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A Postapartheid Genome: Genetic Ancestry Testing and Belonging in South Africa

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Abstract

This article examines a genetic ancestry testing program called the Living History Project (LHP) that was jointly organized by a nonprofit educational institute and a for-profit genealogy company in South Africa. It charts the precise mechanisms by which the LHP sought to shape a postapartheid genome through antiracist commitments aimed at contesting histories of colonial and apartheid rule in varied ways. In particular, it focuses on several tensions that emerged within three modes of material-discursive practice within the production of the LHP: subject recruitment, informed consent, and participant reflections. In the end, it argues that several contradictory tensions were central to the making of the LHP's postapartheid genome and that it should be understood as nonracial rather than antiracist.

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In September 2007, 365 people sat in a school gymnasium in Cape Town, South Africa, to participate in a onetime genetic ancestry testing program called the Living History Project (LHP) that had been jointly organized by the African Genome Education Institute (AGEI) and Ancestry 24. These participants joined 118 other individuals who would attend similar town-hall-like meetings in Johannesburg and Pietermaritzburg the following month. The organizers had marketed the project under the headline "History Alive: DNA & the Rainbow Nation" and pitched genetic genealogical information as a way for participants to negotiate belonging through understanding the diverse genetic histories of the South African people. The AGEI website promised that genetic ancestry testing would make history "come alive" through the mapping of the genetic ancestry of the "Rainbow Nation" and offer participants additional self-understanding of "where we come from and who we are."[1]

The LHP differed from other direct-to-consumer genetic ancestry testing programs, such as those sponsored by companies like 23andMe, AncestryDNA, and DNAPrint Genomics. One difference was that it was a joint venture between a nonprofit educational institute (AGEI) and a for-profit genealogical business enterprise (Ancestry 24). They also contracted with Dr. Himla Soodyall, director of the National Health Laboratory Service at the University of the Witwatersrand in Johannesburg, to do the DNA sampling and analysis, although she was less involved in communications over the design and marketing of the initiative that eventually became the LHP. The program was also situated within a South African politics that, as Comaroff and Comaroff (2001) contend, is increasingly focused on enabling free markets, depoliticizing politics, privileging technoscience, and a rhetoric of a nonracial, color-blind society. It was also embedded within a South African technoscience focused on producing science for and by South Africans (Pollock 2014). Such historical configurations matter, Lindsay Smith (2013) argues, in the making of DNA technology, and this held true for the LHP.

Previous research by science and technology studies (STS) scholars on the relationship of race and genetics has provided valuable insight into how the notion of race as biological (Duster 2003; Bolnick 2008; Roberts 2011)

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has been reinforced through admixture mapping (Rajagopalan and Fujimura 2012; Fullwiley 2008), genetic ancestry testing (Palmié 2007), patent ownership (Kahn 2008), the making of legal claims (Hamilton 2012), and even research attempting to democratize and create an antiracist genomics (Reardon 2005, 2012; Bliss 2012). More directly related to the topic of this article, scholars have also addressed how genetic ancestry testing projects have been adopted as "technologies of belonging" (Bauer 2014; M'charek, Schramm, and Skinner 2014) rather than simply "technologies of self" (Foucault 1988) by Jewish scientists seeking biological accounts of Jewish identity (El-Haj 2012), African American "root seekers" pursuing their African ancestry (Nelson 2008, 2016), Native Americans seeking tribal belonging (TallBear 2013), Lemba people seeking recognition from the South African state (Tamarkin 2014), and ethnic groups in India striving to reclaim the past (Subramaniam 2013) in ways that complicate how genetic ancestry reconfigures notions of belonging and race.

There is a need, however, for more critical examination of what Ruha Benjamin (2009) refers to as postcolonial genomics' "contradictory tendencies—unifying *and* differentiating a diverse body politic" (p. 314). As Jenny Reardon (2012) contends, similar paradoxes are part of a new "genomic liberalism" that simultaneously facilitates and obstructs the creation of newly empowered subjects (p. 27). This article extends current understandings of postcolonial technoscience by analyzing not only how genomic research in South Africa is having contradictory effects on subjects but also how such contradictions are central to the very terms of its making. In particular, it examines the competing interests of AGEI, Ancestry 24, and Soodyall in offering genetic ancestry testing—as an educational opportunity, business enterprise, or scientific study—and argues that these competing interests came together to form a postapartheid genome, not in spite of these tensions, but precisely because of them.

This article also expands on Reardon's (2012) notion of an "anti-racist genome" by examining how organizers of the LHP employed genetic ancestry testing to inform belonging in the "new" South African social order through what it terms a postapartheid genome (p. 25). Based on my own participant observation of the LHP event in Cape Town and interviews with organizers and participants, it seeks to understand how the LHP employed genetic ancestry in the interest of antiracist commitments in very different and even contradictory ways. As we shall see, AGEI and Ancestry 24 promoted the LHP as informing who we are in order to challenge apartheid racial categories, whereas Soodyall designed consent documents informing participants that DNA did not equal identity in order to disrupt

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notions of race as biological. Interrogating these contradictory practices, this article contends that the LHP's privileging of a common African ancestor undercuts its antiracist commitments. Interviews with a small number of participants of the LHP also provide insight into how they made sense of genetic ancestry testing in relation to identity and belonging in South Africa in ways that aligned and departed from how organizers positioned the LHP. Through this analysis, this article argues that the LHP constructed a postapartheid genome that was more nonracial than antiracist.

Such attention to the contradictions of postcolonial technoscience projects is important not only for developing an understanding of how science engenders new modes of inclusion and exclusion but also for informing a feminist, antiracist technoscience praxis. It thus builds on the work of such important feminist postcolonial scholars as Audre Lorde, Gayatri Spivak, Trinh T. Minh-ha, and Chandra Mohanty, who produced early critiques of how Western modernity (and Western feminism) positions the subject as individual, homogenous, and essentialist in ways that exclude belonging for women, people of color, immigrants, and marginalized groups (Lorde 1984; Spivak 1988; Minh-ha 1989; Mohanty [1991] 1997). In response, they sought to theorize the contradictions and heterogeneity of marginalized subject positions to generate a critical feminist, antiracist politics of belonging grounded in difference, fluidity, and relationality. As Chandra Mohanty [1991] 1997 argues, "It is only by understanding the *contradictions* inherent in women's location within various structures that effective political action and challenges can be devised" (p. 267).

Organizing: The LHP and Its Competing Interests

Before delving into the mechanics of LHP's recruitment materials and informed consent documents, it is useful to introduce its main organizers and their competing interests. The mission of AGEI, which was founded in 2005 and funded by private grants, was to advance "public discussion of genetics and biotechnology in the African continent."[2] At the helm was Dr. Wilmot James, a former professor of sociology and dean of humanities at the University of Cape Town, whose academic interest in the science of variation, past involvement in antiapartheid struggle movements, and family history engendered his interest in genetic research (James 2010).

After two years of organizing speaker events and educational programs, James developed the idea of offering genetic ancestry testing to the public because he was excited about the potential of genetic research to inform understandings of race within postapartheid South Africa. His own family's

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history of being classified as "colored," he explained to me, inspired him to offer this public genetic ancestry testing to challenge apartheid's classification of people into the "nonsensical, nonsensibly described group called the colored people."[3] James's intention was to employ DNA to give participants an additional understanding of their ancestors because, due to histories of colonialism and apartheid, "there isn't, in the normal course of events in those families, any genealogical knowledge of their origins."[4] Furthermore, James hoped, the LHP would bring much needed attention and funding to AGEI and its educational programming.

To obtain the necessary funding, James persuaded Koos Bekker, chief executive officer of Naspers Ltd., South Africa's largest media company, to donate one million rand to offer genetic ancestry testing to the public.[5] According to James, Bekker had partnered with AGEI because "he was keen to see this turn into a business" for Ancestry 24, a division of his company's Media 24 subsidiary.[6] The website for Ancestry 24, which started in 2004 as South Africa's "most comprehensive ancestral and genealogical service," claimed that its purpose was to develop "a common bond linking all South Africans" while also "developing large scale genealogical and education electronic libraries" across the world.[7] The LHP would allow Ancestry 24 to give clients access to personalized genetic ancestry information, expanding their offerings beyond their extensive collection of marriage, baptism, burial, birth, and death records. As originally conceived by AGEI and Ancestry 24, the LHP would offer participants genetic ancestry testing which Soodyall would analyze and deliver to Ancestry 24 as the start of establishing a genetic database to provide genetic ancestry testing to consumers more broadly for a fee, much like other direct-to-consumer genetic testing companies. But eventually, according to James, "the testing part worked, the business part didn't work" as Ancestry 24 failed to develop its personalized genomics database.[8]

To conduct the DNA sampling and analysis, James and Bekker enlisted the help of Soodyall, who had been a principal investigator with the Genographic Project sponsored by International Business Machines Corporation (IBM) and National Geographic and had an impressive reputation in the field. Reflecting in 2016 on her participation in the LHP, Soodyall adamantly insisted to me that she was involved only in the testing and not in the LHP itself and did not want to be associated with it.[9] She explained that she had originally tried to interest Bekker in a more limited and rigorous research study based on DNA sampling of South Africans who had once been classified as colored and black under apartheid. As the project developed into the LHP, however, its scope expanded to sampling the public

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more broadly, including whites and non-South African citizens.[10] As we shall see, this served AGEI's educational interest in reaching a wide public and Naspers' business interest in expanding its genealogical ancestry service but conflicted with Soodyall's insistence on adhering to strict protocols for informed consent and her vision of a more focused genetic study.

Recruitment: DNA Can Tell Us "Who We Are"

To entice as many people as possible to participate in the LHP, Ancestry 24 and AGEI promoted it on their websites by appealing to a South African public increasingly interested in its origins. Elaborating upon their slogan, "History Alive: DNA & the Rainbow Nation," they explained that the program's goal was to "provide a DNA map of the genetic heritage adding thereby an additional layer of information to our self-understanding of where we come from and who we are."[11] By evoking Archbishop Desmond Tutu's metaphor of a multicolor rainbow nation, the LHP inserted genetic ancestry testing into the political fabric of South Africa and its postapartheid multicultural politics, marketing it as a way for participants to understand both their personal identity and the larger "we" of South Africa. The websites proclaimed that the LHP would use molecular genetics to "revolutionize historical knowledge, inform the debate about who is to be regarded as a settler and who is not, and explore the emerging consensus that we are all of African origin" at the same time that it would help individuals "bring families of South Africa together."[12] In other words, LHP promotional materials envisioned participants using DNA to better understand how those historically classified as colored, black, and white had come to inhabit South Africa through histories of migration informed by colonization and slavery. Its organizers promoted the LHP as a way for participants to learn about these different histories but move beyond difference by recognizing a common African origin that could unite South African families torn apart by apartheid.

Ancestry 24 and AGEI thus marketed the event as a particularly national project, one that fit into a South African politics focused on renegotiating the terms of belonging. In postapartheid South Africa, as Sarah Nuttall (2001) contends, belonging is now configured less through modes of conquest than through techniques of negotiation as individuals and groups seek attachment to the nation-state through new forms of recognition, which, as Kerry Bystrom (2009) elaborates, include the "wonderful and troubling" practice of genetic ancestry testing (p. 224). By promoting the LHP as a means of unsettling histories of racial classification and uniting families,

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Ancestry 24 and AGEI presented it as what Alondra Nelson (2016), in the context of African American root seekers, refers to as a "reconciliation project," a way of finding new pathways to belonging (pp. 8-9). Deploying genetic ancestry testing's imprimatur of objectivity, rationality, and truth, they pitched the LHP as an opportunity to fashion belonging within a South African nation-state still struggling with the continued legacies of colonialism and apartheid. Although organizers packaged the LHP as providing what Nadia Abu El-Haj (2012) refers to as a "biological self-definition" capable of connecting individuals to past ancestors and their associated cultural and social histories, they were careful not to reduce knowledge of the self to purely individual or genetic terms, as will be discussed later. Rather, they promoted the LHP as an opportunity for discovering who *we* are as South Africans to enable a collective understanding of a national self and its sociocultural histories.

In promoting the potential of genetic ancestry testing for understanding South Africa's settler past, James situated the LHP within what David Theo Goldberg (2009) refers to as a central question of the Rainbow Nation: "Who properly qualifies and who does not?" (p. 311). In an August 2007 Independent Online (IOL) newspaper article, James argued that the LHP would reveal that "no one group can lay claim to South Africa. Everyone is a settler, and we will show how people came here in waves of migration. . . . In fact, there are all types of settlers in South Africa, with successive waves of immigrants. The ultimate question for us to find an answer to is: what is an African?"[13] In other words, he anticipated that DNA would show that no one could lay claim to being an indigenous inhabitant of South Africa, implying that *all* South Africans deserve to be there and to belong.

In his speech to LHP participants on the day of the testing, James continued to extol this sense of universal belonging as a means of bolstering national attachment. Speaking eloquently and passionately about South African history and the field of population genetics, he explained that today's scientists understand the genetic composition of modern humanity in terms of genetic migration patterns and have found that South African families are some of the most phenotypically diverse in the world. Drawing upon the evidence of such population geneticists as Soodyall, Steve Olson, and Jared Diamond, he explained the emerging consensus that all humans have descended from a single Mitochondrial Eve in East Africa, that phenotypes of skin color have changed over time, and that humans had migrated from Africa outward to Australia, Europe, Russia, and the Americas. By emphasizing both the differences and the sameness of South African peoples, who are phenotypically and genetically diverse yet bound by a

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shared African genetic ancestor that unites all humans, James, I contend, positioned the LHP within a narrative of a universal African ancestry that has become an important theme within South African politics.

Statements by former South African President Thabo Mbeki help illuminate these South African understandings of an imagined bloodline. With the formal adoption of the new South African Constitution in 1996, Mbeki deployed the rhetoric of a shared common ancestry to connect persons to the postapartheid nation-state. In his famous 1996 "I am an African" speech, he declared that he owed his being

> to the Khoi and the San whose desolate souls haunt the great expanses of the beautiful Cape .... I am formed of the migrants who left Europe to find a new home on our native land .... In my veins courses the blood of the Malay slaves .... I am the grandchild of the warrior men and women that Hintsa and Sekhukhune led .... I am the grandchild who lays fresh flowers on the Boer graves at St. Helena .... Being part of all these people, and in the knowledge that none dare contest that assertion, I shall claim that—I am an African.[14]

Mbeki's speech asserted racial difference by attending to South Africa's ancestral pasts but subsumes difference under a privileged universal Africanness. It simultaneously marshaled difference and sameness to craft new terms of belonging for the nation-state predicated upon a shared African identity. In promoting the LHP to participants, James folded genetic ancestry testing into a similar imagining of the nation-state through a common African identity.

In this way, the LHP differed from projects that invite individuals to seek connection to an African diaspora to heal the wounds of U.S. slavery, which, as Noah Tamarkin (2014) points out, involve "global hierarchies in which Americans are the seekers and Africans the objects of projected desires" (p. 566). The LHP, in contrast, invited South Africans to seek connection to the nation-state through a shared biogenetic belonging as "Africans." Although this also enabled the LHP to appeal to some participants who were not citizens of South Africa, they too were brought into the shared history of South Africa through biogenetic sameness and difference and linked to the nation-state through a common African genetic origin. Thus, I contend, this biogenetic relatedness was not weakened by including non-South Africans but deployed to strengthen a South Africa that belonged to all and implied belonging to those who believed in the struggle against racial inequality and the promise of an inclusive, nonracial nation-state.

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In his speech, James envisioned this biogenetic belonging as a way of understanding the shared cultures and politics of South Africa. James, contrasting genetic stories of migration with sociocultural understandings, reminded audience members of the successive periods of colonization and harsh forms of apartheid rule in South Africa that had engendered social and cultural histories of migration. He described, for instance, the "great black migration" into South Africa and the decimation of many indigenous San and Khoi peoples. In so bringing the biological and social together, he introduced the LHP as not only a history of different patterns of DNA (i.e., polymorphisms) and of how we inherit certain markers (i.e., single nucleotide polymorphisms) from our past ancestors, but a telling of the social and cultural histories that likely informed those subtle changes in DNA sequences. The LHP positioned DNA as a pathway toward a sense of collective belonging based upon shared histories of the biogenetic and political and thereby as a tool for unsettling understandings of racial difference and classification under apartheid and colonialism.

Reflecting on the LHP in a 2008 *Cape Times* article, James wrote that "for people burdened with the meaningless term colored (or white or black, but more about that next time), it restored the dignity of knowing one's real origins."[15] Further evidence that the LHP was meant to disrupt racial categories can be found in Soodyall's final report on the mitochondrial DNA (mtDNA) results for Cape Town, which emphasized that out of the 131 participants who identified as white, one in twelve were found to actually have maternal DNA lineages from African sources, including 6 percent linked to Khoesan ancestry. Likewise, out of the ninety-nine individuals who self-identified as black (primarily southern Bantu speakers), one in five had maternal genetic ancestry links to Khoesan peoples, and one in ten had lineages derived from Eurasian (3 percent) and Asian (7.1 percent) origins. Implied in these results was that if DNA testing shows some whites to have African genetic ancestry and some blacks to have Eurasian and Asian ancestry, then categories of white and black are not fixed and inherent after all. A 2008 *Cape Times* article was more explicit about this point when it pronounced "Genetic study reveals the fallacy of race" and quoted Soodyall as saying tests showed that race "is not a genetic reality but rather a concept used in the process of socialization."[16]

The LHP advanced its antiracist commitments by conferring genetic ancestry with the power to unsettle past racial categories and unite South Africans through a common African ancestor. Although this does not necessarily amount to an antiracist genome, it clearly posits what this article is

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terming a "nonracial postapartheid genome." As such, it supports Goldberg's (2009) argument that in the imagining of a Rainbow Nation, the language of race has been replaced with a nonracial commitment to a "singular nationality as unifying attachment" that seeks to end racial references and enable individual rights but does not address the structures and effects of racism (p. 318). The LHP crafted a genome intended to allow participants to recognize difference but to then subsume it into a singular nationality based on a common African genetic ancestor.

Consent: DNA Cannot Tell Me "Who Am I"

This postapartheid genome was also flexible enough to hold the competing interests of organizers together. In the midst of conflicting postapartheid conditions in which, as Comaroff and Comaroff (2009) note, subjects are simultaneously empowered and disempowered, the LHP produced a genome that was itself contradictory. Whereas Ancestry 24 and AGEI recruited participants through language that linked DNA to understanding one's own identity, Soodyall drafted information sheets and consent forms for the study that explicitly stated otherwise. Given AGEI's limited resources, partnering with Ancestry 24 offered much needed funding but also turned genetic research into a commercial venture to promote broad participation. In my conversation with Soodyall, she underscored that this put AGEI in a difficult position in which, in her opinion, they had "lost sight of the ethics" of the project, although she presented this less as a criticism of the project than as an illustration of the "vulnerabilities of researchers" who are forced to navigate conflicting terrains as they produce postcolonial technoscience.[17] Unlike AGEI and Ancestry 24, who for their varying reasons positioned DNA as a starting point for understanding sociocultural histories and modes of belonging in South Africa, Soodyall envisioned DNA in more narrowly genetic terms. While her vision was not entirely opposed to that of the LHP organizers, it was based on a more modest understanding of the power of DNA. In my conversations with James, he also articulated genetic ancestry testing in more narrow terms, saying it could only provide an answer "to ancestral origins in terms of geography" and that "identity is something you construct," but his speech and the promotional materials for LHP implied a closer connection between DNA and identity.[18] A comparison of the language of Soodyall's informed consent documents and that of the previously discussed promotional materials illuminates how the LHP's claiming and disclaiming of DNA as identity were central to its making of a postapartheid genome.

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When LHP participants had entered the school gym in Cape Town to undergo testing, volunteers directed them to pick up study information sheets and consent forms that had been authored by Soodyall. Soodyall's information sheet stated that the purpose of the LHP was to "create a genetic map of migration patterns of the different population groups that settled in South Africa throughout history," which differed from recruitment materials promoting the capacity of molecular genetics to tell us who we are, bring families together, and inform South African debates over who was a settler or not. In contrast, the information sheet devoted more time to explaining DNA analysis itself. It informed participants that researchers from Soodyall's lab would collect their saliva samples and then test the samples for both mtDNA (maternal ancestry) and Y-chromosome DNA (paternal ancestry) by comparing their DNA to that of "other people whose [DNA] information exists in public databases to give you information of where (geographic region in the world) your lineage could have originated."[19] Particularly germane to the analysis here is that the informed consent document explicitly disavowed DNA as identity:

> Does the test tell you "who am I"? While the DNA in your cells is unique to you we are only looking at a very small part of it. It is important to understand that genetic ancestry does not equal "identity". We are only testing for genetic ancestry and won't—for instance—be able to tell you why your eyes are the colour they are or what your children may look like. The tests that we are running do not constitute a genetic "fingerprint."[20]

When I asked Soodyall about this renunciation of DNA as identity, she explained that she had consciously drafted the information sheets to challenge the way in which LHP's promotional materials maintained that DNA could tell us who we are. She insisted instead on the importance of unfastening DNA from notions of identity, especially given the ways in which biological notions of race had been used to justify socio-legal classifications of racial identity under colonial and apartheid rule. As a result of these histories of colonialism and apartheid, according to Soodyall, contemporary genetic researchers continue to struggle with questions of nomenclature and how to engage with particular communities.

Elaborating further, Soodyall clarified that DNA might be "tied to cultural and social" histories, but it can only tell us our "genomic heritage." She handed me a pamphlet entitled "routes to roots" that her research unit gives to participants interested in genetic ancestry testing. Written in easy-to-understand language and a graphic novel style, it depicted a woman

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standing in front of world map declaring that results will "show where you fit into the history of how humankind moved and settled the earth." On the last page, a female elder reiterates to a seemingly younger man that the "test cannot tell us who we are as individuals or anything about our culture," to which he responds, "Yes, it's storytellers like you who remind us of who we are." Although DNA stories may link us to past ancestors, the pamphlet suggested, it is the stories and sociocultural practices passed down from those ancestors that can tell us who we are and how we belong. This vision of DNA offers a more modest understanding of the power of DNA by seeking to explicitly untangle genetic histories from sociocultural histories.

During our conversation, Soodyall articulated her antiracist commitments and how she enacted them through promoting ethical ways of doing science as a way to challenge practices of colonial and apartheid science that, as Saul Dubow (1995) argues, relied upon and reinforced biological notions of race and served to justify race, Deborah Posel (2001) contends, as a socio-legal construct under apartheid. She was less interested than AGEI and Ancestry 24 in using DNA to inform sociocultural histories or to specifically challenge apartheid racial categories. Whereas the LHP recruitment materials had sutured DNA to identity, Soodyall's informed consent documents were intended to pull the two apart and make clear that identity was not defined through biology.

Nonetheless, Soodyall's emphasis on ethical protocols is another way in which the LHP was oriented toward struggles over belonging in South Africa. What it implies is simply that the terms of belonging in South Africa should promote informed consent and enable participation in scientific research endeavors aimed at benefiting South Africans. It was important to avoid inferring links between DNA and identity because if DNA remained sutured to identity it would wrongly infer race as biogenetic rather than profess what race really is—a complex social and political category.

An appreciation of how LHP organizers sought to link DNA and identity in strategic ways to inform struggles over belonging in South Africa need not impede a critical interrogation of these ethical protocols. Soodyall's informed consent documents disavowed DNA as identity, but scholars have argued that this does not deter the fact that technologies of genetic ancestry testing reinforce biological race and racial identity by deploying race as a proxy within their research (Fullwiley 2008; Roberts 2011). The informed consent documents also sought to distinguish genetic histories from sociocultural understandings, but as El-Haj (2012) reminds us, genetic ancestry is always inherently about both. Most notably, Soodyall's intervention via informed consent is also limited in its capacity to challenge colonial and

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apartheid histories, given its framing through the narrow terms of bioethics. Unfortunately, its reliance on filling out forms served to limit and undercut Soodyall's antiracist commitments. By shifting the language from "who we are" to a "who am I," the informed consent documents changed the LHP's emphasis on a collective sense of belonging to one of individual belonging. As Reardon (2013) points out, that the institutionalized practices of bioethics are structured around the rights of individuals inherently limits the ability of science to address more collective concerns. As a result, this article argues, the LHP's bioethical protocols are better understood not as making meaningful antiracist interventions but as aligning more closely with a South African nonracial politics. While bioethics and informed consent remain necessary features of a postcolonial technoscience attempting to build new relationships between science and society in the shadow of colonial and apartheid legacies, they alone are not enough, as they fail to address how science contributes to modes of inclusion and exclusion more broadly. Soodyall herself would likely concede these points as she attempts to reimagine what bioethics might look like for genetic research in South Africa broadly through her work as general secretary of the Academy of Science of South Africa.

Participants: DNA Can Only "Show You Where You Come From"

The interests of the LHP's organizers were also not necessarily the same as those who agreed to participate in it. Based on interviews in 2010 with eighteen individual participants, this section examines how their interpretations corresponded (or not) to the meanings that LHP's recruitment and informed consent documents assigned to genetic ancestry testing.[21] This provides insights into how the LHP enabled a postapartheid genome flexible enough to also encompass participants' different understandings of genetic ancestry testing.

When I asked participants why they partook in the LHP, their reasons departed somewhat from those promoted by the LHP. Perhaps most notably, they expressed a desire to learn where they came from, not who they were. A man who identified only as being from Rwanda said he was curious about what the testing results "would show you," while another man who identified as black but from Nigeria wanted to "find out more about my sort of ancient roots."[22] A woman who described herself as African and from northern Sudan similarly asserted her interest in "know[ing] from where you come from. Your origin. Your roots."[23] Although the LHP was pitched

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as a project of national belonging, its privileging of a common African origin appealed to these participants. Those who self-identified as white and South African also shared similar interests in learning about their origins. One woman explained that she "wanted to know where my ancient, ancient, ancient group on my mother's side came from," while another man reported that "I have always been interested in learning a bit more about my far ancestry."[24] Another women noted, "I was really interested to find out more about my sort of ancient roots because I know a bit about my not-so-distant history and where everybody came from. But I was quite keen to find out a little bit more."[25] Participants who self-identified as colored expressed a similar desire to learn about where they came from. When asked about why they participated in the LHP, one man said he was curious about "where I come from" and another replied, "Where do I come from? My origins. My parent's origins. My mother's origins. My father's origins. So, when I have an opportunity to have myself checked for my—to know my DNA, I took the opportunity to go there."[26] Although this interest in origins corresponded with how the LHP was promoted, participants articulated genetic ancestry as a way to learn "where I come from" rather than who we are or who I am. They understood genetic ancestry in terms of descent and less as something that could inform their sense of self or national belonging.

In the same vein, participants were less willing to give DNA the power to change their sense of identity. When asked if their genetic ancestry results had impacted their sense of identity, the previously quoted South African white woman declared, "It's another piece of my complete puzzle. But it's not connected to my identity," while a white man from South Africa asserted that "it didn't change any of my thinking about who I am or what I am or what I stand for."[27] Likewise, the same aforementioned man who self-identified as black and from Nigeria replied, insisted that "No. No. No. No. . . . Identity is something which is much more complex, you know. Who I am. It's something which I think I need to figure out myself. It didn't change my identity. I just felt a sense of connection to somewhere which I never knew before."[28] Similarly, a male participant from South Africa explained to me how his genetic ancestry results did not change his identity. His family had been classified as colored under apartheid and what the results told him about his ancestry "wasn't new," but the "confirmation that this is where I come from was great. And it was especially great because of the roots going back to the very first people."[29] For this and the other participants I spoke with, DNA did not equal identity and could not tell them who they were. The genetic ancestry results merely served as

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additional information to self-fashion into their already established sense of identity (Nelson 2008).

Although participants declined to understand genetic ancestry as informing who they were, they tended to accept the LHP's privileging of a common African ancestor. One of the previously noted white women from South Africa declared that "we are all just part of each other and we share a common ancestor. . . . We are all in Africa and we share a common bond through that."[30] The male respondent from Rwanda professed that "I really wish every one can have the test and they know where they is coming from all. When we have the same ancestor and then after that we not see that this guy belong to this race and that one belong to that one. So, it actually opens your mind about how you see people."[31] A common genetic ancestor offered him a way to cut through racial categories and see a shared humanity. Another man from South Africa whose family was classified as colored similarly stated that:

> Humankind starts in Africa. If we can accept that, we can begin to heal. I just—during the week—just a few days ago, I spoke to a group of American people, of the older generation. And I told them about, you know, what science says. And I said we are all related. Your forbearers are African and my forbearers are African. We are family. And, of course, I'm sure that they thought that I was bonkers. But, yes, these were all white people—white American people. And this is what I do all the time.[32]

For this participant, genetic ancestry testing and its assumption of a universal African origin offered a way to heal from apartheid but also make connections across national borders.

This notion of a common African ancestor clearly appealed to participants' desires for a nonracial future. As Achille Mbembe noted in a 2014 *Mail & Guardian* article, "At its most utopian, nonracialism gestures towards a future when structures of racism will be dismantled and all forms of racial injury and trauma will be healed."[33] The LHP designed a post-apartheid genome informed by this utopian sense of nonracialism. At the same time though, as Goldberg (2009) warns, the espousing of a universal African identity and its associated color-blind assumptions supports a commitment that is nonracial rather than antiracist, which can too easily lead to a lack of attention to the structures and harms of racism. The LHP's post-apartheid genome may have promoted a sense of genetic difference and sameness, but it is incapable of attending to historical and ongoing inequalities that shape those relations. STS scholars should be critical of how

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acceptance of a common genetic African ancestor neatly aligns with South Africa's nonracial politics, while also being attentive to the powerful way in which participants embrace genetic notions of a common African ancestor to make sense of race. When asked if genetic ancestry testing could help end racism, at least one participant who found healing in a common African origin recognized the limitations of this genetic relatedness, insisting, "It doesn't go far enough. What has been for centuries is not going to end tomorrow. It's a long, long process."[34]

Conclusion

This article has revealed how LHP organizers crafted a vision of a postapartheid genome that could unite their competing interests and the participants but also pointed out how its close alignment with a South African politics of nonracial multiculturalism undercuts its antiracist potential. Through this examination, it has argued that the contradictory tendencies among recruitment materials, consent documents, and participant experiences were central to the making of this nonracial postapartheid genome. Like the contradictory subject positions and interests of the broader postapartheid condition, this postapartheid genome was a historical formation meant to enable the practice of science within the messy terrain of South African politics and belonging. At the same time, it offers a conceptual analytic that can provide insights into the particular makings and possibilities of postcolonial technoscience projects, even as its usefulness may be restricted by the very terms of its historical existence, ensconced within the fraught tensions of postcolonial conditions, subjectivities, politics, and critiques that are never far from the very legacies of violence from which they seek to depart.

Nonetheless, many scientists who live and work in South Africa remain committed to crafting an antiracist postapartheid genome. Despite the inescapable dilemma that genomics and histories of racial science both privilege the authority of biology to understand what it is to be human (El-Haj 2012), it remains important to reimagine ways of doing genomics that are governed less by narrow principles of bioethics or empty practices of token inclusion and more by a meaningful sense of justice. An antiracist postapartheid genome may find direction through what Native legal scholar Rebecca Tsosie (2007) refers to as an "intercultural justice" that takes different cultures and values into account while being responsive to historically subordinated groups such as indigenous peoples. An antiracist postapartheid genome might draw insights from Reardon's (2013) notion of a

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"situated, speculative justice" that can enable both science and justice or from Kim TallBear's (2013) indigenous feminist approach to DNA politics that decolonizes and reframes genomics to meet the interests and needs of historically marginalized groups. South African researchers—such as Wilmot James, Himla Soodyall, and others such as Jantina de Vries and Michel Pepper (2012) and Ramsay et al. (2014)—have already begun to interrogate normative practices of bioethics as they attempt to reimagine possibilities for a postapartheid genome that can engage in the ongoing process of antiracist work. This is a future worth imagining—one that envisions a technoscience robust enough to dismantle structures of racism and creative enough to build a meaningful nonracial future.

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Notes

1. http://www.agei.org.za (accessed June 6, 2012).
2. http://www.agei.org.za (accessed June 6, 2012).

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3. Interview with Wilmot James, in South Africa, April 16, 2009 (on file with author).
4. Interview with Wilmot James, in South Africa, April 16, 2009 (on file with author).
5. The Living History Project (LHP) was not a government-funded research project but rather financed by Ancestry 24. This partially explains why tests were free to the first 300 participants and then 1,000R (US$140) thereafter. In contrast, an official genomics research project would typically compensate individuals for their time in participating.
6. Interview with Wilmot James, in South Africa, April 16, 2009 (on file with author). Media 24 would sell its interest in Ancestry 24's genealogy division to the well-known Ancestry.com website in 2013. See http://www.ancestry.com/ancestry24 (accessed April 13, 2016).
7. http://www.ancstry24.co.za (accessed June 1, 2012).
8. Interview with Wilmot James, in South Africa, April 16, 2009 (on file with author).
9. Interview with Himla Soodyall, in South Africa, March 11, 2016 (on file with author).
10. Although not representative of South Africa as a whole, the 365 participants in Cape Town self-reported as black (99), white (131), colored (83), Cape Malay (10), Asian (11), and unknown/other (31). Participants were also not all South African and hailed from forty-eight different home countries.
11. By "recruitment materials," I am generally referring to website content posted on African Genome Education Institute and Ancestry 24 websites, cited above.
12. http://www.agei.org.za (accessed June 6, 2012); http://www.ancstry24.co.za (accessed June 1, 2012).
13. http://www.iol.co.za/news/south-africa/we-are-all-settlers-in-sa-366860 (accessed April 13, 2016).
14. "Statement of Deputy President TM Mbeki, on behalf of the African National Congress, on the occasion of the adoption by the Constitutional Assembly of 'The Republic of South Africa Constitution Bill 1996,'" Cape Town, May 8, 1996, available at http://www.anc.org.za/content/i-am-african-thabo-mbekis-speech-adoption-republic-south-africa-constitution-bill (accessed June 6, 2016).
15. Wilmot James, "It's A Very Small World—Seen across the Aeons, through Countless Generations," *Cape Times*, sec. 05, p. 13, February 21, 2008.
16. Jo-Anne Smetherham, "Genetic Study Reveals the Fallacy of Race in South Africa," *Cape Times*, sec. 05, p. 6, February 21, 2008.
17. Interview with Himla Soodyall, in South Africa, March 11, 2016 (on file with author).

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18. Interview with Wilmot James, in South Africa, April 16, 2009 (on file with author).
19. Male participants would learn about their genetic genealogy from both their maternal and paternal ancestors, but female participants would obtain information only about their maternal DNA ancestry. If a participant's maternal or paternal DNA ancestry matched someone in the database, it would imply a common ancestor and shared haplotype group.
20. Himla Soodyall, "The Living History Project" (information sheet and informed consent document on file with author).
21. All interviews were conducted in confidentiality and the names of interviewees are withheld by mutual agreement. Of the eighteen participants interviewed, ten self-identified as white, four self-identified as colored, and the remaining four were non-South African citizens who self-identified as black or African.
22. Interview with LHP Participant, February 23, 2010, with author via Skype (interview transcript L006 on file with author); Interview with LHP Participant, March 7, 2010, with author via Skype (interview transcript L010 on file with author).
23. Interview with LHP Participant, March 16, 2010, with author via Skype (interview transcript L013 on file with author).
24. Interview with LHP Participant, February 23, 2010, with author via Skype (interview transcript L007 on file with author); Interview with LHP Participant, March 28, 2010, with author via Skype (interview transcript L018 on file with author).
25. Interview with LHP Participant, February 23, 2010, with author via Skype (interview transcript L008 on file with author).
26. Interview with LHP Participant, March 19, 2010, with author via Skype (interview transcript L014 on file with author).
27. Interview with LHP Participant, February 23, 2010, with author via Skype (interview transcript L007 on file with author); Interview with LHP Participant, February 24, 2010, with author via Skype (interview transcript L009 on file with author).
28. Interview with LHP Participant, March 7, 2010, with author via Skype (interview transcript L010 on file with author).
29. Interview with LHP Participant, March 24, 2010, with author via Skype (interview transcript L015 on file with author).
30. Interview with LHP Participant, February 23, 2010, with author via Skype (interview transcript L007 on file with author).
31. Interview with LHP Participant, February 23, 2010, with author via Skype (interview transcript L006 on file with author).
32. Interview with LHP Participant, March 19, 2010, with author via Skype (interview transcript L014 on file with author).

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33. For more information, see http://mg.co.za/article/2014-07-17-blind-to-colour-or-just-blind (accessed April 13, 2016).
34. Interview with LHP Participant, March 19, 2010, with author via Skype (interview transcript L014 on file with author).

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