

Royal African Company Networks

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In the final quarter of the seventeenth century, England's state-sponsored African trade monopoly, the Royal African Company, conducted trade via a series of forts on the Gold and Slave coasts in West Africa. The company anchored its trade at Cape Coast Castle, in modern-day Ghana, which served as a communications hub for the coast, corresponding with smaller forts, or 'outforts' and relaying news and requests to London.² Our project combines computational text analysis with GIS to thematically map the correspondence of the Royal African Company (RAC) on the African coast between 1681 and 1699, the final two decades of the company's monopoly. The last two decades of the seventeenth century are a crucial window for understanding the development of the transatlantic slave trade on the African coast. Although the Portuguese engaged in the African slave trade starting in the sixteenth century, the formation of the Royal African Company gave a major impetus to the slave trade, laying the English infrastructure for the transatlantic traffic.³ Looking at the last two decades of the seventeenth century also enables us to examine how the African trade operated before it definitively turned to slaves and before a wide range of private merchants swarmed the coast in search of captives to take to the Americas.⁴ This project is currently in a pilot phase. We hope that our website, current findings and ongoing research questions will be the basis of a larger grant, culminating in a series of publications and a public exhibition of maps.

Our maps and informational graphics are based on a collection of over 3,000 individual letters that the RAC sent from one place to another on the West African coast. These letters were originally held in the collection of Richard Rawlinson at the Bodleian Library in Oxford. They were transcribed and published in a three-volume series, *The English in West Africa: The Local Correspondence of the Royal African Company of England, 1681-1699*, which was edited by Robin Law and published by Oxford University Press between 1997 and 2006, with an online edition published in 2015.⁵ The *English in West Africa* collection complements the more widely known and utilized Royal African Company (T70) corpus at The National Archives in Kew. Despite the unusual detail and geographic

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² The company had a second hub at James Fort in Gambia, which oversaw trade in Senegambia.

³ For the early Portuguese slave trade, see Toby Green, *The Rise of the Trans-Atlantic Slave Trade in Western Africa, 1300-1589*. (New York: Cambridge University Press, 2012), 177-207. The Royal African Company followed a series of failed English African trade monopolies. For its immediate predecessor, see George Frederick Zook, *The Company of Royal Adventurers Trading Into Africa*. (Lancaster, PA: Press of the New Era Printing Co., 1919)

⁴ In 1698 England opened up the African trade to any merchant willing to pay a ten percent fee on the goods he exported to the African coast. The impact of the measure, called the Ten Percent Act, was immediate: In the decade following the Ten Percent Act, English slave ships purchased roughly twice as many enslaved people as in the decade before. Data from the Trans-Atlantic Slave Trade Database, slavevoyages.org.

⁵ Robin Law, ed., *The English in West Africa: The Local Correspondence of the Royal African Company of England, 1681-1699*, 3 Vols. (Oxford: Oxford University Press, 1997, 2001, 2006). Online edition: Robin Law, *The Local Correspondence of the Royal African Company of England, 1681-1699*, 3 Vols. (London: British Academy, 2015). For an overview of the original transcription and publication effort, see Robin Law, "The Royal African Company of England's West African Correspondence, 1681-1699." *History in Africa* 20 (1993): 173-184.

breadth of these letters, they are often overlooked in major research projects involving the transatlantic slave trade, as scholars have consistently favored the company's main archive at Kew.⁶

The Rawlinson corpus contains 3095 letters, with approximately 450,000 words, of which 15,625 are unique words.⁷ The letters are incredibly rich and informative when read up close: They express, at varying moments, nonchalance, concern, satisfaction and frustration when all goes wrong. They reveal the mechanisms of Euro-African trade at work and the texture of life on the African coast in the late seventeenth century: A world beset by fires, rats, fighting and occasional shortages of food. They reveal the tenuous position of the company's forts on the African coast and the way that the company's fort structure was deeply embedded in an African geopolitical context. But they are even more revealing when read in conjunction with macro-techniques. By using computational text analysis, combined with insights from GIS we can challenge some basic assumptions about the way the English monopoly operated on the African coast.

Our research enables us to make two main interventions in the literature of the transatlantic slave trade. We can overturn a basic consensus of slave trade scholarship, which has cast the Royal African Company as a static and inefficient presence on the coast, unable to effectively compete with more dynamic private traders, who operated out of boats.⁸ We can demonstrate that slaves were more important to the overall functioning of the company on the coast than gold in the late seventeenth century, even though enslaved people did not overtake gold as the major export from the coast until the 1720s.⁹ Despite the richness of the corpus, it is also worth nothing what the letters do not reveal: The individual lives or interior thoughts and feelings of enslaved people, either working at the company's forts or ensnared in the transatlantic traffic.¹⁰

We approached the corpus through three main types of textual analysis: Word-frequency analysis (both globally and by place, type and sender), Word2Vec in order to show relational meaning and co-occurrence to track how the 'basket' of goods that the company traded varied over individual letters. In order to be able to use computer

⁶ For publications making extensive use of these letters, see Stephanie E. Smallwood, *Saltwater Slavery: A Middle Passage From Africa to American Diaspora* (Cambridge: Harvard University Press, 2007) and Robin Law, "Provisioning the Slave Trade: The Supply of Corn on the Seventeenth-Century Gold Coast." *African Economic History* 46, no. 1 (2018): 1–35.

⁷ This is our unique word count as of May, 2019. See further discussion of de-aliasing.

⁸ For the classic view of the Royal African Company, see K.G. Davies, *The Royal African Company*. (London: Longmans, 1957)

⁹ David Eltis, "The Relative Importance of Slaves and Commodities in the Atlantic Trade of Seventeenth-Century Africa." *Journal of African History* 35, no. 2 (1994): 237–249.

¹⁰ In the context of enslavement, the Royal African Company archive is a dominant archive, an archive of power and oppression and computational text analysis is a positivistic technique that aggregates data. Is there a way to use computational text analysis not only to mine the archive but to subvert it? For "productively mining archival silences" and discursive methodology that challenges the archive, see Marisa J. Fuentes *Dispossessed Lives: Enslaved Women, Violence and the Archive* (Philadelphia: University of Pennsylvania Press, 2016): 5-6. For a close reading of the Royal African Company Rawlinson corpus to analyze the commodification of African individuals see, Smallwood, *Saltwater Slavery*. For the importance of considering macro techniques in light of methodological advances in microhistory, see Claire Lemerrier and Claire Zalc, *Quantitative Methods in the Humanities*. trans. Arthur Goldhammer. (Charlottesville: University of Virginia Press, 2019): 1-27. For a reflection on the tradeoff between close reading and large-scale analysis and the limits of our methodology, see "An Analog Historian in a Digital World," racnetworks.wordpress.com

software on a seventeenth-century corpus, we had to first eliminate and consolidate as many of the variations in orthography as possible. Early modern English writers were very creative spellers, at times writing the same word - for example, heareing and hearing - two different ways in a single letter. When confronted with words of Portuguese descent or words in African languages, the variations in spelling could be wide-ranging. The corpus, for example, contains 11 different spellings of the trade good perpetuanos, a woolen textile often exchanged on the African coast.¹¹ Ultimately, we were able to trim the corpus from 17,001 unique words to 15,625 unique words.¹²

For the mapping portion of the project, we likewise had to derive coordinates from places on the African coast that were in operation in the late seventeenth century, but do not necessarily neatly correspond to modern locations in Africa today. We approached this gap by triangulating between existing seventeenth-century maps and modern maps published in secondary literature on the Gold Coast.¹³ The fact that we could not overlap easily onto the existing geocoded dataset of the Trans-Atlantic Slave Trade Database shows how much more dense activity was on the coast than existing online platforms for understanding the slave trade would lead us to think.¹⁴

The variation of textual analysis methods allowed us to investigate how individual words surfaced in the corpus and how words related to one another, in other words we could measure importance and relational meaning. Because we are interested in developing a geospatial understanding of the RAC's presence on the African coast we looked at how various words appeared by individual fort. We also tracked how the appearance of individual words changed over time, and how words appeared throughout the yearly cycle, contributing to a crucially important yet often understated aspect of the African trade, seasonality. We then performed a Word2vec analysis on the corpus, which revealed which words appeared in similar linguistic contexts throughout the letters. This enabled us to visualize which words shared common contexts, and hence infer the semantic contexts in which key terms were

¹¹ Some of the de-aliasing challenges we faced were similar to those faced by the TOFLIT project. Loïc Charles, Guillaume Daudin, Paul Girard, "The treatment of merchandises in the toflit18 datascape," Conference Presentation, Boston: World Economic History Congress, 2018.

¹² The de-aliasing process had limits, which in and of itself was revealing. For example we could not collapse the Dutch fort of Elmina, which the English sometimes referred to as "the Mine" with the word "mine" because "mine" also denotes possession. Our analysis thereby privileges certain words. In some cases we could also write a straightforward rule - for example to treat an initial "ff," as in "ffort" as a single "f," but in other cases, we could not - for example to treat a final double "ll," as a single "l," because this would correctly render "fatall" as "fatal," but incorrectly render "well" as "wel." In a future iteration of this project, we will go further with dealiasing. However we feel comfortable to begin to draw some conclusions. Our alias lists are available upon request.

¹³ For the secondary literature, we used maps from Ray A. Kea, *Settlements, Trade and Politics in the Seventeenth-Century Gold Coast*. (Baltimore: Johns Hopkins University Press, 1982) and John K. Thornton, *Africa and Africans in the Making of the Atlantic World, 1400-1800*, (Cambridge: Cambridge University Press, 1992; repr. 1998). For the historic maps, we used (Undated) "A new and correct map of the coast of Africa : from Cape Blanco lat. 20°40' N. to the coast of Angola lat. 11° S.: with explanatory notes of all the forts and settlements belonging to the several European powers," William Smith, (Undated). "A New Map of the Coast of Guinea from Cape Mount to Iacquin," in *Thirty Different Drafts of Guinea*, London, and Luis Teixeira (1602) "Effigies ampli Regni auriferi Guineae in Africa siti." <https://exhibits.stanford.edu/renaissance-exploration/catalog/wd588vc7077>. Even in instances when we found historic sites documented on rare maps, we faced considerable difficulty in attempting to georeference those sites in latitude and longitude degrees. Each historic map, along with those used the secondary literature, were created in different projection systems, and those coordinate systems were not documented or made public. We therefore performed a series of tests for each scanned map, scaling and stretching each one to best fit the existing shoreline of the African continent.

¹⁴ Trans-Atlantic Slave Trade Database, slavevoyages.org. We are grateful to David Eltis for sharing his geocodes with us.

most commonly used. Lastly, we analyzed co-occurrence of trade goods mentioned in the letters, tracing how the bundle of goods changed (or did not) across individual letters in the corpus.

Even straightforward word-frequency analysis on the corpus proved to be revealing. Communicative words, such as "send," "sent," "received" are the most important, but the first substantive word that appears is "canoe." Canoes are vectors of communication on the coast and can travel against the prevailing eastward current as well as over the surf, reaching transatlantic ships in the ocean beyond. The word-frequency analysis also showed a significant gap between slaves (1674) and gold (663), suggesting that slaves were very much a part of the RAC's quotidian existence on the coast, despite the fact that enslaved people did not become the African coast's major export until the eighteenth century.¹⁵ The salience of the agricultural product, corn (1243), suggests that African agriculture was well-developed in the early phase of European contact. The RAC discussed the Dutch (904) more than they discussed gold, gunpowder or the term trade. Perpetuanos (700), a coarse woolen cloth, emerges as the main trade good mentioned in the letters and the frustration word, "cannot" (544) ranks fairly high, suggesting perhaps organizational discord, but also perhaps that RAC fort factors were pushing up against the limit of what was possible from their positions on the coast.¹⁶

Analyzing word frequency by different dimensions - place, sender, year and month - reveals further patterns in the corpus. For example, pirate and pirates emerge as a major concern to the company, with a concentration to the west. But pirate and pirates only surface in some locations and from some letter-writers, while the term "slaves" is ubiquitous. Breaking word frequencies down by fort, coasting voyage and transatlantic voyage, coasting voyages emerge as crucially important to the way the company conducted business, loaded with key words. The company had a network in the water that mirrored the information structure of the forts on land. Seasonal patterns were also significant and differed for different words: For example, pirate and pirates spiked between May and July, corn peaked in March, with a big dropoff in September. Slaves likewise peaked in March and then declined throughout the rest of the year, while slave rose between February and April and then stayed at more or less a continuous level.¹⁷

How words relate to one another is as significant as how they appear in the corpus by themselves. By obtaining vector representations of terms in the corpus using the Word2vec algorithm, we were able to discern several distinct clusters of language via visual inspection: There is a cluster of "company politeness language,"

¹⁵ Our analysis adds further weight to the idea that transatlantic slavery grew out of African systems of slavery. We deliberately kept slave and slaves apart because the meaning of an individual enslaved person in the corpus may be different than the meaning of multiple enslaved people. It is worth noting that the slaves-gold gap decreases when analyzing words on a per-letter basis, meaning that fort factors mentioned slaves more frequently in a single letter.

¹⁶ The frequency of some words in the corpus is misleading, due to double meanings. The word, captain, for example, refers to a ship captain, but captain was also the honorific that the Royal African Company used with its African agents. Says can refer to both the form of speech and a textile trade good. A future iteration of this project might be able to resolve some of these ambiguities.

¹⁷ An exception to several trends is the word, palaver, which according to Robin Law, denotes a discussion or disagreement. Law, *The English*, Vol III: xvi. Palaver shows a higher percentage in forts: About ten percent of all fort letters are mentioning some sort of dispute or discussion in the background. Palaver also appeared consistently throughout the year.

words such as: humbly, honour, worship(s), companys, interest, advise, endeavour.¹⁸ There is a second cluster of words around slaves: canoe, old, irons, guns, small, black, negroes, paid, escaped, left, sent, sloop. A third cluster encompasses words relating to gold. These are words concerning trade goods, money and colors: red, pewter, cases, rum, narrow, fine, whole, sletias. A fourth cluster concerns quantity words. A final cluster includes nautical, geographic and competitive terms: ashore, windward, French, Dutch, interloper, aboard, road, ship, coast.

Our final method of analysis, co-occurrence, traced associations between goods throughout the corpus. We opted to limit the words under consideration to trade goods, manufactured items, like guns or perpetuanos, which the RAC exchanged with its African trading partners. The co-occurrence analysis showed very little evidence of a single good or grouping of goods being predictive of the presence of other goods except for occasional pairs of textiles, for example, tapseils and sletias. Here the null result may be meaningful: The slave trade pattern of the eighteenth century was characterized above all by assortment bargaining, the repeated exchange of a small mix of trade goods for a small number of enslaved people.¹⁹ In assortment bargaining, the assortment consisted of a range of trade goods, from beads to alcohol to textiles to metalworks, as slave-ship captains combined diverse goods to form the package. It is possible that the this type of assortment bargaining may not yet have fully emerged in the RAC's trading practices on the coast in the last quarter of the seventeenth century. While the Royal African Company trafficked in a wide range of goods during its monopoly era, the company may not have exchanged these goods at the same time, but rather individually and sequentially.²⁰

Ultimately we want to ask four different types of questions of the corpus: First, we want to ask questions about the organization of a monopoly. We want to be able to use the corpus to better understand how the RAC defended itself against competitors and how the company controlled internal problems. We want to use mapping, including georeferenced fort locations, volume and breadth of letters, and language of the text indicating directionality and relational values, to demonstrate the company's "communication zone," (points to which they had direct communication) and "knowledge zone" (a broader swath of area for which they had second-hand information). Secondly, we want to ask questions about trade goods: How did the company figure out what its

¹⁸ A foundational explanation of Word2Vec can be found at, Tomas Mikolov et al, "Distributed Representations of Words and Phrases and their Compositionality," : <https://papers.nips.cc/paper/5021-distributed-representations-of-words-and-phrases-and-their-compositionality.pdf>

¹⁹ The trading log of the *Suzanne Marguerite* out of La Rochelle offers a clear example of assortment bargaining. Journal de traite commencé à la rivière St.-André, Côte d'Afrique le 26 février 1775 à l'usage du navire "La Susanne Marguerite," EE 280, Archives Municipales de La Rochelle. For an analysis of assortment bargaining in the transatlantic slave trade, see Anne Ruderman, "Supplying the Slave Trade: How Europeans Met African Consumer Demand for European Manufactured Products, Commodities and Re-exports, 1670-1790" (Ph.D. diss., Yale University, 2016).

²⁰ The weak co-occurrence of trade goods merits further investigation. Just because trade goods do not co-occur in letters does not necessarily mean they did not co-occur in transactions between RAC factors and their African trading partners. The company may have also had different trading patterns for gold and for slaves. The mechanism of assortment bargaining was already in use among the Portuguese in West Central Africa by the mid-seventeenth century, where the assortment called a banzo, was, according to Linda Heywood, "the set of trade items equivalent to one slave." Linda Heywood, *Njinga of Angola: Africa's Warrior Queen* (Cambridge, Mass.: Harvard University Press, 2017), 173. It is worth noting that the words assortment and assorted and their aliases do not appear in the corpus, although the words sort and sorts and their aliases appear over 80 times.

African consumer marketplace wanted? To what extent was the RAC thinking about trade goods in the context of what they heard their African trading partners wanted and to what extent was the RAC thinking about trade goods in the context of what other Europeans (i.e. the Dutch) were selling? Third, we want to ask questions about exports: What was the Royal African Company purchasing in Africa? Did some locations focus more on slaves and some locations more on gold or ivory? Did the same locations focus on different trade goods at different times? Finally, we want to use computational text analysis to learn more about the embedded (and precarious) nature of the RAC's operation on the African coast and the company's relationships with its African trading partners and surrounding states and societies. The transatlantic slave trade occurred because of the willing participation of African states and societies and we want to tease out individual African actors from the corpus in order to get a better sense of how European-African relationships worked in the late seventeenth century. Beyond the questions we have, we also want to engage in a more inductive and iterative process with the corpus to elicit questions we do not yet know to ask.

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