Visualizing the Middle Passage: The *Brooks* and the Reality of Ship Crowding in the Transatlantic Slave Trade

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In January 1789, the Society for Effecting the Abolition of the Slave Trade (SEAST) published their famous diagram of the Liverpool slave ship *Brooks*, an image that has subsequently come to embody the African experience of the Middle Passage (Figure 1). Emerging from measurements taken by Parliament, the scale model included 470 men, women, and children packed together between the vessel's decks. The diagram captured the inhumanity of the slave trade better than reams of Parliamentary testimony and pamphlets. Realizing the *Brooks*' potential to spur their campaign, SEAST disseminated thousands of copies of the image in newspapers, magazines, books, pamphlets, and posters. The picture quickly traveled from Britain to France and the United States, where it both reflected and augmented a shift in attitudes toward the trade at a time when these three countries were together dispatching much more than one-half of all slaving vessels.[1]

The *Brooks* remains one of the most recognizable images in the history of print culture. In terms of its ability to embody a cause across linguistic boundaries, the poster belongs with the 1972 photograph of Phan Thi Kim Phúc, the nine-year old Vietnamese girl trying to escape a napalm attack, and Alberto Dias' photograph of Che Guevera. Its prominence has only grown with Britain's 2007 bicentennial of the Abolition Act, which featured it conspicuously in

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1   For the *Brooks* diagram's history, see Marcus Wood, "Imaging the Unspeakable and Speaking the Unimaginable: The 'Description' of the Slave Ship *Brookes*? and the Visual Interpretation of the Middle Passage," *Lumen*, XVI (1997), 211–45; Adam Hochschild, *Bury the Chains: Prophets and Rebels in the Fight to Free an Empire's Slaves* (Boston, 2006; orig. pub. 2005), 152–166; Marcus Rediker, *The Slave Ship: A Human History* (London, 2007), 308–342.

Fig. 1   Plan of the Brooks, 1787
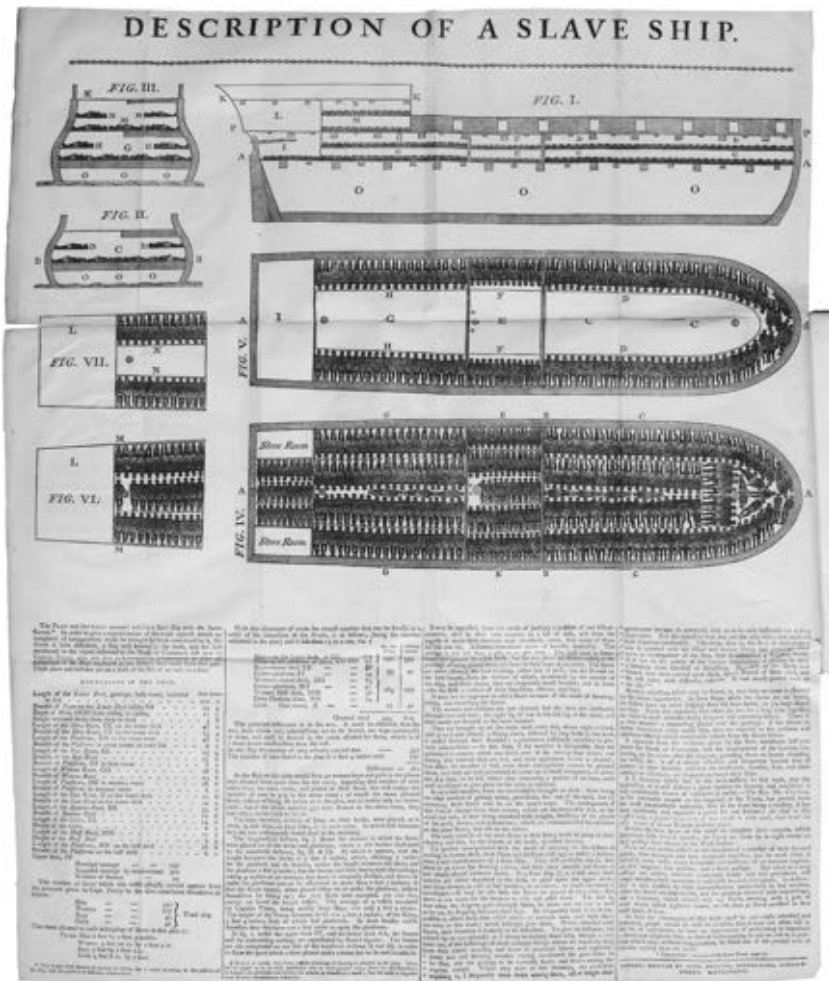
the commemorative Parliamentary Exhibition. When a full-scale outline of the image was recreated in several British cities, hundreds of people laid on the ground to replicate the *Brooks'* slave holds. The *Brooks* plan is also central to the permanent slave-trade exhibition in the Smithsonian's new African American Museum, and it is ubiquitous in

other museum galleries devoted to slavery throughout the world. Few histories fail to include it to represent the African experience of the Middle Passage. Copied endlessly in books, magazines, museum halls, art exhibits, television shows, and even t-shirts, the *Brooks* diagram remains, as Wood wrote even before the bicentennial celebrations, "the most famous, widely-reproduced, and widely-adapted image representing slave conditions on the middle passage ever made."[2]

Despite its fame and ubiquity, scholars did not begin to interrogate the *Brooks* diagram's long history until the last twenty years. Rediker, who studied the abolitionists' production and use of the image in his book, *The Slave Ship: A Human History* (which placed the diagram on its cover), suggests that the diagram "Ma[de] the slave ship real" and powerfully captured the "process by which human beings were reduced to property." Wood extensively explored the history of the image's production, its connection to other abolitionist art, and its subsequent proliferation in myriad forms down to the present day. Unlike Rediker, Wood critiqued the image's lack of African agency. The position of the African figures—"supine," to use his word—implies a passivity that scholars have demonstrated to be patently false. As Wood points out, modern viewers of the *Brooks* image seem "only too happy to accept this idealized version of a slave deck as the standard version of events." Although schematic and unrealistic, "it paradoxically seems to represent the truth, or at least a truth."[3]

This article builds on Wood's critique of the *Brooks* diagram's depiction of enslaved Africans by analyzing, for the first time, its version of "ship-crowding" during the Middle Passage. The diagram's original purpose was to reveal the close packing of enslaved

2   For the modern prominence of the *Brooks*, see Wood, *Blind Memory: Visual Representations of Slavery in England and America* (New York, 2000), 19–77; Jacqueline Francis, "The Brooks Slave Ship Icon: A 'Universal Symbol'?" *Slavery & Abolition*, XXX (2009), 327–338; Celeste-Marie Bernier, "'The Slave Ship Imprint': Representing the Body, Memory, and History in Contemporary African American and Black British Painting, Photography, and Installation Art," *Callaloo*, XXXVII (2014), 990–1022; "The *Brooks* - Visualizing the Transatlantic Slave Trade," *1807 Commemorated: The Abolition of the Slave Trade*, available at www.history.ac.uk/1807commemorated/exhibitions/museums/brookes.html; Cheryl Finley, *Committed to Memory: The Art of the Slave Ship Icon* (Princeton, 2018); Wood, *The Horrible Gift of Freedom: Atlantic Slavery and the Representation of Emancipation* (Athens, 2010), 267, 197–353.
3   Rediker, *Slave Ship*, 308–342. For the *Brooks*' lack of African agency, see Wood, "Significant Silence: Where Was Slave Agency in the Popular Imagery of 2007?" in Cora Kaplan and John Oldfield (eds.), *Imagining Transatlantic Slavery* (New York, 2010), 162–190; idem, "Significance Silence," 169.

people to "give the spectator," as abolitionist Thomas Clarkson later wrote, "an idea of the sufferings of the Africans in the Middle Passage." Using the diagram alongside the graphic testimony of numerous witnesses, abolitionists argued that ship crowding led directly to the deaths of enslaved Africans—an issue that has subsequently absorbed historians.[4]

This article does not intend to revisit the question of crowding's relationship to mortality. Instead, it identifies two major problems with the way that the *Brooks* image depicts ship crowding. First, the diagram misrepresents the African experience during the height of the slave trade between 1700 and 1788. It does not capture the degree to which enslaved people were crowded either on the *Brooks* or on the majority of other British slaving vessels during the eighteenth century. Second, in showing only a single British vessel during the eighteenth century, the *Brooks* diagram ignores the many forms of coerced transportation that enslaved Africans had to endure throughout the slave trade's nearly four-century history. The treatment of slaves during the first transatlantic voyages in the early sixteenth century differed sharply from those after 1807, and from the British- and French-dominated trade of the late eighteenth century—two trades that account for most of the scholarship about the transoceanic traffic of captive peoples.

This study illuminates those two issues through a comparison with other pictorial representations of ship crowding, a use of quantitative data, and the testimony of slave traders. The abolitionist authors of the *Brooks* diagram never intended it to be an accurate representation of ship crowding on the Middle Passage prior to 1789, when Parliament began regulating Britain's slave trade. Historians should certainly use the *Brooks* diagram to explain the abolitionist campaign's successful use of visual propaganda but not as

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4 Thomas Clarkson, *The History of the Rise, Progress, and Accomplishment of the Abolition of the African Slave-Trade, by the British Parliament* (London, 1808) II, 111. A vigorous debate about this issue extended over the final three decades of the last century, summarized and temporarily terminated by Herbert S. Klein, Stanley L. Engerman, Robin Haines, and Ralph Shlomowitz, "Transoceanic Mortality: The Slave Trade in Comparative Perspective," *William and Mary Quarterly*, LVIII (2001), 93–118. Nicolas Duquette, "Revealing the Relationship Between Ship Crowding and Slave Mortality," *Journal of Economic History*, LXXIV (2014), 535–552, recently revived the question by finding a relationship between slave mortality and crowding in the British slave trade before 1789.

a proxy for Africans' experience of the Middle Passage beyond a narrow period of Britain's slave trade, c.1789 to 1807.

Several other images are better portrayals of the changing shipboard conditions in the transatlantic slave trade over time and space. A case in point is the illustration of the French slave ship *Marie-Séraphique* (unearthed in 2005), which carried 307 enslaved people in 1769/70 (voyage ID in www.slavevoyages.org is 30910). Unlike the *Brooks*, which was produced by abolitionists, the skilled rendering of the *Marie-Séraphique* was apparently painted by two officers serving aboard the vessel who actually witnessed the crowding of slaves. Moreover, three nineteenth-century illustrations of ships from the slave trade's illegal era, post-1807, shine a brighter light on the variety of forced transport, as does information about practices during the earliest days of the slave trade. In the future, digital technologies hold out the promise of providing new ways to visualize the Middle Passage that do not rely solely on problematical contemporary images such as the *Brooks*.

THE BROOKS AND SHIP CROWDING IN THE LATE EIGHTEENTH-CENTURY BRITISH SLAVE TRADE   SEAST's campaign strategically focused on the crowding of enslaved Africans on the Middle Passage as a wedge issue amenable to quantitative data and brought to life by eyewitness testimony. According to Clarkson, it appeared "obvious" to SEAST that it should "select someone [sic] ship which had been engaged in the Slave Trade," draw a plan of the vessel "with her real dimensions," and then depict enslaved people trapped aboard. Because no member of the society could board a slave ship and draw it from life, SEAST relied on the forty-three measurements of the nine Liverpool vessels that naval Captain Robert Parrey had taken in June 1788 at Parliament's behest—all of which still had the demarcated "rooms" (as Parrey labeled them in his report) where the Africans were imprisoned between decks. Parliament tabulated Parrey's data and made it available to both abolitionists and slave traders for use in the subsequent debates. "At the top of [Parrey's] list," Clarkson wrote, "stood the ship *Brookes*" that SEAST selected as the subject of its diagram, thinking "it less objectionable to take the first [vessel] that came, than any other."[5]

5   The names *Brooks* and *Brookes* were used interchangeably. For consistency, this article opts for *Brooks*. For the selection of the *Brooks*, see Clarkson, *History*, II, 111–2. Of the eight other

Registers of Liverpool shipping, which detail the dimensions of 606 slaving vessels that conducted 2,083 voyages between 1782 and 1807, show that the *Brooks* was unusually large. The median slaving vessel measured 86 feet long and 24 feet wide, with a between-deck height of 5 feet, 2 inches. The *Brooks*, by contrast, had a deck height of 5 feet, 6 inches, and measured 99 feet, 8 inches, in length, by 26 feet, 7 inches, in width. Given its large size, the *Brooks* carried more than double the average of 259 people on British vessels before 1788 on its last four voyages. The selection of the *Brooks* may have forestalled accusations of bias, but it meant that the abolitionists' diagram showed an unusually large vessel with an unusually large number of African prisoners. Only the *Brooks*' ship rigging, quarterdeck and forecastle, and configuration of barriers to create temporary prisons for slaves reflected the typical British slaver.[6]

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vessels in Parrey's report, three were larger, and five were smaller. The *Brooks* depicted by the abolitionists was the second vessel to bear the name. The first, which was built in 1772, made two slaving voyages in 1775 (ID 92522) and 1777 (ID 92521). For the voyages of the second *Brooks*, see http://slavevoyages.org/voyages/aA02Tkz2. On a typical merchant vessel, the between-decks area was a space with cabins and storage rooms and a low ceiling. On a slave ship, carpenters knocked down the cabins and storerooms and erected horizontal "partitions" or "bulkheads" to create three separate "rooms"—the women's room, which ran from the mizzen mast to the mainmast; the boys' room; and the men's room, which terminated at the fore of the ship. Carpenters built the bulkheads out of wooden boards four inches thick, which were either a lattice work (like a prison gate) or solid; each partition had a door with a lock. See "Testimony of James Jones," in Sheila Lambert (ed.), *House of Commons Sessional Papers of the Eighteenth Century* [hereinafter *HCSP*] (Wilmington, 1975), LXVIII, 39–44. Parrey described this division in his report, and abolitionists used the same nomenclature to describe the *Brooks*. For Parrey's measurements, see "DIMENSIONS of the following Ships in the Port of Liverpool, employed in the African Slave Trade," in Lambert (ed.), *HCSP*, LXVIII, 6. The partitions below deck should not be confused with the "barricado," a wooden wall that divided the above-deck space at the main mast.

6   Prior to 1786, British official records included almost no information about the size of a vessel besides its tonnage, a figure that was manipulated by ship owners to save on customs fees. The 1786 Shipping and Navigation Act (26 Geo. III, c.60) mandated that ships had to be measured by an independent surveyor to calculate tonnage. Although these records for Bristol and London are lost, they are complete for Liverpool's merchant vessels sailing between 1786 and 1807, including its slavers. See Rupert C. Jarvis, "Liverpool Statutory Registers of British Merchant Ships," *Transactions of the Historic Society of Lancashire & Cheshire*, CV (1953), 107–122. We isolated the slave ships and cross-referenced their data, which are at the Merseyside Maritime Museum (C/EX/L/4), with slavevoyages.org/voyage/search. The registers cover 95 percent of Liverpool slaving voyages between 1787 and 1807 and 43 percent of voyages between 1782 and 1786. The coverage for the latter period is sparse because the only ships traceable were registered before and after 1786. We thank Stephen D. Behrendt for providing a database of the Liverpool ship registers that contained the measurement data.

SEAST did not want to depict a standard slave ship, however; they produced the diagram to serve its opposition to Parliament's desire to regulate, rather than abolish, the trade. In July 1788, Parliament had passed Sir William Dolben's bill, which limited the number of Africans that British slave ships could carry according to their tonnage. SEAST now had to produce a diagram that would convince the public of the "inhumanity" of a regulated slave trade. Hence, SEAST designed the diagram to show, as Clarkson explained, "how many persons" of particular heights and breadths could be hypothetically "stowed" in the *Brooks*, given enough room to lie on their backs "without trespassing upon the room allotted to the rest." An unknown artist working for SEAST's Plymouth committee loosely adapted Parrey's measurements in December 1788 to replicate the shape of the vessel using "crude rule of thumb proportions," as Wood describes. The resulting sketch was a basic deck plan—more like an outline—within which the artist drew 295 captives. The London committee improved the accuracy of this sketch by using Parrey's exact measurements and adding masts and "platforms" around the sides of the vessel, upon which enslaved people would have slept during the voyage. The two-dimensional London version lacked ropes, sails, toilets, gratings, and doors between rooms, and it had separate figures to show the vessel in cross-section.[7]

After drawing the captives, SEAST discovered that the *Brooks* could hold 470 Africans (190 men, 183 women, 70 boys, and 27 women). As Clarkson sardonically wrote, viewers of the diagram saw "the advantages of Sir William Dolben's bill" because "many, on looking at the plate, considered the regulation itself as perfect barbarism." But the *Brooks* had never carried that number of Africans on any of its previous voyages; it carried 650 people in 1782 (ID 80663), 619 in 1784 (ID 80664), 740 in 1785 (ID 80665), and 609 in 1787 (ID 80666). The diagram thus showed the number of slaves that Dolben's Act permitted the *Brooks* to carry, not the actual number of slaves carried on any of its four previous voyages.[8]

7   For the production of the *Brooks* diagram, see Clarkson, *History*, II, 111; Wood, *Blind Memory*, 26; for the Plymouth diagram, *Plan of an African Ship's Lower Deck with Negroes in the proportion of only One to a Ton* (Plymouth, 1789); for the London version, *Description of a Slave Ship* (London, 1789). Unless otherwise specified, this article refers to the London version.

8   Clarkson, *History*, II, 113, reports that enslaved men were depicted in spaces measuring 6 feet by 16 inches; women, 5 feet by 16 inches; boys, 5 feet by 14 inches; and girls, 4 feet,

SEAST simplified the images of the slaves to calculate how many identical people would fit into an outline of the vessel. The artist drew men, women, boys, and girls distinguished only by altering their heights by group, by adding breasts to the females, and by shackling the men's ankles and wrists. In addition to being identical in height, those within each age and gender group wear matching loin cloths and have the same appearance. Enslaved people would have differed markedly from the bodies depicted in the diagram. Although slave traders sought to purchase captives of a similar size and age, captives of the same gender and age group ranged in height by as much as a foot, had varying builds and hair styles, and (in the case of the men) were entirely naked. Moreover, none of the captives in the image appear to be sickly or maimed, as many captives would have become on the Middle Passage. The *Brooks* diagram bore only a passing resemblance to the vessel itself. Neither of the two SEAST artists had seen the ship, let alone its captives. The diagram is a pictorial representation of a table of measurements and human shapes—an acceptable methodology for drawing the schematic of a vessel but a flawed one for showing an actual slave ship.

Data from the Liverpool registers confirm that the diagram fails to capture ship crowding on British vessels prior to the passage of Dolben's Act in 1788 (for our method of calculating crowding, see Appendix 1). According to Parrey's report, the *Brooks* diagram showed slave decks measuring 3,349 square feet. Thus, the 470 captives depicted in the diagram each had an average of 7 feet, 2 inches, square. By comparison, the median degree of crowding on 251 voyages before 1789 was 6 feet, 4 inches, square; on only sixty-eight (27 percent) of those voyages were the captives less crowded than the diagram showed. On 114 of the 251 voyages (45 percent), captives were crammed into spaces measuring less than 6 square feet per person—"tight packing" in the grim parlance of the trade. These 114 included all four of the *Brooks'* voyages. Median crowding on 895 voyages between 1789 and 1799 was

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6 inches, by 12 inches. Dolben's Act (28 Geo. III, c.54) specified that British slave ships could carry five slaves for every three tons, to a limit of 201 tons, and one slave for every subsequent ton. The 320-ton *Brooks* could carry 454 slaves by law: $(201/3)/5+(320-201) = 454$. Some versions of the diagram more explicitly showed the vessel under Dolben's Act. See *Stowage of the British Slave Ship 'Brookes' Under the Regulated Slave Trade Act of 1788* (London[?], c.1789).

7 feet, 4 inches, square, almost exactly the conditions depicted in the diagram. Between 1800—when Parliament passed new regulations limiting the number of slaves that British ships could carry according to their dimensions rather than tonnage—and the trade's abolition in 1807, space per captive increased to 9 feet, 5 inches, square. The diagram thus depicts how 726,000 captives were transported aboard British vessels after 1788—the era of the regulated slave trade. But, it is revealing of the experiences of only a small fraction of the 2.5 million Africans transported on British ships in the unregulated era.

SEAST wrote a lengthy description beneath the diagram, fearing that that the schematic "Plans and Sections" of the *Brooks* alone "would appear rather a fiction, than a real representation of a slave ship." SEAST admitted that the *Brooks* had transported 609 people on its previous voyage (ID 80666), contrary to the 470 captives shown in the diagram. On that voyage, SEAST wrote, "the room allowed them, instead of being 16 inches as in the plan, was in reality only 10 inches." "The men," it added, "were placed, as is usual, in full ships, on their sides, or on each other." The text continued by describing the miseries that the Africans suffered in such crowded conditions—the "excessive heat" below deck, the "fluxes and fevers," and the suffocating atmosphere when the portholes had to be closed in bad weather.[9]

Modern users of the *Brooks* diagram typically display it without this accompanying text, isolating an image that even its creators knew to be deeply flawed. The diagram alone does not indicate the numbers of slaves that had been imprisoned on the *Brooks* on any of its voyages, nor the degree to which they were crowded together. But SEAST's strategy was more poetic license than simple obfuscation. Earmarking the *Brooks* diagram as a tool to convince the public that a regulated slave trade was "barbarism," it freely acknowledged the limitations of the image as a realistic visualization of the Middle Passage.[10]

THE MARIE–SÉRAPHIQUE AND THE REALITIES OF SHIP CROWDING DURING THE LATE EIGHTEENTH CENTURY   The *Brooks* diagram has seen extensive use, despite its evident flaws, because few other

9   *Description of a Slave Ship* (London, 1789).
10   Clarkson, *History*, II, 115.

contemporary images depict fully loaded slave ships during the trade's legal era—that is, until the image of the Nantes ship *Marie-Séraphique* (ID 30910) emerged in 2005, showing 307 enslaved people (189 men, 60 women, 49 boys, and 9 girls) imprisoned in the vessel on a voyage from Loango to Saint Domingue in 1769/70 (Figure 2). The drawing forms part of a larger painting that depicts the *Marie-Séraphique's* lower hold, upper hold, slave deck, and top deck in cross-section; the vessel anchored off Loango (Figure 3); and tables detailing the voyage's profits. The painting matches another image, discovered in 1893, of the *Marie-Séraphique* (ID 30968) in Saint Domingue during its 1772/3 voyage—the only extant picture of an American slave sale in the legal era of the transatlantic slave trade. A close inspection of the 2005 image reveals it to be the most accurate contemporary depiction of ship-board conditions in the transatlantic slave trade during the late eighteenth century, the era of the *Brooks*.[11]

The *Marie-Séraphique* better represents the generality of British and French slave ships in the second half of the eighteenth century than the large *Brooks* does. Built in Nantes and, unlike most slaving vessels, specifically for the slave trade, it launched in October 1764 under the name *Dannecourt*. The ship's layout was unremarkable; its two decks, forecastle, and quarterdeck were features common to most eighteenth-century slavers, including the *Brooks*. Unlike the three-masted, ship-rigged *Brooks*, however, the *Marie-Séraphique* was snow-rigged, meaning that it had only two masts—an unusual configuration that saved costs and increased speed. The ship was 1,637 square feet (67 feet by 24 feet, 5 inches) when measured as a rectangle, making it just 21 percent smaller than the 2,064 square feet typical of Liverpool slave ships at the time (1782–1807), and 38 percent smaller than the 2,650 square feet of the massive *Brooks*. The ship carried an average of 357 people during its six voyages to Africa; British vessels in the eighteenth century usually carried about 267 and French slavers close to the 325. By comparison, the *Brooks*

11 For images of other British slave ships, see Jane Webster, "'Success to the Dobson': Commemorative Artefacts Depicting 18th-Century British Slave Ships," *Post-Medieval Archaeology*, XLIX (2015), 72–98. For the *Marie-Séraphique's* voyages, see http://slavevoyages.org/voyages/VgGUpWdt. The two images of the *Marie-Séraphique* are complemented by a sailor's shaving bowl, with a further depiction of the vessel. Bernard Guillet, curator of the Nantes Musée d'Histoire where the *Marie-Séraphique* images hang, suggests that the 1893 image has been reproduced in almost 100 different volumes, most of them in French. Historians of the slave trade in France or the Anglophone world have yet to utilize the 2005 image to any extent, by contrast. See Bertrand Guillet, *la marie-séraphique navire négrier* (Nantes, 2010).

Fig. 2 Deck Plan of the *Marie-Séraphique*, 1770
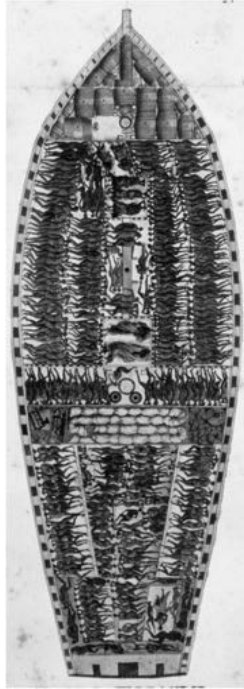
always carried more than double the average of British vessels. The *Marie-Séraphique* was slightly smaller than many contemporary slaving vessels and oddly configured, but it was otherwise representative of French slave ships sailing in the second half of the eighteenth century. It was also more typical of an eighteenth-century British slaving vessel than was the *Brooks*.[12]

12 *Dannecourt* undertook one slaving voyage (ID 30806) in 1765/66 before being sold in June 1769 to Jacques Gruel, a merchant who re-named the vessel after his wife Marie-Séraphique. After dispatching the *Marie-Séraphique* on four slaving voyages to Angola, Gruel sold it to a group of Nantes merchants in 1776, who outfitted it, now named *Sartine*, for a sixth and final slaving voyage (ID 31051). See Guillet, *la marie-séraphique*, 31–38. Information about the rig of French slaving vessels is not available in the TSTD. Of 7,597 British slaving voyages between 1701 and 1807, just 1,244 were snow ("snauw") rigged. Most (4,225) of them were ship-rigged, like the *Brooks*. See http://slavevoyages.org/voyages/guIxHdwP. Systematic data about the dimensions of French and British slave ships sailing before 1782 are not available because ship owners were not required to have their vessels measured to assess tonnage. For the dimensions of Liverpool slave

Although the 2005 diagram of the *Marie-Séraphique* is anonymous, the 1893 painting bears the signature of Jean-René L'Hermite, who served as second lieutenant on the voyage. By 1773, L'Hermite had worked his way through the ranks on four other slaving voyages, including the *Marie-Séraphique's* 1769/70 and 1770/1 expeditions; he likely had a hand in the painting of the 1769/70 voyage, too. Through a close comparison of the 2005 and 1893 images, Guillet, curator of the Nantes museum, contends, however, that the two portraits were not the work of L'Hermite alone. Guillet surmises that Jean-Baptist Fautrel-Gaugy, the *Marie-Séraphique's* captain, was probably the second artist. Fautrel-Gaugy had served as a slave-ship captain since 1765/6, a position that he would have earned as a junior officer on numerous other slavers. Tellingly, Fautrel-Gaugy was the scion of a family of accomplished Nantes artists, from whom he might have inherited the skills to capture the impressive detail and perspective that is evident in both the 2005 and 1893 images. Fautrel-Gaugy and L'Hermite might have spent their spare time aboard the vessel working on the paintings together, or they may have rendered them after the conclusion of the voyage. Regardless, the two men's work shows a level of skill that far exceeded that of the abolitionist draftsman who executed the *Brooks* diagram. Moreover, both men were well acquainted with the way that enslaved people were transported on the *Marie-Séraphique*—a vessel aboard which Fautrel-Gaugy and L'Hermite each spent 1,716 days between 1769 and 1775.[13]

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ships in the period, see appendix. For the average number of enslaved people carried by British slave ships, see http://slavevoyages.org/voyages/ORscp1u0; for French ships, http://slavevoyages.org/voyages/XLg0gTt9.

13   L'Hermite served as first lieutenant on the voyage of the *Marie-Séraphique* in 1773/4 (ID 31003), and then as second captain of the *Roi Negre* in 1776/7 (ID 31059), again with Fautrel-Gaugy. He was an officer on non-slaving vessels during the American Revolutionary War before his promotion to captain of the *Prince Noir* in 1783 (ID 31108). After 1785, he disappears from the historical record. For L'Hermite, see Guillet, *la marie-séraphique*, 11–12. Fautrel-Gaugy's first command was aboard the *Roi Guinguin* (ID 30789) in 1764. For Fautrel-Gaugy, see *ibid.*, 12, 45. The time that the two men spent aboard the *Marie-Séraphique* is based on the voyage lengths in http://slavevoyages.org/voyages/0dStmxUW. Why Fautrel-Gaugy and L'Hermite decided to draw the *Marie-Séraphique* is unclear. Gruel might have commissioned the works to commemorate his most valuable slaver, which also carried his wife's name; both images include tables recalling the voyages' financial successes. As a former resident of Saint Domingue, Gruel might also have kept the 1893 painting as a reminder of his home there. Regardless, Gruel appears to have kept the images of the *Marie-Séraphique* as mementos of his investment in a business that he clearly viewed as morally legitimate.

Fautrel-Gaugy's and L'Hermite's 2005 image of the *Marie-Séraphique's* slave deck contains all the features that a slave ship would have had at the time (Figure 2). The between-deck is divided into three different compartments: one for the men ahead of the mainmast, one for the boys amidships, and another, aft, for the women. This configuration of spaces, which the *Brooks* diagram also shows, was ubiquitous in the eighteenth-century slave trade. The forecastle of the *Marie-Séraphique*, which is sealed by a wooden wall, contains barrels, billets of wood, and a portion of the spritsail. Although this area appears to be reserved for the men on the *Brooks*, the use of the forecastle for storage was common. The base of the *Marie-Séraphique's* capstan runs across the middle of the men's area, forming an awkward wooden barrier across which some male slaves are slumped. The wooden walls within the room, demarcated by black and white checkered lines in the painting, do not run in clean perpendicular lines as they do in the *Brooks*; instead, they form two tight zones around hatches leading below deck—barriers that prevented the male slaves from breaking into the hold. The space between the men's and women's room is a mere five- or six-feet wide, whereas in the *Brooks* diagram, it appears to be wider and filled with enslaved boys. The narrowness of the *Marie-Séraphique*'s room is due to the storage of sails, ropes, and tools enclosed by bare walls on the men's side and by walls with doors on the women's side. Platforms jut from the side of the women's room but do not run to the aft of the vessel because of the cabinets and lockers located there; the men's room features no platforms at all. The *Marie-Séraphique* appears to have been a sailing vessel converted into a floating prison through the modification of the cluttered space between the decks, as contrasted to the empty spaces shown in the *Brooks* diagram.[14]

The *Marie-Séraphique* diagram accurately captures the complexities of a slave ship's between-deck, which crewmen altered to accommodate varying proportions of men, women, and children. Parrey's report reveals, for example, that Liverpool merchants adjusted the rooms and platforms to hold greater or smaller numbers

14 For slaves breaking into the hold through the hatchways, see "Testimony of Ecroyde Claxton," in Lambert (ed.), *HCSP*, LXXXII, 36; "Testimony of James Arnold," *ibid.*, LXIX, 133.

of men or women depending on a vessel's destination in Africa. One of the vessels from the Windward Coast, where captains bought significant numbers of enslaved males, had platforms in the men's and boys' room but not in the women's room. However, one of the vessels returning from the Bight of Biafra, where captains expected to purchase large numbers of females, had platforms only in the women's room. The *Marie-Séraphique's* outfitters may have adapted the ship to imprison more women than men, but, more likely, the lack of platforms in the men's room was a result of its low ceiling, which made platforms impracticable. As Liverpool captain Robert Norris told Parliament, "It is sometimes is the Case [sic], that there is only a Platform in the Women's Room" because a "Break in the Deck" made the "Men's Room lower, and no Platform." The configuration described by Norris is clear in the 1893 image of the *Marie-Séraphique*, which shows the women's room to have a higher ceiling than the men's room. Moreover, the cluttered aft section of the women's room, as shown in the *Marie-Séraphique* image, likely prevented the construction of platforms, another regular feature of other slave ships.[15]

Fautrel-Gaugy and L'Hermite depicted their African prisoners in remarkable detail. The male slaves appear, as they would have been on the vessel, completely naked, their right leg joined to the left leg of another man by a bar-like shackle. The women wear checkered blue loincloths and no shackles. Most of the captives lie in parallel rows, as in the *Brooks* diagram, because, as numerous witnesses described, whip-bearing crewmen led the Africans below deck in long lines from the main deck every night and then forced them into position. The 307 captives are shown to occupy just 6 feet, 3 inches, square, per person, within an inch of the average crowding on Liverpool voyages between 1782 and 1788 (median=6 feet, 4 inches). Unlike the supine rows of slaves in the *Brooks* image, the captives on the *Marie-Séraphique* are pressed side by side against their neighbors—"locked spoonways," as the

15   For Parrey's measurements, see *ibid.*, LXVII, 6. Parrey noted that three others vessels that he had not measured precisely were "fitted in the same manner" as the ships from the Windward Coast and Biafra, implying that the addition or removal of platforms from particular rooms was a common practice. For vessels without platforms or with platforms only in certain rooms, see "Testimony of John Matthews," *ibid.*, LXVIII, 19; "Testimony of William Littleton," *ibid.*, LXVIII, 224; "Testimony of James Towne," *ibid.*, LXXXII, 19; "Testimony of Robert Norris, *ibid.*, LXVIII, 17.

Brooks' surgeon described before Parliament. Moreover, individual captives are packed into the small spaces where rows of them could not fit, such as around the capstan, on the edges of walls, and even atop ledges. Almost all of the captives lie on their right side—a position thought "preferable for the action of the heart," as one nineteenth-century slave-ship sailor put it—with their right arm pinioned beneath those of their neighbor and their left arm deployed as a pillow stretched above their head or draped across their chest. Though in rows, they look like people in a crowded prison, with their legs, arms, and heads tangled together and their bodies stretched uncomfortably across wooden beams or crammed into corners.[16]

The depiction of the individual slaves on the *Marie-Séraphique* is truer to life than that in the schematic *Brooks* image. Unlike the clones in the *Brooks* picture, the slaves in the *Marie-Séraphique* differ in height, build, and appearance. In the men's room, tall male captives occupy the widest sides of the vessel, whereas the small teenagers and boys are pressed into the smaller intervening spaces, likely as the crewmen assigned them. The women sleep atop cabinets, shelves, and narrow ledges, their heads and bodies emerging from the bottom of the platforms in a disorderly fashion. Some women are wearing beads around their ankles, and others have changed their loin cloth into a long cloth wrap that runs from

16   The deck area for the slaves aboard the *Marie-Seraphique* was calculated by taking the horizontal area of her rooms (1,637 feet square) and adjusting for the platforms in the women's room, which measured 23 feet by 6 feet on either side of the room. The platforms increased the deck area by 276 feet square, bringing the total area to 1,913 feet square. Both slave-ship logbooks and numerous slave traders who appeared before Parliament confirmed that enslaved Africans were on deck during the day on British and French ships in the eighteenth century. Naturalist Henry Smeathman, who visited a British slave ship in the 1770s, gives the best description of how enslaved people were then sent below at the end of the day: The male slaves were "taken off by ones and two's," and the officers examined the shackles of each pair of men before sending them through the hatch below. "One couple examined and gone down, another is taken off." See Henry Smeathman (ed. Deirdre Coleman), "Oeconomy of a Slave Ship," in Brycchan Carey and Peter J. Kitson (eds.), *Slavery and the Cultures of Abolition: Essays Marking the Bicentennial of the British Abolition Act of 1807* (Rochester, 2007), 146. A former slave-ship captain wrote that when the slaves were below, a "white man sent down among the men la[id] them" in "rows to the greatest advantage." See John Newton, *Thoughts on the African Slave Trade* (London, 1788), 34. Another former slave-ship officer told Parliament that he "adjust[ed] their arms and legs, and prescribe[d] a fixed place for each." See "Testimony of William James," in Lambert (ed.), *HCSP*, LXIX, 137. For the *Brooks*' surgeon, see "Testimony of Thomas Trotter," in *ibid.*, LXXIII, 83–84. Brantz Mayer, *Captain Canot; or, Twenty Years of an African Slaver . . .* (London, 1854), 104.

navel to knees. One woman in a long piece of cloth fashioned into a skirt nurses a baby at her breast; Europeans often purchased mothers and their infants and even pregnant women who gave birth aboard. Another woman rests on a narrow ledge above the nursing woman's head, a small child at her feet—perhaps her daughter; a neighbor hangs her legs over the same ledge. Seven captives wrapped in blue cloths lie in agony within the walled-in hatchways—the sickly captives whom the crew tried to quarantine from their shipmates.[17]

The accompanying views of the *Marie-Séraphique*'s upper decks and hold, and of the ship at anchor in Africa include additional details that shed further light on the slaves' experiences, especially the crew's concerted efforts to prevent insurrections (Figures 2 and 3). Wooden water barrels fill the hold, each fixed in place by billets of wood that were used to cook the slaves' twice-daily meals in a boiler aft of the mainmast; the beans, rice, manioc flour, and bread are depicted in storage compartments in the aft of the hold. Imprisoned in the *Marie-Séraphique*'s between-decks throughout the night, the captives would have heard the water sloshing in the barrels below, as well as the rats scurrying among the food and water. In fair weather, the crewmen would have brought the captives onto the main deck in the morning through thick iron-grated hatchways—one of which is shown open in the diagram of the above-deck. The above-deck on the *Marie-Séraphique* was not an empty space, as it was on the *Brooks*, but rather an area filled with water barrels, food, trade goods, caged livestock, and the winches and pulleys needed to work the ship. Iron rings along the edges of the gratings mark where two long "deck-chains" would have run across the length of the foredeck. The crew would have locked enslaved men into the chain as soon as they were brought on deck, keeping them confined between the barrels to the side and the high, wide wooden barrier

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17 Canot stated that when he personally packed captives, "Attention [was] paid to size, the taller being selected for the greatest breadth of the vessel, while the shorter and younger [were] lodged near the bows." See Mayer, *Captain Canot*, 104. For the wearing of cloth and beads by enslaved women and children, see Henry Smeathman's Journal Book, December 17, 1771, D.26, No.3, Uppsala University Library; for the use of walled-off sick bays, Lambert (ed.), *HCSP*, LXIX, 35; "Testimony of Robert Norris," *ibid.*, LXVIII, 5; "Testimony of Archibald Dalzell," *ibid.*, LXIX, 121; for the covering of sickly slaves with cloth, "Testimony of Ecroyde Claxton," *ibid.*, LXXXII, 33.

amidships, called the barricado, shown in the 1893 image—a measure designed to forestall insurrection. Although the smaller number of women would have had more room on the quarter-deck and would not have been chained, they would have been crowded by the crew of forty-one men, almost all of whom stayed behind the barricado in case the men on the other side staged a rebellion. As the artists' view of the vessel standing offshore at Loango shows, the *Marie-Séraphique's* deck, with its 307 slaves, would have been oppressively congested. The captives appear in the image as a dense crush of people that must have swayed and surged with the rolling of the vessel, their heads just showing over the gunwales, shielded from the sun by two large sails.[18]

The numerous images of the *Marie-Séraphique*—most likely painted from life—thus capture the vessel and her slaves with a level of detail and complexity that far exceeds that of the simplistic *Brooks* diagram. By including images of the different levels of the vessel and a view of her at anchor, the artists convey a sense of the *Marie-Séraphique* as a functioning slave ship packed tightly with hundreds of individuals. Although the *Marie-Séraphique* diagram depicts enslaved people "supine," as Wood suggests for the *Brooks*, it includes myriad details that reveal the vessel as a true floating prison.[19]

SHIP CROWDING BEFORE AND AFTER THE EIGHTEENTH CENTURY
The transatlantic slave trade had existed for 250 years before the *Marie-Séraphique* was rendered for posterity, and it continued under vastly different conditions until 1867. No illustrations of slaves

18 For provision compartments, see "Testimony of John Knox," in Lambert (ed.), *HCSP*, LXVIII, 90; for rats and mice on slave ships gnawing "through the provision and water barrels," Pieter Gallandat (trans. Lieneke Timpers), *Necessary Instructions for the Slave Traders* (Middelburg, 1769); for the bringing of slaves above deck and their imprisonment in "deck chains," Newton, *Thoughts*, 15. Smeathman (ed. Coleman), "Oeconomy of a Slave Ship," 141–142, reports that just three of the crew were before the barricado at any one time; "otherwise the men slaves might seize half the crew on the sudden, and soon become masters of the vessel." He added that the quarterdeck of the slave ship *Africa* that he visited (ID 91495) was "so crowded" with the women, children, and crewmen that there was barely "room to pass." See Henry Smeathman's Journal Book, December 17, 1771, D.26, No.3, Uppsala University Library.
19 Although the 2005 image is a more accurate depiction of shipboard conditions than the *Brooks*, it does not fully capture the crowding of the Africans on the *Marie-Séraphique* because the captives had less space, sometimes much less, on her other five voyages. The space per slave on the *Marie-Seraphique*'s six voyages was 5 square feet per person in 1765/6 (ID 30806); 6 feet, 3 inches, in 1769/70 (ID 30910); 6 feet in 1770/71 (ID 90941); 5 feet, 7 inches, in 1772/3 (ID 30968); 5 feet, 2 inches, in 1773/4 (ID 31003); and just 4 feet, 6 inches, in 1776/7 (ID 31051).

Fig. 3   The *Marie-Séraphique* off Loango, 1773
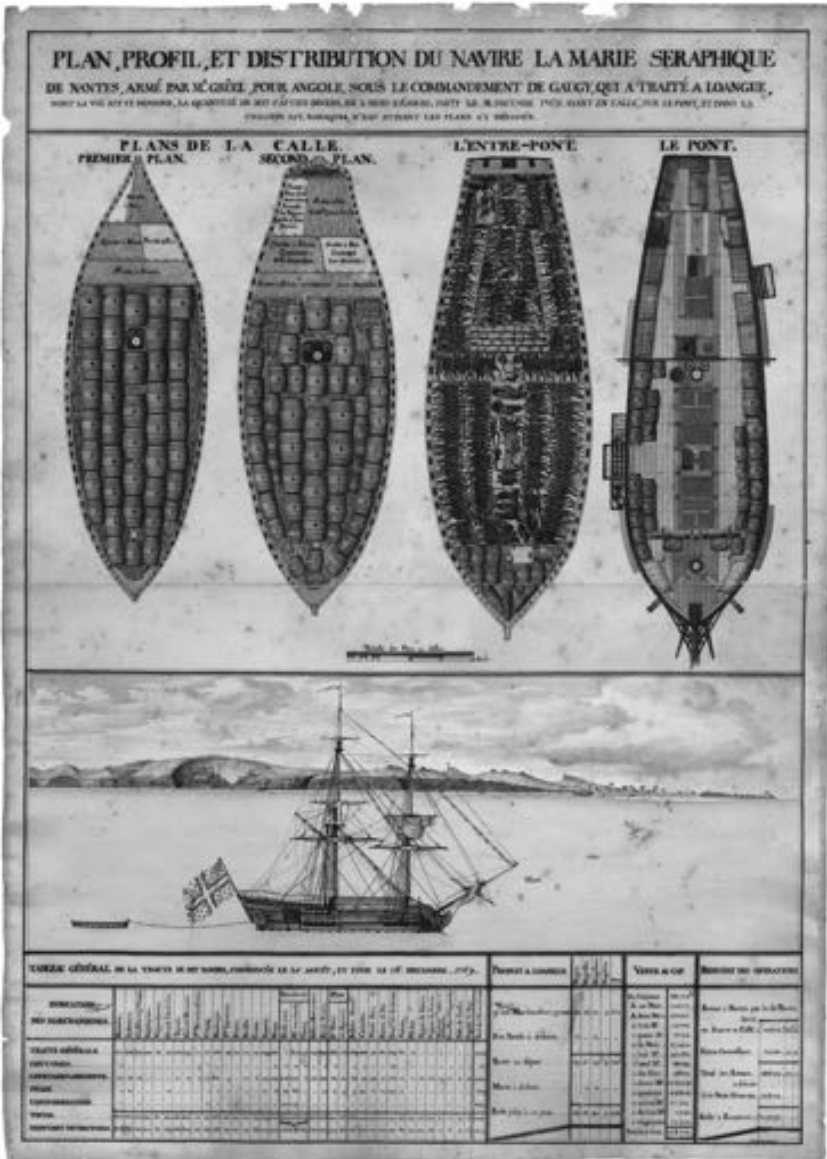
aboard ships before the eighteenth century appear to have survived; the earliest one is a 1741 *ex voto* painting of the La Rochelle slave ship *Le Saphir* (ID 32119). But the first transatlantic captives must have traveled under conditions that their successors could not have imagined. Wheat and Eagle recently collected data for almost 100 ships that arrived in Puerto Rico directly from Africa between 1520 and 1540. On average, they carried just sixteen slaves. Such ships would have been galleons or carracks with high forecastles and the mix of square and lateen sails not markedly different from the Portuguese vessels that sailed the Pacific and Indian Oceans. They would have set out from the Iberian Peninsula carrying European merchandise and Spanish migrants before picking up slaves—all originally from Upper Guinea—in the Canary Islands. With crews and immigrants greatly outnumbering them, male slaves might have traveled in conditions not radically different from those of free migrants barring, perhaps, shackles.[20]

By the mid-1550s, the average number of slaves onboard began to match those on the *Marie-Seraphique* and *Brooks*, though the trade was by no means the same. The original Atlantic slave traders, mainly Portuguese, maintained a system in which, prior to embarkation, slaves were gathered and partially housed on shore in fortified locations. Vessels could spend a year or more on the African coast, frequently with few slaves onboard, if not totally empty. Ships did not take slaves aboard until they had reached their full "complement," which would normally be just prior to departure. On islands and in coastal settlements, the Portuguese created a secure environment in which to trade and hold captives for extended periods of time. No other European power was able to achieve such security outside the walls of its forts, which were located primarily on the Gold Coast and in the Bight of Benin. In the extensive French, Dutch, and English slave trades in the Bights and north of the Congo River, the vessels were the trading platform;

20   Jean-Michel Deveau, *La traite rochelaise* (Paris, 2009), 132. In the 1550s, detailed records of two large transatlantic vessels suggest that each disembarked more than 100 slaves in Hispaniola and Vera Cruz, respectively. But on arrival, the ships were also found to be carrying large volumes of wine and olive oil, as well as a wide range of manufactured goods. See Marc Eagle and David Wheat, "The Early Iberian Slave Trade to the Spanish Caribbean, 1500–1580," in Alex Borucki, Eltis, and Wheat (eds.), *From the Galleons to the Highlands: Slave Trade Routes in the Spanish Americas* (Albuquerque, forthcoming). We thank the authors for access to these data prior to their publication.

their captains interacted directly with African suppliers. No shipboard trade at a single African embarkation point matched the 2.8 million slaves that left from Luanda—the hub of the Portuguese slave trade. This Portuguese advantage is one of the largely unexplored factors explaining why they dominated every era of the Euro-American slave trade until the last half of the eighteenth and, for most of the, nineteenth century.[21]

The slaves subjected to the Portuguese transatlantic system underwent two fundamentally different experiences from those taken away in the French, Dutch, and English systems. First, they spent less time onboard a slave ship, and, second, they spent less time at sea. A French, British, and Dutch slaver between 1640 and 1807 typically received its first captive eighty days after leaving home port. Accumulating a full complement of captives took another 140 days, and the transatlantic passage added 73 days. Another week often elapsed prior to sale of the captives in the Americas. Hence, the first captives purchased generally entered an almost empty vessel, where they spent a mean of seven months. Ships then became increasingly crowded as the captain continued to purchase enslaved people for the next several months. Severe crowding below decks usually began two or three weeks before departure, when captains "shove[d] in" groups of slaves to "make up" the ships' "compliment" [sic], as one British officer candidly described.[22]

Precise data for Portuguese vessels are lacking, given that their time of arrival on the African coast does not correlate well with the date when slaves first came aboard. But, in the light of the above evidence, captives would likely have boarded a vessel together and immediately been crushed together. So far as time at sea is concerned, Portuguese slave ships brought their cargo to Brazil, the part of the Americas that was closest to Africa. Their British, French, and Dutch counterparts faced voyages that took, on average, 50 percent longer to reach their major markets in the Caribbean than did the

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21   Eltis, "Iberian Dominance and the Intrusion of the Northern Europeans: Slave Trading as a Result of Economic Growth?" (*Almanack*, forthcoming) and the sources cited therein. Of the northern European slave-trading systems, the small Danish traffic came closest to replicating the Portuguese.

22   For the crowding of slaves prior to the departure of British vessels from the African coast, see Captain William Thoburn to Richard Miles, Annamaboe, October 22, 1776, T70/1534, The National Archives, United Kingdom (hereinafter, TNAUK); James Field Stanfield, *Observations on a Guinea Voyage, In a Series of Letters Addressed to the Rev. Thomas Clarkson* (London, 1788), 32.

Portuguese voyages to Brazil—in every quarter-century between 1676 and 1807. Africans would consequently endure ship crowding aboard Portuguese vessels for less than two months. Luso-African slave traders were well aware of the shorter voyage times and, as Miller writes, "cram[med] as many slaves as possible between decks." Their counterparts in the British and French trades endured both longer periods aboard vessels on the African coast, where they became increasingly crowded as the ship filled with prisoners, and then much longer voyages on those packed vessels across the Atlantic.[23]

How different was the slave experience aboard these Portuguese vessels from that shown in the *Brooks* and *Marie-Seraphique* diagrams? Both images show a key feature on eighteenth-century slave ships—a barricado at midship allowing the crew to feed the entire human cargo on deck during the day. Remarkably, historians have not interrogated when slave traders began to employ the barricado, but no evidence supports its use in either the Portuguese trade or in the pre-1700 slave trades of other nations. Sandoval, who collected information from hundreds of Africans in early seventeenth-century Cartagena, wrote what is probably the best ethnological treatise about early modern Africa, including a description of the conditions aboard the slave ships. According to Sandoval, slaves were chained together and "locked in the hold and closed off from both the sun and the moon," lying "with one person's head at another person's feet." Scholars interpret him to mean that adult males were held below deck throughout the voyage, although an abundance of evidence for the eighteenth century contradicts this notion with the important exception of the Portuguese trade. In his extensive examination of the eighteenth- and nineteenth-century Portuguese slave trade, for example, Miller noted that captives were tightly packed below deck and segregated by sex. The crew brought up "small lots of ten or so slaves on deck for feeding" during the day but "not all slaves enjoyed even this modest relief, since the clutter on the deck of many ships left no room for feeding above board." Apparently, Portuguese slavers did not require a barricado because they had less to fear from revolt,

23   For middle-passage times by broad region of disembarkation, see http://slavevoyages. org/voyages/FdFBrwz5, table tab5; Joseph Miller, *Way of Death: Merchant Capitalism and the Angolan Slave Trade, 1730–1830* (Madison, 1988), 336, 406.

given that the captives were brought on deck only in small groups. Hence, the images of the *Brooks*, and even of the *Marie-Séraphique*, have limited value in depicting the Africans' experience in the Portuguese slave trade or, for that matter, in the British or French slave trade before the eighteenth century.[24]

The illegal phase of the trade after 1807 introduced even more variety into the shipping practices of the slave trade. As British naval patrols gradually extended their blockade of the African coast, the Portuguese strategy of holding slaves on land prior to embarkation became the *only* feasible method of shipping slaves. Accordingly, that strategy became a device for avoiding the attentions of British naval vessels that, at least until the inclusion of "equipment clauses" in anti–slave-trade treaties in the 1830s, could detain a slave ship only if it had captives on board. Moreover, both improved ship design and British deployment of its anti–slave-trade squadron forced slave traders to employ faster vessels to outrun naval cruisers and to transport what they saw as high-value "perishable" human cargoes as quickly as possible. Rapid development of shipping technology culminated in the employment of yacht- or clipper-type and, later, steam-powered vessels. Just as today, the ratio of sail to hull, as well as the shape of the hull, determined speed. Compared to the *Marie-Séraphique* and the *Brooks*, slave-ship hulls from the 1810s onward had a straighter profile, fewer decks, a sharper entry into the water, and raked masts that supported a greater sail area.[25]

24 Alonso de Sandoval (ed. and trans. Nicole von Germeten), *Treatise on Slavery Selections from De instauranda aethiopum salute* (Indianapolis, 2008), 56–57; Miller, *Way of Death*, 412–413. Captains James Barbot and Thomas Phillips describe the segregation of the sexes and the bringing of slaves on deck during the late seventeenth century, but neither explicitly describes the use of a barricado. See Awnsham Churchill, *A Collection of Voyages and Travels . . .* (London, 1745), II, 546; Thomas Phillips, *A Journal of a Voyage Made in the Hannibal of London, Ann. 1693, 1694, . . .* (Walthoe, 1732), 229. The earliest specific reference to such a structure is in John Atkins, *A Voyage to Guinea, Brasil and the West Indies . . .* (London, 1735), 173, describing voyages made in 1720/1.

25 For an assessment of improved sailing ship performance in this era, see Morgan Kelly and Cormac Ó Gráda, "Speed under Sail, 1750–1850," unpub. paper (Univ. College Dublin, 2014), available at http://www.ucd.ie/t4cms/WP14_10.pdf. For changes in techniques for shipping slaves during the illegal era, see Hugh Thomas, *The Slave Trade: The History of the Atlantic Slave Trade, 1440–1870* (New York, 1997), 561–785. Changes in slave-ship design are particularly visible in images of naval cruisers interdicting captured vessels. See, for example http://slavevoyages.org/resources/images/category/ Vessels.

These myriad changes in shipping practices during the illegal era, both to maximize profits and avoid naval interdiction, introduced enormous variety into the transport, and thus the experiences, of captives. For example, between 1816 and 1850, slaves went from Africa to Brazil in ten open launches, most of them confirmed as arriving successfully, marking a radically different experience for them from that of the millions of captives on such multi-decked ships as the *Brooks*. Slave traders in the illegal era also packed captives into remarkably small spaces that dramatically altered the African experience of the Atlantic crossing for the worse. In 1842, a 29-ton vessel (ID 3175) bound from Ambriz to Brazil had 127 captives—more than half of them children. The height between water casks and the underside of the deck was just one foot, two inches; "one half of the slaves were obliged always to be on deck where they were so confined that every foot of the deck was occupied, while the reminder below were squeezed to excess." The *Veloz* (ID 1126), detained on its way to Brazil in 1829, had 562 people packed into a space measuring just 1,088 square feet, providing each captive a mere 2 feet square—less than one-third of the space allocated to the *Marie-Seraphique's* prisoners on its 1769/70 voyage. According to a Briton who boarded the vessel, the slaves "sat between each other's legs" below deck and were "stowed so close together, that there was no possibility of their lying down, or at all changing their position, by night or day." Remarkably, the 3 feet, 3 inches, between the *Veloz's* low decks—just over half the height of the *Brooks'* deck—was high by the standards of other illegal slavers. On the *Aerostatica* (ID 2854), a Spanish–flagged vessel destined for Cuba in 1829, for example, 108 "boys and girls" were packed into a hold just 22 inches high. The officer who forced the children below deck described them as like "sardines in a can."[26]

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26 For cases of the illegal traffic, see http://slavevoyages.org/voyages/sse2CNIZ. The most spectacular case set out from Freetown, the command center of British efforts to suppress the traffic. Five sailors from a recently condemned slave ship stole a boat belonging to the Mixed Commission Court and, as the British Commissary judge related, "pulled up to the Rio Pongo where they either kidnapped or purchased five or six slaves, with whom in an open Boat about 28 or 30 feet long they started for Brazil and arrived there in safety." See James Hook, Sierra Leone, to Lord Palmerston, November 11, 1849, FO84/752, TNAUK. For the unnamed 29-ton vessel, Admiralty to Lord Aberdeen, Sept. 15, 1842 (enc.), FO84/441, TNAUK; for the *Veloz*, R. Walsh, *Notices of Brazil in 1828 and 1829* (London, 1830), II, 478–494. The naval officers who accompanied Walsh told him that other detained vessels had decks just eighteen inches high, "so that the unfortunate beings could not turn round, or even on their sides, the elevation being
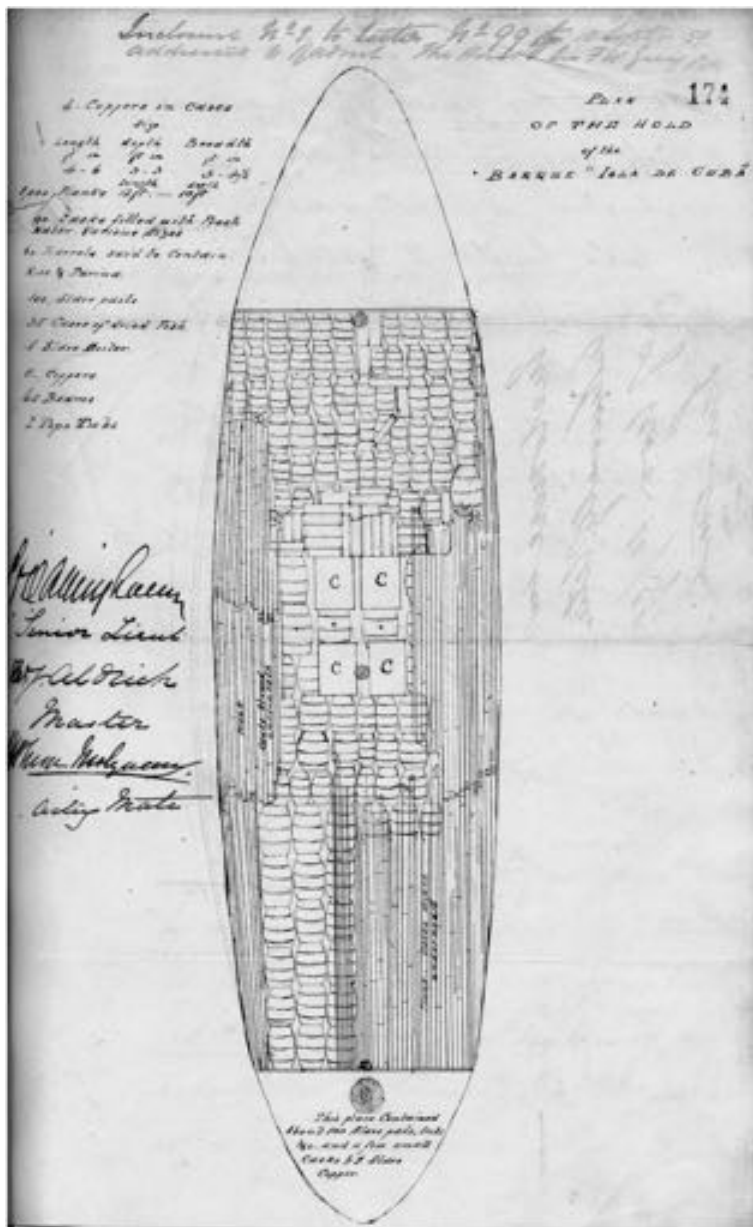
Conversely, the adaptation of large cargo ships for use as illegal slavers meant that some captives were forced across the Atlantic in relatively spacious vessels during the illegal era. The *Orion* (ID 4807) had, according to the arresting officer in 1857, "the finest slave deck I have ever seen being about 8 feet in height and clear fore and aft." In addition, blockades by the British squadron had forced it to leave the coast with only two-thirds of its intended captives on board. Two years later, the *Manuela* (ID 46907) had seven feet headspace on the slave deck, which was also "well-ventilated." Both the *Orion* and *Manuela* were clipper-type ships in 600-to-700–ton range, no doubt hurriedly converted from cargo to slave use; one of them had been intended for the China trade. The twenty-three steam-powered slave ships in the voyages database, averaging 361 tons, disembarked, on average, 1,004 captives; such was slave trading in the industrial era.[27]

Although it is impossible to capture this variety in shipping practices visually, a comparison of the *Brooks* and *Marie-Seraphique* images with three others provides some sense of the differing conditions of the slaves. Slave vessels had never been large by transoceanic sailing-ship standards. But in the quarter-century after 1820, the average standardized tonnage of a slave ship declined by 23 percent. Slave traders not only abandoned the barricado; some even abandoned slave decks after treaties allowing detentions based on the presence of slave trading equipment, such as slave decks and excess water casks, came into effect. Figure 4 shows a plan of the hold of the *Isla de Cuba* (ID 4961) on its 1859 voyage, displaying the barrels of water and provisions that occupied most of the space in a slave ship. It is similar to the first panel in Figure 2 showing the *Marie-Séraphique* nearly a century earlier, though in this figure, the slave deck is in the form of planks stacked either side of the hold, ready to be laid over the barrels. Attempting to escape a conviction for slave trading, the captain

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less than the breadth of their shoulders." Walsh included a diagram of the *Veloz*, but his depiction of the captives is as schematic as that of the *Brooks*. For *Aerostatico*, see Mayer, *Captain Canot*, 74. The slave decks for twenty vessels, including all of the cases mentioned in this and the next paragraph, had an average height of 3 feet, 7 inches (data available from the authors). The sample, however, is not random, given that observers were more likely to record extreme cases, most of which would have been at the low end. By comparison, the average for Liverpool vessels sailing between 1782 and 1807 was 5 feet, 2 inches.

27   For the *Orion*, see Admiralty to Lord John Russell, March 13, 1860, enc. Lt. Simpson to Capt. Courtenay, Dec 1, 1859, FO84/1123, TNAUK; for the *Manuela*, Michael R. Bouquet, "The Capture of the 'Sunny South' Slaver," *History Today*, X (1960), 573–578.

Fig. 4 Plan of the Hold of the barque Isla de Cuba, 1859

argued in a U.S. court that the planks were intended for sale on the African coast rather than for use as a slave deck, and that the barrels of water were for ballast only.[28]

A similarly sketched plan of the hold of the ironically named *Legítimo Africano* (ID 3049), detained in 1835—not shown here—shows a 50-ton vessel without a slave deck (or the planks to make one) built for speed. Yet it carried 190 people in an area of 400 square feet and with a deck height of just 1 foot, 8 inches. How was this scheme possible? Instead of a deck, the captain formed a makeshift platform by filling the spaces between the casks with bags of provisions. What allowed him to do so was the fact that all but one of the 190 people on board were children. Such a pattern meant a dramatic reduction in security costs. The British found an identical below-deck environment on the 45-ton *Jesus Maria* (ID 2071), onboard which only 5 of the 246 surviving Africans were adults—all, unsurprisingly, women. Naval officers reported at least a dozen such cases after 1835 describing sand ballast, firewood, or hides filling the spaces between casks. Scholars have addressed the issue of children in the slave trade by focusing on shifting cultural patterns within Africa, especially the large regional and ethnic variations in child ratios there. However, the jump in the proportion of children carried from all regions in the nineteenth century was most likely, at least in part, a response by slave traders to naval activity.[29]

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28 "Return of Slavers Cruizing on the West Coast of Africa waiting for an opportunity to ship; vessels supposed to have shipped, and Slavers whose arrival is daily expected," February to July, 1859, FO84/1100, ff. 93, 174, 242–245, TNAUK; John Harris, *Pirates of New York: The American Slave Trade In The Age of Antislavery* (New Haven, forthcoming). We thank Harris for drawing our attention to the *Isla de Cuba* case. We do not include the well-known image of the *Vigilante* (ID 2734) from 1822. The unknown draftsman populated the vessel with images of Africans copied directly from the famous *Brooks'* poster except that their distribution is limited to midship. As a guide to how Africans traveled on a slave vessel, the published image was just as misleading as that of the *Brooks*. Nevertheless, the *Vigilante*'s sketch became accepted as authentic. As late as 1848, *The Illustrated London News* re-published the drawing, without attribution, as representative of the conditions then existing in the slave trade (vol. 13, 26 April 1848, 123). Thus, the *Brooks* continued to dominate public perceptions of the slave trade in the last years of the traffic, just as it does today.

29 Papers of Sir Thomas Fowell Buxton, vol. 27, loose sheet, Bodleian Library, Oxford (hereinafter BL); "Report of the Case of the Portuguese schooner 'Legitimo Africano,'" FO84/169, ff. 67–75, TNAUK. For the *Jesus Maria*, see Admiralty to Palmerston, March 31, 1840 (enc.), FO84/383, TNAUK; J. Kennedy and C. J. Dalrymple to Lord Palmerston, Jan. 20, 1841, FO313/18, TNAUK. For vessels lacking slave decks, see the sources for the following IDs: 2097, 3466, 3458, 3483, 3484, 3629, 3689, 4057, 4072, 4073, 4082, and 4940; for hides

Francis Meynell's painting of the slave hold of the *Albanez* (ID 3483) shortly after its interception in the Congo River in 1845 captures how Africans may have been transported in vessels lacking a fixed slave deck (Figure 5). Meynell is probably sitting on the forward stairs looking aft; the Africans are visible on the casks. Frequently reproduced, this image is certainly authentic—in this respect, matching the drawing of the *Marie-Séraphique*. The painting was not meant to display conditions on the Middle Passage because the apprehending cruiser, *HMS Albatross*, had taken on-board many of the captives before the long voyage to adjudication in Freetown. Thus, viewers see the real below-decks of a slaver, but only some of the captives. Nonetheless, the image evocatively captures the chaos of a dimly lit hold of an illegal slaver. Africans are spread uncomfortably across the tops of barrels, on mats, and on bare wooden hoops; one captive sits on a latrine in the fore-ground, wrapping himself with his arms. Other slaves are perched above the barrels, lying on wooden beams, some of them with legs dangling over the ledge. The platforms running along the vessel's side on which many more captives huddle together are one of the only features in common with the *Brooks* and the *Marie-Seraphique*. The light from the ceiling illuminates only the captives in the center of the image. Such is the way in which the Africans would have experienced the Middle Passage during the day, packed below deck onto whatever few inches of space they could find.

Whereas the *Albanez* offers some sense of the hold of an illegal slaver, the recently unearthed painting of the *Diligente* (Figure 6) re-veals the sheer mass of humanity that slave traders forced into their vessels. The *Diligente* (ID 2588), a 174-ton brig, is depicted leaning slightly toward the painter. It carried 475 Africans—survivors of the 520 who embarked at Lagos. Detained on its way to Cuba in 1838 by HMS *Pearl*, the *Diligente* provides, at first glance, the most accurate depiction of the fair-weather, day-time experience of

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being used to create a slave deck, Charlotte Pilkington, Rio de Janeiro, September 23, 1840, in "Papers of the Anti-Slavery Society, 1757–1982," MSS. Brit. Emp. S. 22, G79, BL; for child ratios, Eltis, "Fluctuations in the Age and Sex Ratios of Slaves in the Nineteenth-Century Transatlantic Slave Traffic," *Slavery and Abolition*, VII (1986), 257–272; *idem* and Engerman, "Fluctuations in Sex and Age Ratios in the Transatlantic Slave Trade, 1663–1864," *Economic History Review*, XLVI (1993), 308–323; Paul Lovejoy, "The Children of Slavery—the Trans-atlantic Phase," *Slavery and Abolition*, VII (2006), 197–217.

Fig. 5 The Slave Deck of the Ship *Albanez*, 1845
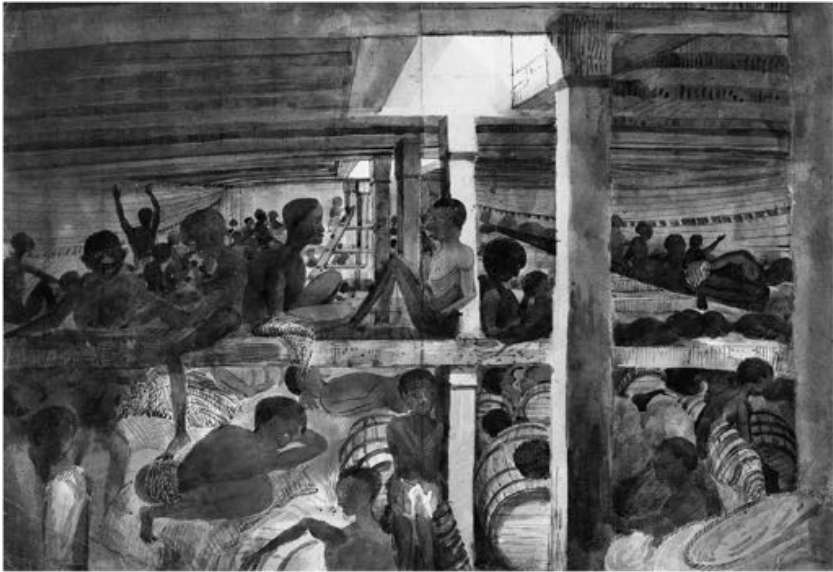
SOURCE Lt. Francis Meynell, 1845, *Slaves Below Deck on Board the Captured Spanish Ship Albaroz* [*Albanez*]. Reproduced with permission of the National Maritime Museum, Greenwich, UK, A1818.

captives for any period; not even the image of the *Marie-Séraphique* (Figure 3) presents such a view. Yet, the deck shows fewer than half the number of captives that are documented as disembarking a few days after the ship's detention. Furthermore, the seven blue-jacketed figures are the prize crew, not the original crew of the slave ship. Hence, the artist was probably on the quarterdeck of the HMS *Pearl* as it conducted its prize to Nassau in the Bahamas—the capture having taken place in the Caribbean, not off the African coast. The missing 200 Africans are below deck, as can be seen in the two open hatchways either side of the mainmast. The *Diligente*, like all the other vessels mentioned herein, shows no sign of a barricado, likely because the crew kept the captives below deck throughout the voyage and then brought up small groups to be fed. To obtain a good idea about conditions on the *Diligente* before its capture requires imagining double the number of figures depicted in the painting, crammed below deck. As a British visitor to an illegal slaver wrote, it is "impossible" to imagine how 475 people could have been "stowed away" beneath the deck of a ship such as the *Diligente*.

Fig. 6 The Portuguese Slave Ship *Diligente* under Command of a British Prize Crew, 1838
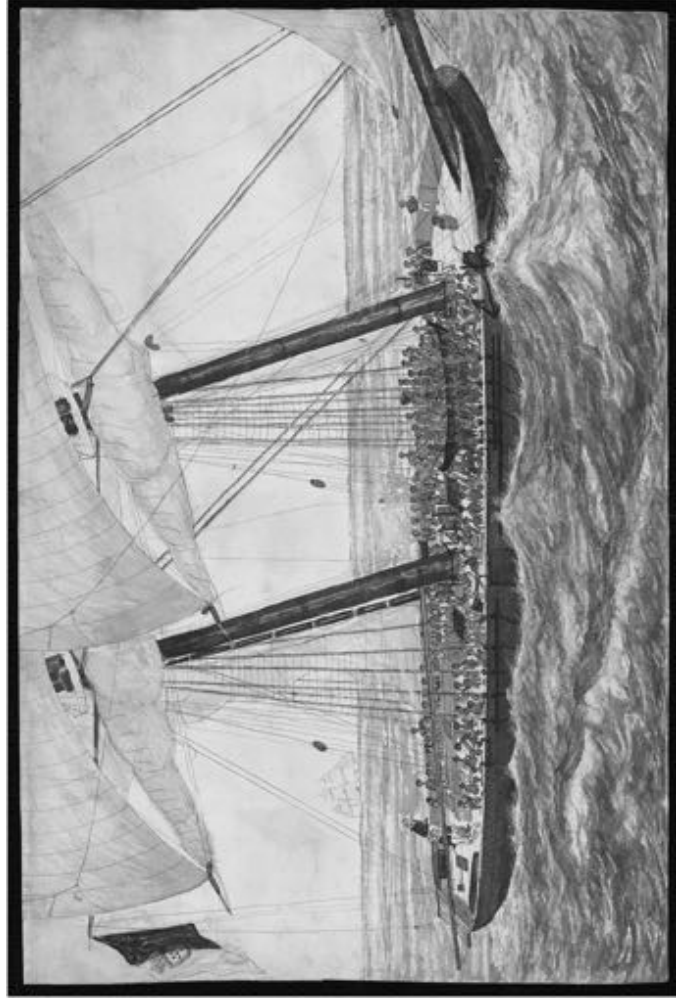
NOTE The vessel carried 475 slaves (not the 600 indicated in the source), some of whom can be observed below deck.

SOURCE Lt. Henry Samuel Hawker, *The Portuguese slaver Diligenté captured by H.M. Sloop Pearl with 600 slaves on board, taken in charge to Nassau*, 1838. Reproduced with permission of the Smithsonian National Museum of African American History and Culture, United States.

But "stowed away" they were, likely in incredibly cramped conditions that bore little resemblance to the between-decks of the comparatively large *Brooks*.[30]

Even though three illustrations cannot possibly encapsulate captives' experience in the nineteenth-century slave trade, they can indicate changes in their experience over time. The voluminous reports of British naval officers portray the illegal phase of the trade as a wild and chaotic time in which almost anything was possible—especially after the 1835 equipment clauses—which militates against any easy distillation of the average experience. The large variation in practices allow us, however, to discredit the *Brooks* image as indicative of conditions beyond its own time period. Neither the *Brooks* nor the *Marie-Séraphique* images can testify to the major differences that existed between the northern European and the Portuguese systems both before and after 1807.

For more than 200 years, the image of the *Brooks* has evoked, as Clarkson observed, "an instantaneous impression of horror upon all who saw it." The poster showed 470 Africans crammed into spaces—equivalent to 7 feet, 2 inches, square, per person in which they could do nothing but lie on their backs. Prior to the passage of regulatory acts in 1788, just one-fifth of Africans had to endure such conditions on British slave ships. Most captives carried across the Atlantic had to squeeze into spaces measuring, on average, just 6 feet, 4 inches, square, as depicted in the images of the *Marie-Séraphique*. These Africans were not arrayed in neat rows, shoulder to shoulder, in a clean hold, as the *Brooks* shows. Rather, they were pressed together into each other's arms and unable to move, hemmed in by barrels, ropes, spare sails, walls, and low ceilings. Remarkably, these already wretched conditions may have deteriorated further in the nineteenth century when slave traders sought to escape naval interdiction through the employment of vessels that sacrificed space for speed. Contemporary images reveal these important changes, showing captives perched atop barrels in a slaver's hold or huddled together on a thronged top deck. Our analysis of the *Brooks*

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30   When the 517 surviving captives aboard the illegal slaver *Veloz* were brought up, Walsh wrote that the "deck was crowded to suffocation, from stem to stern." Prior to interception, the *Veloz*'s crew had only allowed the captives on deck—which did not feature a barricado—in small numbers, for fear that the slaves would, according to one of the ship's officers, "murder them [the crew] all" (Walsh, *Notices of Brazil*, 482–483).

alongside numerous alternative images thus suggests that the African experience of the Middle Passage was worse than the "horror" depicted in the diagram, and that those horrors increased in the trade's illegal era.[31]

Our analysis also reveals the folly of expecting flat, schematic, contemporary images to visualize the Middle Passage. Although the image of the *Marie-Séraphique* is remarkably detailed, it suffers from many of the same flaws as the *Brooks* diagram and other contemporary images of slave ships. Two-dimensional and diagrammatic representations will not re-create the African experience of the slave trade, even if accompanied by the kind of thoughtful and sensitive text that much of the recent work about the Middle Passage exemplifies. Moreover, flat images of a single vessel from a particular period fail to capture the complexity of a trade that changed enormously throughout its several-hundred-year history.[32]

Historians consequently need new ways to portray the Middle Passage visually. One approach is, ironically, suggested by SEAST. Realizing the limitations of the schematic *Brooks* diagram, William Wilberforce commissioned a three-dimensional model of the vessel, which is still extant. The French abolitionist Honoré Gabriel Riqueti, count de Mirabeau, likewise had, as Clarkson described, a model of the *Brooks* "about a yard long." It included "little wooden men and women, which were painted black to represent the slaves." Both Mirabeau and Wilberforce realized that three-dimensional models better captured the realities of ship crowding than flat images. Several scholars are now following these eighteenth century examples by creating digital models of slave ships The Dutch National Archives recently produced a short video of the slave ship *Unity*, which conducted three voyages in the 1760s (IDS 10542, 10543, and 10544). Although the three-dimensional model does not include renderings of slaves, it still has a physicality that offers a sense of the *Unity* as a functioning slave ship. A team at

31 Clarkson writes that the Archbishop of Aix-en-Provence was "so struck with horror" when he saw the *Brooks* diagram "that he could scarcely speak." The Bishop of Chartres likewise told Clarkson that he had not believed the abolitionists' description of the Middle Passage until he had seen the *Brooks*. See Clarkson, *History*, II, 90, 153.

32 For recent works attempting to describe the "human history" of the slave trade, see Stephanie E. Smallwood, *Saltwater Slavery: A Middle Passage from Africa to American Diaspora* (Cambridge, Mass., 2007); Sowande M. Mustakeen, *Slavery at Sea: Terror, Sex, and Sickness in the Middle Passage* (Urbana, 2016).

Emory University is likewise creating a digitally rendered of the 1785 French slave ship *Aurore* (ID 32359) utilizing the plans of ship modeler Jean Boudriot and overlaying sketches of the *Marie-Seraphique* to provide a sense of the African experience of the voyage. The *Aurore* and *Unity* projects—no doubt the first of many—both promise to overcome many of the limitations of diagrammatic contemporary images because they allow historians to select representative vessels from different eras. Advances in digital technology may thus enable us finally to "make the slave ship real."[33]

APPENDIX: MEASURING SHIP CROWDING

The Liverpool ship registers include the length and breadth of slavers, as well as their height between decks. When a surveyor measured the slave ship *Bess* in 1789 (ID 80500), for example, it was 68 feet, 6 inches, long; 21 feet, 10 inches, wide; and 4 feet, 5 inches, high between decks. Multiplying the length of the vessel by its breadth gives the rectangular surface area of the *Bess*'s deck as 1,495 square feet. Dividing the area of the deck by the number of captives embarked according to slavevoyages.org/voyage/search gives the area in square feet per person—that is, the level of crowding. The 206 enslaved Africans forcibly embarked on the *Bess* at New Calabar in 1789 had 7 feet, 3 inches, square, per person according to that measure.[34]

The Liverpool surveyors, however, did not take the exact dimensions of the slaves' rooms, which typically included platforms that increased the amount of space in which the Africans had to sleep. Nor was the entire length and breadth of the ship occupied by rooms for the slaves, because the vessel often had storage room at the aft of the ship. Moreover, a ship was not a perfect rectangle, because it bulged amidships, narrowed to a point at the bow, and was wider below decks than above. Hence, the calculations in this article adjust the rectangular surface area of the decks obtained from the register—with reference to a

33   Jean Bourdiot, *Traite et Navire Negrier* (Paris, 1984). For Wilberforce's model, which is in the Wilberforce House Museum, Hull, see http://museumcollections.hullcc.gov.uk/collections/subtheme.php?irn=154; for Mirabeau's model, which is now lost, Clarkson, *History*, II, 153. The video of *L'Aurore* is available at www.slavevvoyages.org. For the *Unity*, see https://eenigheid.slavenhandelmcc.nl/slaves-journey/?lang=en.

34   Parliament used the same methodology to calculate crowding when it regulated the slave trade. In 1799, Parliament passed an act that limited the number of slaves that a vessel could carry by dividing the horizontal area of its lower deck by eight. The area of the deck was calculated by multiplying "the extreme Length and Breadth, in Feet and Inches, of the Lower Deck of the said Vessel." See "An Act for better regulating the Manner of carrying Slaves, in British Vessels, from the Coast of Africa, 1799," 39 Geo III, c.80.

constant derived from Parrey's report—to determine the area actually occupied by the slaves. Parrey measured the length and breadth of the individual slaves' "rooms" and the "platforms" that slave traders built into the side of those rooms. By measuring only the areas where the slaves were imprisoned, Parrey's figures also did not include storerooms and cabins used by the crew. Parrey's report shows that the total space for slaves was, on average, 16 percent larger than the deck area per the Liverpool register. In the case of the *Bess*, the area for the slaves increases from 1,495 square feet to 1,734 square feet, allotting each captive an average of 8 feet, 5 inches, square (1,734 feet square/206 captives).[35]

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35 For the use of Parrey's measurements by Parliament to assess ship crowding, see Lambert (ed.), *HCSP*, LXVIII, 42–43.