized workflows and collaborations with non-governmental organizations that have been constructed towards the identification of undocumented persons at the southern U.S. border [8]. By situating ancestry and/or population affinity as a defining factor of the UBC profile, forensic anthropologists systematically exclude non-Latine migrants from this specialized UBC identification process and advocacy. As long as Black Caribbean individuals are excluded from UBC designations, forensic anthropology is complicit in maintaining inequitable rates of

Table 1

A sample of profiles for the recognition of Undocumented Border Crossers (UBC) in U.S. border states.

Source	UBC Decedent Profile Descriptions/Characteristics
Anderson [12]	Personal effects (identification, foreign currency, religious icons), recovered in remote desert areas, phenotypic and genotypic observations of Southwest Hispanic ancestry
Birkby et al. [13]	Nonmetric traits signaling Southwest Hispanic ancestry, poor dental conditions, cosmetic dental work, personal effects, religious iconography, short stature and cultural accoutrements
Beatrice and Soler [14]	Skeletal indicators of stress (porotic hyperostosis, orbital lesions, linear enamel hypoplasias), in addition to Anderson [12] & Birkby et al. [13] descriptions
Martinez et al. [15]	Typically male, 25–35 years old, of central or southern Mexico, or Central American origin, recovered from remote area in southern AZ
Fleischman et al. [16]	Must be found in a desert area (not within the city limits), biological profile must indicate potential Hispanic ancestral origin, cultural artifacts found with the decedent must indicate Mexican, Central American, or South American origin.
Friend [17] ^a	Any age, ancestry, and gender, Caribbean and Mexican origin, marine recovery contexts, currency, identification or cultural objects from Caribbean countries

^a The profile proposed by Friend [17] was designed for identifying migrants in Florida, where Caribbean migrants are visible part of undocumented communities.

identification among marginalized populations [10]. A retrospective analysis of unidentified cases in Florida over the last forty years flagged at least 25 potential migrant decedents, with 10 individuals of African ancestry [17]. Even at the eastern U.S. border, where Black migrants are a more visible part of the undocumented communities, forensic anthropologists remain limited in their capacity to identify Black Caribbean decedents - leading to cases that can remain cold for decades.

2.2. Methodological inequities

“Black” and “Latine” are both social race classifications that homogenize populations with diverse biosocial and geographic histories. Both Black and Latine migrants have been targeted with discriminatory policies and border enforcement that often results in attempts to follow dangerous and potentially fatal migration routes. However, forensic anthropology at the border has only researched and developed population-specific methods and reference data for one of these groups. Through in depth comparative analyses of cranial shape and features [18], dental morphology [19], craniofacial asymmetry [20], and patterns of genetic variation [21], forensic and biological anthropologists have mapped the rich biological diversity among Latine populations that has long been recognized by demographers, cultural anthropologists, and other social sciences [22]. Beyond recognizing that tri-continental ancestry (i.e. African, European, Asian/Native American) models excluded and often misclassified Latine people, practitioners have also largely eschewed the use of the term “Hispanic” on the grounds that it does not accurately represent how Latin American individuals refer to themselves, nor convey any relevant information about geographies or populations of origin [23]. In response to poor classification rates utilizing standard craniometric measurements and Fordisc statistical software [24], geometric morphometric approaches to quantifying cranial shape and population-specific analyses of macromorphoscopic traits have been developed and employed to more accurately estimate population-affinity in Latine individuals [25]. Mapping the isotopic variation of strontium in tooth enamel of contemporary Mexican populations has offered another pathway toward identifying region of origin in undocumented migrant decedents, when osteological analysis is insufficient [26]. Lastly, collaboration with non-profit and non-governmental organizations such as the Migrant Rights Collective, the Equipo Argentino de Antropología Forense (EAAF), or the South Texas Human Rights Center, that advocate for and protect undocumented migrants and their families, facilitate the collection of family reference DNA samples - which have resulted in nearly half of the positive identifications made by Operation Identification as of 2019 [27].

Black Caribbean migrants face many of the same obstacles to accurate identification as Latine migrants, yet forensic methods and standards have not evolved to better understand and represent Black Caribbean populations. Caribbean countries, particularly those with majority Black and/or Afro-descendant populations, demonstrate similar stratification in population histories and substructures as evidenced by decades of genetic research [28]. We hypothesize that with concerted research efforts dedicated to characterizing and comparing skeletal variation in Black Caribbean populations, the methods that have been successfully applied to identifying Latine migrants can be adapted to serve Black Caribbean populations as well. However, Black Caribbean individuals remain largely absent from anthropological surveys of skeletal variation, across geometric morphometric analyses of cranial shape, nonmetric traits, dental morphologies and post-cranial skeletal variation [9]. Notably, aside from Herrera and Tallman [29] and Delgado-Burbano [30], none of the aforementioned studies of Latine skeletal variation intentionally or explicitly include Afro-Latine individuals. The exclusion of Afro-Latine individuals only further underscores the systemic anti-Blackness engrained in forensic anthropology - that fails to acknowledge the biosocial variation and cultural intersections of global Black populations. The latent anti-Black racism in forensic anthropology flattens Black populations into a racial

typology that is not only scientifically inaccurate, but also has a direct negative impact on practitioners’ ability to identify Black migrant decedents and reunite them with their loved ones.

Even though Black Caribbeans may utilize a variety of ethn racial and national descriptors to identify themselves, forensic ancestry estimation continues to racialize them as Black/African- American [31]. To date, U.S. forensic ancestry estimation methods and standards do not distinguish between contemporary global Black populations, as investigations of population-affinity halt once African ancestry is determined. If a Black Caribbean or Afro-Latine migrant decedent was recovered at the U.S.-Mexico border today, we argue that it is highly unlikely that their population of origin will be identified by osteological analyses, even if they were flagged as a potential undocumented migrant. The geometric morphometric analyses of cranial shape that may more accurately estimate population affinity or geographic origin and expedite the identification process, have not been sufficiently developed for global Black populations. As a result, forensic anthropologists and their collaborators are limited in their ability to narrow the potential pool of missing person matches [23]. While considerable progress has been made toward mapping bioavailable strontium isoscapes for the Circum- Caribbean region [32], the implementation of isotopic analysis would require forensic anthropologists to first recognize Black decedents as potentially undocumented or foreign-born individuals in need of finer-grained population-affinity/geographic-origin analysis. Beyond the forensic anthropologist, prominent non-profit or non-governmental associations active at the border - including but not limited to the Colibri Center for Human Rights, Humane Borders, and the EAAF, do not explicitly state their support nor provide resources for migrants and families from the anglophone or francophone Caribbean - the countries of origin for the majority of undocumented Black migrants in United States (Fig. 1) [33]. While these organizations do not state that their services are not available to Black migrants, explicit support and advocacy is necessary for undocumented Black families to feel safe cooperating with law enforcement to report a missing loved one or submit a family reference DNA sample - especially in a country where Black migrants are disproportionately detained and deported [33]. As long as these new methods and inter-organizational efforts remain largely unavailable to Black Caribbean populations due to lacunae in our research and humanitarian effort, Black Caribbean decedents will be less likely to be identified and repatriated in forensic border contexts.

2.3. Confronting violence in the borderlands

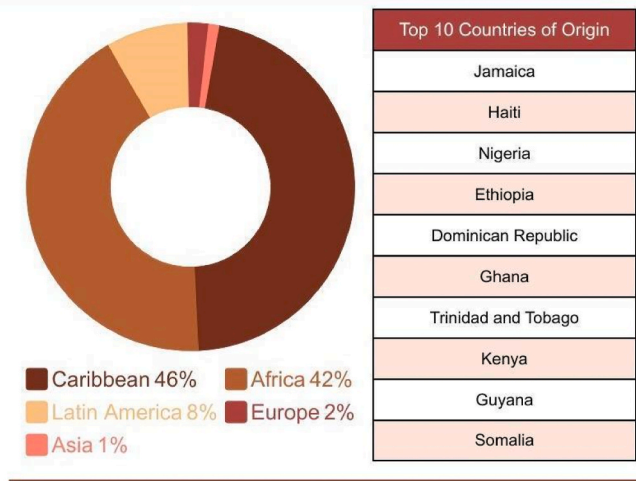
The recovery and identification of migrant decedents at the southern U.S. border has been impeded by decentralized efforts towards medicolegal death investigation, the absence of centralized reporting and information repositories, vast expanses of inaccessible private land, and state-sanctioned burials of unidentified persons [34]. The advancements forensic anthropologists have made in the identification and return of Latine migrant decedents in spite of these obstacles is due to targeted, intentional efforts to assist a marginalized population [35]. And despite these efforts, we recognize that there are still countless individuals who will likely never be found [34]. In rebuttal to DiGangi and Bethard’s [36] call to re-evaluate and abolish ancestry estimation in forensic praxis, Stull [37] and colleagues suggest that there is no empirical data to indicate that ancestry estimation methods contribute to systemic inequality in the investigation process. While the formal investigation of structural inequalities in the medicolegal system is absolutely necessary as forensic anthropology aspires towards a more equitable and anti-racist practice, surely the erasure of an entire vulnerable population warrants further investigation. By centering the identification of migrants of Latine population-affinities, we have created standards and specialized investigative pathways that ultimately exclude Black Caribbean migrants.

Moving forward, forensic anthropologists must be willing to explore innovative solutions toward investigating skeletal variation in Black

A Snapshot of Black Immigrants in the U.S.

One-in-Ten Black People Living in the U.S. are Immigrants

Majority of Black Immigrants are from the Caribbean and Africa



40% OF BLACK IMMIGRANTS ARE NONCITIZENS AND/OR UNDOCUMENTED

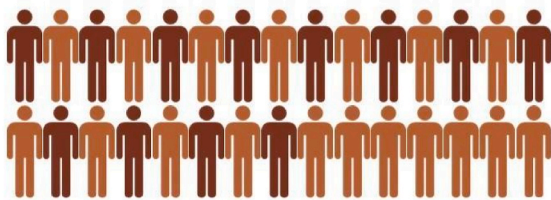


Fig. 1. A Snapshot of black immigrants in the U.S. Adapted from Pew Research Center (2022).

Caribbean populations and challenge flawed linguistic frameworks that misrepresent global Black populations as a whole. Black and/or Afro-descendant individuals in the United States are typically racialized as Black/African American, despite representing multiple global Black populations with diverse cultural and evolutionary histories. The forensic implications of understanding variation in global Black populations extend beyond the border context, as nationwide over 625,000 Black immigrants remain undocumented and potentially underserved by the medicolegal death investigation system [38]. The utilization of clinical imaging data - which has been successfully demonstrated to accurately and comparably represent skeletal anatomy [39], can serve as an invaluable tool towards characterizing skeletal variation in populations like Black Caribbeans, who are either underrepresented in or erased from documented osteological collections in the United States. In addition to overhauling our current standards for recognizing decedents as potential migrants, forensic anthropologists must actively investigate the evolving geographies and demographics of undocumented Black Caribbean migration in the same ways we have mapped undocumented Latine migration [40]. In another vein, the oversimplified linguistic representation of Black populations in forensic anthropology evokes the systematic colonial collapse of diasporic ethnic identities through slavery [41], leading to a conceptualization that Black people in the United States belong to a singular, homogenous population. Despite anthropological research suggesting that African and Afro-descendant populations are among the most genetically and morphologically

diverse populations on the globe [42], forensic anthropology mirrors this monolithic misrepresentation of Black populations by continuing to settle for an estimation of “African” ancestry in Black decedents. This discipline’s focus on one migrant population to the exclusion of another is rooted in systemic anti-Blackness, and a reliance on typologies of race that do not critically engage with biosocial histories of Black people.

This case study illustrates how forensic anthropology’s standards of identification can exacerbate the structural vulnerability of Black Caribbean migrants through the persistence of racist science in our theories and practices. This implicit anti-Blackness directly influences our research agendas and the production of anthropological knowledge concerning global Black populations. Biocultural approaches like the SVP can potentially serve as a mitigating factor, but not without addressing the structural inequities in forensic practice that contribute to this vulnerability. Black migrants are largely absent from forensic anthropology in the borderlands not because they are not there (Fig. 2), but because we are not looking for them.

3. The promise of a Structural Vulnerability Profile

The conceptual origins of structural vulnerability lie in the investigation of structural violence experienced by undocumented migrants at the southern border of the United States. Carruth et al. (2021) underscores the structural vulnerability inherent in global migration contexts, including limited access to medical care and resources that may contribute directly to social marginalization that gets “under the skin”, to leave hard tissue traces” [2,3]; p. 1). Research centering Mexican and Central American migrant decedents illustrates the higher prevalence of chronic stress biomarkers and dental pathologies indicative of embodied structural violence experienced before and/or during migration [43]. Black migrants traveling through Latin America and across the U. S.-Mexico border are targeted with racialized violence and discrimination by civilians and police alike, adding a dimension of structural violence to the Black migrant experience that is unlikely to be experienced by non-Black migrants [44,45]. An analysis of embodied structural violence in Black Caribbean or African migrants at the border may demonstrate a higher prevalence of biomarkers associated with interpersonal violence and trauma, or lack of access to medical care [44,46]. In calling attention to the ways Black migrants are uniquely marginalized, forensic anthropologists have an opportunity to redress exclusive UBC profiles and challenge narratives and advocacy around migration that do not recognize Black migrants as a vulnerable population. Yet as

Southwest Land Border Encounters with Haitian Migrants

Haitian migrant encounters at the U.S. Mexico border, by fiscal year

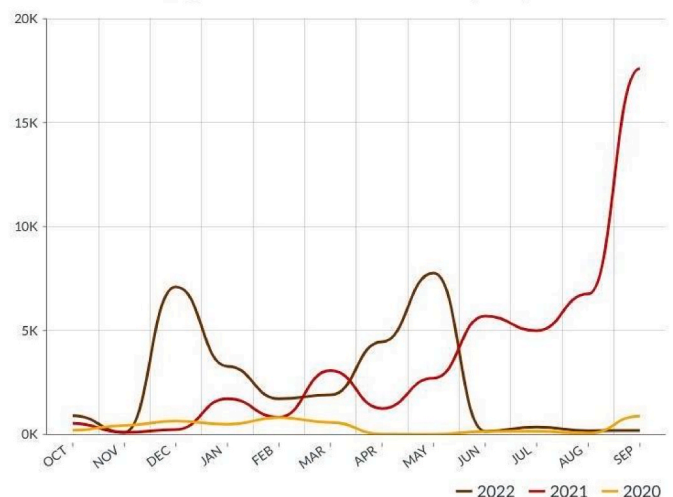


Fig. 2. Southwest land border encounters with Haitian migrants Data sourced from U.S. Customs and Border Control.

the authors of the SVP state, it remains unclear how markers of embodied structural violence will manifest in modern U.S. citizens who belong to marginalized populations [2]. Without sufficient evidence demonstrating the effects embodied structural violence in Black American populations, the utility of the SVP in discriminating between Black American and Black Caribbean decedents remains unclear as well. While Gruenthal-Rankin et al. (2023) assert that further reflection on the implications for marginalized populations is necessary before the application of SVP to casework, the authors also put forward the stronger potential of the SVP in caseload analysis and research design. Beyond assessing the potential to perpetuate harm, Gruenthal-Rankin et al. (2023) recommends the integration of rich contextual data and engagement with diverse stakeholders beyond the medicolegal system. In the context of Black Caribbean migrant decedents in the U.S.-Mexico border, the SVP may serve as a useful tool in post-hoc analyses as a way to make visible the structural violence and inequity embodied by a population that has been overlooked by forensic advocacy and support organizations. The incorporation of contextual data including but not limited to recovery contexts and their proximity to known migrant communities or corridors, and material culture representative of diverse geographic and ethnic origins, in concert with an analysis of biomarkers of embodied inequity, have the potential to illuminate the structural vulnerability of Black migrant and undocumented communities both at the border and nationwide.

Nevertheless, the use of the SVP in casework at the U.S.-Mexico border today does not challenge the fundamental anti-Blackness that foregoes the investment of time and efforts to develop the population-affinity methods that could potentially expedite the identification and return of Black Caribbean migrants. A decedent may experience a lifetime of inequality and marginalization, and there is still potential for them to be further marginalized at our hands due to a disparity in the resources available to facilitate their identification and return to their loved ones. Despite the hypervisibility of state-sanctioned violence against Haitian migrants, Black Caribbean migrants remain absent from recent forensic literature dedicated to centering marginalized communities in forensic anthropology [47]. The lack of research and scientific investigation to develop relevant methods of population-affinity and exclusive standards of UBC designations employed at the southern U.S. border mirrors the anti-Black violence that erases Haitians and other Black Caribbeans from migration contexts. This erasure subjects Black Caribbean migrant decedents to the necroviolence of institutional neglect, where state services - in this case timely forensic identification and repatriation - are denied to eligible clients [4]. This process of systemic neglect for Black Caribbean migrant decedents effectively creates entire swathes of what Cunningham [48] describes as Black postmortem subjects, or Black decedents who are conceived of and treated as nonsacred objects due to strategic omissions of their value. The status of Black Caribbean migrant decedents as postmortem subjects can only change if a reconception of these remains occurs, in which decedents are seen as inherently valuable and the field of forensic anthropology develops tools that are inclusive of the racialized lives and deaths of Black Caribbean migrant populations.

The incorporation of structural vulnerabilities into biological profile development should be situated within the disciplinary genealogies, both practical and intellectual, that have long mobilized this approach. Scholarship on human remains by Black anthropologists in particular have advocated for the interpretation of biophysical markers of stress and trauma as embodiments of structural vulnerabilities [49]. These works exemplify analyses that read the “conjugated oppression” [50] of forced multi-marginalization as part and parcel to critical biocultural engagement with biological profiles. As we reimagine what reconstructing identity looks like in forensic anthropology, it is necessary to employ discursive approaches that conceptualize identity constructively and holistically. The traditional biological profile represents a deconstructive approach to identity that essentializes human biological variation into units such as race/ancestry, gender, or stature [31]. Scholars

committed to Black feminist, anti-racist, decolonial work foreground the necessity of theorizing on behalf of the most marginalized from perspectives reflective of their identities; and the theoretical contributions of Caribbeanist scholars have long recognized the inextricable natures of human cultures and biologies [51–57]. By situating the proposal of the SVP within the context of critical biocultural theory developed by biological anthropologists, it becomes clear that truly understanding interactions between social inequities and human biologies requires us to study them *together* [58].

Alongside racialized and essentialized biological profiles that significantly limit our ability to reconstruct the nuanced identities of decedents, the Structural Vulnerability Profile does not intrinsically reject “biologically determinist, often-racialized interpretations of human variation” [2]. It is imperative that we do not falsely equate hereditary variation itself, with the racialized and bio-deterministic methods we have used to measure and interpret it [59]. The framework of biosocial inheritance offers valuable insight towards the issue, as it asserts that social adversities or advantages are transmitted across generations through mechanisms both biological and social in nature [60], blurring the lines between hereditary and socially-structured variation. With this in mind, an SVP would be incomplete without the identifiers that forensic anthropologists attempt to discern from the biological profile, including race/ancestry, sex/gender, and age. For example, interventions within racialized and gendered stakes of “weathering” inform how centering “care and resilience” [2] can normalize prioritizing how to most sensitively account for the endurance of violence and suffering over critically addressing the systems and structures that are enacting violence [61]. Until we remedy the ways forensic anthropology continues to misinterpret and mismeasure human variation, the use of an SVP risks providing incomplete portraits of skeletally embodied inequity.

4. Conclusion

The absence of Black and/or Afro-descendant migrants from forensic advocacy, literature and research does not reflect the failure of individual forensic practitioners at the border, but rather a failure of this discipline as a whole. The humanitarian efforts dedicated to the recovery, identification and return of Latine migrant decedents represent the best of forensic anthropology - from the development of innovative methods to collaboration with non-profit organizations.

However, without methods and theoretical frameworks that accurately account for biosocial variation among individuals racialized as Black, Black Caribbean migrants will continue to be deprived of our best efforts. This endeavor requires the same intentional effort, resources, and organizational support that we have already demonstrated our capacity for, in addition to a confrontation with the racism and colonialism that undergirds this practice. While it is entirely possible that the methods of population-affinity that have been developed for Latine populations will not translate effectively to global Black populations, it is our responsibility to investigate and develop methods that will succeed in aiding a structurally vulnerable population that has been historically underserved.

As Black Caribbean biological anthropologists and descendants of formerly undocumented Black Caribbean migrants, the authors of this paper continue to challenge ourselves to reimagine how we engage with human variation and the communities that will be directly impacted by our work. The alter(ed)native perspectives [62] afforded to us by this positionality have culminated in research that centers bioethnographic and autoethnographic surveys of cranial shape variation among historic and contemporary Black Caribbean diasporas, as well as the integration of osteological, archaeological, and archival data to interrogate the after-lives of slavery. By privileging the work of scholars representative of historically marginalized and structurally vulnerable populations, we have the opportunity to counter the forms of epistemicide that occur when colonial and imperial powers monopolize the authority to name

those that they have forcibly othered and continue to disparage. Through this work, we aim to contribute to the evolving critical biocultural scholarship in biological and forensic anthropologies that recognizes the mutually constitutive nature of biologically and socially influenced variation. It is from this vantage point that we encourage forensic anthropologists to critically reflect upon biocultural approaches such as the Structural Vulnerability Profile. We agree that a faithful accounting of the embodiment of structural violence in modern U.S. populations is of the utmost importance. However, forensic anthropology cannot ethically or accurately achieve the Structural Vulnerability Profile's goal of shedding light on patterns of structural violence and inequities without first confronting and rectifying its own complicity in the production of structural violence.

The Structural Vulnerability Profile proposes that the examination of embodied inequities will allow forensic anthropologists to offer insight beyond the medicolegal death investigation - highlighting patterns of systemic inequity towards a more equitable research, practice, and public policy. But how can we presume to speak truth to power regarding skeletally embodied inequity without first engaging with our own practice's complicity in exacerbating structural vulnerabilities? Alongside a biological profile that continues to rely on flawed typologies of both race, as well as gender [63–65], the application of the SVP in a casework setting risks categorical analyses of suffering that may only further stigmatize marginalized populations [66]. Until we confront the colonial logics that have fundamentally shaped our ways of understanding and our motivations for quantifying human biologies, forensic anthropology will remain restricted in any efforts toward decolonial or anti-racist praxis. Resituating forensic anthropology within the overarching discipline of anthropology and critical biocultural scholarship facilitates the employment of the reflexive methodologies that will allow this discipline to address its own silences, and interrogates its capacity to ethically participate in larger conversations of structural violence [67].

Credit Author Statement

All authors have contributed equally to the writing and revision of this paper.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgments

We would like to extend our gratitude to the Black in Biological Anthropology (BiBA) Collective, for continued fellowship, community, and support.

References

- [1] C.J. Robinson, *Black Marxism: The Making of the Black Radical Tradition*. 1983, University of North Carolina Press, Chapel Hill, N.C., 2000.
- [2] A.P. Winburn, K.A. Miller Wolf, M.G. Marten, Operationalizing a Structural Vulnerability Profile for forensic anthropology: skeletal and dental biomarkers of embodied inequity, *Foren. Sci. Int. Synergy* 5 (2022) 100289.
- [3] L. Carruth, C. Martinez, L. Smith, K. Donato, C. Piñones-Rivera, J. Quesada, Migration and Health in Social Context Working Group, Structural vulnerability: migration and health in social context, *BMJ Glob. Health* 6 (1) (2021), <https://doi.org/10.1136/bmjgh-2021-005109>.
- [4] J. De León, *The Land of Open Graves: Living and Dying on the Migrant Trail*, Univ of California Press, 2015.
- [5] G. Solis, Record number of African migrants at U.S.-Mexico border. *Los Angeles Times*, 8 Dec 2019. <https://www.latimes.com/story/2019-12-08/record-number-of-african-migrants-at-u-s-mexico-border>. Accessed 2 Dec 2022.
- [6] B. Palmer, The Crossroads: being black, immigrant, and undocumented in the era of #black lives matter, *Geo. J. & Mod. Critical Race Persp.* 9 (2017) 99.
- [7] A. Morrison, A. Galvan, Haitians see history of racist policies in migrant treatment. Associated Press. <https://apnews.com/article/immigration-race-and-ethnicity-mexico-haiti-asylum-seekers-a81ac1148118db38824d2d8f62139b87>, 2021, September 24.
- [8] B.E. Anderson, M.K. Spradley, The role of the anthropologist in the identification of migrant remains in the American southwest, *Acad. Forens. Pathol.* 6 (3) (2016) 432–438.
- [9] I. Dwyer, Limitation of current data and methods for the forensic identification of black undocumented immigrants, in: Program of the 91st Annual Meeting of the American Association of Biological Anthropologists 177, 2022. Article S73.
- [10] E.J. Bartelink, Identifying difference: forensic methods and the uneven playing field of repatriation, in: K.E. Latham, A.J. O'Daniel (Eds.), *Sociopolitics of Migrant Death and Repatriation: Perspectives from Forensic Science*, Springer International Publishing, 2018, pp. 129–141.
- [11] Pew Research Center, What's Happening at the U.S.-Mexico Border in 7 Charts, 2022.
- [12] B.E. Anderson, Identifying the dead: methods utilized by the Pima County (Arizona) office of the medical examiner for undocumented border crossers: 2001–2006, *J. Forensic Sci.* 53 (1) (2008) 8–15.
- [13] W.H. Birkby, T.W. Fenton, B.E. Anderson, Identifying Southwest hispanics using nonmetric traits and the cultural profile, *J. Forensic Sci.* 53 (1) (2008) 29–33.
- [14] J.S. Beatrice, A. Soler, Skeletal indicators of stress: a component of the biocultural profile of undocumented migrants in Southern Arizona, *J. Forensic Sci.* 61 (2016) 1164–1172.
- [15] D.E. Martínez, R.C. Reineke, R. Rubio-Goldsmith, B.O. Parks, Structural violence and migrant deaths in Southern Arizona: data from the pima county office of the medical examiner, 1990–2013, *J. Migrat. Human Secur.* 2 (2014) 257–286.
- [16] J.M. Fleischman, A.E. Kendell, C.C. Eggers, L.C. Fulginiti, Undocumented border crosser deaths in Arizona: expanding intrastate collaborative efforts in identification, *J. Forensic Sci.* 62 (2017) 840–849.
- [17] A.N. Friend, Migrants by sea: investigating the eastern United States border, *Forensic Anthropology*; Gainesville 5 (2) (2022) 153–160.
- [18] M.L. Tise, E.H. Kimmerle, M.K. Spradley, Craniometric variation of diverse populations in Florida: identification challenges within a border state, *Annal. Anthropol. Pract.* 38 (1) (2014) 111–123.
- [19] M. Delgado, L.M. Ramírez, K. Adhikari, M. Fuentes-Guajardo, C. Zanoli, R. Gonzalez-José, S. Canizales, M. Bortolini, G. Poletti, C. Gallo, F. Rothhammer, G. Bedoya, A. Ruiz-Linares, Variation in dental morphology and inference of continental ancestry in admixed Latin Americans, *Am. J. Phys. Anthropol.* 168 (3) (2019) 438–447.
- [20] K.E. Weisensee, M.K. Spradley, Craniofacial asymmetry as a marker of socioeconomic status among undocumented Mexican immigrants in the United States, *Econ. Hum. Biol.* 29 (2018) 122–127.
- [21] Briana T. New, B.F.B. Algee-Hewitt, M.K. Spradley, L. Fehren-Schmitz, C. E. Hughes, B.E. Anderson, M.E. Jasinski, J. Arciszewska, G. Zielińska, M. Szargut, S. Cytacka, A. Ossowski, Comparing genetic variation among Latin American immigrants: implications for forensic casework in the Arizona- and Texas-Mexico borderlands, *Human Biology*; Detroit 93 (1) (2021) 33–50.
- [22] S.R. Porter, C.M. Snipp, Reflections on hispanic race reporting, *Ann. Am. Acad. Polit. Soc. Sci.* 677 (2018) 140–152.
- [23] M.K. Spradley, Toward estimating geographic origin of migrant remains along the United States-Mexico border: origin of migrant remains along the United States-Mexico border, *Annal. Anthropol. Pract.* 38 (1) (2014) 101–110.
- [24] R.L. Jantz, S.D. Ousley, *FORDISC 3.0: Personal computer forensic discriminant functions*, University of Tennessee Knoxville, 2005.
- [25] M. Katherine Spradley, R.L. Jantz, Ancestry estimation in forensic anthropology: geometric morphometric versus standard and nonstandard interlandmark distances, *J. Forensic Sci.* 61 (4) (2016) 892–897.
- [26] C.A. Juarez, Strontium and geolocation, the pathway to identification for deceased undocumented mexican border-crossers: a preliminary report, *J. Forensic Sci.* 53 (1) (2008) 46–49.
- [27] M. Katherine Spradley, N.P. Herrmann, C.B. Siegert, C.P. McDaniel, Identifying migrant remains in South Texas: policy and practice, *Forens. Sci. Res.* 4 (1) (2019) 60–68.
- [28] L. Madrigal, *Human Biology of Afro-Caribbean Populations*, Cambridge University Press, 2006.
- [29] M.D. Herrera, S.D. Tallman, Craniometric variation and ancestry estimation in two contemporary Caribbean populations, *Forensic Sci. Int.* 305 (2019) 110013.
- [30] M.E. Delgado-Burbano, Population affinities of African Colombians to Sub-Saharan Africans based on dental morphology, *Homo: Internationale Zeitschrift Fur Die Vergleichende Forschung Am Menschen* 58 (4) (2007) 329–356.
- [31] S Hall, *Representations: cultural representations and signifying practices*, SAGE Publishing, London, 1997.
- [32] J.E. Laffoon, G.R. Davies, M.L.P. Hoogland, C.L. Hofman, Spatial variation of biologically available strontium isotopes ($^{87}\text{Sr}/^{86}\text{Sr}$) in an archipelagic setting: a case study from the Caribbean, *J. Archaeol. Sci.* 39 (7) (2012) 2371–2384.
- [33] J. Morgan-Trostle, K. Zheng, C. Lipscombe, The state of black immigrants. <http://baji.org/wp-content/uploads/2020/03/sobi-fullreport-jan22.pdf>, 2016.
- [34] T.P. Gocha, M.K. Spradley, R. Strand, Bodies in limbo: issues in identification and repatriation of migrant remains in South Texas, in: K.E. Latham, A.J. O'Daniel

- (Eds.), *Sociopolitics of Migrant Death and Repatriation: Perspectives from Forensic Science*, Springer International Publishing, 2018, pp. 143–156.
- [35] C.E. Bird, J. Maiers, Dialog across states and agencies: juggling ethical concerns of forensic anthropologists north of the US-Mexico border, in: K.E. Latham, A. J. O'Daniel (Eds.), *Sociopolitics of Migrant Death and Repatriation: Perspectives from Forensic Science*, Springer International Publishing, 2018, pp. 157–168.
- [36] J.D. Bethard, E.A. DiGangi, Letter to the editor-moving beyond a lost cause: forensic anthropology and ancestry estimates in the United States, *J. Forensic Sci.* 65 (5) (2020) 1791–1792.
- [37] K.E. Stull, E.J. Bartelink, A.R. Klaes, G.E. Berg, M.W. Kenyhercz, E.N. L'Abbé, M. C. Go, K. McCormick, C. Mariscal, Commentary on: Bethard JD, DiGangi EA. Letter to the Editor-Moving beyond a lost cause: forensic anthropology and ancestry estimates in the United States, 2020, *J. Forensic Sci.* 65 (5) (2021) 1791–1792, <https://doi.org/10.1111/1556-4029.14513> [Review of Commentary on: Bethard JD, DiGangi EA. Letter to the Editor-Moving beyond a lost cause: Forensic anthropology and ancestry estimates in the United States. *J Forensic Sci.* 2020;65 (5):1791-2. doi: 10.1111/1556-4029.14513]. *Journal of Forensic Sciences*, 66(1), 417–420. Wiley.
- [38] Pew Research Center, One-in-Ten Black People Living in the U.S. Are Immigrants, January 2022.
- [39] S.J. Decker, *The Human in 3D : Advanced Morphometric Analysis of High-Resolution Anatomically Accurate Computed Models*, 2010, p. 160.
- [40] G. Soto, D.E. Martínez, The geography of migrant death: implications for policy and forensic science, in: K.E. Latham, A.J. O'Daniel (Eds.), *Sociopolitics of Migrant Death and Repatriation: Perspectives from Forensic Science*, Springer International Publishing, 2018, pp. 67–82.
- [41] S.E. Smallwood, *Saltwater Slavery: A Middle Passage from Africa to American Diaspora* (Illustrated Edition), Harvard University Press, 2008.
- [42] S.A. Tishkoff, F.A. Reed, F.R. Friedlaender, C. Ehret, A. Ranciaro, A. Froment, J. B. Hirbo, A.A. Awomoyi, J.-M. Bodo, O. Doumbo, M. Ibrahim, A.T. Juma, M. J. Kotze, G. Lema, J.H. Moore, H. Mortensen, T.B. Nyambo, S.A. Omar, K. Powell, S.M. Williams, The genetic structure and history of Africans and African Americans, *Science* 324 (5930) (2009) 1035–1044.
- [43] A. Soler, J.S. Beatrice, Expanding the role of forensic anthropology in a humanitarian crisis: an example from the USA-Mexico border, in: K.E. Latham, A. J. O'Daniel (Eds.), *Sociopolitics of Migrant Death and Repatriation: Perspectives from Forensic Science*, Springer International Publishing, 2018, pp. 115–128.
- [44] S. Priya Morley, "There's a target on us": the impact of anti-black racism on african migrants at Mexico. <http://bajl.org/wp-content/uploads/2021/01/The-Impact-of-Anti-Black-Racism-on-African-Migrants-at-Mexico.pdf>, 2021.
- [45] S. Priya Morley, N. Phillips, B. Bookey, M. Goss, I. Bloch, B. Bolt, A journey of hope - Haitian womens' migration to tapachula, *Center Gender Refugee Stud.* (2021).
- [46] H. Castañeda, S.M. Holmes, D.S. Madrigal, M.-E.D. Young, N. Beyeler, J. Quesada, Immigration as a social determinant of health, *Annu. Rev. Publ. Health* 36 (2015) 375–392.
- [47] K.E. Latham, A.J. O'Daniel, *Sociopolitics of Migrant Death and Repatriation: Perspectives from Forensic Science*. Springer, 2017.
- [48] A.S. Cunningham, Postmortem racialization, reconceptualizing Frantz Fanon's black subject, *Transform. Anthropol.* (2023).
- [49] F.L.C. Jackson, A. Mayes, M.E. Mack, A. Froment, S.O.Y. Keita, R.A. Kittles, M. George, K.J. Shujaa, M.L. Blakey, L.M. Rankin-Hill, Origins of the New York african burial ground population: biological evidence of geographical and macroethnic affiliations using craniometrics, dental morphology, and preliminary genetic analyses, in: M.L. Blakey, L.M. Rankin-Hill (Eds.), *The Skeletal Biology of the New York African Burial Ground vol. 1*, Howard University Press, 2009, pp. 69–92.
- [50] P. Bourgois, Conjugated oppression: class and ethnicity among guayme and kuna banana workers, *Am. Ethnol.* 15 (2) (1988) 328–348.
- [51] A. Césaire, Poetry and knowledge, *Sulfur* 5 (5) (1982) 17–32.
- [52] E.A. DiGangi, J.D. Bethard, Uncloning a lost cause: decolonizing ancestry estimation in the United States, *Am. J. Phys. Anthropol.* 175 (2) (2021) 422–436.
- [53] F. Fanon, *Black Skin, White Masks*, Grove Press, 2008.
- [54] D. Justinvil, Colonial Logics and Captive Bodies: radical reckonings with questions of ethics in the collection of human remains, Program of the 91st Annual Meeting of the American Association of Biological Anthropologists 177 (2022). Article S73.
- [55] M. Mant, C. de la Cova, M.B. Brickley, Intersectionality and trauma analysis in bioarchaeology, *Am. J. Phys. Anthropol.* 174 (4) (2021) 583–594.
- [56] R.J. Watkins, "[This] system was not made for [you]:" A case for decolonial Scientia, *Am. J. Phys. Anthropol.* 175 (2) (2021) 350–362.
- [57] S. Wynter, K. McKittrick, Unparalleled catastrophe for our species? in: K. McKittrick (Ed.), *Sylvia Wynter: on Being Human as Praxis*, 2015, pp. 9–89.
- [58] T. Leatherman, M. Hoke, **Critical biocultural anthropology: a model for anthropological integration**, *The Routledge Companion to* (2016), <https://doi.org/10.4324/9781315743950-25/critical-biocultural-anthropology-model-anthropological-integration-thomas-leatherman-morgan-hoke>.
- [59] M.L. Blakey, On the biodeterministic imagination, *Archaeol. Dialogues* 27 (1) (2020) 1–16.
- [60] M.K. Hoke, T. McDade, Biosocial inheritance: a framework for the study of the intergenerational transmission of health disparities, *Annal. Anthropol. Pract.* 38 (2) (2014) 187–213.
- [61] L. Mullings, Resistance and resilience: the sojourner syndrome and the social context of reproduction in cenral Harlem, *Transform. Anthropol.* 13 (2) (2005) 79–91.
- [62] R.J. Watkins, An alter(ed)native perspective on historical bioarchaeology, *Hist. Archaeol.* 54 (1) (2020) 17–33.
- [63] J.D. Haug, Gender identities and intersectional violence within forensi c anthropology, in: *The Marginalized in Death: A Forensic Anthropology of Intersectional Identity in the Modern Era*, Lexington Books, Washington, DC, 2022, pp. 175–201.
- [64] R. Meloro, F. Bouderdaben, Identifying transgender and gender-variant individuals in public records: reconciling differences between law enforcement data and non-governmental organizations (NGOs), in: *Proceedings of the American Academy of Forensic Sciences 74th Annual Scientific Conference*. American Academy of Forensic Sciences 74th Annual Scientific Conference, Seattle, Washington, 2022.
- [65] S. Tallman, C. Kincer, E. Plemons, **Centering transgender individuals in forensic anthropology and expanding binary sex estimation in casework and research**, *Forens. Anthropol.* (2021), <https://doi.org/10.5744/fa.2020.0030>.
- [66] A. Gruenthal-Rankin, T. Somogyi, A. Roome, E.A. DiGangi, Beyond the report: prospects and challenges in forensic anthropological investigations of structural vulnerability, *Foren. Sci. Int. Synergy* 6 (2023) 100315.
- [67] M.L. Blakey, Archaeology under the blinding light of race, *Curr. Anthropol.* 61 (S22) (2020) S183–S197.