FORESTRY AND THE "WORLD ON PAPER"

Ideas of Science and Resistance to Forest Reservation on the Gold Coast in the Early Twentieth Century

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ABSTRACT: When the British colonial government sought to create a forestry department in the Gold Coast in 1908, the effort met significant legal and political opposition from chiefs, subchiefs, and farmers, especially in the Akan kingdoms in the southern part of the colony. It was only after World War I that the government created a forestry department, and professional foresters struggled to legitimize their activities to the general public. To justify the creation of forest reserves, they emphasized a constructed dichotomy between the scientific nature of their knowledge about the forest and the supposedly backward indigenous techniques of forest management and agriculture. Disregarding the degree to which local farmers, priests, and healers understood the inner workings of the forest, European and European-trained foresters focused on "educating the native" and discouraged native practices like shifting agriculture. However, recent research has shown that many African people groups like the Akan possess more sophisticated and detailed knowledge of their local ecosystems than colonial scientists, technicians, and administrators had imagined. Although based on different cultural concepts and ecological relationships than European forestry, the Akan grounded their interactions with the forest in a parallel body of scientific knowledge, which benefited from a more detailed understanding of local botany. By taking a paternalistic, dismissive attitude toward native forest science, European policies of forest reservation ultimately undermined the Akans' own goals of either protecting the forest or making it economically productive in the

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long term. Even as new data and research challenge these preconceptions in the present day, writers on the subject still often use language of "indigenous knowledge" as opposed to "indigenous science," obscuring the dynamic and sophisticated nature of African scientific knowledge about local environments.

KEYWORDS: environmental history, forestry, orality, knowledge production

Introduction

Deforestation in Ghana dates back to the introduction of cocoa planting in the late nineteenth century, which required the appropriation of land otherwise used by the general population for subsistence agriculture. Despite efforts by the British colonial government to prevent the loss of forests through the creation of forest reserves, by the turn of the twenty-first century, deforestation in the country had reached catastrophic levels, with little forest remaining outside of protected areas.[1] At this point, researchers interested in finding ways to address the crisis of environmental degradation turned their attention to the conservation practices of indigenous peoples. In 1998, as part of an international program on sustainable development, the United Nations Educational, Scientific, and Cultural Organization (UNESCO) visited the Anweam Sacred Grove—a 20-square-kilometer section of the Esukawkaw forest reserve in the Eastern Region of Ghana—to assess native knowledge of forest management, botany, and agriculture.[2] Beyond discovering a high level of biodiversity in the sacred grove relative to the surrounding areas, they also noted that only 40 out of 400 plants had no name in the local Akan language. This revealed a significant, previously underestimated level of local botanical knowledge.[3]

In the final working paper from the project, Ghanaian consultant Boakye Amoako-Atta argued that the exclusion of local people and their knowledge from the forest management process had exacerbated the rate of deforestation, and stressed the need to involve locals in future land protection practices. Beyond this important observation, the presence of the sacred grove

1. Boakye Amoako-Atta, "Preservation of Sacred Groves in Ghana: Esukawkaw Forest Reserve and its Anweam Sacred Grove," in *South-South Co-Operation Programme on Environmentally Sound Socio-Economic Development in the Humid Tropics, Working Papers* 26 (Paris: UNESCO Division of Ecological Sciences, 1998), 4–15.
2. Ibid.
3. Amoako-Atta, "Preservation of Sacred Groves in Ghana," 18.

within the forest reserve suggests that both Akan and British governments understood that area of land as being ecologically important for the region, even if they understood and expressed this knowledge in different ways. The findings ran counter to the dominant cultural ideology informing the British foresters who created the first forest reserves. While formulating strategies for protecting and managing the forests in the early 20th century, the Forestry Department considered indigenous knowledge about the natural world insufficient and understood "educating the native" as integral to their department's mission.[4] In official reports and documents, colonial foresters understood the conservation project of their department as being fundamentally intertwined with a kind of civilizing mission that sought to transform indigenous land use practices and to promote European views of the natural world. The dismissive approach to indigenous scientific knowledge and the exclusion of local communities from the conservation project undermined the legitimacy of colonial forestry in the eyes of communities who lived near the forest, prompting resistance to the creation of forest reserves.

Scientific Systems and Human Relationships with Nature

The architects of colonial forest policy for the Gold Coast approached nature through a cultural-religious framework that understood the domination and productive stewardship of the natural world as a God-given mandate, fundamental to human nature. This outlook helped rationalize the environmental exploitation associated with the Industrial Revolution, which treated plants, animals, and soil as machine inputs for the fulfillment of human needs, and provided the logical underpinnings of systems developed to conserve and protect so-called natural resources like forests from depletion caused by industrialization.[5] Forestry originated with the cameral sciences in Europe

4. Gold Coast Forestry Department, *Report of the Forestry Department for the Period 1948–1959* (Accra: Government Printer, 1949), 1. All reports in series referred to as Forestry Department, *Annual Report* followed by the years under report from this point forward.
5. Gregory A. Barton, *Empire Forestry and the Origins of Environmentalism* (Cambridge: Cambridge University Press, 2002), 21–26; Richard H. Grove, *Green Imperialism: Colonial Expansion, Tropical Island Edens, and the Origins of Environmentalism, 1600–1860* (Cambridge: Cambridge University Press, 1995), 4–7; Max Oelschlaeger, *The Idea Of Wilderness From Prehistory To The Age Of Ecology* (New Haven and London: Yale University Press, 1991); Carolyn Merchant, *The Death of Nature* (New York: Harper, 1970); Friedrich Sixel, *Nature in Our Culture* (Lanham, MD: University Press of America, 2001) 2, 58–59; Donald Worster, *Nature's Economy* (Cambridge: Cambridge University Press, 1985), 2, 26; King James Version, Gen. 1:28, Num 32:13, Dan. 4:29–4:37, Matt. 4:1–11.

(especially Prussia), which aimed at managing the economic output of a kingdom. Growing cities and railroads, coupled with the demands of industry, rapidly depleted forests in the 18th and 19th centuries; in step with a growing tendency towards rationalism, European foresters sought to render forests, both domestically and abroad, into economically productive units dominated by useful species. Aiding them in this goal, botanical gardens in powerful imperial metropoles helped colonial empires identify economically useful plants.[6] In 1758, Carl Linnaeus, the so-called founding father of European botany, formalized a system that placed plants in taxonomic families, genera, and species by taking careful note of individual plant physiology.[7] Plants received binomial names from their genus and species. Under this system, the cocoa tree became *Theobroma cacao*, the ponderosa pine *Pinus ponderosa,* and so on. The system appealed to scientists not only because it standardized a set of already existent plant identification practices, but also because it offered scientists the chance to affix their names to newly discovered plants.[8] The standardization of Linneaus's system enabled scientists to both identify known useful plants and find relatives to known useful plants in new colonial environments.[9] Furthermore, the Linnaean naming system enabled scientists to apply a sense of order to the natural world, appealing to the cultural idea of mankind asserting dominance over nature. Yet, at the same time, the production of botanical texts grounded in Linnaean nomenclature rendered the complex, ever-changing forest of the Gold Coast on paper as a group of static and loosely-connected entities.

For generations, the Akan and other peoples of the Gold Coast successfully managed their own forests and possessed robust and detailed knowledge about the land they lived on. As a result, indigenous legislators and the people for whose interests they advocated did not recognize the British foresters as having a legitimate or exclusive claim to the practice of scientific forestry. Their claims to monopoly rested on a chauvinistic and narrow definition of science that began to develop in the mid-seventeenth century. Though originally used to apply to any kind of body of knowledge or skill, by the

6. Grove, *Green Imperialism*, 91–95, 74–80; James C. Scott, *Seeing Like A State* (New Haven: Yale University Press, 1998), 14–15.

7. Worster, *Nature's Economy*, 37, 54.

8. Londa Schiebinger and Claudia Swan, *Colonial Botany* (Philadelphia: University of Pennsylvania Press, 2004); Alan Bewell, "'On the Banks of the South Sea': Botany and sexual controversy in the late eighteenth century," in *Visions of Empire: Voyages, Botany and Representations of Nature*, eds. David Philip Miller and Peter Hanns Reill (Cambridge: Cambridge University Press, 1996), 173–96.

9. Worster, *Nature's Economy*, 54.

nineteenth century this definition narrowed to refer only to "systematic" and later "objective" bodies of knowledge. Ideas of what signified the "systematic" or "objective" character of a particular kind of knowledge were tightly bound to cultural expectations, which centered around the tightly controlled conditions of the laboratory and the circulation of scholarly texts and journals.[10] Through their relationships with the natural world—relationships often mischaracterized as static and irrational—Akan farmers, priests, and healers developed agricultural and medicinal practices uniquely suited to the Ghanaian environment through observation and experimentation with available resources.[11] Although conveyed and developed through culturally distinct channels, the so-called indigenous knowledge of the Akan was nonetheless scientific in nature and ought to be recognized as such.

Beside their persistent Eurocentrism and racial biases, European observers did not perceive Akan observations or ideas about the natural world as being capable of bearing scientific weight because Akan scientific thought drew from an epistemology rooted in observation and speech rather than in text. By relying on speech rather than on text, Akan scientists could respond pragmatically to changing circumstances, and absorb new ideas—examples include the incorporation of plants like tobacco (*Nicotiana rustica* and *Nicotiana tobacum*) into Akan medicine over time. In Twi, the word "science" can translate to "*abɔdeɛ mu nyansapɛ*"; *abɔdeɛ* refers to "the physical world collectively" and *nyansapɛ* means "philosophy." This term could be rendered literally as "Philosophy of the Natural World."[12] This understanding of science as a kind of philosophy echoes the arguments by philosopher Munyaradzi Mawere in his book *African Belief and Knowledge Systems* about the structure and epistemology of African science in the continent more broadly. Mawere argues that "Africans are aware of the consequences of superficial contemplation of their universe. They try and think as deeply and rigorously

10. Raymond Williams, "Science," in *Keywords: A Vocabulary of Culture and Society* (Abingdon: Routledge, 2002), 232–35.

11. Kofi Appiah-Kubi, *Man Cures, God Heals: Religion and Medical Practice among the Akans of Ghana* (Totowa, NJ: Allenheld, Osman and Co. Publishers, Inc., 1981), 19–37; De-Valera N. Y. M. Botchway, "A Note on the Ethnomedical Universe of the Asante, an Indigenous People in Ghana," in *Medicine, Healing and Performance,* eds. Effie Gemi-Iordanou, Stephen Gordon, Robert Matthew, Ellen Mickens and Rhiannon Pettit (Oxford and Philadelphia: Oxbow Books, 2014), 160–75; Kwasi Konadu, *Indigenous Medicine and Knowledge in African Society* (Abingdon: Routledge, 2007), 1–25.

12. Two other words for "science" found in a 1909 English-Twi dictionary published by the Basel Mission, include "*nyansa*" or "sense" and "*nimdee*" or "expertise."

as their theoretical and experiential apparatus could aid them [*sic*]."[13] He describes African conceptualizations of reality as "holistic, interrelated and pragmatic," with the worlds of matter and spirit "coexisting or existing as separate entities."[14] African worldviews, as described by Mawere, emphasize the changing and dynamic nature of reality, epitomized by the statement that "force is the nature of being, force is being and being is force."[15] This epistemological framework, which recognizes and thoughtfully considers the agency of the natural world and the need to partner with nature for the sake of mankind's collective well-being, formed the basis for Akan forest science.

A religious framework provided the foundation for the development, preservation, and transmission of botanical knowledge by Akan priest-healers. According to Anthony Ephirim-Donkor, practitioners of Akan religion believe that the "spiritual world for divine agencies" existed "long before the emergence of corporeal realities."[16] Donkor describes *Nyame*, often seen as synonymous with "God", as completely unknowable, yet universally accessible and dependable.[17] Most worship in Akan religion, however, is directed either to the ancestors or to distinct spiritual agencies called *abosom* (likened by anthropologist R. S. Rattray and others to "lesser gods") or *sunsum* (often translated as "spirits").[18] These are attached to specific symbolic objects, places, or living things, and offered libations by priests, chiefs, and lay worshippers.[19] The actual methods of worship varied over time according to the needs of the people. For instance, increased fighting between Akan kingdoms led to a shift from water to alcohol as the preferred medium of libations, and evidence in the historical record indicates that gods from elsewhere in Ghana, Africa, or overseas were incorporated into local pantheons.[20]

13. Munyaradzi Mawere, *African Belief and Knowledge Systems: A Critical Perspective* (Bamenda, Cameroon: Langaa Research and Publishing Common Initiative Group, 2011), 20.
14. Mawere, *African Belief and Knowledge Systems*, 16.
15. Mawere, *African Belief and Knowledge Systems,* 19.
16. Anthony Ephirim-Donkor, *African Religion Defined: A Systematic Study of Ancestory Worship among the Akan* (Lanham and Boulder: Hamilton Books, 2017), 3.
17. Ibid., 5–10.
18. Ibid., 26; Robert S. Rattray, *Religion and Art in Ashanti* (Oxford: Clarendon Press, 1927).
19. Ephirim-Donkor, *African Religion Defined*, 36–50.
20. Emmanuel Akyeampong, *Drink, Power, and Cultural Change: A Social History of Alcohol in Ghana c. 1800 to Recent Times* (Portsmouth, NH: Heinemann, 1996), 5–10; Rebecca Shumway, "The Fante Shrine of Nananom Mpow and the Atlantic Slave Trade in Southern Ghana," *The International Journal of African Studies* 44, no. 1 (January 2011): 27–44;

According to Kofi Appiah-Kubi, a call to the Akan priesthood often begins with a spirit calling the would-be priest or medical practitioner into the wilderness, where they are taught about plants by the spirits (or sometimes *mmoatia*, or dwarves).[21] Priest-healers then complete three to four years of training on the uses of certain plants. In the third year, the priest-healer learns "to communicate with nature."[22] This training engages the priest in a process of what historian John Thornton calls "continuous revelation," where both new religious ideas and new relationships with plant life are adopted, changed, and improved continually.[23] The efficacy of Akan medicine, which depended on thorough botanical knowledge of the forest, was even highlighted by early visitors to the Gold Coast like W. Bosman who, in 1705, wrote, "The green herbs . . . are of such wonderful efficacy that 'tis much to be deplored that no European physician has yet applied himself to the discovery of their nature and virtue."[24] Yet, despite exceptions like Bosman, Europeans remained largely skeptical of the value of native botanical or medical knowledge, and actively sought to sway Africans away from local religion and medicine.[25]

Researchers often perpetuate colonial-era dichotomies by only using "science" to refer to European ways of knowing, and using phrases like "indigenous knowledge" to refer to any non-Western knowledge system. In 2018, researchers from Japan and Germany published an assessment of local knowledge of soil quality and conservation in Northern Ghana in the journal *Sustainability*. Despite identifying some "knowledge gaps," the authors concluded that the local techniques for determining soil quality via the use of indicator plants was largely congruent with existing "scientific" knowledge.[26] While highlighting the farmers' "in-depth" and "holistic"

Emmanuel Mends and John Pobee, "Social Change and African Traditional Religion," *Sociological Analysis* 38, no. 1 (Spring, 1977): 1–12.

21. Appiah-Kubi, *Man Cures, God Heals*, 32–38.

22. Ibid., 38.

23. John Thornton, *Africa and Africans in the Making of the Atlantic World, 1400–1800* (Cambridge: Cambridge University Press, 1998), 235–71.

24. Willem Bosman, *A New and Accurate Description of the Gold Coast of Guinea* (London: J. Knapton, A. Fell, R. Smith, D. Midwinter, W. Haws, W. Davis, G. Strahan, B. Lintott, J. Round, and J. Wale, 1705), 221–24.

25. Donna J. Maier, "Nineteenth Century Asante Medical Practices," *Comparative Studies in Society and History* 21, no. 1 (January 1979): 63–81; Helen Tilley, *Africa as a Living Laboratory Empire, Development, and the Problem of Scientific Knowledge, 1870–1950* (Chicago: Chicago University Press, 2011), 14–15, 226–27.

26. Elsie Addo, Sonoko Bellingrath-Kimura, Yoshiharu Fujii, Yosei Oikawa, and Richard Omari, "Exploring Farmers' Indigenous Knowledge of Soil Quality and Fertility

knowledge of the soil early on, and highlighting the detailed use of indicator plants, the authors retain without question the artificial distinction between this type of knowledge and true science. In another article with a similar focus, published in the *British Journal of Environmental Sciences,* researchers attached to the Kwame Nkrumah University of Science and Technology concluded after a review of Asante knowledge of the natural world that "indigenous knowledge systems have high impacts on the conservation issues in several communities in Ghana and thus can be a powerful tool in biodiversity conservation planning."[27]

While acknowledging that "indigenous knowledge" has "scientific underpinnings" and stating that "it is no exaggeration to refer to [indigenous knowledge] as 'science,'" the authors still elect to portray indigenous knowledge as grounded in the past, valuable only in the sense that it is "timeless." The issue at hand is not whether these authors use the word "science" or the words "knowledge systems," but that, even when extolling the values of non-Western sciences, writers portray them as "traditional" or "culture-based." This presents the knowledge of people groups like the Akan as an ancient, unchanging body of traditions, held in contrast to a modern and rigorous science. Even as the authors above seek to praise "indigenous knowledge" by distinguishing such knowledge from "science," they perpetuate colonial dynamics which previously served to maintain European domination over Africa.

The Gold Coast Forestry Department

Flawed assumptions about the quality of African science—and by extension the ability of Akan communities to protect and manage the forest—lay at the foundation of British forest policy, helping worsen environmental degradation and deforestation in the Gold Coast. When British forester H. N. Thompson traveled from Nigeria to the Gold Coast in 1908 to provide the colonial administration with a proposal for a system of forest conservation, he constructed his final recommendations around the openly-stated belief that the native people "possess[ed] neither the knowledge nor the experience

Management Practices in Selected Farming Communities of the Guinea Savannah Agro-Ecological Zone of Ghana," *Sustainability* 10, no. 4 (2018): 1034.

27. Dickson Adom, Steve Kquofi and Eric Asante, "The High Impacts of Asante Indigenous Knowledge in Biodiversity Conservation Issues in Ghana: The Case of the Abono And Essumeja Townships in Ashanti Region," *British Journal of Environmental Sciences* 4, no. 3 (2016): 76.

that is essential for coming to correct decisions."[28] Thompson saw native agricultural practices like shifting cultivation as inherently destructive, and argued, as did many successive colonial foresters, that the deforestation they caused would ultimately result in the desiccation of the climate and the collapse of the cocoa industry.[29] He modeled his recommendations on British policies adopted previously in India and suggested the creation of a forestry department to protect certain areas of land from agriculture "in perpetuity"—areas formally called "Forest Reserves." Building directly on Thompson's recommendations, the department legitimized its mission and its existence by highlighting the contrast between scientific forest management and the "backwards" practices of the natives in early colonial reports.[30] Yet the suggested creation of forest reserves met with swift criticism, since it was seen as a repeat of the 1897 Land's Bill, which Gold Coast African authorities and the Aborigines' Rights Protection Society had viewed as a covert attempt by the British to usurp control over their land.[31]

In the face of broad resistance, the creation of a forestry department for the Gold Coast failed to gain momentum, eventually being abandoned during World War I. Once the war ended, work resumed on attempting to implement Thompson's proposal, until the government again submitted a new set of forest laws to African legislatures in 1926. Though at this point the legislative body in Cape Coast conceded "that in principle the proposed Forest Reservation is doubtless of material importance to the continued agricultural progress of the country," they continued with a list of fifteen objections to the provisions in the bill.[32] Their objections evidence both the centrality the forest to daily life in many communities, and the extent to which the colonial state sought to restrain indigenous forest use. One objection asserts the right of the people to collect trees or roots for medicinal purposes, and to harvest fruits and nuts from the forest.[33] Drawing from deeply ingrained cultural ideas about mankind's inherent separateness from nature, and a cultural conceptualization of the forest as a place of spiritual

28. Hunter N. Thompson, *Gold Coast Report on Forests* (London: His Majesty's Stationery Office, 1910), 115.
29. Ibid., 5.
30. Ibid.
31. David Kimble, *A Political History of Ghana: The Rise of Gold Coast Nationalism, 1850–1928* (Oxford: Clarendon Press, 1963), 340–55.
32. "Resolution Passed by the Provincial Council, Central Province, at Saltpond, Nkusukum," January 25, 1927, ADM 36/1/64, Public Records and Archives Administration Department, Accra, Ghana [hereafter PRAAD-Accra].
33. "Resolution Passed by the Provincial Council," January 25, 1927, 3.

darkness, the British understood the interdependence between the Akan and the forest as an impediment to the civilizing mission.[34] Beyond merely abolishing slash-and-burn agriculture by making land less readily available, the restrictions on medicinal and culinary harvesting could serve to establish legally-enforceable boundaries between the native population and the forest. If penalties could be issued for the gathering of medicinal plants, the ability of priest-healers and other native scientists to access the medicines and tools they needed to carry out their work would be restricted; if the people could not collect food from the forest, perhaps they would be driven to acquire the goods through the cash economy rather than risk legal penalties. In this way, the Forestry Department acted to press for social and cultural change at the same time that it aimed to protect and conserve the forests.

Communicating Discontent from the Grassroots Level

The protests by legislators against the harsh restrictions initially proposed by the Forestry Department reflected arguments originating from frequently illiterate, non-English speaking Akan people, chiefs, and subchiefs. In order to reach the desks of colonial administrators, protests from the grassroots level often passed through numerous levels of translation between languages and between epistemological frameworks. After a final version of the laws was passed with fewer restrictions, this dual translation gap exacerbated conflict between the Akan people and the Forestry Department. The initial creation of forest reserves met with widespread popular discontent, evidenced by the large quantity of petitions and letters of protest from farmers, subchiefs, and chiefs in the Akan kingdoms, held by the Public Records and Archives Administration Department (PRAAD) in Ghana. The production of these letters required input from a legal writer, who would transcribe the letter and send it to the king of a given Akan polity. The letter from this legal writer would often be read and sometimes translated to the king by a secretary, who would then help forward the letter to the District Commissioner. As artifacts translating the discontent of a nonliterate Akan-speaking population to an English-speaking technocratic elite, the letters and reports generated by legal writers should be understood as second- and third-hand translations rather than direct expressions of discontent.

34. Gold Coast Forestry Department, *Report of the Forestry Department for the Period 1949–1950* (Accra: Government Printer, 1951), 7. All reports in the series will be referred to hereafter as "Annual Report" followed by the years.

Likewise, in order to enforce the forest laws, the government depended largely on African personnel. Forest guards, who patrolled the edges of reserves watching for misconduct, needed to explain and translate abstract and foreign legal concepts to communities whose historical exposure to written legal codes was still relatively recent. The violations reported by the forest guards, often relating to illegal farming or unclear land claims, needed to be explained eventually to a forest officer, who would then report the violation in some way to one of the department's few European-born administrators. In the aggregate, the department recorded statistics about violations of the forest laws with details mentioned for only the most egregious offenses. Whether an individual simply misunderstood the law or deliberately broke the law as an act of protest escapes mention. Although framed and now understood primarily in economic terms, the grievances expressed in the letters and in the acts of transgression against the forest laws should be understood in light of the deep connections between Akan spiritual, social, and intellectual life, and the forest.

The acts of protest surviving in the archival record represent an effort to assert the validity of Akan scientific knowledge about the environment against a presumptuous exercise of colonial authority. Nonetheless, I argue that written documents struggled to accurately render Akan arguments about the validity of their scientific knowledge since Akan science drew from an intellectual tradition grounded in the use of speech rather than text. In view of stated Forestry Department goals of "educating the native" and of putting a stop to shifting cultivation, both the effort to restrict native access to the forest and the response by members of the native legislature were part of an underacknowledged conflict between two scientific frameworks competing for legitimacy. Issues of translation, not only between English and Twi, but also text and speech, defined the ideological contours of this conflict, forming an intellectual boundary crossed by legal writers and forest guards tasked with transmitting arguments between ordinary Akan people and the colonial government. The British insistence on the superiority of their scientific system over that of the Akan only served to entrench these boundaries and to alienate communities from the management of the forests.

The Department's Quest to Know the Forests

Despite deep-seated beliefs in their ability to manage the forests, the British frequently bemoaned their own lack of knowledge about the botany and ecology of the forest in their yearly reports and depended on their African staff to collect botanical samples and local names in order to help close this gap. Especially during and after World War II, they needed to turn to

African knowledge so they could better differentiate "useful" and "useless" trees and improve their knowledge of the different kinds of forest land.[35] Effectively, the forest could not be made legible to British colonial foresters without locally recruited workers acting as translators between English and Akan domains, and between the spoken world and the "world on paper." As a result, space needed to be allowed for the exchange of scientific knowledge, although the foresters still did not understand this exchange to be happening on equal terms.[36] Acting as intermediaries between two societies with vastly different epistemologies, forest rangers eventually applied their training to explain the forest laws to communities living near the forests and to gather information about the forests. Given the department's dependence on African staff members, much of the training material for African staff focused on instilling beliefs in the superiority of Western science.[37]

The emphasis on treating the forest primarily, if not entirely, as an economic asset to be controlled lent itself to an arbitrary and ultimately myopic system of dividing the forests into units of "useful" and "useless" trees. Initially, even before Thompson published his recommendations, passive legal mechanisms like the 1907 Timber Protection Ordinance designated some trees as deserving of protection and other trees as undeserving.[38] Placing limits on harvesting specific classes of "useful" trees, whether inside or outside forest reserves, implicitly left "non-useful" trees without protection outside of the reserves.[39] While, at times, trees on the 1907 list were also afforded protection under local practices—Rattray describes prayers being said by woodcarvers before cutting a mahogany tree—other trees with local importance could be felled without consequence. Beginning in the late 1930s, the Forestry Department began to seek ways to escalate the elimination of so-called useless trees in the reserves in order to enhance the

35. Forestry Department, *Annual Report, 1939–1940*, 3; Forestry Department, *Annual Report, 1946–1947,* 1, 11.

36. Sean Hawkins, *Writing and Colonialism in Northern Ghana: The Encounter between the LoDagaa and the "World on Paper"* (Toronto: University of Toronto Press, 2002). Hawkins's approach to the study of native and British legal systems in Northern Ghana centered the idea of text and introduced me to the concept of the "World on Paper." I applied elements of his approach to the history of forest reservation.

37. H. A. Douglas, *Forestry for Gold Coast Forest Rangers* (Accra: Government Printing Department, 1949), 6–7, 65–66.

38. Gold Coast Colony, *Annual Report of the Colonies, Gold Coast, Report for 1907, Presented to both Houses of Parliament by Command of his Majesty, Sept. 1908* (London: His Majesty's Stationery Office, 1908), 30.

39. Kimble, *A Political History of Ghana,* 363; Douglas, *Forestry for Gold Coast Forest Rangers*, 39.

stock of economically valuable trees. One scheme, the Tropical Shelterwood System, experimented with poisoning all "waste" trees in a specified radius of a "useful" tree.[40] In 1943, the Chief Conservator of Forests circulated a proposal that suggested "the gradual weeding of the forest reserves until ultimately all worthless undergrowth and trees have been removed and only valuable timber . . . remain."[41] Although never implemented in full, such proposals met with positive reception among the European foresters, although the district commissioner of Western Akim cautioned in a letter that "their operation would be unpopular" and that he did not "think the native authorities could or would supervise the work in a satisfactory manner."[42]

The ecological ramifications of such a loss of biodiversity as entailed by the proposal were not the subject of protest, possibly because at the time the Forestry Department itself had only superficial knowledge of the botany and ecology of the Gold Coast, according to their own assessments in official reports.[43] The consequence of the institutional myopia of the Forestry Department started to become apparent in the years following World War II, when the government provided the US army with a large amount of *Triplochiton scleroxylon* wood to create packing boxes before their forces left the Gold Coast.[44] This once unimportant yet common tree rose in popularity until it became the leading timber exported from Ghana by the time of independence, but the timber cutting laws offered it no protection. The tree was protected, however, by local farmers, who often let it stand when clearing the forest.[45] Since this tree was relatively common, the sudden rise in demand did not immediately threaten it with extinction. This was not the case for other less common trees that gained popularity after the war. Furniture sent by the Forestry Department to victims of German bombings, to agricultural shows, and to private companies raised the profile of less well-known Gold Coast woods, such as *baku*, *avodire*, *emeri*, and *danta*.[46] One tree, *kokrodua* or *Afrormosia elata*, stood out in particular—little to no research

40. Forestry Department, *Annual Report, 1949–1950*, 11.
41. M. M. Miln, District Commissioner of Western Akim, "Natural Regeneration of Tropical Rainforest," Letter to the Commissioner of the Central Province, Cape Coast, November 6, 1943, ADM 36/1/64, PRAAD-Accra.
42. Ibid.
43. Forestry Department, *Annual Report, 1939–1940*, 3; Forestry Department, *Annual Report, 1946–1947,* 1, 11. Other colonial reports in the intervening years reiterate this sentiment.
44. Forestry Department, *Annual Report, 1945–1946*, 4.
45. Forestry Department, *Annual Report, 1948–1949*.
46. Forestry Department, *Annual Report, 1944–1945*, 4.

prior to the war had been conducted into the tree, and thus it had been afforded almost no protections.[47] The department sent some samples of the wood abroad as gifts—the floors of one lecture room in the Oxford Forestry Institute were made from *kokrodua* wood harvested on the Gold Coast, for example.[48] Initially, silvicultural investigations into the tree suggested that it regenerated well but, ultimately, the lack of coherent knowledge about the plant and the high demand for *kokrodua* wood abroad eventually led to the tree's commercial extinction in Ghana.[49] *Emeri*, *avodire*, and *danta*, among other woods thrust into popularity by the research and promotion of the Forestry Department after World War II, are now recognized as vulnerable by the International Union for Conservation of Nature.[50]

Another area where the constructed category of "useful" plants fell short was in the botanical texts produced by British scientists, which viewed timber as the principal use of forest products. The *No. 3 Draft of the First Descriptive Checklist of the Gold Coast* emphasized timber as the principal forest product in the introduction to the checklist and stated that the list would only mention "important secondary products . . . if these are utilized solely or chiefly."[51] Aiming to provide "short, concise botanical descriptions," the checklist encouraged readers to consult *Plants of the Gold Coast,* a book by Achimota botany teacher Frederick R. Irvine.[52] This book included local names for plants, and proverbs about them, likely as a result of the work of his students who helped collect plants for the Achimota herbarium, but such information was placed in a subordinate position relative to European terminologies.[53] In a revised edition of the 1930 publication, entitled *Woody Plants of Ghana,* Irvine conceded that "the knowledge of medical uses [of plants]

47. Christian Hansen and Jens Lund, "Imagined Forestry: The History of the Scientific Management of Ghana's High Forest Zone," *Environment and History* 23, no. 1 (2017): 13–25.

48. Peder Anker, "Ecological Communication at the Oxford Imperial Forestry Institute," in *Cultivating the Colonies: Colonial States and their Environmental Legacies*, eds. Christina Ax, Niels Brimnes, Niklas Jensen and Karen Oslund (Athens, OH: Ohio University Press, 2011), 287–88.

49. Hansen and Lund, "Imagined Forestry," 13–25.

50. William Hawthorne. "African Regional Workshop," *The IUCN Red List of Threatened Species* 1998 (Zimbabwe: Conservation & Sustainable Management of Trees, 1996), 1998. e.T33064A9754428. e.T33062A9754250. e.T32173A9684845.

51. J. Burtt Davy and A. C. Hoyle, *No. 3 Draft of the First Descriptive Checklist of the Gold Coast* (Oxford: Imperial Forestry Institute, 1937), 1–2.

52. Ibid.

53. Frederick Irvine, *Woody Plants of Ghana: with Special Reference to Their Uses* (London: Oxford University Press, 1961), 620–45, xiv.

by African herbal doctors is enormous."[54] Still, he took care to mention that any medicinal information "has been included not because it is always true, but . . . in the hope that this information will be sifted and checked by scientific experiments," reinforcing the underlying idea that the knowledge of African medical practitioners could not be considered truly scientific.[55] The structure of the introductory index to *Woody Plants of Ghana* mirrored the economic emphases of the Forestry Department; Irvine first lists trees with potential uses as timber, leaving medicinal and sacred plants to the very end.[56] Moreover, his justification for listing certain plants as sacred relies largely on information about uses for plants in other African colonies, and only rarely mentions actual uses for plants in Ghana.[57]

Due to advances in pharmaceutical chemistry after World War II, forests could no longer be regarded only as sources of timber, but also as potential sources of new medicines. The interest in isolating active ingredients from medicinal plants was not entirely new—the British had shown an early interest in cultivating and exporting potential medicinal plants on the Gold Coast like *Strophanthus spp.* and *Erythroxylum coca*—but in early botanical inventories of the forests and lists of important plants, local medicines received little attention overall.[58] According to departmental reports from the 1950s, post-war interest in medicinal plants initially focused largely on members of the *Apocynaceae* or dogbane family. Medical interest in this family of plants had already been established by the discovery of strophanthin, an important heart medicine, but it surged again in 1952, when the alkaloid reserpine was isolated from Indian Snakeroot, or *Rauwolfia serpentina*.[59]

54. Irvine, *Woody Plants of Ghana*, 1961. xiv.
55. Ibid.
56. Ibid., xvi–lxxv.
57. Ibid., 143, 185, 300, 432, 443, 496–497, 766.
58. W. S. D. Tudhope, *Report on the Agricultural Department for the Year 1909* (Accra: Government Printer, 1910), 17. Abbreviated from this point forward as "Agricultural Department, *Annual Report*" followed by the year. See H. N. Thompson, *Gold Coast Report on Forests* (London: His Majesty's Stationery Office, 1910); Thomas Chipp, *The Forest Officers' Handbook of the Gold Coast, Ashanti and the Northern Territories* (London: Crown Agents for the Colonies, 1923); Hoyle, *First Descriptive Checklist of the Gold Coast,* 1937; H. A. Douglas, *Forestry for Gold Coast Forest Rangers* (Accra: Government Printing Department, 1949), 1–10.
59. Forestry Department, *Annual Report, 1955–1956*, 43–44; Abena Dove Osseo-Asare, *Bitter Roots: The Search for Healing Plants in Africa* (Chicago: Chicago University Press, 2014), 1–30. Appiah-Kubi, *Man Cures, God Heals,* 157. Reserpine showed promise as an antipsychotic, and one of its relatives, *kakapempe* or *Rauwolfia vomitoria,* had been used in Ghanaian medical and religious practice for an unknown amount of time.

Three years later, French chemists Robert Goutarel and Maurice-Marie Janot extracted several promising therapeutic alkaloids from another dogbane, the *Voacanga africana*, a local medicinal plant previously considered to have little economic relevance apart from its use as a rubber adulterant.[60] The *Voacanga africana* went on to become an important export commodity for Ghana several decades after independence, as did other medicines taken from the forest (see endnote for examples).[61] Previously, botanical dictionaries had downplayed any of its medicinal uses and focused on its use as a rubber adulterant, leading to persistent challenges with collecting the plant for pharmaceutical applications in the present.[62]

Forest Rangers and Plant Collectors as Intermediaries

Although Irvine sidelined Akan scientific knowledge, he himself acknowledged that his work had only been made possible through the substantial contributions of students at Achimota who collected plants, identified them, and collated their names. As in Irvine's work, the botanical inventorying of the forest by the Forestry Department served as a key site of translation between the Akan and British epistemological spheres. The department encouraged African forest rangers and Europeans alike to participate in botany, which meant that research into the subject also had the potential to enable cross-cultural interactions, albeit interactions where African perspectives would be subordinated to those of Europeans.[63] Pressure to collect more botanical specimens and to develop a more rigorous understanding of the local flora visibly surged with the increased demand on the forests after World War II. The number of specimens collected by the department

60. G. F. Scott Elliot, "On the Botanical Results of the Sierra Leone Boundary Commission", *Botanical Journal of the Linnean Society* 30, Issue 206, (February 1894): 65, 87, https://doi.org/10.1111/j.1095-8339.1894.tb02390.x]; Irvine, *Woody Plants of Ghana,* 620–45.

61. John Brako-Danquah, "Voacanga africana Farming System in the Assim South District: Socioeconomic and Soil Nutrient Implications" (MA Thesis, Kwame Nkrumah University of Science and Technology, 2012), III–20; Tinde van Andel, Britt Myren, and Sabine van Onselen, "Ghana's Herbal Market," *Journal of Ethnopharmacology* 140, no. 2 (2012): 368–78. Osseo-Asare, *Bitter Roots* contains valuable information about the history of medicinal plant exports from Ghana as well.

62. Frederick Irvine, *Woody Plants of Ghana*, 620–45. See also Timothy Vilgiate, "The Invention of Voacanga africana as a Ceremonial Psychedelic," *Arcadia* 23, (Rachel Carson Center: 2009). http://www.environmentandsociety.org/arcadia/invention-voacanga-africana-ceremonial-psychedelic.

63. Forestry Department, *Annual Report, 1953–1954*.

ballooned from 327 in 1946 to 1661 in 1953, a nearly five-fold increase.[64] In per capita terms relative to the number of forest officers and forest rangers, this increase meant that specimens collected per capita rose from 2.38 to 12.49 plants per year on average. Considering that African forest rangers outnumbered Colonial Forest Service officers by about three to one during this time, the bulk of the specimens collected probably came from Africans, giving them an opportunity to document and share local names, uses, and ideas about the plants gathered. Botanical specimens drawn from the forests ended up at the departmental herbarium in Kumasi, before being passed on to either Kew Botanical Gardens, the Oxford Imperial Forestry Institute, or, in later years, what is today the University of Ghana.[65]

The training manual for forest rangers printed in 1949 opened with chapters on botany, providing an overview of botanical terminology.[66] On the topic of native names for individual trees, the manual explains that "it must not be assumed that every botanical name has a corresponding native name. . . . Great care is therefore necessary in using native names and in accepting a name given by a local man. Not the least of the difficulty is caused by a man guessing or creating a name for a tree he does not know. If known, the botanical name should always be used in written reports."[67] The departmental guidelines in the manual urged forest rangers to keep a notebook with them while on duty in order to track the botanical specimens they collected. A forest ranger was expected to "acquire as detailed a knowledge as possible of his range," including "the distribution of valuable species."[68] Although the department presented native botanical knowledge, they encouraged rangers to record information about local uses and names for plants alongside physical taxonomic descriptions. "Routine duties in the forest, such as boundary inspections, cease to be monotonous if an intelligent interest is taken in the natural life of the forest," the manual said, to encourage rangers to gather information.[69]

The manual makes the role of the ranger as intermediary especially clear, describing their "important duty in explaining Government's policy to the farmers and villagers in his range."[70] At the same time that the African

64. Forestry Department, *Annual Report, 1938–1939*. Forestry Department, *Annual Report, 1953–1954*.
65. Forestry Department, *Annual Report, 1948–1949*, 5.
66. Douglas, *Forestry for Gold Coast Forest Rangers,* 1–11.
67. Ibid., 6.
68. Ibid., 7.
69. Ibid., 65.
70. Ibid., 65–66.

forest rangers translated the forests from living and dynamic systems into mounted specimens on herbarium sheets, they also worked to translate the written words of the forest laws to a skeptical and at times adversarial public. The manual outlined expectations in which they would explain "the rights of the people . . . as well as the restrictions." Their work as translators of British forest policy extended to the lower echelons of the Forestry Department—each Forest Ranger oversaw a team of forest guards and laborers and was expected to "investigate their grievances, if any."[71] The forest rangers frequently found themselves dealing directly with conflicts on a local level. For example, one 1939 petition sent from the community of Nkwaten to the District Commissioner through Nana Atta Fuah III reported that the community had been accused by a group of people, to whom they had sold land, of bargaining "with the Forest Officers to seize the lands which had been sold to them."[72] Such an accusation suggests that the claimants understood the laws to be enforced arbitrarily by the Forestry Department, in at least some cases. Another letter from a government official in Akim Oda, dated September 16, 1943, reported on brewing discontent with "the Senior Forest Ranger who is stationed here," who, the official reports, "is a native of this place . . . building himself a sumptuous abode in the New Town." This letter hints that locals (or even certain colonial officials) may have envied the power held by senior forest rangers. The writer goes on to suggest that, should the government build a model wood home for demonstration purposes, the home should be given to a chief rather than to an African employee of the colonial government.[73]

The African rangers and guards helped the Forestry Department maintain the relationships with forest communities on which the success of their conservation measures depended. Misbehavior by an intermediary could easily

71. Ibid., 66.

72. Ben Tackie, "The Humble Petition Of The Ahenfo, Elders, Councillors, Linguists, Captains And People Of The Nkwaten Division In The Akim Kotoku State, Central Province of the Gold Coast Colony, Praying Through the Honourable Secretary for Native Affairs, Accra, To His Excellency The Governor Of The Gold Coast, To Give Instructions To The Honourable Conservator Of Forests And The Reserve Settlement Commissioner, To Exclude Private Lands of Messrs. Michael Anarfi & Co. Of Akropong, Akwapim; Amaka Otchere & Co. Of Nsawam and Akwamu; Rudolph Sowatey Tagoe & Co. Of Labadi, Accra; J. E. Kwao Olongo & Co. Of Sra, Yilo Krobo And Kofi Parry & Co. Of Aburi, Akwapim, All From The Eastern Province From the Proposed Auro River Forest Reserve," April 29, 1939, ADM 36/1/64, PRAAD-Accra.

73. Sender Unknown, "Wooden Houses, Ranger Type," September 16, 1943, ADM 36/1/64, PRAAD-Accra.

provoke anger that eventually trickled up to the upper levels of the forest administration. On January 29, 1930, for example, Assistant Conservator of Forests J. A. Wills (who had only recently begun working in his position) arrived in a village called Pankese to respond to complaints about the behavior of some message carriers sent by the Forestry Department. He advised them to contact him immediately should anything similar happen again in the future, going on to comment that "we visit their villages so frequently in the course of our duties, and our work is so dependent on the good will of the chiefs that we wish to have nothing but the most cordial relations with them, and do not wish them to nurse any grievance that they may feel they have with us, even though it may have arisen through carriers."[74] As the department grew, forest rangers performed many of the routine visits described by Wills, and needed to supervise laborers and forest guards for the department, placing them at the front lines of the effort to earn "the good will of the chiefs." Their position at the front lines of forest law enforcement and public relations made the work of forest rangers vitally important in dealing with widespread and continuous resistance to the creation of new Forest Reserves.

Legal Writers as Intermediaries

In practice, evidence suggests that despite the best efforts of the Forestry Department to persuade them of the superiority of European science and the necessity for British forest laws, the forest rangers were, at times, selectively lenient with local communities, or otherwise more sympathetic to their interests and the legitimacy of their ties to the land than to the Forestry Department. The annual reports of the department detailed several incidents where forest rangers permitted illegal farms inside reserves, while documents like the petition from the community of Nkwaten suggest that, at times, the enforcers as a whole might have been seen to be acting to advance the interests of one community over another.[75] Just as they actively participated in economic conflicts at the local level, forest rangers played an important role in cultural and ideological conflicts by dictating what local scientific knowledge would be carried across epistemological and linguistic divides in their collection of samples and of native uses

74. J. A. Wills, Assistant Conservator of Forests, "Carriers' Misbehaviour at Pankese," Letter to the District Commissioner at Oda, January 29, 1930, ADM 36/1/64, PRAAD-Accra.

75. Tackie, "Humble Petition," April 29, 1939; Forestry Department, *Annual Report, 1949–1950*.

or names for plants. The role of forest rangers seemed similar to that of the legal writers tasked with writing the petitions and letters of protest. When attempting to transmit the concerns of communities living near the forests, the legal writers had to strike a difficult balance. They needed to express local feelings about the forest, feelings deeply intertwined with the daily lives and spiritual beliefs of Akan peoples, in ways that would warrant credibility in European courts. As the forestry department relied on locally-recruited forest rangers, guards, and laborers to implement and enforce the new laws, farmers and native people in positions of authority depended on legal writers to resist them.

The labor of these intermediaries has been preserved in the PRAAD in the form of correspondence chains, which often implicated people from multiple levels of British and Native governments. For example, in November and December 1941, a debate over the addition of a small parcel of land to an extension reserve drew in the Chief Commissioner of the Central Province, the District Commissioner of Western Akim, the Omanhene of Akim Kotoku, and a linguist (Okyeame) from a rural community called Mamfe Akuapim. On November 10 of that year, Omanhene Nana Frempong Manso II wrote to Okyeame Atua Kwabena of Mamfe, Akuapim to inform the latter of the government's plans to add half a square mile of land belonging to the "Rogers Western Akim Concession No.1" to the Prakaw Extension forest reserve.[76] To help him formulate his response, a legal writer named R. J. Darley typed a letter for Okyeame Kwabena on November 27, free of charge, as follows:

> I have the honour most respectfully beg to approach you with these that I have received your letter with all the contents with thanks. But that land belonging to me before Omanhene Nyankonago, he sent his nephew Kwame Afram and Dempreh Odekro of Assene and sold the said land to me. I paid the full amount of the land before Omanhene Nyakmago and he gave me a full receipt before the Oman of Akim Kotoku with all the Elder's signatures . . . Government too recognised me very well that I am the pecherssor [*sic*] of said land because I sent the papers to the Government in order to signed it, he then directed me to the District Commissioner at Cape Coast . . . therefore I beg you to know that, that land I bought it before public but not a private, therefore if anybody troubling me or interfered me about the said land then it is for his or her own risk. There is no any white-man can claiming the said land from me when Government has witness me . . . I beg to notice you that

76. Omanhene Frempong Manso II, "Prakaw Extension Forest Reserve", Letter to Okyeame Attua Kwabena, November 27, 1941, ADM 36/1/64, PRAAD-Accra.

> if any whiteman want something of the land, he have to come and see me myself as for you don't help him.[77]

After dictating his letter to Darley, Kwabena marked an X next to his name, and Darley signed as a witness, suggesting that Kwabena himself could not read or write. This letter shows Darley trying to help Kwabena navigate two separate legal systems with different epistemological frameworks and thus different evidentiary requirements. He named witnesses who could attest to the sale of the land and mentions their status to strengthen their credibility should they be called to testify before the Omanhene, but also took care to highlight his possession of receipts—written legal documents that could support the claim in a British court. The legal writer attempted to balance this dual legal claim with a rendering of Kwabena's challenge to colonial authority in his translation. The Okyeame challenged the British colonial state to take him seriously by coming to him on his own terms. A defiant pushback against the anonymity of a distant forest management bureaucracy which existed largely on paper, this letter asserted the legitimacy and even the superiority of the Akan intellectual sphere and its understanding of the forests.

As the correspondence chain demonstrates, delays in the postal system coupled with the impatience of some of the people involved meant that, at times, reminder letters asking for responses arrived after one party had already sent in their response. Kwabena's letter only reached its intended recipient after the Omanhene had already sent a letter to the District Commissioner reporting that Kwabena had not responded since November 10.[78] After receiving word of Kwabena's noncompliance, the Commissioner reached out to Kwabena directly on December 2, not having read his initial letter, threatening to declare the land part of the forest reserve without his consent if he did not reply.[79] Just a day later, on December 3, the Omanhene reported receipt of the first letter from Kwabena to the District Commissioner, and provided the latter with a copy. The Omanhene admittedly stated the obvious when he remarked, "from his manner of expressions in the letter that he is totally against the Reservation of any portion of the land alienated to his Company." Nine days later, on December 12, the District Commissioner

77. R. J. Darley for Okyeame Attua Kwabena, Letter to Omanhene Frempong Manso, November 27, 1941, ADM 36/1/64, PRAAD-Accra.

78. Omanhene Nana Frempong Manso II, Letter to the District Commissioner of Western Akim, December 3, 1941, ADM 36/1/64, PRAAD-Accra.

79. District Commissioner of Western Akim, "Prakaw Extension Forest Reserve," Letter to Atua Kwabena of Mamfe, Akwapim, December 2, 1941, ADM 36/1/64, PRAAD-Accra.

passed Kwabena's letter from the twenty-seventh on to the head of the Commissioner of the Central Province, and dismissed the message, writing, "I need hardly state much of Atua Kwabena's letter is incomprehensible, and introduces subjects of which I know nothing."[80]

It is unclear when Kwabena received the District Commissioner's response threatening to take control of the land through the Forest Ordinance, but we do know that, on December 18, Darley again helped him compose and send a letter, in which Kwabena took on a more defiant tone. Kwabena pleaded with the government not to add his land to the Prakaw Extension Forest Reserve, stating "that my people are too plenty, almost 25 men, and Akyeampong too, 20 men, if you look our old papers you can see all this. We bought this Land for necessity and hungry sake, and you has taken most part of it . . . [commas added for clarity]."[81] Throughout the letter, Darley seems to struggle to render what Okyeame Kwabena wants to say, until he ultimately concludes, "I beg your most pardon that your Worship may put this my humble letter into concideration [*sic*] because . . ." at which point he decides to add an untranslated proverb in Twi, "*Aboa biakõ nso wonyi no ayan abien*." Given Kwabena's title of Okyeame, or linguist, which entailed a certain level of skill at communicating in Twi, it would not be difficult to imagine that he himself had, in dictating the message encoded in the letter, rendered an eloquent and complex defense of his claim to the land. However, in all likelihood, the substance of his argument was difficult for any legal writer to translate into a second language. After I reached out to several people who offered different interpretations, anthropologist Dr. Akwasi David Mensah Abrampah translated the proverb, "You do not remove the *yan* of the animal twice," referring to a long stretch of meat removed before a butcher can access the abdominal and thoracic cavities.[82] Essentially, the proverb expresses Okyeame Kwabena's indignation at the government's decision to take additional land after already imposing a forest reserve on the people.

The petition from the community of Nkwaten mentioned earlier in this article also illustrates the role which legal writers could play in enabling

80. District Commissioner of Western Akim, "Proposed Prakaw Extension Forest Reserve," Letter to the Commissioner of the Central Province, December 12, 1941, ADM 36/1/64, PRAAD-Accra.

81. R. J. Darley for Okyeame Attua Kwabena, Letter to the District Commissioner—Oda Western Akim, December 18, 1941, ADM 36/1/64, PRAAD-Accra.

82. Personal communication with Dr. Akwasi David Mensah Abrampah, Anthropology Department at the University of Ghana, Legon, facilitated by Benjamin Kofi Nutor, a doctoral student in Anthropology at the University of Texas at Austin. Thank you to Dr. Abrampah for your help and to Benjamin for reaching out to him about the proverb.

arguments about the validity of local sciences to cross from spoken Akan into the written English sphere. To revisit the content of this petition, on April 29, 1939, a legal writer named Ben Tackie penned a petition on behalf of "the ahenfo, elders, councillors, linguists, captains and people of the Nkwaten Division in the Akim Kotoku state," explaining that they had sold a certain tract of land to defray their stool debts in the mid-to-late 1920s. The lands, they reported, "were acquired by the Claimants for the benefit of themselves and families who are unemployed in the country and whom they may not like to be criminals because of their having nothing to do . . . it is their life investment, and depriving them of these lands means entire destruction of the Claimants and their families, through the starvation arising out of their having no lands to earn their bread on." They reported that they had "repeatedly requested the Forest Officers not to molest and interfere with the rights and liberties of the Claimants [to the land they had sold], they appear to take no notice of our protestations." The petition expressed their belief that "the said [Auro River Forest] reserve is being created to benefit the Mining Companies operating and Ntronang, which in our opinion is unfair and against good conscience."[83] At first glance, the document appears more organized and carefully worded than the letter crafted by Darley on behalf of Okyeame Kwabena. It is divided into sections and subsections and constructs an appeal to British sensibilities about private property, natural rights, and liberty, without grammatical or spelling errors.

At the same time, however, the petition from Nkwaten also echoes Okyeame Kwabena's sentiments of deprivation and indignation at the government's interference in the people's relationship with the land. Beyond the financial and economic grounds for protest, the petitioners also included a paragraph in the petition directly challenging British scientific authority over the forest, writing that "we as natives of this land certify that any evidence from anybody to the effect that the cultivation of the said lands would affect the climate or damage anything in the Akim Kotoku area is untrue."[84] Although the petition focused largely on the community's economic grievances, that may be due to the fact that the petition had been prepared by a legal writer aiming to help the community make an argument in a white-dominated reserve settlement court. The document was likely consolidated by the legal writer from multiple, more culturally specific arguments made by community leaders. After all, the impositions of British forest policy were not merely economic but also, in many ways, spiritual. According to Akan

83. Tackie, "Humble Petition," April 29, 1939.
84. Ibid.

religion, the land on which the people of Nkwaten lived belonged to their ancestors, and the people and their leaders had a spiritually-sanctioned right to make decisions over its fate.

The Nkwaten petition was forwarded to the District Commissioner of Western Akim by the Provincial Commissioner on July 25, 1939, after moving up the legal hierarchy of power through the Omanhene's office. However, the sender noted, as he passed on the letter, that "their petition does not appear to have been forwarded to His Excellency the Governor through the proper channels." This note reads as an attempt to find fault with the petition and to dismiss the legitimacy of local complaints, paralleling the way that Kwabena's letter had been dismissed for being "incomprehensible." The Provincial Commissioner requested that the District Commissioner inform the community of Nkwaten "that the proposed Auro River Forest Reserve is still the subject of proceedings in the Court of the Reserve Settlement Commissioner and that Government is therefore unable to intervene in the matter . . . although it will not be possible to exclude any lands from the proposed Forest Reserve, adequate compensation will be paid by Government."[85] He added the promise of compensation despite the statement by the community that "no amount of cash compensation can satisfy their demands, as they had acquired these lands at great expense by payment of huge native interest on loans raised."[86] On July 24, the District Commissioner sent a letter to "the Odikro of Nkwaten and others," restating his superior's message.[87]

Conclusion

The dismissal of local voices and the sidelining of native sciences undermined the conservation goals of the Forestry Department and contributed to the environmental degradation encountered by the team of UNESCO researchers mentioned at the beginning of this paper. Issues of translation, both between Akan and English, and speech and text, confounded the exchange of ideas about the forest and restricted the ways they could be expressed. Despite possessing limited knowledge of the botany and ecology of the forests, the department structured itself around the idea that native knowledge of the forests fell short of what was needed to protect

85. Commissioner Central Province, Letter to the District Commissioner, Western Akim, Oda, July 25, 1939, ADM 36/1/64, PRAAD-Accra.
86. Tackie, "Humble Petition," April 29, 1939.
87. H. E. Devaux, Letter to the Odikro of Nkwaten and Others, July 24, 1939, ADM 36/1/64, PRAAD-Accra.

them from deforestation. While they encouraged members of their staff to collect information about local names and uses for plants, departmental training manuals and guidelines relegated this information to a subordinate position and encouraged trainees to approach it with caution. Meanwhile, when Akan farmers and community leaders articulated counterarguments to the British forest policies, they needed to phrase their ideas about the forest—ideas rooted in dynamic and fluid relationships with the natural world and generally expressed aloud—in written language that would appeal to a British audience.

Foresters confronted the forest as a fixed, subordinate set of natural resources, at times open to the removal of all trees and plant life without economic value regardless of their broader ecological significance. Their philosophies of forest management drew from a Western intellectual tradition that had understood dominion over the natural world as fundamental to human nature. This clashed directly with the viewpoints of ordinary farmers, priests, and native rulers who lived in and depended on the forest. According to this indigenous worldview, the forest consisted of coequal agencies that needed to be partnered with for the long-term success of their communities. While this is certainly not the only factor behind deforestation—cash-crop agriculture, for example, certainly played a major role—cultural and religious attitudes towards nature deserve greater consideration in the environmental history of Ghana and West Africa, especially as increasing scholarly interest turns to uncovering conservation strategies outside of the Euro-American tradition. By continuing to refer to non-Western sciences as "indigenous knowledge systems" in need of scientific verification rather than treating them as sciences in their own right, modern day researchers and policymakers perpetuate the colonial mindset.

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