Lignum Vitae: Botanical Legacies of Maritime Expansion and Enslavement

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Guaiacum officinale is a low- to medium-sized evergreen tree distributed across the Caribbean and the northern coast of South America, particularly in Venezuela, Colombia and along the Essequibo River in Guyana. It is also found in Panama and Honduras in Central America. By contrast, *Guaiacum sanctum* occurs in more restricted zones along the Florida Keys, the Bahamas, the Dominican Republic, Puerto Rico, as well as parts of Central America and the Yucatán. It is typically smaller than *Guaiacum officinale*, and though valued for similar material properties, the more limited range and size of *Guaiacum sanctum* constrained its large-scale commercial circulation[1]. Both species of *guaiacum* are characterised by slow growth and high density, qualities that made it valuable, but difficult to supply at scale. *Guaiacum* is better known as lignum vitae, Latin for 'wood of life'; it is the National Flower of Jamaica and the National Tree of the Bahamas.

While the historiography of the Atlantic world has largely focused on plantation economies such as sugar, coffee, tobacco and cotton, many other plants were exploited to sustain the wider operations of empire. These materials were less visible but often integral to the functioning of imperial systems, and existing within the same circuits of trade and transportation that moved enslaved people and the products they cultivated. This paper traces a history of the Caribbean and Latin America through lignum vitae (*Guaiacum officinale* and *Guaiacum sanctum*), a plant that offers an environmental humanities viewpoint to interpret the

[1] Samuel James Record, with The Library of Congress, *Lignum-Vitae; a Study of the Woods of the Zygophyllaceae with Reference to the True Lignum-Vitae of Commerce--Its Sources, Properties, Uses, and Substitutes* (New Haven, Yale University Press, 1921)

relationships between land, people and resources across various parts of the Atlantic world. In doing so, this work presents technological and maritime developments as processes that coexisted with, and were enabled by, European contact with native and endemic Caribbean plants.

It brings together plant humanities with maritime history to examine lignum vitae as a plant that moved within multiple domains of European colonial settings. The properties of the wood made it essential to the reliable operation of ships and thus to the functioning of the Atlantic system as a whole. When viewed from an environmental history lens, lignum vitae reveals how plants were exploited to run and sustain maritime industries, linking extraction in Caribbean and American landscapes to the movement of goods and enslaved people across the Atlantic. Further examination proves that though the plant was not a large-scale commercial crop like the well-examined monocultures, lignum vitae was not peripheral to the conditions that enabled Atlantic slavery. In fact, it was embedded within the material conditions of enslavement. Rather than treating lignum vitae as a merely analytical category of exploited crop, this work considers how plants went hand-in-hand with colonial expansion and Renaissance advances in maritime and botanical technology. In doing so, the paper contributes to a growing body of work that looks to understand empire through its infrastructures and operations, especially related to plant material.

As Toby and Will Musgrave argue in *An Empire of Plants: People and Plants that Changed the World*, "the traditional view was that colonies existed to provide raw materials for their mother country" [2], while also serving as captive markets for European goods. This account highlights

[2] Toby Musgrave and Will Musgrave, *An Empire of Plants: People and Plants That Changed the World* (Cassell;

the ways in which plant commodities were interconnected within global trade systems, noting that "the success of one plant product impacted upon another"[3]. In this framing, the production and global transportation of key crops like tea, sugar and rubber have reshaped "the ecology, population and economy of former colonies and their rulers alike"[4]. While this genre of work has been essential in demonstrating the centrality of plants to imperial history, it remains largely oriented around a few plants and around export agriculture. This emphasis on monocultures is also reflected in broader histories of empire which have tended to prioritise large scale agricultural commodities and the plantation system as the primary drivers for European imperial expansion.

Materials such as lignum vitae, neither plantation crop nor mass commodity, fall outside this analytical focus despite its importance to the functioning of empire in the Americas. As a result, the role of plant-based materials in enabling maritime success (and therefore in sustaining the movement of goods and enslaved people) is still under-examined. This distinction suggests that existing plant histories of empire remain weighted toward cultivation and exchange rather than the material infrastructures that made the systems operational.

A similar pattern is seen in histories of Atlantic enslavement whereby the ship is analysed as a site of violence and economic organisation, and less as a material composite dependent on specific environmental inputs for success. Stephanie Smallwood's *Saltwater slavery: a middle passage from Africa to American diaspora* conceptualises the slave ship as a system of commodification, structured around the management and preservation/delivery of human

Distributed in the US by Sterling Pub, 2000), p. 12.
[3] Ibid, p. 13.
[4] Ibid.

cargo within an emerging plantation economy[5]. Likewise, Marcus Rediker's account foregrounds the social and experiential dimensions of life aboard the slaver, emphasising the discipline needed for successful maritime journeys[6]. These approaches have been crucial in showing how ships operated within the broader logics of colonisation and enslavement; they are explored as both functional and symbolic entities. Yet the critical lignum vitae components of Atlantic ships stay outside the scope of analysis thus far.

The Columbian encounter with *guaiacum*

Guaiacum first entered European knowledge systems through its association with a cure for syphilis rather than its material use. Numerous sixteenth century texts place the plant within medical discourse about disease and moral purity. German protestant reformer Ulrich von Hutten (1488 – 1523) produced *of the wood called guaiacum that healeth the Frenche pockes*[7] which positioned the plant as an example of the healing wonders of 'New World' remedies. Similarly, Gonzalo Fernández de Oviedo y Valdés (1478 – 1557), one of the earliest ethnological chroniclers of the Spanish presence in the Americas, wrote about the plant in *About the Natural History of the Indies*[8], documenting its properties and circulation within early colonial contexts.

These accounts were instrumental in setting up lignum vitae within European systems of knowledge, yet they stayed concerned with its medicinal usage and exotic origin. The result is

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[5] Stephanie E. Smallwood, *Saltwater Slavery: A Middle Passage from Africa to American Diaspora* (Harvard University Press, 2008).
[6] Marcus Rediker, *The Slave Ship: A Human History*, A Penguin Book History African-American Studies (Penguin Books, 2008).
[7] Ulrich von Hutten, *Of the Wood Called Guaiacum That Healeth the Frenche Pockes, and Also Healeth the Goute in the Feete, the Stoone, the Palsey, Lepree, Dropsy, Fallynge Euyll, and Other Dyseases.* (1519) <http://name.umdl.umich.edu/A03917.0001.001>.
[8] *About the Natural History of the Indies*, ed. by Gonzalo Fernández de Oviedo y Valdés (Ramon Petras, 1526) <https://www.loc.gov/resource/gdcwdl.wdl_07331/>.

a historiographical pattern in which lignum vitae appears across distinct domains without being fully integrated into a continuous material history. Yet, I propose, that lignum vitae provides a way to trace European contact with the Caribbean from this late fifteenth century moment to the present.

Lignum vitae was widely present in the Americas upon the Columbian encounter. Early accounts suggest that its properties were first communicated to Europeans through Indigenous knowledge systems. Oviedo described extensive forests of “guayacan” or “holy wood” in Hispaniola, noting its use by indigenous populations as a medicinal substance. At the start of the sixteenth century, *guaiacum* had entered European medical practice; by 1508 it was already being used as a therapeutic substance with its popularity significantly expanded following the 1519 publication by von Hutten[9]. But even at this beginning stage of the relationship between lignum vitae and Europe, there were some detractors to its exaltation in contemporary use.

Medical pioneer of the German renaissance, Paracelsus (1493 – 1541), published *Of the Wood Guaico*[10] in 1529 discrediting the therapeutic capabilities of lignum vitae resin in curing syphilis. Instead, he offered a financial reasoning for its popularity; according to Paracelsus, the wood was fashionable in Bavaria at the time because of its consumer status. That is, it being controlled by a powerful merchant family who worked to maintain a monopoly on import and distribution of the plant and its products. Paracelsus got in trouble for this publication, in his estimation, because it attacked the economic bottom line of the traders[11].

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[9] George B. Griffenhagen, ‘The Materia Medica of Christopher Columbus’, *Pharmacy in History*, 34.3 (1992), pp. 131–45.
[10] James L. Marshall and Virginia R. Marshall, ‘Rediscovery of the Elements: Paracelsus’, *The Hexagon*, 96.4 (2005), pp. 72–78, Switzerland - Zurich Canton - Bezirk Uster - Egg.
[11] Marshall and Marshall, ‘Rediscovery of the Elements’.

According to Robert Munger's study, lignum vitae's proliferation in Europe was also tied to the fact that King Ferdinand and Queen Isabella of Spain ordered all ships returning from the new colonies to be laden with the wood. In Venice it sold for more than the average yearly income per ounce when first introduced to the market[12]. *Guaiacum* was immortalised in literature[13] and art[14] throughout the 1500s and 1600s, seen as a magic remedy and a cure-all. There was also clear elite endorsement of the plant because of its cultural and class status, placing lignum vitae at the convergence of epidemic desperation, imperial trade and commercial exaggeration.

While lignum vitae entered European knowledge systems primarily as a medicinal substance, its circulation through Atlantic trade networks gradually exposed its material properties to new contexts of use. The same qualities that made *guaiacum* valuable within early modern medicine (its density, resin content and resistance) also rendered it suitable for mechanical and structural applications. As extraction intensified and the wood moved more regularly between Caribbean environments and European markets, its uses expanded beyond the domain of cure. Even when its medicinal claims weakened, the wood remained important because of its material properties. By the end of the sixteenth century, lignum vitae was increasingly recognised as a resource with specific technical advantages. This shift did not represent a rupture so much as a reorientation - valued for its supposed medicinal efficacy in its early European exposure, lignum vitae became embedded within the emerging infrastructural demands of the maritime expansion of the seventeenth century.

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[12] Munger, 'Guaiacum, the Holy Wood from the New World'.
[13] Record, *Lignum-Vitae; a Study of the Woods of the Zygophyllaceae*, p. 31.
[14] Jan van der Straet, *Preparation of a Guaiac Decoction*, 1600 -1580, Engraving <https://www.researchgate.net/figure/Preparation-of-a-guaiac-decoction-Gravure-of-Jean-Stradan-1570-Paris_fig1_259320344>.

Lignum Vitae on the sea

Lignum vitae occupied a distinctive place in maritime engineering due to a combination of physical properties not replicated in other available hardwoods. Its exceptional density and high resin content produced a self-lubricating surface, enabling it to withstand regular friction in mechanical systems without the need for external lubrication. This made it particularly well suited for use in bearings and bushings of large ships. Unlike metal alternatives which required regular greasing and were prone to rapid wear in saltwater conditions, lignum vitae could operate continuously while submerged and it maintained this performance over extended periods. Contemporary accounts noted that lignum vitae bearings could last up to three times longer than those made from bronze or steel, significantly reducing the frequency of maintenance and replacement[15]. Its capacity to function reliably in high-friction, water-immersed environments also led to its widespread use in pulley sheaves, deadeyes and other shipboard components that were in constant motion and strain. Although other hardwoods such as beech or hickory were occasionally employed, none matched the strength and lubricating qualities of lignum vitae for these specific applications. As Record observed, the material's "remarkable application" rested precisely on this ability to endure conditions under which other substances failed or required continual intervention[16].

For ships operating across the Atlantic, failure of the bearings could interrupt the rotation of the propeller shaft thus reducing or halting propulsion and leaving vessels unable to maintain

[15] Record, *Lignum-Vitae; a Study of the Woods of the Zygophyllaceae with Reference to the True Lignum-Vitae of Commerce--Its Sources, Properties, Uses, and Substitutes*, p. 28.
[16] Ibid, pp. 28–31.

course. This could lead to serious delays or loss of cargo as well as difficulty in getting repairs. Furthermore, the success of mechanical repairs required port access; this, alongside repeated cargo transactions, underpinned the need for predictability and timing within Atlantic maritime trade systems. Even slight delays could incur significant economic losses[17].

The reliable and regular operation of ships was therefore a requirement of success for transatlantic oceanic journeys. The demands of this repetition required navigational knowledge but also materials capable of carrying out the treacherous journey. The quality of ship components was not incidental or an afterthought, it was foundational to the functioning of the colonising entity. In bearings and other critical mechanisms, lignum vitae was used for the sustained operations upon which transatlantic trade depended. This technological continuity supported the repeated extraction of lignum vitae from Caribbean and Latin American geographies to serve European markets.

Evidence from shipwreck archaeology[18] further illustrates the range of contexts in which lignum vitae operated within maritime networks. Among the artefacts recovered in 2014 from the Spanish galleon *Nuestra Señora de Atocha* (which sank by hurricane in 1622 within the Florida Keys archipelago) was a turned wooden bedpost identified through material analysis as *guaiacum*. Measuring over 1.4 metres in length and weighing 8.4 kg, the object formed part of an item of furniture transported as personal cargo rather than commercial freight. Its presence within the ship's hold alongside silver blocks, gold bullion and other high-value goods indicates

[17] Rediker, *The Slave Ship*.
[18] James Sinclair, '2014-10-18_Atocha Wooden Bed Post, Tag #85413', Mel Fisher's Treasures – On-Line Research Archives Document, 2019 <https://www.melfisher.com/Research_Archives/2014-10-18_Atocha%20Wooden%20Bed%20Post.pdf>.

the extent to which lignum vitae circulated as a marker of status and refinement. Shipwreck researchers argue that the object was most likely produced in the area that was then the Vice Regency of Peru since much of the fleet and cargo came from Spanish holdings in South America. Sinclair also notes that:

"The bed frame gives a unique view into the more intimate lives of wealthy colonists, whereas materials recovered from the primary cultural deposit were overwhelmingly commercial cargo, there were those objects that highlighted other aspects of the life of the aristocracy, silver wares, plates, jewellery and chains, all spoke of the opulence and vast wealth obtained in the New World by the Spanish upper class. The bedpost, while not of intrinsic value, allows us to look into the lives of these long-gone people"[19]

The decision to transport a dismantled bed frame from South to North America, and then across the Atlantic, suggests both the durability of the material and its association with elite domestic life. Such artefacts demonstrate that lignum vitae was fixed not only in the mechanical operation of ships, but also in the social and economic worlds that those ships sustained.

Labour and extraction

Though the lignum vitae bedpost recovered from the sunken treasure of the *Atocha* reveals much about the lives of wealthy Spanish colonialists, it tells us almost nothing about the labour of growing and extracting the tree from the ground. According to Samuel Record, logs were cut by "natives" and carried in what he describes as a primitive way – by pack animals –

[19] Ibid.

to docks to await shipment[20]. This process of extraction and transport formed part of the supply chain that connected Caribbean environments directly to maritime industries.

Extraction of lignum vitae did not take place within fixed plantation systems, but rather through dispersed and mobile practices shaped by the ecological distribution of the tree itself. Unlike monoculture crops cultivated in bounded fields, this tree was sourced from naturally occurring stands, often located in dry coastal forests and scrub environments. It required labourers to move through landscapes rather than remain fixed within them. They constantly needed to identify suitable trees, cut dense hardwood and transport it over uneven terrain with beasts of burden to collection points. Comparable extraction systems can be observed in the trade of other Caribbean hardwoods such as logwood and mahogany, where timber was cut in dispersed locations and moved through informal networks of transport before reaching coastal export hubs. In these contexts, extraction was spatially extensive and logistically demanding, relying on knowledge of terrain, access to routes in thick forested areas and the coordination of labour across shifting sites.

Although Record attributes this work broadly to "natives," the extraction of hardwoods in the Caribbean during this period was rarely neutral or informal. It likely drew upon a combination of coerced Indigenous labour and, in later periods, enslaved African/Caribbean labour. Even where direct archival evidence for lignum vitae extraction remains limited, its integration into Atlantic trade networks suggests that it operated within the same structures of control that characterised other resource economies in the Caribbean. In this respect, lignum vitae can be understood alongside other Caribbean trees which were extracted through similarly intensive

[20] Record, *Lignum-Vitae; a Study of the Woods of the Zygophyllaceae*

and, often, coercive labour regimes for export to European markets. While these hardwoods have received more sustained historiographical attention due to their scale, availability and commercial visibility, lignum vitae operated within comparable extractive logics, even if its value derived from specialised use rather than bulk production.

Shipping records further demonstrate that lignum vitae formed part of regularised Atlantic cargo systems, appearing alongside other materials within established routes that linked the Caribbean to European ports. In one September 1816 Bill of Entry from the port at Bristol, the *Picton* arrived from Jamaica with seven tons of lignum vitae among a mixed cargo that included pimento, animal hides, mahogany and logwood, situating it clearly within the same commercial circuits as plantation produce[21]. Similar records from September 1821 list the landing of nine tons of lignum vitae among sugar, rum, coffee and dyewoods aboard the *Ocean*[22]. The plant was also re-exported from British ports to the other global ports. In the same month as the arrival of the *Ocean,* ten casks of lignum vitae were shipped from Bristol to Newfoundland with cargo containing glassware produced by Ricketts glasshouse – the original manufacturers of Bristol Blue Glass. Its export packing unit given in casks as opposed to its import unit of tons suggest that this lignum vitae was processed into resin, wood chips or smaller processed timber piece. The presence of lignum vitae within these mixed consignments in the day-to-day record of imports and exports at Bristol indicates that its movement was standardised and integrated into the logistical rhythms of British commerce and maritime trade.

[21] '1816', collection 72948-D, Bristol Central Library, Bristol Shipping Records: Imports & Exports, 1770–1917:1810–1819
[22] '1821', collection 72948-E, Bristol Central Library, Bristol Shipping Records: Imports & Exports, 1770–1917:1820–1828

National symbols and partial interpretations

Lignum vitae remains widely recognisable across the region, especially in The Bahamas and Jamaica where it has been designated a national symbol. The issue therefore is not one of forgetting about the importance of the plant, but of a stunted interpretation. While the plant is preserved as a marker of belonging in the context of nationhood, the historical conditions through which it acquired its significance (particularly its role within systems of extraction, enslaved labour and maritime infrastructure) have been less fully articulated. As independence movements in the Atlantic reshaped relationships with Britain particularly the 1950s through 1970s, national symbols such as flora and fauna became important sites through which heritage and belonging were expressed. This period of decolonisation formed the broader context in which Caribbean nations articulated new forms of political and cultural identity. The selection of plants such as lignum vitae must therefore be seen within this moment of transition whereby natural history was mobilised as part of the symbolic language of nation-building.

In Jamaica, the designation of lignum vitae as a national emblem emerged through a public participatory process in the late colonial period. The idea was first proposed in 1958 by the Jamaica Horticultural Society, which actively lobbied the government to formalise the selection of a national flower. This initiative gained institutional backing from the Ministry of Agriculture and Lands which subsequently established a National Flower Committee tasked with identifying a suitable emblem in advance of independence. The committee outlined a set of criteria to guide selection: the plant was to be well known, easily propagated, indigenous to Jamaica and of economic value[23].

[23] Tracy Commock, Sashalee Cross, and Keron Campbell, 'Our National Flower Lignum Vitae', *Jamaica Journal*

The selection process was deliberately public facing. At its first meeting, the committee announced an essay competition offering a prize of five guineas to encourage public engagement and reflection on the nominated plants. Fourteen species were presented, including widely recognisable plants such as bougainvillea, Jamaican rose, mimosa (shame old lady) and the blue mahoe which would later be designated the national tree. Within this field, lignum vitae quickly emerged as "an early favourite"[24]. By 1960, the Institute of Jamaica had mounted a public exhibition of the nominated flowers, and the selection process became the subject of ongoing discussion in local newspapers and media. The final decision was made through a public ballot at the Jamaica Horticultural Society Flower Show in February 1960 with lignum vitae selected as national flower. Following the perceived success of this process, the Ministry expanded the committee's remit to include the selection of additional national fruit, tree, and bird, thereby consolidating a broader natural-historical scaffolding for expressing the identity of an independent Jamaica[25].

In The Bahamas, the formal processes through which lignum vitae was selected as the national tree are less clearly documented in accessible sources. The Bahamas gained independence in 1973, and, as in Jamaica, the designation of national flora appears to have been shaped in part by local horticultural and civic organisations. Evidence from newspaper accounts suggests that garden clubs played a role in the selection of national symbols. For example, the choice of the yellow elder as the national flower was determined through a combined popular vote of members from four local garden clubs– the Nassau Garden Club, the Carver Garden Club, the International Garden Club, and the YWCA Garden Club– indicating a participatory process

(Kingston, Jamaica), 38.3 (2024), pp. 30–37 (p. 31).
[24] Commock, Cross, and Campbell, 'Our National Flower Lignum Vitae'.
[25] Ibid.

similar to Jamaica[26].

Narratives surrounding the selection of lignum vitae emphasise its material qualities and historical associations. According to an account by Pericles Mailis, recounting the views of his father – former Bahamian Senator Alexander Mailis, the cocoa plum was proposed as a national tree on the basis of the diversity of colour in its fruit, however lignum vitae was ultimately favoured for its distinctive strength and perceived historical value[27]. Such reasoning at national level highlights endurance and uniqueness as desirable attributes within the symbolism of nationhood. The emblem was further reinforced at the moment of independence itself: on Independence Day 1973, two lignum vitae trees were planted in Parliament Square by 'Father of the Nation', Sir Lynden Pindling and His Majesty King Charles III (then Prince)[28]. Beyond its formal designation, lignum vitae has maintained a presence in everyday cultural life. In the early twentieth century, the wood was commonly referred to in the Bahamas as "lignum whitey" and was widely used to make children's spinning tops. More recently, its symbolic status has been institutionalised within the National Honours system; established in 2017, the Order of Lignum Vitae is awarded to Bahamians noted for sustained excellence in fields such as governance, business, the arts and community service[29]. Here, lignum vitae acts as a symbolic resource through which national value and aspiration are encapsulated.

The same properties that made lignum vitae suitable for national representation were also those that made it indispensable to maritime engineering and imperial expansion. Taken together, the cases of Jamaica and The Bahamas show how lignum vitae was incorporated into

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[26] 'A Nation in Full Bloom', *The Tribune* (Bahamas), 24 June 2013
[27] The Bahamas Ministry of Agriculture and Marine Resources, *Iconic Bahamian Farmer Mr. Pericles Mailis Shares Valuable Insights on the Bahamas' National Tree, the Lignum Vitae.* (Facebook, 2025).
[28] Rashad Rolle, 'Debate Begins on National Honours', *The Tribune* (Bahamas), December 2015.
[29] National Honours System Act, CHAPTER 391A, 2017.

national identity through processes that highlighted its symbolic qualities while leaving its earlier role within the material infrastructure of empire largely uninterpreted.

Conclusion

The records explored in this paper demonstrate that lignum vitae formed part of the regularised cargo systems linking Caribbean extraction sites to British ports. Its consistent co-presence with plantation commodities and manufactured goods aboard ships that traversed the Atlantic Ocean underscores its position within a broader material economy in which different categories of goods moved through shared routes and infrastructures. In this context, lignum vitae functioned as a routine component of Atlantic trade that was embedded within the same circulatory systems that sustained imperial economies. By enabling the reliable operation of ships, it helped to sustain the movement of goods and capital, and enslaved people across oceanic routes.

Harvested from naturally occurring stands, moved through coerced or enslaved labour to coastal ports and shipped across the Atlantic alongside other goods, lignum vitae entered into circuits of exchange that extended far beyond its points of origin. Yet unlike plantation commodities cultivated solely for consumption, its greatest value lay in its function within the mechanisms of the ships that carried it. Its circulation was therefore recursive; extracted from colonial landscapes, transported within Atlantic and global trade routes and installed within the very vessels that sustained those routes. Recognising this relationship makes visible a form of infrastructural dependency in which environmental extraction and maritime technology were connected elements of the same system rather than discrete processes. Furthermore, the same properties that make lignum vitae indispensable to maritime engineering (particularly in

the construction and maintenance of ships operating within the Atlantic system) made it emblematic in nations where the tree is native.

This relationship between lignum vitae as a national symbol and lignum vitae as a material infrastructure of empire is therefore not one of contradiction, but of partial interpretation. The symbolic life of the plant preserves certain aspects of its meaning, while leaving others less fully articulated. Recognising this relationship allows for a more integrated understanding of how botanical symbols function, not only as markers of identity and belonging, but also as carriers of longer and more complex historical trajectories.

Unlike plantation commodities like coffee and rum, lignum vitae was consumed not by bodies, but by infrastructures. To interpret lignum vitae in this way is not to diminish its symbolic value, but to extend it. By situating the plant within the histories of enslavement, maritime expansion and ecological extraction that shaped the Atlantic world, its role as a national emblem can be understood as part of a layered historical continuum. In doing so, lignum vitae becomes a point of entry into the material and environmental histories that underpinned the formation of the modern Atlantic world. If sugar and tobacco symbolised the profits of empire, lignum vitae helped secure the machinery through which the profits were made.

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