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Unfreedom and Slavery Under Sail: Intercolonial Trade in the British Atlantic, 1698–1766

Using evidence from 25,250 records of vessels entering and clearing the rivers of the Chesapeake Bay, this article demonstrates that intercolonial trading captains and crews significantly reduced the number of days their vessels spent in port in Virginia between 1698 and 1766. This contraction reflected a quantifying ethos in shipping that emerged during the early age of sail as the result of mutually reinforcing legal requirements and management practices. Responding to these productivity pressures, captains embraced practices that limited sailors' freedom and turned to enslaved sailors to guarantee their maritime labor force. Embracing unfreedom aided captains to realize the dispatch goals that helped guarantee their investors' returns.

Keywords: shipping, productivity, unfreedom, slavery, Atlantic

In the seventeenth and eighteenth centuries, merchants who invested in shipping articulated an increasingly codified and calculated temporal expectation. They needed vessels to spend less time in port and more time at sea, and they believed captains and resident agents could realize this goal through their attention and diligence. Captains believed their success or failure to realize owners' expectations would impact their own long-term employability. While captains could not control war or seasonality, they sought to minimize the biggest factors

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within their control that impacted the days-in-port metric: the reliability of their labor force and their own efforts to locate cargo. Embracing slavery and unfreedom provided one solution to their labor problem. Although enslaved sailors remained a minority of the seafaring population in the eighteenth-century British Atlantic, captains increasingly embraced practices that exacerbated unfreedom, including enslaving mariners and embracing coercive contracting. Captains particularly embraced enslaved labor in intercolonial trade. The ability to control and direct marine labor solved colonial-era manning problems in a way that contributed to a general speedup in port.

Economic and maritime historians have long viewed shipping as a robust or leading sector of early-modern growth and development. While area studies have pointed to cyclicality, the overarching trends for early-modern shipping generally, and British shipping specifically, have indicated improved productivity between 1600 and 1800.[1]

This paper adds to the evidence in favor of broad productivity improvements by demonstrating that intercolonial traders out of Virginia reduced the days their vessels spent in port significantly over the eighteenth century. Despite the broad consensus around productivity improvements in shipping, scholars continue to debate the rate and causes of that improvement, favoring explanations of technological, organizational and infrastructure improvements, and human capital. While infrastructure and technology played a role in intercolonial in-port speedup out of Virginia, this paper advocates an explanation for the

[1] For an examination of shipping productivity in colonial America see Douglass C. North, "Sources of Productivity Change in Ocean Shipping, 1600–1850," *Journal of Political Economy* 76, no. 5 (Sep. 1968): 953–970; James F. Shepherd and Gary M. Walton, *Shipping, Maritime Trade, and the Economic Development of Colonial North America* (Cambridge, UK, 1972); Russell R. Menard, "Transport Costs and Long-Range Trade, 1300–1800: Was There a European 'Transport Revolution' in the Early Modern Era?," in *The Political Economy of Merchant Empires: State Power and World Trade, 1350–1750*, ed. James D. Tracy (Cambridge, UK, 1991); David Riggs, "Transportation Efficiency in Eighteenth-Century Merchant Vessels," *International Journal of Maritime History* 33, no. 2 (May 2021): 425–434. For a recently revived and robust economic history debate on the connection between British coastal productivity change and the British industrial revolution see Simon Ville, "Total Factor Productivity in the English Shipping Industry: The North-East Coal Trade, 1700–1850," *Economic History Review* 39, no. 3 (Aug. 1986): 355–370; William J. Hausman, "The English Coastal Coal Trade, 1691–1910: How Rapid Was Productivity Growth?," *The Economic History Review* 40, no. 4 (1987): 588–596; John Armstrong, *The Vital Spark: The British Coastal Trade, 1700–1930* (St. John's, Newfoundland, 2009); Dan Bogart, Oliver Dunn, Eduard J. Alvarez-Palau, and Leigh Shaw-Taylor, "Speedier Delivery: Coastal Shipping Times and Speeds during the Age of Sail," *Economic History Review* 74, no. 1 (2021): 87–114. For a broader European examination of shipping productivity see Jan Luiten van Zanden and Milja van Tielhof, "Roots of Growth and Productivity Change in Dutch Shipping Industry, 1500–1800," *Explorations in Economic History* 46, no. 4 (1 Oct. 2009): 389–403; Jelle van Lottum and Jan Luiten van Zanden, "Labour Productivity and Human Capital in the European Maritime Sector of the Eighteenth Century," *Explorations in Economic History* 53 (July 2014): 83–100.

speedup that rests on human capital, humans as capital, and the organizational synergies that emerged by exploiting these multiple meanings.

Recent work in the history of capitalism has encouraged a reexamination of the relationship between economic growth and how wielders of capital controlled people along a spectrum of unfreedom.[2] This broad spectrum of unfreedom, in which laborers experienced some level of coercion, undergirded and enabled the formation of America's free markets.[3] The racial chattel slavery that developed in the Atlantic world sat at the extreme end of the spectrum of unfreedom. Recent work among historians of capitalism and the Black Atlantic has shown that capitalists responded to market forces by embracing labor models further along the spectrum of unfreedom that moved toward and included racial chattel slavery. Caitlin Rosenthal has demonstrated that enslavers' control over enslaved people's lives allowed these capitalists to strip away uncertainty and better guarantee the success of their labor force.[4] Stephanie Smallwood shows how enslavers' ledgers and violence transformed human lives into commodities.[5] Jennifer Morgan and Marisa Fuentes demonstrate that scholarly examination of enslaved people often uncritically accepts and reproduces the entwined market and racial logic of enslavers inherent in the production of surviving archival material.[6] The ubiquity of Olaudah Equiano's personal narrative of his enslavement, life at sea, self-emancipation, and abolitionist work, alongside the work of Marcus Rediker, Jeffrey Bolster, Emma Christopher, Michael Jarvis, and Kevin Dawson, has demonstrated the importance of unfree sailors and Black jacks in colonial shipping.[7]

[2] Scholars have increasingly used the term "unfreedom" as a framework for analyzing this spectrum or continuum. See Jared Hardesty *Unfreedom: Slavery and Dependence in 18th-Century Boston* (New York, 2016); Seth Rockman, *Scraping By: Wage Labor, Slavery, and Survival in Early Baltimore* (Baltimore, 2009); Simon Newman, *A New World of Labor: The Development of Plantation Slavery in the British Atlantic* (Philadelphia, 2013); and Max Grivno, *Gleanings of Freedom: Free and Slave Labor along the Mason-Dixon Line, 1790–1860* (Urbana, 2011).

[3] Seth Rockman, "The Unfree Origins of American Capitalism," in *The Economy of Early America: Historical Perspectives & New Directions*, ed. Cathy Matson (University Park, PA, 2006), 335–361; Rockman, *Scraping By*.

[4] Caitlin Rosenthal, *Accounting for Slavery: Masters and Management* (Cambridge, MA, 2018); Caitlin Rosenthal, "Capitalism When Labor Was Capital: Slavery, Power, and Price in Antebellum America," *Capitalism: A Journal of History and Economics* 1, no. 2 (2020): 296–337.

[5] Stephanie E. Smallwood, *Saltwater Slavery: A Middle Passage from Africa to American Diaspora* (Cambridge, MA, 2007), 66–68.

[6] Jennifer L. Morgan, *Reckoning with Slavery: Gender, Kinship, and Capitalism in the Early Black Atlantic* (Durham, NC, 2021); Marisa J. Fuentes, *Dispossessed Lives: Enslaved Women, Violence, and the Archive* (Philadelphia, 2016).

[7] Jack and jack tar were common popular terms for sailors in the eighteenth-century. Olaudah Equiano, *The Interesting Narrative of the Life of Olaudah Equiano, or*

Yet, the intersection between labor provided by people at various places along the spectrum of unfreedom and shipping productivity improvements remains underexplored.

This article attempts to bring together the strengths of economic history and the insights provided by a history of capitalism lens. The controversy that emerged around the publication of Fogel and Engerman's work crystalized a long-standing debate in the historical discipline around the ethical responsibility of historians debating the relationship between business and slavery and the methods they use to do so.[8] The controversy stimulated a propulsion toward the emergence of distinct strands, one found in the new history of capitalism typified by historians Edward Baptist, Sven Beckert, Seth Rockman, and Walter Johnson; and one found in economic history typified by economists Gavin Wright, Alan Olmstead, and Paul Rhode.[9] Critical works by economist Eric Hilt, and historians Scott Reynolds Nelson, Jeremy Adelman, and Jonathan Levy reflecting on this chasm all point to the productive contributions that have or could be made by broader interdisciplinary conversations around business and slavery.[10] Still, the

Gustavus Vassa, the African, Written by Himself, ed. Werner Sollors (New York, 2001); Marcus Rediker, *Between the Devil and the Deep Blue Sea: Merchant Seamen, Pirates, and the Anglo-American Maritime World, 1700–1750* (New York, 1987); Marcus Rediker and Peter Linebaugh, *Many-Headed Hydra: The Hidden History of the Revolutionary Atlantic* (Boston, 2000); Marcus Rediker, *The Slave Ship: A Human History* (New York, 2007); W. Jeffrey Bolster, *Black Jacks: African American Seamen in the Age of Sail* (Cambridge, MA, 1997); Emma Christopher, *Slave Ship Sailors and Their Captive Cargoes, 1730–1807* (Cambridge, UK, 2006); Michael Jarvis, *In the Eye of All Trade : Bermuda, Bermudians, and the Maritime Atlantic World, 1680–1783* (Chapel Hill, 2010); Kevin Dawson, "The Cultural Geography of Enslaved Ship Pilots," in *The Black Urban Atlantic in the Age of the Slave Trade*, ed. Jorge Cañizares-Esguerra, Matt D. Childs, and James Sidbury (Philadelphia, 2013), 163–184.

[8] Robert William Fogel and Stanley L. Engerman, *Time On The Cross: The Economics Of American Negro Slavery* (New York, 1989 [1974]); Robert William Fogel, *Without Consent Or Contract: The Rise and Fall of American Slavery* (New York, 1989); see also Eric Williams, *Capitalism and Slavery* (Chapel Hill, 2021 [1944]); Alfred H. Conrad and John R. Meyer, "The Economics of Slavery in the Ante Bellum South," *Journal of Political Economy* 66, no. 2 (1958): 95–130.

[9] Edward E. Baptist, *The Half Has Never Been Told: Slavery and the Making of American Capitalism* (New York, 2016); Sven Beckert, *Empire of Cotton: A Global History* (New York, 2014); Sven Beckert and Seth Rockman, *Slavery's Capitalism: A New History of American Economic Development* (Philadelphia, 2016); Walter Johnson, *River of Dark Dreams: Slavery and Empire in the Cotton Kingdom* (Cambridge, MA, 2013); Gavin Wright, "Slavery and Anglo-American Capitalism Revisited," *The Economic History Review* 73, no. 2 (2020): 353–383; Alan L. Olmstead and Paul W. Rhode, "Biological Innovation and Productivity Growth in the Antebellum Cotton Economy," *Journal of Economic History* 68, no. 4 (2008): 1123–1171; Alan L. Olmstead and Paul W. Rhode, "Cotton, Slavery, and the New History of Capitalism," *Explorations in Economic History* 67 (Jan. 2018): 1–17.

[10] Jeremy Adelman and Jonathan Levy, "The Fall and Rise of Economic History," *Chronicle of Higher Education* 61, no. 14 (5 Dec. 2014): B9–B12; Scott Reynolds Nelson, "Who Put Their Capitalism in My Slavery?," *Journal of the Civil War Era* 5, no. 2 (June 2015): 289;

bifurcated conversation continues with its locus in debates around nineteenth-century cotton capitalism. Hilt's critique suggests that historians of capitalism have not given all possible explanations for economic change the analytical weight they deserve. This article responds to the critiques and opportunities outlined by these authors by melding Hilt's call for analytical clarity with Nelson's, Adelman's, and Levy's call for contextually situated and historiographically informed examinations of economic change.

This paper brings together scholarship on colonial growth and productivity in shipping and studies of unfree labor in the early-modern maritime context to contribute to an expanded interdisciplinary conversation around business and slavery. It argues that a legally and culturally emergent sensibility toward time-consciousness heightened British shippers' attention to productivity indicators like days in port. Evidence from 25,250 records of vessels entering and clearing the rivers of the Chesapeake Bay demonstrates that this productivity ethos translated into a meaningful contraction of port times for vessels trading out of colonial Virginia. When scaled for cargo tonnage, traders engaged in intercolonial commerce contracted their port times by about 50 percent. To realize these productivity goals, captains and resident factors tried to make time in port more predictable and controllable. As regular labor shortages in the maritime sector prevented quick manning and loading, captains and factors turned to unfreedom in the form of long or coercive contracting and enslaving mariners to increase their control and improve predictability. The increasing use of unfree labor to do the hard manual work of maritime trade contributed to the increasing productivity of intercolonial trade, particularly in trade to the Caribbean where enslaved majorities made enslaved mariners accessible to captains. To bridge the promises of economic history and history of capitalism, this article estimates productivity improvements in colonial shipping, introduces and assesses the previously studied explanations for that improvement, and demonstrates that these explanations overlook a significant concurrent shift toward unfree labor at sea.

Days in Port: The Need for Speed

The wielders of capital have long sought to do more work in less time. While heavily adapted to myriad times and legal structures, this capitalist invocation spanned many contexts. Investors in factories,

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Eric Hilt, "Economic History, Historical Analysis, and the 'New History of Capitalism,'" *Journal of Economic History* 77, no. 2 (June 2017): 511–536.

plantations, and ships all sought to realize changes that would allow (or force) laborers to do more work in less time. Despite the widely shared invocation, the metrics investors chose to measure—the greater productivity of people in their employ in less time—varied significantly. The rate of adopting productivity metrics and the extent to which laborers perceived consequences to failure varied by sector and context. Economic historians have often applied modern metrics to historical contexts to assess the extent to which productivity changed over time and its causes. Yet, they have examined less frequently how historical actors came to view these metrics as important enough to measure or, indeed, whether contemporaries shared their view of the importance of these productivity measures at all. In the shipping context, shipowners expressed a desire to minimize days in port from an early period but the cultural, legal, and financial consequences of failing to do so increased significantly over the seventeenth and eighteenth centuries. By the early eighteenth century, captains, shipowners, and resident factors kept careful track of their days in port and used it as a key indicator of their personal success or failure. This outcome reflected a clarification of the legal and economic strictures that regulated Atlantic trade.

Traders, including supercargoes, factors, ship captains, and resident partners, learned that minimizing their days in port maximized the profitability of the voyage and, thus, their personal success and continued employment. Shipowners stressed this frequently in their written instructions to captains. They used phrases like "making all dispatch in your power" that emphasized the importance of loading quickly and making returns.[11] Their instructions to local resident factors emphasized the same time-saving exhortation.[12] When owners pushed captains to "make all possible dispatch," they often explicitly outlined temporal reasons, like the need to return in time for a particular departure month, to time an arrival for a harvest season, or to minimize the hire of sloops and high wage costs.[13] While owners who employed captains to trade on their own account typically left captains to

[11] Nicholas Brown to Abraham Whipple, 18 Nov. 1763, Abraham Whipple Papers, 1763–1793, Clements Library, University of Michigan, Ann Arbor; Jacob Wendell to John Morck, 24 Sep. 1729, Sedgewick Family Papers, Massachusetts Historical Society (MHS), Boston, MA; Jacob Wendell to Francis Baker Sr., 25 Nov. 1723, Letterbook 1, Wendell Family Papers, MHS; Thomas Richie to John Hazelwood, 26 May 1758, Thomas Riche Records, vol. 3, Historical Society of Pennsylvania (HSP), Philadelphia.

[12] Samuel Leacock to Thomas Clifford, 22 April 1760, Clifford Family Papers, HSP, Philadelphia; John Stevens to John Reynell, 14 May 1751, Incoming Correspondence Reynell Family Papers, HSP, Philadelphia.

[13] Jacob Wendell to William Roby, 23 Nov. 1731, Letterbook 2, Wendell Family Papers, MHS; Orr, Dunlope & Glenholme to Capt. Beatly, 11 July 1767, Orr, Dunlope & Glenholme Letterbook, 1767–1769, HSP, Philadelphia; Jacob Wendell to Capt. George Damicott, 27 July 1752, Letterbook 3, Wendell Family Papers, MHS.

determine what constituted quick dispatch, some stipulated a maximum length of time the vessel could remain in port. In his instructions, Enoch Hobart limited Capt. Butler's stay in Jamaica to no longer than two weeks, insisting that he return to Philadelphia before the middle of November.[14] Similarly, Thomas Richie limited Capt. Pyne's turnaround time in North Carolina to ten days, Nicholas Brown limited Capt. Sheldon's turnaround time in Suriname to ten days, and Capt. Duncan steadfastly reported that "barring Accidents shall Sail in Twenty Days."[15] In their correspondence and conversations, traders involved in shipping expressed a broadly shared time-consciousness.

Eighteenth-century investors in vessels emphasized the need to minimize days in port as a cost-saving measure, and implementing their vision required hard labor attentive to time. To reduce the number of days a vessel lingered in port, captains, sailors, and resident factors worked to unload and reload the vessels quickly. Captains paved the way for loading by completing customs procedures, paying port charges, delivering letters, and visiting resident planters and shopkeepers to solicit outbound cargo. Once captains or factors gained cargo commitments from resident traders, they sent their sailors, aided by resident longshoremen and hired sloops, to collect the cargo. Free and enslaved sailors rowed their longboats from the American colonies' harbors, bays, and rivers to shore and walked overland to warehouses. From these collection points, sailors turned wooden barrels on their side and rolled them overland back to the longboat, making use of the bulky commodity barrels' rounded frame. The sailors then ferried these barrels back to the anchored vessel.

As sweat dripped from their brows and their muscles ached from the strain, sailors and stevedores heaved tobacco on board and stowed it below deck cursing the success of the enslaved prizers who packaged the hogsheads tightly adding to their weight.[16] Captains needed these sailing men's labor not only to navigate the vessel but also to perform the hard labor of loading the vessels. In Virginia, their loading job became significantly harder over the seventeenth century. While a sailor trading to Virginia in the first years of tobacco production would have rolled, heaved, and hefted a six-hundred-pound hogshead on board his vessel, an early eighteenth-century sailor regularly hoisted hogsheads weighing

[14] Orders for John Butler, 6 June 1764, Enoch Hobart to Bears & Cuthbert, 6 June 1764, Enoch Hobart Papers, Manuscripts Collection, G. W. Blunt White Library, Mystic Seaport Museum, Inc., Mystic, CT.

[15] Thomas Richie to Capt. Pyne, 6 Nov. 1756, Thomas Richie Letterbook, 1755–1756, HSP, Philadelphia; Nicholas Brown to Capt. Sheldon, 23 Jan. 1771, Brown Family Business Records Box 547, John Carter Brown Library, Providence; Capt. James Duncan to Metcalf Bowler & Co. 3 March 1757, Christopher Champlin Papers, Rhode Island Historical Society, Providence.

[16] Menard, "Transport Costs and Long-Range Trade."

one thousand pounds. Economic historian Russell Menard heralded the improved tobacco prizing that occasioned this change as the strongest evidence of an early-modern "transportation revolution." He marveled that vessels could carry almost twice the cargo in the same amount of tonnage space.[17] These returns benefited the planters and merchants who sold tobacco, but for the sailors who strained under the immense weight of the hogsheads, no comparable wage increase compensated them for their additional labor. Despite the hazards of their work, sailors' real wages declined significantly between 1680 and 1719, as some sailors lost access to their right to transport some cargo freight free and sell it on their own account.[18] Thereafter, real wages remained relatively stable, with small increases during periods of war and a decrease between the 1730s and 1760s, indicating that Menard's transportation revolution did not materially benefit the sailors who helped achieve it.[19]

Loading quickly required sailors' hard labor and captains' proactive coordination, but the successful shortening of the time a vessel lingered in port saved the shipowners money by making better use of their fixed capital. In the short term, reducing days in port minimized the wage and provisioning bills for each individual voyage. Captains paid sailors a prorated monthly wage until the vessel reached its final port and supplied their basic provisions. Thus, reducing days in port by even a week could create significant savings. Owners' oft-repeated invocation to captains to be "as saving in Charges as you can" meant minimizing these bills and requiring sailors to perform as much of the labor as possible to minimize charges for hired longshoremen.[20]

In the longer term, reducing days in port allowed vessels to make more trips over the life of the vessel and reduced the length of time before investors received a payout from their large capital investment in a share of a ship. While the agricultural year created a seasonal shipping pattern in each colony, captains could increase returns by moving between markets with different seasonality. Some regions had multiple or long trading seasons, allowing captains to make multiple voyages by

[17] Menard, "Transport Costs and Long-Range Trade."

[18] Jacob M. Price and Paul G. E. Clemens, "A Revolution of Scale in Overseas Trade: British Firms in the Chesapeake Trade, 1675–1775," *Journal of Economic History* 47, no. 1 (1987): 1–43; Richard J. Blakemore, "Pieces of Eight, Pieces of Eight: Seamen's Earnings and the Venture Economy of Early Modern Seafaring," *Economic History Review* 70, no. 4 (2017): 1153–1184.

[19] Peter Earle, "'English Sailors, 1570–1775,'" in *Those Emblems of Hell?: European Sailors and the Maritime Labour Market, 1570–1870*, ed. Paul C. van Royen, Jaap Bruijn, and Jan Lucassen, vol. 13, Research in Maritime History (St. John's, Newfoundland, 1997), 73–92.

[20] For examples see, Jacob Wendell to Thomas Lille, 30 Dec. 1731; Jacob Wendell to Thomas Lille, 15 April 1732; Jacob Wendell to Myndert Wimpel, 20 April 1732; Jacob Wendell to Samuel White, 7 June 1732; Letterbook 2, Wendell Family Papers, MHS.

reaching markets at the beginning and end of the trading cycle. Captains trading between the North American colonies and the West Indies could make multiple voyages a year, meaning profits from each voyage could be disbursed to all the shipowners at regular intervals. The number of voyages a captain could make per annum climbed steadily throughout the eighteenth century as port times contracted. Toward the end of the American colonial period, captains who found trading opportunities outside the window for peak staple crop sales could easily make multiple voyages per annum. For example, Capt. Solomon Edey made thirty-six voyages between Virginia and the Caribbean between 1749 and 1766, making him one of the most active captains along this route. Capt. Edey sometimes made as many as three voyages in one year. When captains made multiple voyages in a year, investors not only doubled or tripled their income from freight or vessel-chartering but also received frequent payments. In a society organized by long-term book credit, these frequent returns provided investors with valued liquidity.

During the seventeenth and eighteenth centuries, legal language and mercantile practice made the cost-saving invocation increasingly clear and codified in the British Atlantic. Charter parties, which contracted all or part of a vessel's space for use by a merchant, explicitly minimized days in port by stating a maximum number of days a vessel could lay in port. While some merchants used their own vessels to trade on their own accounts, the practice of chartering all or part of a vessel was sufficiently common that merchants and captains familiarized themselves with the chartering process as a part of their training. Gerard de Malynes, an expatriate merchant from Antwerp, London resident, and widely respected authority on mercantile matters, published some details of the ubiquitous process of chartering and presented a charter party in his 1622 edition of *Lex Mercatoria*. To support his conclusions, de Malynes cited Rhodian law and his own personal experiences with the admiralty.

Any mariner or merchant who read de Malynes's *Lex Mercatoria* understood that delays meant financial penalties. A captain of a chartered vessel paid the merchant-charterers if vessel-related issues hindered a timely departure. Likewise, merchants and their foreign factors owed a captain if they did not provide dispatch within the stipulated timeframe. For example, de Malynes provided a sample charter party for a vessel sailing between London and Spain with permission to collect cargo in its foreign port of call for twenty days. The number of days in port could range significantly, but the master and chartering merchant mutually agreed upon the temporal window in the charter party before the vessel's departure. In the event that merchants failed to provide captains with cargo, shipmasters had to make timely protest with notaries public in their distant ports of call. With the proper protests, masters could expect to receive the full freight for the chartered cargo space.[21]

While *Lex Mercatoria* and the common law had established clearly the connection between delays and financial penalties by the beginning of British colonization, the proliferation of private trade in the Atlantic tried the law on a new and larger scale. As distant delays in port tested the application of financial penalties in varied circumstances, *Lex Mercatoria* evolved and became more explicit. By the publication of Giles Jacob's *Lex Mercatoria* in 1718, the demurrage charge was well established. When a chartered vessel lingered beyond the number of port days stipulated in the charter party, the merchant or shipmaster responsible for the delay paid a charge called demurrage. Giles Jacob provided a clause stipulating a daily charge liable to the shipmaster if the merchant delayed the voyage beyond the expected window of time. Wyndham Beawes further elucidated the demurrage charge in his 1751 *Lex Mercatoria*. He advocated for the justice of the policy by noting that without proper dispatch, the captain might "be defeated of the Opportunity of Passage, or Season of the Year."[22] According to the codes in *Lex Mercatoria*s, undue delays had tangible costs; and the trading community utilized accounting practices, binding contracts, and community assessment to punish offenders.

Because captains had to be prepared to defend their demurrage charges, they kept careful track of their days in port. Every captain sailing on freight needed to know when he arrived in a port of call and gave notice to the factors and correspondents responsible for providing outbound cargo. When captains gave notice, the clock started and any request to extend the time earned vessel owners more money. Demurrage charges in the eighteenth century varied by agreement, but charter parties from the Chesapeake region in the 1730s and 1740s stipulated amounts in the range of £2 to £4 per day.[23] This amount would have seemed significant to sailors who made about £1.46 in the course of a month during peacetime and £2.2 during wartime, but merchants and masters might think it worthwhile if they could expect

[21] Gerard de Malynes, *Vel Lex Mercatoria, Or The Antient Law-Merchant* (London, 1622), 135–138.

[22] Giles Jacob, *Lex Mercatoria: Or, the Merchants' Companion, Containing All the Laws and Statutes Relating to Merchandize* (London, 1718), 107–108; Wyndham Beawes, *Lex Mercatoria Rediviva or, the Merchant's Directory Being a Complete Guide to All Men in Business*, 2nd ed. (London, 1751), 98.

[23] Charter party between William Carter and Phillip Smith, 31 Jan. 1735; Charter party between Stephen Sandwell and Philip Smith, 2 Dec. 1738; Charter party between Aaron Davies and William Black, 31 Jan. 1738, Deputy Notary Public Book, 1734–1743, Maryland State Archives (MSA), Annapolis, MD; Charter Party between Edward Ogle and Asher Richardson, 26 July 1747, Notary Public Book 1744-1797, MSA, Annapolis, MD.

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freight income to offset the charge.[24] Demurrage contributed to a quantifying environment in which captains learned to keep careful track of the days they spent in port and their exertions on behalf of the vessel. Even when captains sailed and traded on the owner's own account, they gave their days in port strict attention. Thus, days in port provided shipowners with a quantifiable measure of traders' success in shipping, a key performance indicator in modern terms.

Captains and factors hastened to blame each other when they exceeded the maximum number of days in port stipulated in their charter parties. Demurrage punished merchants for failing to fully laden a vessel, but not if captains and their crews caused the delays. As a result, captains kept careful track of their days in port and formally protested against resident traders, the wind and weather, or even their own crew for delays. Capt. Wilson blamed resident factor Mordecai Hammond and the weather for his vessel's delays in the Chesapeake. According to the captain, his vessel met bad weather that forced him to make repairs. Amid the weather delays, Hammond changed his mind about shipping with Wilson and insisted that Wilson's sailors unlade his cargo, compounding delays.[25] Captains also blamed their crews. When the stipulated demurrage days elapsed, Capt. Hill blamed members of his crew, who reportedly disappeared for more than twelve days.[26] To shift fault, factors blamed captains for negligence. Daniel Dulaney blamed Capt. Tonkin for failing to exercise the "care and diligence to make the sailors discharge their duty as careful and industrious masters of ships usually and ordinarily take."[27] Because delays increased provisioning costs and demurrage charges, captains and factors went to great lengths to deflect blame.

When owners regularly used phrases like "making all dispatch in your power," they emphasized the connection between timeliness and a captain's perceived skill.[28] Captains understood the importance of a quick dispatch and emphasized their diligence on behalf of their vessels in their return correspondence.[29] When things went awry, extending the lading time, captains reported to their owners in letters or conversations

[24] Rediker, *Between the Devil and the Deep Blue Sea*, 305.

[25] Deposition of Michael Wilson, 14 April 1740, Deputy Notary Public Book, 1734–1743, MSA, Annapolis, MD; Deposition of Edward Ogle, 26 February 1747, Notary Public Book, 1744–1797, MSA, Annapolis, MD.

[26] Deposition of William Hill, 25 July 1748, Notary Public Book, 1744–1797, MSA, Annapolis, MD.

[27] Deposition of Daniel Dulaney, 5 December 1739, Deputy Notary Public Book, 1734–1743, MSA, Annapolis, MD.

[28] Nicholas Brown to Abraham Whipple, 18 Nov. 1763, Abraham Whipple Papers, 1763–1793, Clements Library, Ann Arbor, MI.

[29] Humphry Class to John Reynell, 24 July 1750, Reynell Coates Incoming Correspondence, Coates and Reynell Family Papers, Box 5, HSP, Philadelphia, PA; Richard

using plausible defense rhetoric that shifted blame onto others or the inherent risk of long-distance trade in the age of sail. Their plausible defense rhetoric drew on the inherent ambiguity of long-distance trade beyond stationary merchants' direct observation.[30] Captains also protested formally and sought the support of trusted resident traders to speak on their behalf. Thomas Amory, a Madeira trader, assured John Whitton that Capt. Reynon was "very diligent [and] I can't say anything to the contrary in dispatching every thing as quick as possible he could and if this misfortune had not happened he would have given you Satisfaction of all his proceedings." Whitton reminded Amory that "all things look black when misfortune happens," acknowledging that high-risk ventures often failed.[31] By guarding against temporal criticism, these protestations demonstrate that captains internalized the emergent time-consciousness and understood that shipowners used it as a metric to assess their performance.

The days-in-port abstraction created a reinforcing loop of partial-knowledge that undergirded the profitability of intercolonial trading vessels.[32] Stationary shipowners who invested in intercolonial trading vessels often lived in places like Boston, Salem, New York, Philadelphia, Bermuda, and other commercial centers. When ships sailed out of their homeport, owners could not observe the activities captains performed on behalf of their vessels, so they relied on indicators like days in port and freight income to assess voyages' successes. This encouraged captains to do everything within their power to excel in these areas. Captains' violent enslavement bolstered these metrics justified, if the captains required any personal justification, by the knowledge that their efforts protected their jobs, families, and personal wealth. Meanwhile, success minimizing days offered a way to improve productivity that pleased stationary investors. To them, these metrics, which signaled improved productivity and thus climbing returns, abstracted away from the quotidian violence of Atlantic trade. For captains, the days-in-port metric intensified their demand for labor and cargo in ways that intensified systems of slavery and unfreedom.

Taylor to Gentlemen, 13 Aug. 1758, Mercantile Collection, 1726–1950, Box 5, Manuscripts and Archives Division, New York Public Library, New York.

[30] Hannah Knox Tucker, "Masters of the Market: Ship Captaincy in the British Atlantic, 1680–1774" (PhD diss., Charlottesville, University of Virginia, 2021), 115–117.

[31] Thomas Amory to John Whitton, 1 February 1719, Amory Family Papers, Library of Congress Manuscript Division, Washington, D.C.

[32] Rosenthal has demonstrated that enslavers' accounting practices similarly facilitated the oppression of enslaved people laboring on plantations. Rosenthal, *Accounting for Slavery*.

Growth

During the eighteenth century, investors in ships searched for ways to increase their returns by improving productivity. Reductions in manning ratios per ton, improved packing, and technological improvements that reduced time at sea all contributed significantly to productivity improvements during the seventeenth and eighteenth centuries.[33] In addition to these improvements, traders searched for ways to minimize the amount of time they spent in port, hoping to realize cost-saving benefits and increase the number of voyages a vessel could make over its lifetime. Over the eighteenth century, shipping productivity—as measured by contracting days in port—improved significantly for vessels trading out of Virginia. Reducing days in port improved outcomes for shippers in the short term because they could reduce their financial outlays for wharfage, provisioning, and wage bills in port for any single voyage. These short-term benefits snowballed into long-term benefits because vessels could make more voyages because quick turnarounds allowed the vessel to spend more time at sea. Over time, this increased the number of voyages a vessel could make, improving the return on investment for the vessel.

North, Shepherd, Walton, and Devine initially attributed this productivity improvement to the increased involvement of resident Scottish shopkeepers in Virginia.[34] They reasoned that resident Scottish shopkeepers could anticipate a vessel's arrival and thus stockpile tobacco in warehouses for collection and transshipment. Their two-period sample approach and observation of the coinciding structural changes in transatlantic tobacco shipment convinced them that organizational improvements brought by Scottish traders in America played a leading role in productivity improvements as measured by contracting days in port. However, their approach did not differentiate by regional trading patterns.[35] As a result, their studies did not observe or explain the cause of the drastic reduction in days in port for intercolonial trading vessels, which rivaled the reduction in days in port for vessels trading to Scotland.

[33] James F. Shepherd and Gary M. Walton, *Shipping, Maritime Trade, and the Economic Development of Colonial North America* (Cambridge, UK, 1972); Menard, "Transport Costs and Long-Range Trade"; Phillip Reid, *The Merchant Ship in the British Atlantic, 1600–1800: Continuity and Innovation in a Key Technology*, Technology and Change in History 18 (Leiden, 2020); Riggs, "Transportation Efficiency in Eighteenth-Century Merchant Vessels."

[34] Douglass C. North, "Sources of Productivity Change in Ocean Shipping, 1600–1850," *Journal of Political Economy* 76, no. 5 (Sep. 1968): 953–970; Shepherd and Walton, *Shipping, Maritime Trade*; T. M. Devine, *The Tobacco Lords: A Study of the Tobacco Merchants of Glasgow and Their Trading Activities c. 1740 –90* (Edinburgh, 1975).

[35] Tucker, "Masters of the Market"; Menard, "Transport Costs and Long-Range Trade."

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Applying a regional approach to the surviving data points extracted from Virginia shipping returns reveals that intercolonial trade between Virginia and other colonies in the Americas and the Atlantic became significantly more productive over the eighteenth century. Evidence for the statistical portrait comes from a comprehensive survey of all arrivals to and departures from Virginia ports between 1698 and 1766, recorded in the naval officers' shipping returns housed at Britain's national archive. Virginia provides a useful test case for historical and practical reasons. Virginians carried on a robust transatlantic tobacco trade and a vital intercolonial provisions trade. As a result, the colony's shipping sheds light on the two major shipping trends. In practical terms, the Virginia shipping returns have survived relatively intact. The records contain 25,250 data points for analysis.[36] Despite the impressive scope of the shipping lists' coverage, gaps remain. Notably, almost all the shipping lists between 1707 and 1724 are missing and few records from 1747 and 1748 remain. Even in years with fairly comprehensive coverage, some ports and quarters are missing. Despite the data imperfections, Virginia's shipping lists provide the most comprehensive records by which to track intercolonial shipping.

Captains trading from Virginia to the Caribbean improved their vessels' productivity significantly over the eighteenth century. As Figure 1 shows, days in port for vessels clearing Virginia for the Caribbean contracted sharply from an average of 75 days in the early period of 1698 to 1706 to an average of 47 days between 1725 and 1729, a 40 percent decrease. Though the days in port averages varied between 61 days and 49 days from the 1730s to the 1760s, they never reached the unproductive high of 75 days evident in the early period, 1698-1706. The productivity improvements become more dramatic and comparable when scaled for the sizes of the vessels trading to the Caribbean.

Scaling for cargo tonnage provides a more indicative measure of productivity improvements because it compares like with like. Larger vessels took longer to load because they had more carrying capacity, thus combining larger and smaller vessels' port times into one average days-in-port measure, as Figure 1 does, creates a false comparison between ports and through time because average vessel size varied significantly. Scaling the days vessels spent in port by ton of cargo capacity internalizes variations in shipping size and allows for a more

[36] "Shipping Returns," CO5/1441–1449, The National Archives (TNA), Richmond, UK. This is the number of records after dropping duplicate records. The comprehensive dataset contains 30,821 discrete records for vessel entrances and clearings. I judged 5,571 of these records to be duplicates, and after concatenating their information to populate empty fields, I dropped duplicate records.

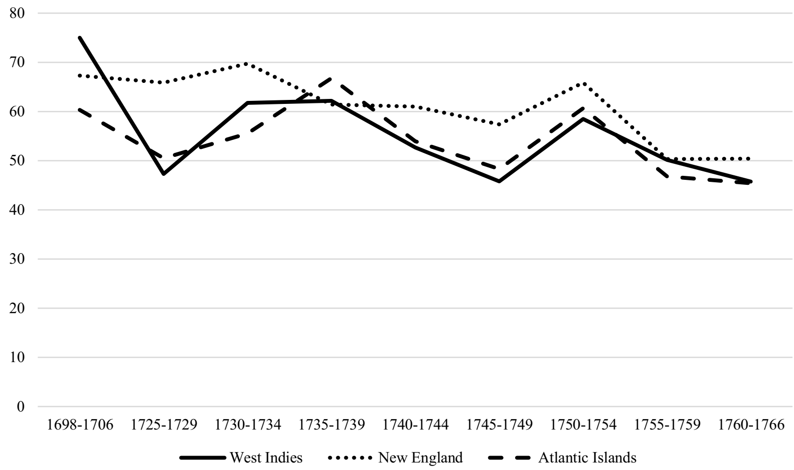

Figure 1. Average days in port for vessels clearing Virginia to Colonies in the Anglo-Atlantic, 1698–1766. (Source: Author's dataset derived from "Shipping Returns, CO5/1441-1449, The National Archives [TNA], Richmond, UK.)

reasonable comparison. As Figure 2 shows, captains halved their days in port per cargo ton between 1698 and 1766. At the beginning of the period, captains spent 1.26 days in port for each of their vessel's cargo tons, but between 1760 and 1766 they spent only 0.61 days in port for every cargo ton.[37] This was a contraction of scaled days in port of about 51 percent, which signaled significant productivity growth. An increase in the size of ships caused some of this growth. Before 1730 vessels in the Caribbean trade averaged 85 tons, but after 1730 they averaged 95 tons. Thus, vessels trading to the West Indies from Virginia increased

[37] Ship utilization measures do not undercut this productivity measure because captains clearing Virginia for the West Indies consistently loaded their vessels to full capacity. Because captains primarily traded high-bulk provisions like wheat, corn, wooden staves, rum, sugar, and molasses in West Indies trading, they managed their cargo space better than transatlantic vessels that loaded high-value but low-bulk manufactures on the voyage west. Ship utilization measures, especially for the West Indies, must be treated with some caution because Chesapeake shippers consistently exported living animals, simply called livestock in the shipping returns. Sources suggest one cow or horse took up five cargo tons per animal. For my shipping utilization measure, I assumed livestock meant a cow or horse, but it might mean pigs or chickens. If the term livestock referred to pigs or chickens, the livestock cargo tons assumption should be reduced, reducing the shipping utilization measure (which measured above 100 percent for some entries). However, the prevalence of neutral livestock references in the data was relatively uncommon, so this potential criticism does not significantly undermine the finding that captains trading to the West Indies utilized their vessel space well. For more on the cargo tons measurement and ship utilization measurement see, Tucker, "Masters of the Market," 150-190.

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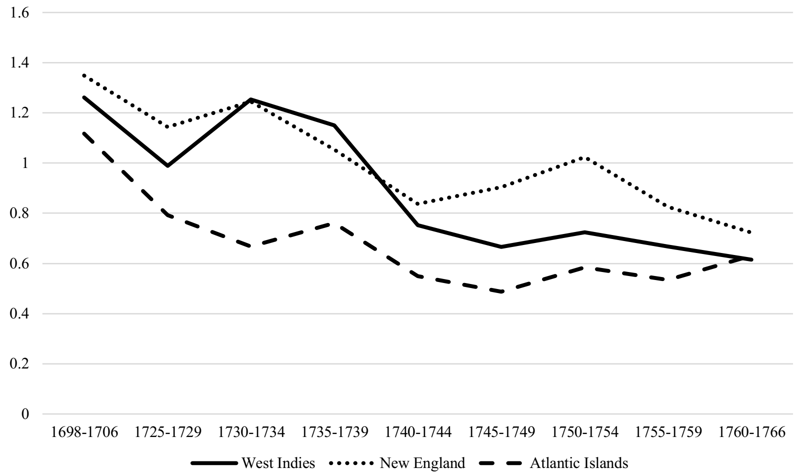

Figure 2. Days in port per cargo ton for vessels clearing Virginia to British Colonies, 1698–1766. (Source: Author's dataset derived from "Shipping Returns," CO5/1441-1449, TNA.)

modestly in size over the eighteenth century, allowing them to take advantage of returns to scale. However, productivity returns increased primarily because captains, sailors, and stevedores performed their jobs of locating and loading cargo more quickly.

Virginia's intercolonial trade blossomed not only with the Caribbean but also with New England and islands in the Atlantic, including Bermuda and Madeira. As Figures 1 and 2 show, captains trading to New England and islands in the Atlantic achieved a decline in days in port and a significant reduction in their days in port when scaled for cargo tonnage. Days in port per cargo ton fell by 55.7 percent between the early eighteenth century and the late 1740s, and they remained stable thereafter for captains clearing Virginia to islands in the Atlantic. The Atlantic islands' productivity improvements lend support to Jarvis's argument for the dynamism of Bermuda captains and their crews, the latter of which were composed of a high proportion of enslaved sailors who specialized in short-distance trade.[38] Productivity also improved for captains trading between Virginia and New England. Between the early eighteenth century and the 1760s, captains trading to New England contracted their average days in port per cargo ton measure by 46.4 percent. This analysis indicates captains trading to

[38] Jarvis, *In the Eye of All Trade*.

these regions significantly improved their productivity in Virginia between 1698 and 1766.

The significant improvement in intercolonial productivity requires explanation, but the colonial Virginia shipping context lacks evidence for common motivating factors for productivity improvements, like technology, infrastructure, and organizational change, encouraging a broader explanatory framework. As Figures 1 and 2 demonstrate, intercolonial productivity improvement rivaled the productivity improvements of about 50 percent realized in the Virginia–Scottish trade.[39] Yet, while the Scottish trade experienced a radical reorganization with the proliferation of resident agents, whose vertically integrated Glasgow firms focused on bilateral transatlantic tobacco trading, no organizational transformation of that scale occurred in intercolonial trade between Virginia and other American colonies.[40] Intercolonial traders primarily relied on ad-hoc agreements between ship captains and smaller local Chesapeake shopkeepers and planters.[41] Colonists also did not create a centralized grading and storage system in the provisions trades analogous to the one created in the tobacco trade after Virginia and Maryland passed inspection laws in 1730 and 1747, respectively.[42] Finally, the planters' intentionally diffused plantation structures in the Chesapeake Bay limited the technological improvements in wharfing that emerged in port cities like Glasgow, Boston, New York, and Charleston.[43] While some wharf technology, warehousing infrastructure, and organizational improvements stimulated intercolonial productivity improvements, their limited scale cannot fully explain intercolonial productivity improvements.

Without common reasons for productivity improvements in the Chesapeake context, the increasing embrace of unfree labor provides a compelling explanation for overall improvements in shipping productivity. Captains involved in intercolonial trading benefited from relationships with local exporters, a shipping sector in which cargo space growth lagged growth in continental American provisions to supply Caribbean

[39] As Figures 1 and 2 show, intercolonial days in port fell significantly, a trend mirrored in the Scottish trade as outlined in North, "Sources of Productivity Change"; Shepherd and Walton, *Shipping, Maritime Trade*.

[40] Devine, *The Tobacco Lords*.

[41] Paul G. E. Clemens, *The Atlantic Economy and Colonial Maryland's Eastern Shore: From Tobacco to Grain* (Ithaca, NY, 1980), 200–205.

[42] Mary McKinney Schweitzer, "Economic Regulation and the Colonial Economy: The Maryland Tobacco Inspection Act of 1747," *Journal of Economic History* 40, no. 3 (Sep. 1980): 551–569.

[43] Paul Musselwhite, *Urban Dreams, Rural Commonwealth: The Rise of Plantation Society in the Chesapeake* (Chicago, 2018); Richard F. Dell, "The Operational Record of the Clyde Tobacco Fleet, 1747–1775," *Scottish Economic and Social History* 2 (1982): 1–17; Kathryn Lasdow, "'Spirit of Improvement': Construction, Conflict, and Community in Early National Port Cities" (PhD diss., Columbia University, 2018).

demand, and an increasing reliance on sailing labor somewhere along the spectrum of unfreedom. The embrace of unfreedom, in particular, remains underexplored in economic histories, in part due to the limited evidence on early-modern crew compositions. Data absences have led more quantitative scholars to overlook the possibility that this significant change in the structure of labor impacted productivity changes. Nonetheless, general estimates, combined with descriptive archival evidence from governors, merchants, captains, sailors, and enslaved mariners demonstrate that men and women invested in the business of shipping relied on sailors to dispatch their vessels quickly, and they turned to tools that limited sailors' freedom to accomplish their productivity goals.

Embracing A Spectrum of Unfreedom in Maritime Labor

Captains reduced their days in port when they could hire skilled sailors, while an incomplete or absentee labor force stymied their efforts with delays and increasing days in port. To guarantee their labor force and help achieve their productivity goals, captains increasingly turned to sailors along the spectrum of unfreedom, including enslaved sailors. In port, captains needed to recruit and retain enough sailors to do the hard work of loading their vessels with cargo to guarantee they could make an on-time departure and then to navigate those vessels at sea. Distressingly for these ambitious captains and merchants, employing able seamen presented a perennial problem during the eighteenth century and that problem intensified during wartime. With the uncertainty of this unreliable labor supply, commercial captains embraced practices that gave them more control over their labor by limiting the freedoms their sailors enjoyed.[44] Embracing unfree labor provided eighteenth-century captains with reliability in an unreliable world. Thus, part of the in-port productivity increases in intercolonial trade stemmed from captains' and merchants' ability to exercise more and more control over sailors as they moved along the spectrum of unfree labor, from coercive contracting to enslavement.

Eighteenth-century jack tars viewed sailing as a form of unfreedom under the best of circumstances. Sailors signed on for a voyage of a particular length, and only death and impressment provided a legal way out of this contract. They could absent themselves after arriving in port but, without their justly due wages for a completed leg of the journey, only unendurable treatment, particularly attractive alternatives, or a

[44] This argument builds on work by Rosenthal, "Capitalism When Labor Was Capital"; Rockman, "Unfree Origins of American Capitalism"; Rockman, *Scraping By*, 5–7.

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combination of both could inspire a forbidden mid-voyage departure. Despite these constraints on their freedom, sailors still emancipated themselves from their vessels, a problem that undermined captains' ability to quickly dispatch their vessels. In a 1691 proclamation, Virginia governor Francis Nicholson described the problem in the following way: "[Sailors] may endeavor to make their escape from the said ships either by getting on board some ship or Vessel bound to some of their Majesty's other plantations, or by Lurking about in the Country, which will be a great prejudice to the Masters of the ships to which they belong for want of their service in the dispatch of the ships."[45] Nicholson's proclamation described the struggle captains experienced when trying to meet owners' expectations of days in port without sailors. It also reflected the increasing challenge of enticing and retaining mariners at the turn of the eighteenth century when declining, then stagnant, real wages, combined with attractive opportunities on land, discouraged sailors from freely undertaking maritime careers.[46]

Concurrently, prolonged periods of warfare increased impressment, the ultimate unfreedom for free white sailors, further limiting the pool of mariners available to commercial captains. Press gangs undermined mercantile captains' ability to staff their vessels by putting pressure on the labor supply. War brought opportunity through increased wages on merchant vessels and high-risk/high-reward privateering ventures, but it also heightened sailors' fears of impressment. Press gangs sought able seamen and examined their mariner targets for signs of experience, such as tarred trousers, rough hands, and a rolling gait. Press gangs could not compete with the high wages mercantile captains offered during wartime to attract able seamen, so they used force throughout the British Atlantic. Between 1688 and 1815, the Royal Navy impressed about 500,000 men; at any given time, between half and two-thirds of naval seamen found themselves at sea against their will, fomenting colonial American resentment toward Britain.[47] Colonizers in British America complained bitterly about this process, claiming that press gangs should operate only in Britain where they had a nursery of sailors bred to the sea.

When reports of impressment circulated, sailors regularly refused to enter merchant vessels, exacerbating existing labor problems and

[45] Francis Nicholson, "Proclamation to Prevent Seamen from Running Away," 8 December 1691, CO5/1306 TNA, Richmond, UK.

[46] Blakemore, "Pieces of Eight, Pieces of Eight."

[47] Denver Brunsman, *The Evil Necessity: British Naval Impressment in the Eighteenth-Century Atlantic World* (Charlottesville, 2013), 6, 25–27; Christopher P. Magra, *Poseidon's Curse: British Naval Impressment and Atlantic Origins of the American Revolution* (Cambridge, UK, 2016). For the daily actions of a press gang in the 1740s, see "Letters from the Impress Service," ADM 1/3663, TNA, Richmond, UK.

making it difficult, if not impossible, for captains to man their vessels.[48] As a protest from sixteen Jamaica merchants put it in 1696, impressment limited manning and endangered the merchants' capital investment by forcing captains to lay overly long in the Caribbean, where worms contributed to depreciation of cargo. When captains grudgingly set off half-staffed, they commonly lost their vessels. According to the merchants, the consequences of the press were simple: "by pressing the Seamen they disable the Ships which has been the Ruine [*sic*] of so Many of them."[49] Captains particularly struggled to employ sailors in intercolonial trade where smaller American ports housed lucrative alternative opportunities with lower risk and higher reward.[50] Impressment continued to confound merchant captains trying to man their vessels well into the eighteenth century. Governor Trelawney, of Jamaica, noted the consequences of Caribbean press gangs in a 1742 letter intended for the king. He reported that Jamaica residents relied on the continental American vessels for "many small necessaries for carrying on their works, and some provisions; but their [sailors'] fear and dread of being pressed has in great measure amounted to a prohibition of that trade with this place, and brought a distress upon the people for want of their usual supplies."[51] According to Trelawney, the press interrupted the intercolonial trade that supplied Jamaica's sugar plantations.

These broad factors exacerbated existing frictions in the sailing labor market and encouraged captains to embrace unfreedom through coercive contracting and state power to achieve the productivity goals they sought. Virginia governor Francis Nicholson prohibited any movement by sailors in port except those explicitly allowed by written permission of the sailors' captains. To enforce this prohibition, he commanded any Virginian to "take & apprehend all Vagrant Seamen or the like that cannot give a good account of their Travelling & carry him or them before the next Justice of the Peace."[52] While Virginians may not have acted on this invocation, captains and merchants clearly sought assistance from the state to coerce sailors into providing their labor

[48] James Hudson to Rathbone, 30 July 1755, Rolfe and Hudson Store Accounts; James Hudson Shipping Accounts and copies of letters, 1743–1783, Hudson Collection, ca. 1647–1862, New York Public Library; Jonathan Easton, 6 Jan. 1748, "Logbook kept by Jonathan Easton on board the brig *Mary Ann*," Log 386, Manuscripts Collection, G. W. Blunt White Library, Mystic Seaport Museum, Inc., Mystic, CT.

[49] "Proposals of the Jamaica Merchants for the better carrying on and securing the Trade of Jamaica," 18 Sep. 1696, CO 137/4, TNA, Richmond, UK.

[50] Arthur Pierce Middleton, *Tobacco Coast: A Maritime History of Chesapeake Bay in the Colonial Era* (Newport News, 1953); Brunsman, *The Evil Necessity*, 106; Governor Trelawney to the Lords of the Admiralty, 21 December 1743, CO 137/57 Part 2, TNA, Richmond, UK.

[51] Governor Trelawny to the Duke of Newcastle, 29 July 1742 CO 137/57 Part 1, TNA, Richmond, UK.

[52] Nicholson, "Proclamation to Prevent Seamen."

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without interruption. Captains and owners also understood the coercive power of nonpayment and regularly withheld wages at intermediate ports of call. David White, a part-owner of a trading vessel, testified that few mariners on voyages to Virginia received any wages until the vessel reached its final port of call. He reported that captains resisted paying sailors primarily because little currency circulated in Virginia; but even when captains had the currency to pay sailors, they feared sailor desertion. According to White, Virginia boasted few sailors, which made finding replacements difficult and might make it "very difficult to get her [a ship] new manned if not altogether impossible."[53] Thus, the pressure that captains received from their owners around the days-in-port metric exacerbated the unfreedom of early-modern markets by encouraging captains to withhold wages justly due to sailors at intermediate ports.

Maritime law dictated that captains compensate sailors after each successful arrival at a port where the vessel made a delivery and, thus, received payment for the delivery. British courts considered the requirement of unlading cargo and receiving freight justifiable as a measure to ensure the safety of the vessel and cargo. Employers believed that linking wage-payment to successfully transporting cargo encouraged sailors to protect the cargo and guaranteed their diligent service. In his treatise on civil and admiralty law, Arthur Browne quoted Lord Mansfield's quippy summary of the logic, "for that freight is the mother of wages, and the safety of the ship, the mother of freight."[54] According to Mansfield, when foreign enemies claimed a vessel or storms damaged it mid-journey, the officers and sailors could not expect to receive wages for that leg of the trip because the owners had not received any freight income from the voyage. Sailors considered this an injustice since they could neither control for the weather nor forestall the overwhelming force of pirates and privateers, and they took the owners to court to contest it. Nonetheless, the precedent discouraged their suits, and sailors commonly suffered the experience of laboring for months in adverse conditions only to earn no wages. As water rushed in and sailors furiously bailed and pumped, they worried not only for their lives but also if all their work might come to naught if the ship lost its cargo.

Although marine law bound captains to pay sailors in intermediate ports where they received freight income, captains routinely ignored this requirement. As part-owner David White pointed out, they did so to prevent sailor departure. Captains could avoid payment in intermediate

[53] Deposition of David White, 24 June 1690, HCA 13/80, TNA, Richmond, UK.

[54] Arthur Browne, *A Compendious View of the Civil Law, and of the Law of the Admiralty, Being the Substance of a Course of Lectures Read in the University of Dublin.*, vol. 2 (London, 1802), 176–178; George F. Steckley, "Freight Law in the Seventeenth-Century Admiralty Court," *Journal of Legal History* 27, no. 2 (Aug. 2006): 180.

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ports because the consequences for nonpayment were low and the nature of intercolonial trade rendered it difficult to determine when the vessel met the unloading requirement. Although Steckley has pointed out that seventeenth-century sailors had significant success suing for their wages, they did not often receive damages. Seventeenth-century sailors in the high court of admiralty won nine out of ten cases; and judges consistently required owners and masters to pay the court costs, which amounted to about 20 percent of the wage bill due at the end of trial.[55] Yet, even when sailors successfully sued for their wages, payment delays created pressure they could ill afford. As the lawyer for Andrew Ross and other mariners of the *Ingram* put it, the sailors lacked the "wherewithal to struggle every point with their opulent employers."[56] While this rate of victory likely encouraged sailors to sue for their wages, the absence of damages made the risk of court charges and the potential benefit of delay seem like a reasonable bargain to captains and owners strapped for cash in the short-term and hoping to guarantee sailors' continued service. Furthermore, while maritime law generally agreed that sailors should be paid at intermediate ports, local practice, such as a contract that stated freight would only be paid at the final port or a dispute about whether goods had been unladed, might countermand this stipulation.[57] Thus, even when sailors voluntarily agreed to serve on merchant vessels, payment practices limited their freedom.

For captains attempting to minimize their days in port, enslaving sailors could resolve their manning requirements and get a vessel on its way to a new port of call and the freight income that accompanied safe arrival. Hereditary slavery ensured that enslaved people supplied the most reliable form of maritime labor to shipowners. Unlike free white sailors, who could refuse to sail, enslaved people sailed after their enslavers made an agreement with captains for their service. Terra firma held attractions for enslaved and free sailors alike, including families in port, opportunities for indulgence, and jangling pockets. Yet, unlike their free fellow foremastmen, enslaved sailors could not choose to stay in port once their owners made an agreement for their service.[58]

[55] George F. Steckley, "Litigious Mariners: Wages Cases in the Seventeenth Century Admiralty Court," *Historical Journal* 42, no. 2 (June 1999): 315–345.

[56] William Craig and Lord Craig, "Answers for Andrew Ross, and others, sailors of the ship Ingram of Glasgow, to the Petition of John Glassford and Company, merchants in Glasgow," 25 Apr. 1771, University of Virginia Law Library, Scottish Court of Session Digital Archive Project (SCOSDAP), 2015–2019, accessed 1 Feb. 2024, https://scos.law.virginia.edu/.

[57] Alexander Wight, "Answers for John Glassford and company, Merchants in Glasgow, to the Petition of Andrew Ross and others, late Mariners on board the Ingram of Glasgow," 7 Feb 1771, in SCOSDAP.

[58] Paul A. Gilje, *Liberty on the Waterfront: American Maritime Culture in the Age of Revolution* (Philadelphia, 2004); W. Jeffrey Bolster, *Black Jacks: African American Seamen in the Age of Sail* (Cambridge, MA, 1997).

Surviving evidence suggests that captains relied on enslaved and free Black mariners to overcome their staffing problems. No systemic rolls of American seamen existed in the early to mid-eighteenth century, leading to some contestation among historians of the period about the percentage of Black sailors. However, existing evidence suggests that the number of Black sailors grew during the first half of the eighteenth century, reflecting a broader turn toward enslaved labor in most sectors of the early American economy.[59] A 1720 survey of vessels in Antigua put the percentage of Black sailors at 29 percent, and a 1743 Kingston census of sailors serving on vessels from North American put the percentage of Black sailors at 30 percent.[60] According to Jarvis, Bermuda captains began employing enslaved sailors early in the century for their specialized intercolonial trade with the Chesapeake Bay and Caribbean islands. Enslaved sailors composed about 25 percent of Bermuda's labor force by the 1740s; and by the 1770s, enslavers held the majority of sailors in bondage.[61] Thus, by the 1740s, free and enslaved Black sailors provided in a significant amount of maritime labor, and that trend continued into the nineteenth century. A study of early nineteenth-century sailors out of Salem, Massachusetts, put the number of Black sailors at around 10 percent.[62] Bolster estimated the percentage of the enslaved male population who followed the sea: 1.5 percent from Jamaica, 3 percent from Barbados, 14 percent from Nevis, and 16 percent from the Bahamas.[63] He also demonstrated that by 1803, Black sailors occupied 22 percent of berths out of Providence, 17.1 percent out of New York, 17.4 percent out of Philadelphia, and 14.5 percent out of Baltimore, which are all ports that maintained strong trading connections with the Caribbean.[64]

This evidence indicates that the percentage of crews manned by enslaved and free Black sailors grew over the eighteenth century and was higher in shorter-distance intercolonial trading to the Caribbean than in

[59] Trevor Burnard, "Reviews of Emma Christopher, Slave Ship Sailors and Their Captive Cargoes, 1730–1807," *International Journal of Maritime History* 19, no. 1 (June 1, 2007): 287–332; For the broader trends, see Edmund S. Morgan, *American Slavery, American Freedom* (New York, 1975); Christopher Tomlins, *Freedom Bound: Law, Labor, and Civic Identity in Colonizing English America, 1580–1865* (Cambridge, UK, 2010), 41.

[60] David Barry Gaspar, *Bondmen and Rebels: A Study of Master–Slave Relations in Antigua* (Durham, NC, 1985), 110; Charles R. Foy, "Eighteenth Century 'Prize Negroes': From Britain to America," *Slavery & Abolition* 31, no. 3 (Sep. 2010): 381.

[61] Jarvis, *In the Eye of All Trade*, 132, 148–149.

[62] Stephen K. Behrendt, "Human Capital in the British Slave Trade," in *Liverpool and Transatlantic Slavery*, ed. Anthony Tibbles, David Richardson, and Suzanne Schwarz (Liverpool, 2007), 14–42; Daniel Vickers and Vince Walsh, *Young Men and the Sea: Yankee Seafarers in the Age of Sail* (New Haven, 2005), 177.

[63] Bolster, *Black Jacks*, 18–19.

[64] Bolster, *Black Jacks*, 236.

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transatlantic trade. In a letter to the Lords of the Admiralty, Jamaica Governor Trelawney reported that a quick survey of his harbor revealed five ships with a majority of Black sailors, three with a majority of Indigenous sailors, and three with an even split between Indigenous and Black and white sailors. He objected to this high concentration of non-white sailors, calling the tendency to man vessels with Black sailors a growing "evil." Even with the added labor that these unfree mariners provided, Trelawney agonized about the state of the sailor shortage on the American vessels. He noted, "[Y]et how poorly they are still manned; hardly sufficient to navigate."[65] While enslaved sailors were a minority, they provided a reliable labor force for vessels trading to the Caribbean when captains struggled to employ skilled white sailors. In these majority Black island communities, white laborers often found more favorable employment opportunities ashore, and captains stranded without sufficient manpower could turn to slave markets to man their vessels.[66] Jacob Wendell, part-owner of the vessel, reminded Captain John Ellery multiple times that he had the owners' permission to purchase and enslave a man in Barbados for service on the ship's voyages back to Boston: "[I]f you think it proper may buy a negroe men for our Joynt Accoutt to belong to the ship."[67] Often, ship captains like Ellery and owners like Wendell purchased enslaved people with the intention of using their labor on board their own vessel.

Enslaving sailors provided a captain or vessel owner some of the labor required to sail the vessel, and the enslaver's capital was augmented by garnishing the wages of the enslaved sailors. Olaudah Equiano experienced both of these fates after his initial enslavement in Virginia by sea captain Michael Henry Pascal, and subsequent enslavement by Robert King, a merchant trading between the West Indies and Philadelphia. Enslaved sailors like Olaudah Equiano protested the bitter injustice of wage confiscation that lined their enslavers' pockets, noting of his enslaver that "he has taken all my wages and prize-money, for I only got one sixpence during the war."[68] Equiano's service left him with far lighter pockets than his free white

[65] Governor Trelawney to the Lords of the Admiralty, 21 December 1743, CO 137/57 Part 2, TNA, Richmond, UK.

[66] Charles R. Foy, "Seeking Freedom in the Atlantic World, 1713–1783," *Early American Studies* 4, no. 1 (2006): 51. For opportunities available to white colonizers in Black majority Caribbean colonies, see Andrew Jackson O'Shaughnessy, *An Empire Divided: The American Revolution and the British Caribbean*, Early American Studies (Philadelphia, 2000); Trevor Burnard, *Mastery, Tyranny, and Desire: Thomas Thistlewood and His Slaves in the Anglo-Jamaican World* (Chapel Hill, 2004).

[67] Jacob Wendell to John Ellery, Jan. 1723, 22 Dec. 1724, Letterbook 1, Wendell Family Papers, MHS.

[68] Equiano, *The Interesting Narrative,* 69.

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peers and no recourse recognized by his enslavers. The value of his labor enriched his enslaver and his enslaved status provided his enslaver with the ability to take advantage of market opportunities to employ or sell Equiano.

As Rosenthal has pointed out, the institutional world in which enslavers operated granted them a level of power that transformed labor into controllable capital that could be used to advance the enslavers' commercial goals.[69] In this environment, enslavers controlled Black jacks' lives in ways that allowed the enslavers to take advantage of market opportunities more easily without any concern for its impact on these men. When Equiano's enslaver saw opportunity in selling him, Equiano could do nothing to prevent it. As the ship and the sailors he had served with sailed out of sight, leaving him on a new vessel with his new enslaver, Equiano wrote that he "threw myself on the deck, while my heart was ready to burst with sorrow and anguish."[70] For sailors like Equiano, their daily lives mirrored the lives of their free sailing companions, subject to the hard labor, danger, deprivation, and the caprice of their captains, but with mobility that some experienced as liberatory or self-emancipatory.[71] Despite this seeming equality, enslaved sailors often occupied more junior positions and experienced racism from shipmates and their employers.[72] They also could not choose their berths, their date of departure from their communities in port, or the length of their service. Staffing a vessel with enslaved people made minimizing days in port and, therefore, improving productivity easier by stripping decision-making power away from laborers and giving it to enslavers.

In the British Atlantic, enslavers jealously guarded their right to enslave sailors and reap the rewards of their labor. Initially, enslaved sailors occupied a dubious position vis-a-vis a requirement in the Navigation Acts that stipulated that three-fourths of all crews needed to claim British nationality. Clarifying the law, a 1725 case found in favor of a British enslaver and ruled that sailors who were enslaved by Britons were themselves British for the purposes of compliance with the Navigation Acts, thereby bolstering enslavers' rights.[73] British enslavers also sought to guarantee their rights to enslave against naval press gangs' interference. While press gangs did sometimes impress enslaved

[69] Rosenthal, "Capitalism When Labor Was Capital."

[70] Equiano, *The Interesting Narrative*, 70.

[71] Gilje, *Liberty on the Waterfront*; Jarvis, *In the Eye of All Trade*; Foy, "Seeking Freedom in the Atlantic World, 1713—1783."

[72] Bolster, *Black Jacks*, 34–36; Charles R Foy, "The Royal Navy's Employment of Black Mariners and Maritime Workers, 1754–1783," *International Journal of Maritime History* 28, no. 1 (1 Feb. 2016): 31–35.

[73] Jarvis, *In the Eye of All Trade*, 148.

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sailors, the latter's status as people enslaved and held in hereditary bondage by a British subject discouraged press gangs from capturing people enslaved by British colonizers for fear of raising the ire of enslavers with wealth and influence. While free and enslaved sailors taken from enemy vessels as prizes during war could serve on naval ships, the admiralty sometimes released enslaved people when Britons protested against the confiscation of people they claimed as property.[74] Furthermore, admiralty regulations did not officially allow enslaved people to serve in war, and naval vessels had a relatively low percentage of Black sailors.[75] Thus, press gangs respected some white Britons' rights to deprive Black or Brown humans of their liberty more than other white Britons rights to their own liberty.

As noted, without a reliable labor supply, captains struggled to load and sail their vessels, and sailors performed the hard labor of loading vessels in port and guaranteed the safety of vessels at sea. Without sailors, captains lost any gains from quickly locating cargo for export in a miasma of delays. By moving along the spectrum of unfreedom toward coercive contracting and enslaving laborers, captains in intercolonial trade embraced opportunities to control their labor force in ways that eased their emerging time-consciousness. Access to controllable labor protected intercolonial captains from the vagaries of the maritime labor market, evident during wartime when naval impressment reduced the pool of reliable maritime labor. Over the eighteenth century, captains increasingly turned to unfree labor to guarantee the productivity improvements expected by their employers and evident in Virginia's intercolonial trade.

Conclusion

This study of productivity change in colonial shipping, crew compositions, and coercive contracting shows that as traders embraced a quantitative sensibility around days in port, scaled days in port fell, and intercolonial traders embraced unfree and enslaved labor. It reflects an interdisciplinary sensibility that puts different types of evidence into the same conversation to ask new questions. While questions around the

[74] N. A. M. Rodger, *The Wooden World: An Anatomy of the Georgian Navy*, 2nd ed. (New York, 1996), 159–161.

[75] The percentage of Black sailors in the Royal Navy fell somewhere in the range of 1.5 to 5 percent between 1750 and the American Revolution, a number that falls significantly below the more anecdotal measures of 25 to 30 percent mentioned above for merchant vessels. Foy, "The Royal Navy's Employment of Black Mariners and Maritime Workers, 1754–1783."

timing and causes of productivity improvements and growth have long motivated economic and business historians, the kinds of questions raised by scholars of slavery can challenge the consensus and rebalance the stakes of the work to emphasize the humans shaped by business. Continued work by labor historians and scholars of the Black Atlantic may provide additional evidence on the scale and rate of adoption of coercive contracting and enslaving labor in the intercolonial trade. This research can further specify the timing and extent to which coercive labor and slavery supported shippers' productivity goals. Yet, without interdisciplinary influences provided by scholars at the intersection of business and slavery, questions around the influence of slavery on emergent capitalist sensibilities, like time-consciousness and managerial practice, might go unexamined, particularly in the early-modern period.

These tendencies exclude from the narrative the experiences of men like Nathaniel, Caesar, Cuffee, Ned, and Sharper, who labored on maritime vessels in the intercolonial trade.[76] For these men, the realization of productivity improvements mattered little. It was enough that traders had a maritime labor problem, regular access to slave markets, and the belief that enslaving sailors would give them the predictability, flexibility, and control to help solve it. For a time, these enslaved sailors provided their labor in harsh conditions alongside men bound by coercive contracts for shorter times and with better protections. Nonetheless, these men all experienced the maritime world of trouble described by Simeon Griswold in his 1768 logbook. Griswold reflected bitterly:

> Our thoughts are uneasy for fear of bad weather or our ships leaking worse for she leaks very bad now or losing our stock or getting to leeward and a thousand thoughts we have in our minds which gives us trouble which these happy people [on land] have no thought nor concern with but spend their time in ease and pleasure that stay at home by the fireside.[77]

The exhortation to reduce days in port limited sailors' breaks from these uneasy thoughts and put pressure on sailors to quickly roll, row, heave, and stow heavy wooden barrels. Historians know Nathaniel,

[76] "Ran away," *The New England Weekly Journal*, 18 October 1737; "Ran away," *Boston Gazette*, 17 November 1747; "Ran away," *Boston Gazette*, 29 November 1773; "Ran away," *Boston Gazette*, 9 May 1774; "Runaway," *The Saint Christopher Gazette*, 19 November 1785, *Readex: America's Historical Newspapers and Caribbean Newspapers*.

[77] Simeon Griswold, 5 Dec. 1768, Logbook Two Brothers, Log 320, Manuscripts Collection, G. W. Blunt White Library, Mystic Seaport Museum, Inc.

Caesar, Cuffee, Ned, and Sharper's names because they emancipated themselves, taking advantage of their maritime mobility to free themselves from slavery, but thousands of sailors stayed bound by a coercive power structure that made the labor supply more predictable as it limited their freedom. History at the intersection of business and slavery can tell the stories of these men as people indelibly marked by the pursuit of productivity and societies shaped by the lasting legacy of their enslavement and the markets they created.

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