Leza, Sungu, and Samba: Digital Humanities and Early Bantu History

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Abstract: In 2016, with the support of a three-year National Endowment for the Humanities (NEH) Collaborative Research Grant to research and write a precolonial African history of family, generations, and gender, we began building the Bantu Ancestral Roots Database (BARD). BARD is a digital repository of word-roots related to gender and life stage practices from over sixty Bantu languages. We developed it to assist us in our analysis of this large corpus of data that we used to write histories of people's material and ideological inventions that cover the *longue durée* across multiple regions. BARD allows researchers with internet access to search for terms by entering at least three consecutive phonemes. If phonemes exist in that sequence

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in any of the 64 Bantu languages that BARD holds, those words and their meanings appear as results. In this article, we discuss the usefulness and complexities of Digital Humanities (DH) as research tools. We explain our methodology and research process using three reconstructed word-roots pertinent to our research on family and generations. The three word-roots we examine invite scholars to probe how to recover deep connections and linkages between people's pasts in Africa and its Diasporas, particularly in ways that move beyond histories of the slave trade and enslavement. As we developed our open-access website African Social History and Data Across Bantu Matrilineal Communities (ASH-DABMC) and our database, BARD, we gained greater insight into the meanings encoded in our data even as we faced challenges. We hope the discussion of our experiences will provide an intellectual framework and inspire others considering digital projects.

Résumé: En 2016, avec le soutien d'une subvention de recherche collaborative de trois ans du National Endowment for the Humanities (NEH) pour rechercher et écrire une histoire africaine précoloniale de la famille, des générations et du genre, nous avons commencé à créer la base de données Bantu Ancestral Roots (BARD). BARD est un référentiel numérique de racines de mots liées au genre et aux pratiques des étapes de la vie de plus de soixante langues bantoues. Nous l'avons développé pour nous aider dans notre analyse de ce vaste corpus de données que nous avons utilisé pour écrire des histoires d'inventions matérielles et idéologiques d'individus sur la longue durée à travers plusieurs régions. BARD permet aux chercheurs ayant accès à Internet de rechercher des termes en saisissant au moins trois phonèmes consécutifs. S'ils existent dans cette séquence dans l'une des 64 langues bantoues présentes dans BARD, ces mots et leurs significations apparaissent comme des résultats. Dans cet article, nous discutons de l'utilité et de la complexité des humanités numériques (DH) en tant qu'outil de recherche. Nous expliquons notre méthodologie et notre processus de recherche en utilisant trois racines de mots reconstruites qui sont pertinentes pour notre recherche sur les familles et les générations. Les trois racines des mots que nous examinons invitent les chercheurs à retrouver des connexions et des liens profonds entre le passé des peuples d'Afrique et de ses diasporas, en particulier d'une manière qui va au-delà des histoires de la traite des esclaves et de l'esclavage. Au fur et à mesure que nous développions notre site Web en libre accès *African Social History and Data Across Bantu Matrilineal Communities* (ASH-DABMC) et notre base de données BARD, nous avons acquis une meilleure compréhension des significations encodées dans nos données alors même que nous faisions face à des défis. Nous espérons que la discussion sur notre expérience fournira un cadre intellectuel et inspirera d'autres personnes envisageant des projets numériques.

Introduction

In this article, we tell the story of eastern and central Africans' ideas about life transitions and our endeavor to develop Digital Humanities (DH) tools – the Bantu Ancestral Roots Database (BARD) – to assist us in data archiving and

analysis for our own research on histories of generations and gender. We use BARD to visualize and make tangible the ideas and practices that people in Africa formulated in ancient times before written sources. While we designed the database with our own objectives in mind, we suggest that DH tools like BARD are an important means to make early history accessible to wider audiences. Through a multi-method approach centered on comparative historical linguistics, we discuss how people, in different eras and contexts, use words to narrate stories about themselves and how words are inscribed with histories of changing ideas and practices. To show how comparative historical linguistic reconstruction works in revealing social histories, we walk readers through our analysis of three ancient Bantu word-roots central to our research (*-dèd-, *-cùng-/*-cÙng-, and *-càmb-) that reflect the centrality of education and knowledge transmission across generations during life transitions. The examples reveal values and ideas about family and community relationships that ancient central and eastern Africans held. We found, in our large corpus of comparative historical linguistic data, that these roots are more widespread and used in more diverse ways than scholars previously described. We suggest ways others might make use of BARD (and other language data) to begin rethinking knowledge production, relationships, hierarchies, authority, and powerlessness in various historical contexts.

Researching early African history is important to expose that entrenched assumptions about gender, family, power, and authority, insofar as they are ubiquitously oppressive to any one group, including women, are problematic.[1] In this article, we use word-roots to demonstrate how ideas about the creator and life stages, both central in people's identities, simultaneously change over time and remarkably reflect great continuities over prolonged periods. In the final section of the article, we propose ways scholars might benefit from bringing African histories and Black Atlantic/Diaspora studies into greater dialogue. In addition to our objectives above, we see value in sharing these tools and findings with other scholars since both research and digitization are costly endeavors. In sharing our process, we hope to get feedback on the tools we have created to learn how we can refine BARD to better fit the needs of other researchers.[2]

While there are great advantages to deploying DH methods in research in early African history, there are associated challenges and costs to consider as one plans such projects. Additionally, vigorous debates persist on

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[1] Holý Ladislav and Holây Ladislav, *Strategies and Norms in a Changing Matrilineal Society: Descent, Succession, and Inheritance among the Toka of Zambia* (Cambridge: Cambridge University Press, 1986); J. A. R. Wembah-Rashid, *The Ethno-History of the Matrilineal Peoples of Southeast Tanzania* (Vienna, Austria: Stiglmayr, 1975); T. O. Beidelman, *The Matrilineal Peoples of Eastern Tanzania (Zaramo, Luguru, Kaguru, Ngulu, Etc.)* (London: International African Institute, 1967).
[2] Yu-Wei Lin, "Transdisciplinary and Digital Humanities: Lessons Learned from Developing Text-Mining Tools for Textual Analysis," in Berry, David M. (ed.), *Understanding Digital Humanities* (New York: Palgrave, 2012), 295–314.

three central topics relevant to our work: 1) the value of digital humanities; 2) the timing and paths of ancient Bantu histories; and 3) the ancient social institutions people retained and transformed over generations. Debates about the latter two will be woven into the second half of this article. In this special issue dedicated to digital humanities, it is first critical to acknowledge that there are a range of debates that encompass defining this field, its validity as a discipline, and its correct or legitimate approach and content. Scholars have debated whether DH is a set of tools and approaches for research or is solely a means of visually presenting and publicly circulating research with expensive, time-consuming bells and whistles.[3] Our objective in this article is not to debate DH as a discipline. We do want to make transparent three points that underpin our thinking about the benefits of the DH aspects of our work. First, DH tools are an efficient means to organize and analyze complex datasets that fill thousands of pages in spreadsheets. Second, DH technologies are ideal for archiving data in a manner that scholars and lay researchers – beyond the original collectors – can easily access and benefit from the raw data. Third, digital technologies make it possible to widely disseminate analyses to many audiences, including those in Africa, provided they have access to the internet.[4] That being said, we recognize that DH tools are not innately democratic. In the words of Katherine Hayles, "As a subversive force, the Digital Humanities should not be considered a panacea for whatever ails the humanities, for they bring their own challenges and limitations."[5] We are mindful that descendants of the very people we discuss in our work often lack the financial resources to engage technology needed to access digital scholarship, though we believe digital forms are more accessible than print forms.

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[3] Matthew K. Gold (ed.), *Debates in the Digital Humanities* (Minneapolis: University of Minnesota Press, 2012); David M. Berry (ed.), *Understanding Digital Humanities* (New York: Palgrave, 2012).

[4] David J. Staley, *Computers, Visualization, and History: How Technology Will Transform Our Understanding of the Past* (London: M.E. Sharpe, 2003), ch. 2.

[5] N. Katherine Hayles, *How We Think: Digital Media and Contemporary Technologies* (Chicago: University of Chicago Press, 2012), 23; Babalola Titilola Aiyegbusi, "Decolonizing Digital Humanities: Africa in Perspective," in Losh, Elizabeth and Wernimont, Jacqueline (eds.), *Bodies of Information: Intersectional Feminism and Digital Humanities* (Minneapolis: University of Minnesota, 2018), ch. 23; Tara McPherson, "Why are the Digital Humanities so White? Or Thinking the Histories of Race and Computation," in Gold, Matthew K. (ed.), *Debates in the Digital Humanities* (Minneapolis: University of Minnesota Press, 2012), 139–160; Kara Keeling, "Passing for Human: *Bamboozled* and Digital Humanism," *Women & Performance: A Journal of Feminist Theory* 15–1 (2005), 237–250. See also works that challenge notions that digital technologies are neutral and magical tools of social and knowledge justice. For example, Ruha Benjamin, *Race after Technology: Abolitionist Tools for the New Jim Code* (Cambridge, UK: Polity, 2019); Safiya Noble, *Algorithms of Oppression: How Search Engines Reinforce Racism* (New York: New York University Press, 2018).

Setting the Stage: Early African History, Bantu Linguistics, and the Digital Humanities

What follows is an intentionally brief discussion of early African history and the debates and agreements in Bantu studies.[6] Though less commonly researched, early African history offers critical lessons on central influences Africans have had in global historical developments and the dynamic institutions, ideas, and practices they created. Scholars of Africa have long recognized that greater knowledge of Atlantic and colonial histories relative to innovations, production, and social history in earlier eras contributes to misrepresentation and misunderstanding of this diverse continent. A quick survey of scholarship reveals that Africanist researchers' agendas have focused largely on recent centuries, while scholarly exploration of ancient and medieval Africa stagnates. This is partly due to the fact that early African histories, prior to Europeans' interference, require use of innovative methodological approaches and large bodies of comparative data. As a result, popular knowledge of violence and impoverishment during the Atlantic slave trade (c. 1500–1800), colonial subjugation, occupation, and intrusion in Africans' lives (c. 1880–1960), and postcolonial attempts at nation building (1960s–2000s) continue to dominate public understanding of Africa.

In efforts to challenge the tropes and shed light on Africans' values and productive contributions historically, scholars such as Ifi Amadiume, Cheikh Anta Diop, V.Y. Mudimbe, Achille Mbembe, Nkiru Nzegwu, Onaiwu Ogbomo, Oyèrónkẹ́ Oyèwùmí, and Karen Brodkin Sacks, to name a few, have radically challenged the wholesale use and application of externally generated and imposed theories, epistemologies, and primary sources on Africa's many diverse institutions.[7] Studying early histories through the precolonial realities of people in Africa – without centering colonialism and the slave trade – provides rich opportunities to question and challenge

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[6] Readers are encouraged to pursue deeper study of comparative historical linguistic methods and Bantu historiography in the many sources cited in this section.

[7] Ifi Amadiume, *Male Daughters, Female Husbands: Gender and Sex in African Society* (London: Zed Books, 1987); Cheikh Anta Diop, *Precolonial Black Africa: A Comparative Study of the Political and Social Systems of Europe and Black Africa, from Antiquity to the Formation of Modern States* (Westport, CT: L. Hill, 1987); Valentin Y. Mudimbe, *The Idea of Africa* (Bloomington: Indiana University Press, 1994); Achille Mbembe, *On the Postcolony* (Berkeley: University of California Press, 2001); Nkiru Nzegwu, *Family Matters: Feminist Concepts in African Philosophy of Culture* (Albany: State University of New York Press, 2006); Onaiwu W. Ogbomo, *When Men and Women Mattered a History of Gender Relations Among the Owan of Nigeria* (Rochester: University of Rochester Press, 1997); Oyèrónkẹ́ Oyèwùmí, *The Invention Of Women: Making An African Sense Of Western Gender Discourses* (Minneapolis: University of Minnesota Press, 1997); Karen Sacks, *Sisters and Wives: the Past and Future of Sexual Equality* (Westport, CT: Greenwood Press, 1979).

unfounded and problematic ideas placed on Africa. Comparative historical linguistics allows us to center Africans' views and voices.

Histories of Bantu speakers is one sub-field where a great deal of work on ancient and early periods is thriving. Bantu studies emerged in the nineteenth century with a focus on language. The study of Bantu history with people actively at the center came into full swing in the later twentieth century. In a 1988 *History in Africa* article, Colin Flight wrote that the conundrum of "Bantu expansion" has engaged historians' interests ever since linguists discovered, in the nineteenth century, "a single startling fact" about languages in the northern versus the southern half of the African continent. In the southern half, languages seemed closely related.[8] Flight pointed to the defining moment of Bantu studies as Harry Johnston's earlier proclamation that there was a "bewildering multitude" of language-family diversity in the northern half of the continent and, in his view, little diversity in the southern half.[9] For over a century now, scholars have worked to find definitive answers on the chronology, dates, textures, and directions Bantu speakers (and their linguistic antecedents) took as they migrated and influenced each other and people who spoke non-Bantu languages. Scholars agree on the earliest point and location

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[8] On Bantu languages, see Mark Van de Velde, Koen Bostoen, Derek Nurse, and Gérard Philippson (eds.), *The Bantu Languages,* 2nd ed. (New York: Routledge, 2019); on the chronology of Bantu languages in eastern central Africa, see Etienne Patin et al., "Dispersals and Genetic Adaptation of Bantu-Speaking Populations in Africa and North America," *Science* 356–6337 (2017), 543–546; Rebecca Grollemund et al., "Bantu Expansion Shows that Habitat Alters the Route and Pace of Human Dispersals," *Proceedings of the National Academy of Sciences of the United States of America* 112–43 (2015), 13296–13301; Koen Bostoen et al., "Middle to Late Holocene Paleoclimatic Change and the Early Bantu Expansion in the Rain Forests of Western Central Africa," *Current Anthropology* 56–3 (2015), 354–384.

[9] Colin Flight, "The Bantu Expansion and the SOAS Network," *History in Africa* 15 (1988), 261–301; The works of Wilheelm Bleek, Clement Martyn Doke, Carl Meinhof, and Harry Johnston focused on issues of phonology, grammar, and vocabulary collection and launched critical inquiry into Bantu linguistics. The field was later expanded by Joseph Greenburg, Malcolm Guthrie, and a dozen others who began to look deeply into Bantu histories. Harry H. Johnston, *The Kilima-njaro Expedition: A Record of Scientific Exploration in Eastern Equatorial Africa* (London, 1886), 480; Wilhelm Bleek, "On the Languages of Western and Southern Africa," *Transactions of the Philological Society* 2–4 (1855), 40–50; Carl Meinhof, *Introduction to the Phonology of the Bantu Languages* (Berlin: Dietrich Reimer - Ernst Vohsen, 1932); Velde et al. (eds.), *The Bantu Languages*; Christopher Ehret, "Bantu History: Big Advance, Although with a Chronological Contradiction," *Proceedings of the National Academy of Sciences of the United States of America* 112–44 (2015), 13428–13429; Derek Nurse and Gérard Philippson (eds.), *The Bantu Languages* (London: Routledge, 2003); Yvonne Bastin, André Coupez, and Michael Mann, *Continuity and Divergence in the Bantu Languages: Perspectives from a Lexicostatistic Study* (Tervuren, Belgium: Musée royal de l'Afrique centrale, 1999).

in Bantu history. It is hypothesized that an original proto-Bantu speech community inhabiting territories that today form borderlands of the nations of Nigeria and Cameroon existed five thousand years ago (c. 3500 BCE). Though archaeological and linguistic evidence suggest the initial community inhabited a relatively compact area in the southernmost parts of western Africa, today Bantu languages are numerous and present in territories stretching from west-central to southern and eastern Africa and all areas of central Africa in between. Scholars certainly agree that people speaking Bantu languages came to inhabit about half of the African continent. There is greater disagreement on how and when that came to be and what degree of linguistic diversity exists across the spectrum of Bantu languages.[10]

Due in part to Malcolm Guthrie's work, Bantu languages collectively are among the most studied in Africa. In the later 1960s, Guthrie published a detailed catalogue of word-roots in his four-volume *Comparative Bantu: An Introduction to the Comparative Linguistics and Prehistory of the Bantu Languages.* The work was not definitive in terms of specific dates or routes of spread, and it did not include every proto-Bantu root dating back 5,500 years, nor did it include equal data from all Bantu languages. However, it provided impressive breadth and meticulous attention to detail. This made Guthrie's work an invaluable resource on word-root attestations and locations for scholars to begin to develop linguistic and historical conclusions.[11] As a linguist, Guthrie

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[10] The phrase "Bantu-speaking societies" is used to signify people who spoke or speak a language descended from proto-Bantu, the parent language of all Bantu languages, hypothesized to have been spoken nearly 5,500 years ago in the border area of Nigeria and Cameroon. For greater understanding of the Bantu family of languages, see Velde et al., *Bantu Languages*; on the debates about chronology of Bantu languages in eastern central Africa, see Patin et al., "Dispersals and Genetic Adaptation"; Grollemund et al., "Bantu Expansion"; Bostoen et al., "Middle to Late Holocene"; Kairn A. Klieman, *"The Pygmies Were Our Compass": Bantu and Batwa in the History of West Central Africa, Early Times to C. 1900 C.E.* (Portsmouth, NH: Heinemann, 2003), ch. 2; Felix A. Chami, "A Response to Christopher Ehret's 'Bantu Expansions,'" *The International Journal of African Historical Studies* 34–3 (2001), 647–651; Jan Vansina, "New Linguistic Evidence and 'the Bantu Expansion,'" *The Journal of African History* 36–2 (1995), 173–195; Jan Vansina, "Western Bantu Expansion," *The Journal of African History* 25–2 (1984), 129–245; Roland Oliver, "The Problem of the Bantu Expansion," *The Journal of African History* 7–3 (1966), 361–376.

[11] Malcolm Guthrie, *Comparative Bantu: An Introduction to the Comparative Linguistics and Prehistory of the Bantu languages*, vols. 1–4 (London: Gregg International Publishers LTD, 1967–1970); Jouni Maho, "A Classification of Bantu Languages: An Update of Guthrie's Referential System," in Nurse and Philippson (eds.), *The Bantu*, 639–651. For the most part historians have been particularly interested in dating word-roots and genetic classification of various branches of Bantu languages; linguists across Europe, Africa, and Australia, as well as in the United States and Japan, have also contributed significantly to efforts at dating Bantu languages and vocabularies. See, for example, BLR3 and CBOLD; "Comparative Bantu OnLine Dictionary

was concerned with identifying common roots and their most likely original meanings based on the varied contemporary attestations and denotations. His proposed reconstructions are an important starting point for research into Bantu history and a foundation for current digital projects. Historians have used Guthrie's roots along with additional linguistic, ethnographic, archaeological, and oral data to reconstruct and date starred forms and to postulate what events or long-term trends shaped those continuities and changes.[12]

The deep interest of researchers in Bantu languages initially focused on the enduring linguistic and cultural similarities among the languages and the people who spoke them. Recent research has focused on telling the unique, nuanced, and specific stories of motherhood, identity, reputation, families, and generations in the many geographically dispersed Bantu speech communities. Though proto-Bantu-descended languages share common ancestral origins, Bantu speech communities are culturally, linguistically, and genetically diverse. This is due to the realities of history and geography ancient and modern communities have experienced, as well as the cross-cultural influences and innovations people pursued to address their contemporary needs and aspirations.

Africanist scholars have been on the cutting edge of scholarship and methodologies, including the use of the DH methods, for at least forty years. As early as the 1980s, scholars of Bantu languages and histories were passing around and sharing language data in the form of handwritten word sets, Word and Excel files, floppy disks, software like *Filemaker Pro, MapMaker*, and internet-based repositories like the *Comparative Bantu Online Dictionary* (CBOLD) – and later, *Bantu Lexical Reconstructions* (BLR and BLR3). It is noteworthy that in 1996 the commitment and benefits of digital tools in collaboration were captured by co-signers of CBOLD's *Bantuists' Manifesto*, which asserted:

> Making the data upon which scientific conclusions are based available to other researchers is an essential part of the research process; our results cannot be verified or improved unless we make an effort to get this information to our colleagues [*sic*]. We, the undersigned researchers in African languages, therefore agree: to provide our data in electronic form for use by others (to the extent reasonably possible); to acknowledge the use we make

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Introduction," University of California, Berkeley, http://www.cbold.ish- (last modified September, 2000); "Bantu Lexical Reconstructions 3," Africa Museum, Tervuren, https://www.africamuseum.be/en/research/discover/human_sciences/culture_soci ety/blr/any_lexicon_dictionary (accessed January 10, 2020).

[12] Starred forms, for example **-dèd-*, appear throughout this article. Starred forms in this paper indicate a word-root that has been reconstructed to a specific era with a particular meaning, based on evidence from varied contemporary uses in many languages from sub-branches of Niger-Congo or proto-Bantu.

of the data provided to use by others according to the usual conventions of scholarship; to hold others harmless for any errors or misuse of the data; and to make no commercial use of such data except by specific written agreement with the providers of the data.[13]

Our vision to develop a macro-level trans-regional study and to contribute to data sharing using digital tools began to materialize in earnest when we were awarded a three-year collaborative NEH grant in 2016. Resources for research are essential, and this is doubly true for DH outputs. Building on precedents established by earlier Bantuist scholars, we saw that establishing a set of digital tools could serve our research aims while also disseminating early African history in the public sphere and inspiring other interested scholars. In theory, digital tools create a way to do multidisciplinary, intersectional humanities research and to exponentially amplify findings beyond what one researcher alone could accomplish manually in a lifetime. Though the tools can create efficiency of comparison, researchers must develop meaningful questions, know what to look for, and do the critical analysis of data to reconstruct meaningful and engaging historical narratives. Furthermore, developing these tools requires a great deal of skill, time, and resources. To make materials accessible, we needed a team of scholars and technical specialists to build and test our tools. This team included a programmer who could code the database and a graphic and visual artist to design a website that could archive data, aesthetically display visuals, and present a narrative in a compelling manner alongside our language database.[14] In the

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[13] Contributions to data sharing included historian-linguist Christopher Ehret and linguists Derek Nurse and Thilo Schadeberg, as well as those who began building online tools such as CBOLD, the first database effort that a global team of scholars co-created for reconstructed proto-Bantu roots, and BLR3, the second such database. BLR3 includes data collected by various scholars including Lilias Homburger's 1914 study of Bantu phonetics, Guthrie and Meeussen's collections of roots and phonological features, and Pascale Piron's 1995 classification of Bantu. BLR3 is regularly updated and currently edited by Yvonne Bastin and Thilo Schadeburg. The database contains approximately 10,000 entries of reconstructed Bantu roots, comparative roots, and phonological and tonal notes.

[14] BARD data was collected and formatted into various spreadsheets by the current authors. This MySQL database is queried using a Hypertext Preprocessor (PHP), a popular general-purpose scripting language especially suited to the web; Troy Spier, a Tulane University PhD candidate in linguistics, coded and digitized the spreadsheets using open-source relational database management system. Kyle Herb further developed the database with layers to connect category tags to words and roots. Julie Hagenbuch of CANISTER built the preliminary companion website to the database; Bucknell University student Fatima Sow assisted with updates and edits to the website. Diane Jakacki, Abby Brown, and a project team dedicated to digital

best of scenarios, our collective work might inform and expand researchers' abilities to examine early African history.

BARD focuses on family institutions in a particular set of languages. Designed by historians around significant semantic fields relevant to the communities under study, we see it as a supplement to other digital tools, such as CBOLD and BLR3, which were conceived primarily by linguists for other linguists. We believe it will provide useful resources for understanding proto-Bantu roots, phonology, tone, and contemporary geographic distributions. The database is designed to function together with a companion website, which pulls together relevant material culture, oral traditions, ethnographic data, map visualizations, and digitized texts we found useful for historical reconstruction of precolonial Africa and Africa's Atlantic Diaspora topics. Collectively, these DH resources increase access to language data and can nuance researchers' thinking, while making early African history accessible to non-specialists.[15]

A Multi-Method Historical Approach

The larger book project that this article is drawn from examines histories of gender, family, power, and authority – categories that have been dynamic across time and society. A broad, guiding question held at the forefront of our thinking is how deep in time gender categories reach and whether oppression of African women has existed since the biosocial order began.[16] To address these questions, we turn to multi-method approaches, comparative historical linguistics, and comparative analysis of ethnographic data and oral traditions. Our research, along with that of a growing group of scholars, has modeled ways of accessing the nuances precolonial thought and values in central and eastern Africa.[17] Historians tend to privilege and rely on written

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scholarship are working to integrate BARD and ASH-DABMC, which will be publicly accessible at http://africanmatrilinealhistories.bucknell.edu.

[15] We use the phrase "Bantu-speaking societies" to signify people who spoke or speak a language descended from proto-Bantu, hypothesized to have been spoken nearly 5,000 years ago in the areas bordering what is today southern Nigeria and northern Cameroon.

[16] Audrey Smedley, *Women Creating Patriliny: Gender and Environment in West Africa* (Walnut Creek, CA: AltaMira Press, 2004); Jean Davison, *Gender, Lineage, and Ethnicity in Southern Africa* (Boulder, CO: Westview Press, 1997); Karen Sacks, *Sisters and Wives.*

[17] David L. Schoenbrun, *The Names of the Python: Belonging in East Africa, 900 to 1930* (Madison: University of Wisconsin Press, 2021). Raevin Jimenez, "'Slow Revolution' in Southern Africa: Household Biosocial Reproduction and Regional Entanglements in the History of Cattle-Keeping among Nguni-Speakers, Ninth to Thirteenth Century CE," *The Journal of African History* 61–2 (2020), 155–178; Catherine Cymone Fourshey, Rhonda M. Gonzales, and Christine Saidi, *Bantu Africa: 3500 BCE to Present* (New York: Oxford University Press, 2018); Kathryn Michelle De Luna, *Collecting Food,*

sources to reconstruct narratives of the past, while linguists identify form and meaning in phonological, morphological, and grammatical structures of languages. But language, whether written or spoken, is more than words and sentences. Language is embedded with stories of people's epistemology and reflects what speakers of a given language know and mean at various points in time. It is possible to investigate the history of ideas and practices by tracking how widespread words, meanings, activities, and beliefs were. Linguistic methods and data are useful to historians precisely because languages are dynamic, shaped in particular contexts, and words reflect that well.

To use historical linguistics, historians determine 1) regular sounds and sound changes in individual languages; 2) any genetic relationships among languages; 3) chronological order of divergences; 4) historical influences and borrowings across language communities; and 5) chronologies for inventions, changes, and innovations. These multiple rigorous steps are part of the methodology that allows a historian to determine how deep in time knowledge extends, as well as how geographically widespread it is. It is possible to identify common word-roots, to reconstruct ancient word-roots, and to locate their earliest discernible point of historical origin and meaning. The process of determining regular sounds and sound changes in individual languages, discerning the genetic relationships among languages, pinpointing historical influences and borrowings across language communities, and establishing relative chronologies requires first collecting vocabulary from a group of related languages and systematically analyzing the clues in the data for continuity, change, and innovation.[18] Initially, core vocabulary, a list of 100 to 200 words that are relatively stable and resistant to change, is analyzed to identify shared word-roots to determine if a group of languages is related. Core vocabulary consists of concepts nearly universal in languages across the world (e.g., sun, moon, stars, to eat, to drink). Historian-linguists determine

Cultivating People: Subsistence and Society in Central Africa (New Haven, CT: Yale University Press, 2016); Rhiannon Stephens, *A History of African Motherhood: The Case of Uganda, 700–1900* (Cambridge: Cambridge University Press, 2013); Klieman, *"The Pygmies Were Our Compass"*; Christopher Ehret, *An African Classical Age: Eastern and Southern Africa, 1000 B.C. to A.D. 400* (Charlottesville: University Press of Virginia, 1998); David L. Schoenbrun, *A Green Place, a Good Place: Agrarian Change and Social Identity in the Great Lakes Region to the 15th Century* (Portsmouth, NH: Heinemann, 1998); Jan Vansina, *Paths in the Rainforests: Toward a History of Political Tradition in Equatorial Africa* (Madison: University of Wisconsin Press, 1990); Derek Nurse and Thomas T. Spear, *The Swahili: Reconstructing the History and Language of an African Society, 800–1500* (Philadelphia: University of Pennsylvania Press, 1985).

[18] For more information on historical linguistics and dating words, see Derek Nurse, "The Contributions of Linguistics to the Study of History in Africa," *The Journal of African History* 38–3 (November 1997), 359–391; Christopher Ehret, "Stratigraphy in African Historical Linguistics," in Andersen, Henning (ed.), *Language Contacts in Prehistory: Studies in Stratigraphy* (Amsterdam: John Benjamins, 2003), 107–114.

regular sound correspondence, establish degrees of relatedness, and delimit a chronology of divergence or convergence among language communities. Core vocabulary is important for establishing relationships among languages and determining chronologies. Once these steps have been taken, the historian turns to cultural vocabulary, which is specific to a given society based on particularities of history. Scholars formulate testable hypotheses about word histories. One can determine if: a word-root is present in many or few Bantu-descended languages; its patterns of geographical distribution; how people expressed and transformed phonetics and morphology of a word-root over time; and what people's definitional and semantic imaginings and re-imaginings were. The historian-linguist looks for unique words and determines the word-root's earliest discernible point of historical origin and meaning based on its distribution, phonology, morphology, and definitions of attestations.

Cultural vocabulary such as *-dèd-*, *-cùng-*, *-cÙng-*, and *-càmb-* are particular to temporal, spatial, and cultural categories in a given society and were collected based on relevance to specific historical topics (namely family, gender, and generations). Within categories of cultural vocabulary, it is useful to establish semantic fields. These lexical sets or bundles of related words form fields of meaning that include synonyms for a concept or affiliated ideas on a particular subject.[19] For example, semantic fields might include an exhaustive list of words pertaining to family in all of its forms, from adoptive to birth, and include metaphors that invoke a sense of family or familial ties. Cultural vocabulary and semantic fields are the means by which historians understand what was important to people in a specific speech community.[20] Cultural vocabularies reveal how communities distinguished themselves as they made choices about which practices and ideas to maintain, though often in reinterpreted forms. People change words' forms and meanings relatively subconsciously as they and their communities make

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[19] Martine Vanhove, *From Polysemy to Semantic Change: Towards a Typology of Lexical Semantic Associations* (Amsterdam: John Benjamins Pub, 2008), 94–99; Nick Riemer, *The Semantics of Polysemy: Reading Meaning in English and Warlpiri* (Berlin: Mouton de Gaeyter, 2005), ch. 3; H. Cuyckens and Britta Zawada, *Polysemy in Cognitive Linguistics: Selected Papers from the International Cognitive Linguistics Conference, Amsterdam, 1997* (Amsterdam: John Benjamins Pub, 2001); Leonard Talmy, *Toward a Cognitive Semantics* (Cambridge, MA: MIT Press, 2000); Adrienne Lehrer, *Semantic Fields and Lexical Structure* (Amsterdam: North-Holland Publishing Company, 1974).

[20] Talmy, *Toward a Cognitive Semantics*, ch. 7. In light of new research on the bias in algorithms, semantics may become important in another dimension with digital projects since words we use to search Africa on the internet are certainly impacted by algorithms in raced/racist ways. These are issues Africanists must attend to as we develop digital projects. See Benjamin, *Race After Technology*; Noble, *Algorithms of Oppression*; Safiya Umoja Noble and Brendesha M. Tynes (eds.), *The Intersectional Internet: Race, Sex, Class and Culture Online* (New York: Peter Lang Publishing, 2016).

choices about what they value and need. In doing this people reshape language over time to fit new conceptual frameworks.[21] Word-root histories are an effective means to understand epistemologies, material items, and activities in the past. Individual words reveal small changes, and sets of words, much like sets of documents in archives, reveal larger narratives. This work benefits from micro and macro level analyses of data, and, while it can be completed without digital tools, our identification of data patterns across sixty-four languages has been enhanced with these resources. With this data, our next book narrates a critical history of family. To demonstrate how we envision the database benefitting other researchers, in the next two sections we analyze three distinct but semantically overlapping word-roots to explain the layers of meaning and recount aspects of their histories encoded in language-data found in our database.

Leza, *Sungu*, and *Samba*: Words with History and Enduring Epistemologies

Leza, *sungu*, and *samba* each hold meanings that connote ideas about beliefs and practices tying generations of living, deceased, biological, marital, and adoptive families together. In this section, we discuss the histories of three root-words, **-dèd-*, **-cùng-* and **-càmb-*, to illustrate how language data searchable in BARD can be used to derive layers of antiquity, phonological change, and ideological shifts that happened in communities sometimes separated by millennia yet historically connected by inherited ancestral roots. We chose these three particular roots to demonstrate three different time depths and the way words and digital tools can be used to recover Bantu social and cultural histories related to belief systems and education over long time spans.

Histories of God, Care, and the Word-Root **-dèd-*

Speakers of any given language make choices about which words and ideas to abandon or maintain and when new meanings and words must be developed to express ideas and objects. Even words for ideas so foundational or seemingly unlikely to change, such as "creator" or "god," can change and do reveal shifting values. By 3500 BCE, when the earliest Bantu-speaking communities took shape, they had the word **Nyàmbé* for "god" or "creator," which they inherited into their vocabulary from their Niger-Congo ancestors. Many people who have spoken proto-Bantu descendent languages continued to use the term and to teach new generations about this idea for several

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[21] Ian Maddieson and Thomas J. Hinnebusch (eds.), "26th Annual Conference on African Linguistics, 1995 Santa Monica, CA," in *Language History and Linguistic Description in Africa* (Trenton, NJ: Africa World Press, 1998).

millennia. Niger-Congo-speakers created the word *Nyàmbé* from an ancient verb *-àmb-* meaning "to begin." They used this word as early as 10,000 years ago to express a concept of god considered distant from people, not one that people prayed directly to or from which people expected attention or nurturing, but one that impacted people's lives.[22]

However, a clear shift emerged around 2,000 years ago among some Savanna-Bantu descended communities who innovated a new word that represented a new concept of a nurturing, accessible god. "Creator/God" attests as *leza, lesa,* or *leesa* today in Democratic Republic of Congo, Malawi, and Zambia in languages such as Bisa, Luba, and Tumbuka, to name a few. Using methods of comparative historical linguistics, we determined that Savanna-Bantu speakers applied a proto-Bantu root *-dèd-*, a verb meaning "to nurture" or "to care for," that has been reconstructed to circa 3500 BCE.[23] Though *-dèd-* was an old root, it was previously used to convey "to begin" and later connoted "god." Sabi and Botatwe speakers demonstrate how people continued to evolve their ideas about a creator. They shifted approximately twenty centuries ago from speaking exclusively about *nyàmbé* and added *leza* to their worldviews and vocabularies. They used another old root, this one proto-Bantu, to create a new term to distinguish from a distant god and better represent the idea of a nurturing, more accessible creator/god. People applied *-dèd-* (attested as *leza*) to refer to an act of care; they formed nouns from the verb to express sentiments related to nurturing relationships. People previously used this ancient verb to describe the care people provided to children they nurtured and cared for in intergenerational ceremonies and

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[22] Christopher Ehret reconstructed the Niger-Congo word-root *-àmb-* as a verb meaning "to begin" and linked it to the creator *nyámbè*. He contends it was present in proto-Bantu and in the western reaches of Bantu descended languages. Ehret, *Classical Age*, 159 and 167.

[23] The word-root *-dèd-* went through both semantic shifts and sound changes in different languages. Attestations include *leza, leesa*, and *lesa*, among others. On Bantu orthographies, see Ian Maddieson and Bonny Sands, "The Sounds of the Bantu Languages," in Van de Velde, Mark, Bostoen, Koen, Nurse, Derek, and Philippson, Gérard (eds.), *The Bantu Languages*, 2nd ed. (Abingdon, UK: Routledge, 2019), ch. 3. The phoneme /d/ of proto-Bantu went through regular sound change shifting to /l/ in many languages in certain contexts or to other phonetic sounds such as /s/ or /z/ depending on the vowels around it and other sound change regularities of a given language. Guthrie cs 510–512, *-dèd-*, "look after a child," "caress a child," "bear a child," BLR 882–884. See also BLR derivative 7788 *-dèdÌ* noun meaning "educator" (as a noun and with super-high vowel Ì would cause /d/ to become /z/, this could be a likely source for the noun *leza*); and incomplete series 883 *-dèd-* verb "caress"; ("hold (child) on knees") and 884 verb -*dèd-* "bear (child)," Christine Saidi, *Women's Authority and Society in Early East-Central Africa* (Rochester: University of Rochester Press, 2010), 92–94.

spaces.[24] The new and old forms and meanings of roots *-àmb-, *-dèd-, *nyàmbé,* and *leza/lesa* continued to co-exist, often as competing ideas and sometimes as synonyms. We imagine the concept of a nurturing creator developed slowly and as circumstances changed, prompting speakers to rethink their relationships to a supernatural creator. Perhaps such changes resulted from exigencies of shifting relationships, migration, innovation, environmental change, or other political, economic, or cultural shifts.

The roots *-dèd-* and *-àmb-* demonstrate how language works in a way where word-roots can be reapplied to fit new ideas and contingencies. Parts of speech morph into new forms and new semantic fields develop in people's thinking. It is well understood that people were moving through western central and central Africa at least 5,500 years ago, and, as people's circumstances shifted, they required and developed new relationships of care and nurturing for plants, animals, environments, and with community members inclusive of ancestors, children, friends, god/creator, grandparents, parents, partners, and rivals. Though we don't know all of the ways descendant communities used the word-root from 3,500 BCE to the present, we can conclude based on word distributions and sound correspondences that around 2,000 years ago communities, who spoke languages in two sub-branches of Savanna-Bantu, Sabi and Botatwe, in the southeastern parts of central Africa, gave *-dèd-* a striking new religious application.

Over time, *leza,* with the meaning "creator/ god," spread geographically north and east influencing some speakers of Mashariki Bantu languages. For instance, Chewa and Nyanja ancestors, part of the Kusi branch of Mashariki Bantu, adopted the idea of a nurturing god and *leza* as the word to convey it by the early second millennium CE (circa 1000 CE), even while many speakers of Mashariki languages continued to use the older root invented around 700 BCE, *-long-*, for god, *mo-longo* implying a divinity who rectified wrong-doing. The borrowing of *leza* by some Mashariki speakers in a complex linguistic and religious context suggests that the idea of a nurturing god was compelling enough to some Mashariki, who adopted it over the distant *nyàmbé* or *-long-*. Such connections among distantly related Bantu languages over the *longue durée* can be obscure and challenging to discern. However, digital tools like BARD provides a way for researchers to efficiently search for roots like *-dèd-* in its many forms and then connect the semantic histories to geography/maps, ethnography, arts, material culture, and oral traditions.

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[24] Collectively, word-roots like *-dèd-, *-cùng-/*-cÙng-, *-càmb,* and many others like *- bánjá/*- bándá* shape our thinking about spaces and processes related to both creator/god and cosmic families. Proto-Bantu speakers understood *-bánjá/*-bándá* as gathering spaces and later used it in ways semantically related to oration, education, and deciding important matters; in eastern and east central Africa it has referenced space for (inter)generational education. See Vansina, *Paths,* 271; Claire Gregoire, "Le Champ Sémantique du Thème Bantou *-bánjá,*" *African Languages* 2 (1976), 1–13.

Detangling *-cùng- and *-cÙng-

Life stage has been an important aspect of identity historically among eastern and central African speakers of Bantu languages. Analysis of two root forms *-cùng- and *-cÙng- and their semantic shifts are revealing of core elements commonly associated with life stage initiation processes we have traced to early Bantu history. A portion of the corpus of root forms can be divided into two broad semantic fields. One accords with life stage education that occurred as a person went through a period of emerging adulthood and includes meanings for youth: "pubescent girl" (Bemba, Lamba, Tumbuka, Marungu, Nyakusa, Fipa/Zambia, Kanyok, Bisa, and Ushi), "girl at initiation" (Lamba, Tumbuka, Marungu), "girl initiate" (Bemba, Tumbuka), "circumcision lodge" (Nyakusa and Tsonga), and "pubescent boy or young man" (Marungu).[25] These examples and their meanings hold together as a semantic field because they explain life stage and processes that involve fluid status and indeterminant duration of people maturing beyond childhood or youth. Distributed primarily in eastern and east central Africa, this meaning of the root *-cÙng- suggests transitions of youth were critical to one's identity. A second semantic field in our data derives from the root form *-cùng-. The meanings relate to acts of processing material objects, such as "separating chaff" to ascertain a usable grain, or "steps in making beer," "to soften leather," and "to dissolve, digest, or melt." Each meaning relates to a transformative process in which a material substance is modified to produce a usable or desired new form. It has not been lost on the current authors that many of these processed products connoted by the word root *-cùng- were important elements in life stage ceremeonies reflected in the root *-cÙng-.

There are a number of words and meanings in our data that do not, as far as we can determine, neatly fit either of the proposed semantic categories. Some examples include "together" in Tonga, "mercy" in Kimbu, "a marvel" or "wonder" in Bemba, and "witch" and "sudden death" in Kikongo. While these abstract concepts attest as either *-cùng- or *-cÙng-, we have left them as a separate category of analysis pending further research on their etymologies and respective histories. Working through bodies of linguistic data is not linear; while we can propose likely conclusions, this kind of historical work of discovery, interpretation, and narration is iterative as new documents in language evidence becomes available.

This section offers a sampling of influential published scholarship from ethnography and linguistics that provide more gendered than generational analyses of *-cùng- and *-cÙng-. Social anthropologist Audrey Richards' 1950s book, *Chisungu: A Girl's Initiation among the Bemba of Zambia*, introduced thousands of readers to *icisungu* as a girls' rite of passage led by a *nacisungu*,

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[25] In these regions historically, boys were not circumcised at birth but rather around puberty.

her guide and educator.[26] Both these words in contemporary languages reflect the root form *-cÙng- attested -sung-. In our BARD data, what Richards saw as narrowly tied to Bemba girls in fact aligns with widespread distributions of ideas linked to life stage processes across gender and life stage in eastern, southern, and central Africa. There is also alignment of our data with ethnographic collections with meanings for *-cùng- and *-cÙng- and with forms in both Guthrie's *Comparative Bantu* and Tervuren's BLR.

In *Comparative Bantu*, Guthrie identified and glossed C.S. 419 and 419a *-cùng- with meanings ranging from "winnow; (separate); strain (liquids); (choose)" found in Bantu languages in zones EGFSLNPH.[27] Guthrie also suggests C.S. 441 *-cÙng-, distinguished from C.S. 419 by its super-closed /Ù/ meaning "to look after; (to help)" in zones ACEGHLMNR and B. BLR findings accord with Guthrie's original glosses for the two forms, while also reflecting additional attestations with broader meanings. BLR's main entry for *-cÙng- (770), like the entry for the root in *Comparative Bantu*, is glossed as "look after," in zones ACDEGHJLMNR. BLR adds information for zones D and J not accounted for in Guthrie's *Comparative Bantu*, while a derived form *-cùng- (derivative ID 771) is glossed as "help." In zones ABC, the researchers of BLR locate two variant forms, "attend to patient, tend animals; supervise; direct" (variant ID 5101) attested in zones GHJLMR and "educate child" (variant ID 5115) as attested in zones L and M. Notably, BLR explains that variants may have descended from the main etymon, but acknowledges that the variation in form does not have a known, regular sound correspondence.[28] Alternatively, BLR main entry 728 *-cùng- maintains such meanings as "winnow, sift, strain [liquids]; separate; sort, choose" in Zones E and G, with derived forms meaning "melt down" and "melt" in zones L and M. These forms point towards processing and transition of foods and objects and the creative thinking that people engage in each generation to describe important life events and productive practices in transitioning people and materials to new statuses and states.

The roots *-cùng- and *-cÙng- make clear the complexity involved in detangling the histories of words that in many modern-day Bantu languages are often pronounced similarly, thus presenting as homonyms or homograph forms.[29] Speakers of Bantu languages with a seven-vowel system would have

[26] Audrey Isabel Richards, *Chisungu: A Girl's Initiation Ceremony Among the Bemba of Northern Rhodesia* (London: Faber and Faber, 1956).

[27] Guthrie, *Comparative Bantu*, *-cùng- CS 419, 3, 122.

[28] "MAIN 770," Bantu Lexical Reconstructions 3 https://www.africamuseum.be/en/research/discover/human_sciences/culture_society/blr/results_main?Index=770 (accessed August 27, 2020).

[29] Although both roots have a low-tone on the closed, high, back, vowel /u/, the /U/ represents a super-closed, high, back vowel. With the merging of vowels, obstruents (p, b, t, d, k, g, ʔ) in the environment preceding the high vowels /i/ and /u/. In words where the super-closed high, back (or front) vowel previously existed, this

heard a distinguishable difference between the root *-cÙng- with its super-closed /Ù/ vowel and *-cùng-. As vowels merged, vowel sounds were reduced in some seven-vowel languages; the root *-cÙng- and *-cùng- went through regular sound changes as people spoke. Some people recognized these distinctly pronounced roots as connected. Speakers of easterly Bantu languages, we must presume, either innovated a new verb *-cùng-, meaning "to separate," or added an additional meaning to the more ancient *-cÙng- form in a seven-vowel context, thereby yielding *-cÙng- and *-cùng- forms pronounced similarly. This latter hypothesis, of historical unfolding, is plausible when we examine distributions of *-cùng- and *-cÙng- across Bantu language zones. If we simultaneously examine Guthrie's proposed C.S.441 *-cÙng- together with BLR's 770 *-cÙng-, as well as C.S. 419 *-cùng- and BLR's 728 *-cùng- forms and consider their distributions, we hypothesize *-cÙng- is the proto-Bantu or early Bantu root form with its distributions encompassing zones, including the far west/northwest of proto-Bantu origins, ACDEGHJLMNR with the glossed meaning "to look after" and with the meaning "to help" in zones ABC, zones correlating with the earliest speakers of Bantu languages. In contrast, the *-cùng- form appears in the easterly zones E and G with the meaning "winnow, sift, strain [liquids]; separate; sort, choose." This modification in form, specifically the change in /Ù/ > /ù/ was linguistically possible and relatively common. Considering this probability of change helps us understand the reasons that variations of BLR's main entry 770 attests meanings like "to educate child" 5115 occurring in zones L and M with seemingly non-regular sound changes. One can imagine how "to educate" might lead to meanings like "to look after" and "to help" or even "to refine."

Bringing together linguistic evidence, ethnographic writings, and BARD data, we propose *-cÙng- distributions and meanings aligned with elements of initiation at least to the early Savanna Bantu era of about 3,000 years ago where it meant "to prepare through initiation." Its broad meaning included the process involved in the seclusion of individuals for an experience marked by heightened education and knowledge transfer from elders and ancestors to an initiate, who had the responsibility to actively acquire specific, important sets of knowledge. The significance given to preparing young people for various responsibilities and obligations is key to sustaining the family, and amplifies that relationships among living people, through teachings of elders who hold key knowledge, and deceased ancestors who collectively prepare and connect the generations and individuals through an education centered on conscious, collective understandings of doing what is accepted as correct

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usually results in strident fricatives (s, z, ʃ, z, tʃ, dʒ, but not f, v, θ, ð) when not formerly present in the system. See Thilo C. Schadeberg, "Spirantization and the 7-to-5 Vowel Merger in Bantu," in Dominicy, Marc and Demolin, Didier (eds.), *Sound Change* (Amsterdam: John Benjamins, 1994), 73–84.

and responsible within a given society.[30] From this place of innovation, *-cÙng- and*-cùng- spread as Bantu-speaking people migrated and their languages diverged to the far-flung areas of eastern and southern Africa.

Examining the various meanings of *-cÙng- related to initiation draws our attention to enduring life transitions important and thus modified for at least 3,000 years in many Bantu-speaking societies. Moreover, there are many additional words comprising initiation and life stage traditions worthy of examination, including some that may have been carried into diasporic settings during the transatlantic era. The scholarship addressing *-cùng- and *-cÙng- forms coupled with data in BARD demonstrates the range of opportunities and challenges that historians, who use linguistics to write history, contemplate and manage in developing and publishing conclusions about deep history that rest on expansive and shared data points. Examination of *-cùng- and *-cÙng- reflects the complexity of near homophones and reveals an important aspect of the process of working through such data sets to understand bundles of knowledge or how existential ideas about identities and life might influence thinking about production and vice versa.

Africa, the Diaspora, and *Samba*

Early Bantu communities developed semantic clusters for identity and life stage transformations that included related activities such as ceremonies, dancing, body decorations, practices of justice, gathering, medicinal plants, and honoring of god and ancestor spirits. One aspect of this is reflected in an important word *samba* from the word-root *-càmb-. What is interesting is that this root is also prevalent in western Atlantic regions where west central, central, and southern Africans who spoke Bantu languages ended up through trans-Atlantic slaving circuits. Analysis of the ways people used *samba* in Africa and the Americas, together with ethnographic evidence, allows historians insight into ideas possibly inherited both across generations and oceans. BARD facilitates scholars connecting certain concepts and actions people created. While written sources can reveal localized events, linguistic data reveal shared origins of ideas, social practices, and institutions among Bantu speaking peoples over the *longue durée* and across widely separated geographic regions, on the continent and in the African diaspora.[31]

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[30] For a discussion of semantic fields, roots with multiple meanings and structures, and the process involved in research using the comparative historical linguistic method, see Schoenbrun, *A Green Place,* 264–269.

[31] Sidney W. Mintz and Richard Price, *The Birth of African-American Culture: An Anthropological Perspective* (Boston: Beacon Press, 1992); Godfrey Wilson, "An African Morality," *Africa: Journal of the International African Institute* 9–1 (1936); Godfrey Wilson, "Introduction to Nyakyusa Law," *Africa: Journal of the International African Institute* 10–1 (1937), 16–36; S. Comhaire-Sylvain and J. Comhaire-Sylvain, "Kinship Change in the Belgian Congo," *African Studies* 16–1 (1957), 20–24.

In Bantu-speaking Africa, *samba* derives from an old Bantu root **-càmb-* that we can date back at least seven centuries although it probably has origins two or more millennia old. In *Comparative Bantu*, Guthrie proposed that the root **-càmb-* connoted "to wash." In BLR, the main entry for **-càmb-* means "to wash," but it also means to "jump over" in two regions where people speak Bantu languages.[32] In central and east Africa, **-càmb-* appears in languages as *samba*, a noun with various semantically related meanings. The proto-Bantu root **-càmb-* holds multiple meanings simultaneously, an example of polysemy. As linguists Gilles Fauconnier and Mark Turner describe, "Meaning potential is the essentially unlimited number of ways in which an expression can prompt dynamic cognitive processes, which include conceptual connections, mappings, blends, and simulations."[33] Building on Fauconnier and Turner's point, we suggest that **-càmb-* meant "to wash" in a more metaphorical manner than the English translation allows. We propose the idea of polysemy based on the selection of words in BARD and previous research on the root. We contend variation of meanings used in modern-day languages indicate that "to wash" is too narrow a meaning, thus raising the question that there may be more than one proto-Bantu root or that various Bantu speaking peoples independently innovated new meanings for *samba* throughout the last 5,000 years and in very different social contexts. Based on available data we see an etymological connection between *samba* in the Americas that can be dated to the sixteenth or seventeenth century and the older **-càmb-* in Bantu speaking regions of Africa.

Data we have collected lead us to hypothesize that **-càmb-* signified a community ceremony that brought ancestors and families together for events that involved dancing, transitioning a person from one life stage to the next, through symbolic and metaphorical washing. In *An African Classical Age,* historian Christopher Ehret argues that **-samba* (likely from **-càmb-*) means "leaves/grass to make skirts"; such skirts are used in life stage ceremonies. Ehret dates **-samba* with this meaning to the proto-Savanna Bantu era of 1000 BCE.[34] Cultural and linguistic evidence support the claim that **-càmb-* was a material item connected to life stage transition ceremonies where people communicated through invocations and kinesthetic practices in several parts of central and eastern Africa as early as the first millennium BCE. In Kikongo (Bantu language in west central Africa), *samba* means "dance" and *basámbansi, samba* with *ba-* prefix and *-nsi* suffix, means "ancestor." In Kimbundu (Bantu language in southwestern Africa), *samba* means "supreme spirits." In Kikongo and Kimbundu, two languages with known connections to African

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[32] Guthrie, CS 267 v.3, 80; BLR3 Main 434, 433 and 8433.

[33] Gilles Fauconnier and Mark Turner, "Polysemy and Conceptual Blending," in Nerlich, Brigitte (ed.), *Polysemy: Flexible Patterns of Meaning in Mind and Language* (Berlin: Mouton de Gruyter, 2003), 79.

[34] Ehret, *Classical Age*, 312.

descended people in Bahia, Brazil, *samba* can also mean "prayer" and "worship." This root encapsulated a more expansive semantic field than the reconstruction "to wash" or even "grass skirt" allows in their straightforward, narrow connotations. Metaphorically, though, they were connected to transitions.

Samba, clearly widespread with several meanings among Bantu speakers in Africa, is used in the African Diaspora of Brazil to express "dance" with connections to spiritual and life stage practices. *Samba*'s meanings in southwestern Bantu languages are the most likely origins of diaspora terms that express ideas about dance connected to worship and life events.[35] Those who lived as enslaved persons had values and ideas about who they were and maintained memories of their ancestral home, which they passed on across generations through oral traditions, songs, and physical practice. Whether they could read and write would have been of little relevance since they had no freedom and would have had limited access to resources. Seventeenth-century Bahian records captured by Catholic church officials refer to prayer and adoration dances that African-descended people practiced. Yet the earliest known Brazilian records with the word *samba* to refer specifically to dance come from the nineteenth century.[36] While scholars agree that some of the earliest (1550s) and latest (1850s–1880s) enslaved Africans residing in Bahia had origins in areas surrounding those controlled by the former Kongo Kingdom (fourteenth–nineteenth centuries), in the last two decades scholars have debated *samba*'s origins. Africanists surmise the word root and practices had origins on the African continent and were reimagined by mixed African-descended communities in the Americas. Brazilian politicians and scholars, on the other hand, contend *samba* is uniquely Brazilian.[37] Brazilian scholars

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[35] In Kikongo "end of knot" as *kasàmba digata* describe the end of the village. People who speak Bantu languages often discuss knots as metaphor for family, lineage, and networks. Knots can also be mnemonic device to remember history and communicate the passing of time. End of the village may suggest such dance celebrations commemorated places of belonging. In eastern Africa: Tanzania, Kisafwa *i'sambala* (s.), *amasambala* (pl.) "beaded apron(s) worn for dancing," Kigogo *sambayi* "oval beads," Kagulu *sambo* "menses"; in Tanzania and Mozambique, Yao *lisambala* "dance"; Malawi, Nyanja *cisamba* "a dance," and Chewa "pregnancy dance ceremony"; several languages use the root **-samb-* to denote sexual relations outside socially accepted parameters, which may connect to spiritual exhilaration.

[36] David Richardson and Filipa Ribeiro da Silva (eds.), *Networks and Trans-Cultural Exchange: Slave Trading in the South Atlantic, 1590–1867* (Leiden: Brill, 2015); Mariana P. Candido, *An African Slaving Port and the Atlantic World: Benguela and Its Hinterland* (Cambridge: Cambridge University Press, 2013); Carlos Sandroni, *Feitiço Decente: Transformações do samba no Rio de Janeiro, 1917–1933* (Rio de Janeiro: Jorge Zahar Editor, 2012), 88; Linda M. Heywood, "The Angolan-Afro-Brazilian Cultural Connections," *Slavery & Abolition* 20 (1999), 9–23.

[37] Janet McIntosh, "Polyontologism: When 'Syncretism' Does not Suffice," *Journal of African Religions* 7–1 (2019), 112–120; Matthias Röhrig Assunção, "From

Michael Iyanaga and James Sweet both advance arguments about *samba* being a spiritual activity/event, though they have different religious inflection. Iyanaga contends enslaved "Africans and their descendants effectively reinvented and transformed their Catholic saints, … into samba-loving gods." Sweet on the other hand argues that *samba* was recorded as early as 1680 in *Calundú* religious celebrations, nearly identical to spirit ceremonies found in Central Africa. Both are correct. Brazilian Catholicism and Central African religious values are both relevant.[38]

Data contained in BARD for **-càmb-* meanings and distributions in central and eastern Africa combined with our historical linguistic and comparative ethnographic analysis of *samba* among African-descended peoples in Bahia provides new dimensions to this debate. The range of meanings for **-càmb-* in Bantu languages reveal that dance was one physical manifestation of communication, prayer, and community gathering. It may have also been a symbolic washing or cleansing at points of life transition. Though enslaved individuals were forcibly removed from family and all that was familiar as they traveled with almost no material possessions into new worlds and grotesquely dehumanizing circumstances, they did maintain knowledge and intellectual capital as they moved. It is both well-documented and not hard to imagine that enslaved people, who came from many parts of west central, western, eastern, and southern Africa, used their inherited knowledge to create spaces of humanity through invention of new practices and traditions. More research is essential to deepen our understanding and to raise new questions in Atlantic studies that center African-descended populations' intellectual production and cultural ideas in ways that give proper attribution to their agency and creativity in reconstructing their expansive comprehension and adept mastery of African, European, and Indigenous American knowledge

Slave to Popular Culture: The Formation of Afro-Brazilian Art Forms in Nineteenth-Century Bahia and Rio de Janeiro," *Iberoamericana* (2001) 3–12 (December 2003), 159–176; Salikoko S. Mufwene (ed.), *Iberian Imperialism and Language Evolution in Latin America* (Chicago: University of Chicago Press, 2014); Roquinaldo Amaral Ferreira, *Cross-Cultural Exchange in the Atlantic World: Angola and Brazil during the Era of the Slave Trade* (New York: Cambridge University Press, 2012); Thomas J. Desch Obi, *Fighting for Honor: The History of African Martial Art Traditions in the Atlantic World* (Columbia: University of South Carolina Press, 2008); James H. Sweet, *Recreating Africa: Culture, Kinship, and Religion in the African-Portuguese World, 1441–1770* (Chapel Hill: University of North Carolina Press, 2003); J. L. Dillard, "Defending and Identifying African Substrate Influence," in Mufwene, Salikoko S. and Condon, Nancy (eds.), *Africanisms in Afro-American Language Varieties* (Athens: University of Georgia Press, 1993).

[38] Michael Iyanaga, "Why Saints Love Samba: A Historical Perspective on Black Agency and the Rearticulation of Catholicism in Bahia, Brazil," *Black Music Research Journal* 35 (Spring 2015), 119–147; 122; Fassil Demissie, *African Diaspora in Brazil: History, Culture and Politics* (London: Routledge, 2014); Sweet, *Recreating Africa*, 143; Thomas J. Desch Obi, "The Jogo de Capoeira and the Fallacy of 'Creole' Cultural Forms," *African and Black Diaspora: An International Journal* 5–2 (2012), 211–228.

systems.[39] We anticipate that future researchers using various archives including historical linguistics will be able to reconstruct greater detail of what people chose to retain and pass on in terms of knowledge as well as emotion and the way trauma and separation from all that was familiar informed worldviews, values, and practices like *samba* that African diaspora communities produced.

Conclusion

This article sets the stage for building on the use of DH in recovering early African and diaspora history. We introduced the Bantu Ancestral Roots Database (BARD), an archive of words and roots relevant to social and cultural history, and an outgrowth of our collaborative research on family and gender. It helped us discern connections in linguistic data that encompass tremendous geographic breadth and time depth. In the spirit of multidisciplinary research and with databases such as *Bantu Lexical Reconstructions 3* and *Slave Voyages*, we seek to contribute to a long-established tradition of data sharing among scholars working on Africa and its diasporas. These databases are models we have looked to and which we think scholars can use in conjunction with BARD.[40] To demonstrate our approach through the important education practices in Bantu histories we offered analysis of three root-words (*-dèd-, *-cùng-/*-cÙng-, *-càmb) that reveal the centrality of knowledge transmission across family and generations. The kinds of data available within BARD allow scholars to write more inclusive histories so as to move beyond slave trade and enslavement narratives while positioning Africans as agents in their histories. Simply put, Africans and Africanist scholars have long been at the cutting-edge. Africanist scholars have used DH for the last half-century to animate and disseminate important ideas and technologies with deep histories that unfolded in Africa and its diasporas. Digital Humanities has created opportunities for large-scale collaborative research that allows for detailed local-level analysis as well as regional and global comparative studies.

[39] Edda L. Fields-Black, "Atlantic Rice and Rice Farmers: Rising from Debate, Engaging New Sources, Methods, and Modes of Inquiry, and Asking New Questions," *Atlantic Studies* 12–3 (2015): 276–295; Judith Ann Carney and Richard Nicholas Rosomoff, *In the Shadow of Slavery: Africa's Botanical Legacy in the Atlantic World* (Berkeley: University of California Press, 2011); Edda L. Fields-Black, *Deep Roots: Rice Farmers in West Africa and the African Diaspora* (Bloomington: Indiana University Press, 2008); John Charles Chasteen, "The Prehistory of Samba: Carnival Dancing in Rio de Janeiro, 1840–1917," *Journal of Latin American Studies* 28–1 (February 1996), 29–47.

[40] Slave Voyages: The Trans-Atlantic Slave Trade Database, https://www.slavevoyages.org (accessed December 1, 2020).

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