Park, PA,
19th Century
in Images of

ne Museum
tory, a joint
side and the
ipally on the

istory at the
ellow at the
as published
arly modern

story of the
ated on the
pping. Most
Ages to the

is published
commodity
policy. His
ment of the

The Shipping of the British Slave Trade in its Final Years, 1798-1807¹

David M. Williams

Of all modern forms of ocean-going commerce, the transatlantic slave trade arguably has generated the richest literature. In its own lifetime, growing moral and social concerns, as well as important economic realities, gave rise to a massive amount of documentation, official enquiry and contemporary comment. This great body of material has been drawn upon by generations of historians, but never more so than in the past thirty years. The publication in 1969 of Phillip Curtin's *The Atlantic Slave Trade: A Census* was an important milestone in the historiography, for it marked the beginnings of a shift towards quantitative studies.² Many aspects of the trade have been subjected to this type of analysis: apart from the "numbers game" of calculating the total number of slaves transported, such studies have focussed on topics such as profitability, voyage duration, mortality, and shipping.³

¹I am indebted to the Research Board, University of Leicester for a grant in aid of research; to Professor Phillip Cottrell who read an earlier draft of this paper; and to the anonymous referees for their pertinent and constructive comments.

²Philip D. Curtin, *The Atlantic Slave Trade: A Census* (Madison, WI, 1969). See also Curtin, "The Atlantic Slave Trade, 1600-1800," in J.F. Ajayi and M. Crowder (eds.), *The History of West Africa* (2 vols., New York, 1972), I, 240-268. An indication of the shift towards quantitative studies was the publication in March 2000 of a CD-ROM database; see David Eltis, *et al.*, *The Trans-Atlantic Slave Trade: A Database on CD-ROM* (Cambridge, 2000). The work for this paper was undertaken before the appearance of this massive research aid.

³The volume of studies is so immense that a full listing is impractical. The following three collections of papers suggest the issues: Stanley L. Engerman and Eugene D. Genovese (eds.), *Race and Slavery in the Western Hemisphere: Quantitative Studies* (Princeton, 1975); Roger Anstey and P.E.H. Hair (eds.), *Liverpool, the African Slave Trade, and Abolition: Essays to Illustrate Current Knowledge and Research* (Liverpool, 1976); and Henry A. Gemery and Jan S. Hogendorn (eds.), *The Uncommon Market: Essays in the Economic History of the Atlantic Slave Trade* (New York, 1979). Subsequent notes refer to many of the individual contributions on the slave trade.

International Journal of Maritime History, Vol. XII, No. 2 (December 2000), 1-25.

All this has contributed to a fuller understanding of the scale, commercial viability and organisation of the trade. On shipping, our knowledge has been greatly enhanced by the specialist studies of Walter Minchinton, Herbert Klein, D.P. Lamb and Maurice Schofield, as well as by David Richardson's monumental work on the Bristol trade.⁴ In the main, such studies have examined "sailings for Africa" and the tonnage involved, with the focus chiefly on the years up to the 1770s. This paper undertakes a similar exercise for a later period, 1798-1807, the final decade of the British slave trade. Besides extending the period of analysis, however, I also utilise a different approach. The traditional form of examination has been to survey voyages or "sailings" on an annual basis. My approach is to take the period as a whole, rather than as a series of separate years, and to look at vessels rather than voyages. This different methodology enables a variety of important issues to be addressed. One is how many vessels were engaged in the trade during the period? This is a very different matter from the number of sailings of vessels engaged in the trade.⁵ Establishing the number of participating vessels involves the complicated task of identifying individual vessels and tracing their engagement over a series of years. Besides ascertaining the number of vessels involved, this analysis permits the consideration of a far more interesting issue: whether the slave trade was prosecuted by a group of vessels making a series of regular voyages, or whether it was undertaken by vessels which undertook only single or occasional voyages? In other words, how far did the

⁴Walter E. Minchinton, "The Triangular Trade Revisited," in Gemery and Hogendorn, *Uncommon Market*, 331-352; Minchinton, Celia King and Peter Waite (comps.), *Virginia Slave Trade Statistics, 1698-1775* (Richmond, 1984); Herbert S. Klein, *The Middle Passage: Comparative Studies in the Atlantic Slave Trade* (Princeton, 1978); Klein, "The English Slave Trade to Jamaica, 1782-1808," *Economic History Review*, 2nd ser., XXXI (1978), 25-45; Klein, "Slaves and Shipping in Eighteenth-Century Virginia," *Journal of Interdisciplinary History*, V (1974-1975), 383-412; Klein, "New Evidence on the Virginia Slave Trade," *Journal of Interdisciplinary History*, XV11 (1987), 871-877. D.P. Lamb, "Volume and Tonnage of the Liverpool Slave Trade, 1772-1807," in Anstey and Hair (eds.), *Liverpool*, 91-112; and M.M. Schofield, "The Slave Trade from Lancashire and Cheshire Ports outside Liverpool, c.1750-1790," *Historic Society of Lancashire and Cheshire Transactions*, CXXVI (1977), 30-72. On the Lancaster trade, see Melinda Elder, *The Slave Trade and the Economic Development of 18th Century Lancaster* (Halifax, 1992). The final of David Richardson (ed.), *Bristol, Africa and the Eighteenth-Century Slave Trade to America* (4 vols., Bristol, 1986-1996) is especially relevant in the context of this essay.

⁵This distinction between the number of sailings and the number of vessels has been noted, but not developed, in analyses of shipping in the slave trade. Between 1785 and 1807 there were 2876 voyages involving 1080 different vessels in the British slave trade. See Stephen D. Behrendt, "The Captains in the British Slave Trade from 1785-1807," *Historic Society of Lancashire and Cheshire Transactions*, CXL (1990), 79-140.

shipping comp
Addressing this
prerequisite for
which is the tas
and rig distrib
explores the po
sources permit
features with re

Together
important ques
final decade g
specialised for
for the patterns
far the slave tr
eighteenth cent
section of this a

In the decade b
year over 100 v
British ports for
high level of ac
was a response
Indian colonies
reflected to a le
the face of this,
prohibited.⁶ Tat
ports to Africa

⁶Lamb,

⁷The vo
has caused much
in Customs 17, it
revised upward, a
the debate, see De
Volume and Coas
151-195. While
Parliamentary Pa
slight under-recor
for this, he increa
the statistics in hi

shipping comprise a "slave fleet" as opposed to a host of casual traders? Addressing this question is the prime focus of this paper and is clearly a crucial prerequisite for any examination of the type and character of vessels in the trade, which is the task of the second element of this study, which analyses the tonnage and rig distribution of vessels, compares findings with earlier research and explores the possibility of optimum-sized vessels for this particular trade. As the sources permit, I will also ask whether vessels possessed any special or unusual features with regard to place of build, design or fittings.

Together, the issues considered in this study contribute to answering the important question of whether the development and growth of slaving had by its final decade given rise to vessels specialising in, or in certain particulars specialised for, the trade. The extent to which this was the case has implications for the patterns, costs and organisation of the trade and, more broadly, for how far the slave trade was the province of specialist operators at the end of the eighteenth century. Such implications are briefly considered in the concluding section of this article.

II

In the decade before abolition the slave trade underwent a boom: in almost every year over 100 vessels, with a carrying capacity of over 30,000 tons, sailed from British ports for the coast of Africa on the first leg of the triangular voyage. This high level of activity, which saw the Liverpool branch of the trade at its peak, was a response to the growing demand for labour in Britain's expanding West Indian colonies as European consumption of tropical produce increased. It also reflected to a lesser degree the mounting success of abolitionist pressure, and in the face of this, a desire by all parties to maximise dealings before the trade was prohibited.⁶ Table 1, based largely on official returns, shows sailings from British ports to Africa on slaving ventures in the period 1798-1807.⁷ It provides a

⁶Lamb, "Volume and Tonnage," 96; and Curtin, *Atlantic Slave Trade*, 154.

⁷The volume of the slave trade in terms of vessels engaged and slaves shipped has caused much debate. Following the discovery of new shipping data, notably after 1772 in Customs 17, it is now generally accepted that Curtin's original estimates need to be revised upward, although by how much remains in dispute. For an excellent summary of the debate, see David Richardson, "The Eighteenth Century Slave Trade: Estimates of Its Volume and Coastal Distribution in Africa," *Research in Economic History*, XII (1989), 151-195. While Richardson expresses confidence in the accuracy of shipping data in the *Parliamentary Papers* between 1777 and 1807, he accepts that there may have been some slight under-recording of clearances of slave ships after the Dolben Act of 1789; to adjust for this, he increases clearances thereafter by four percent per annum. This explains why the statistics in his appendix differ from the official figures shown in table 1. This paper

virtually full account of British participation in the trade in these years because the figures are complete except for sailings from London and Bristol in the final thirteen months before abolition. This omission is of little consequence because Bristol's participation in the trade had become insignificant by 1800;⁸ while London retained a greater direct involvement than is usually appreciated, Liverpool's domination was overwhelming. Indeed, the Mersey port accounted for eighty-five percent of all sailings in the ten years between 1795 and 1804.⁹

Table 1
Sailings for Africa of Vessels Engaged in the Slave Trade
from British Ports, 1798-1807

	Liverpool	Bristol	London	Total
1798	149	3	8	160
1799	134	5	17	156
1800	120	3	10	133
1801	122	2	23	147
1802	124	3	30	157
1803	83	1	15	99
1804	126	4	18	148
1805	98	2	11	111
1806	111	0	6	117
1807	74	-	-	74
Total	1141	23	138	1302

Note: Figures for Bristol and London in 1806 are up to 30 April only.

Sources: 1798-1805: Great Britain, *Parliamentary Papers (BPP) Accounts and Papers*, "Accounts Relating to the African Slave Trade 1806" (265), XIII, 777. There are no figures of clearances for 1806-1807 in *Parliamentary Papers*. Figures for clearances from Liverpool in these years have been taken from *Gore's Liverpool Directory for the Year 1807* (Liverpool, 1807), 97-100.

While table 1 shows the number of sailings, it provides no indication of the total vessels engaged in the trade or the extent to which sailings were

utilises the official figures throughout because they provide details of the sailings of named vessels, which are the focus of my analysis.

⁸Richardson, "Eighteenth Century Slave Trade," found no evidence of Bristol participation in the slave trade after 1805. His subsequent painstaking research, published seven years later, suggests that one vessel from Bristol engaged in the trade in 1807. See Richardson (ed.), *Bristol, Africa and the Eighteenth Century Slave Trade*, IV. This vessel has not been included in the analysis in this essay.

⁹See table 1 and Lamb, "Volume and Tonnage," 97.

undertaken by numbers of sa Few vessels w a single year b delays in vari embarking on trade was unde utilisation of in that list all vess 1795 and April January 1806 *Directory for I* Table: trade was und sailings in the categories: ves one such voya experience but

¹⁰In the two clearances fo will be subsequ managed two cle

¹¹The *Parliamentary P* Slave Trade 180 vessels clearing Bristol, while N aggregate figures relating to vessels "Accounts Respe 429.

¹²*Gore* as can be determ Africa in 1806 ar this figure is co (Liverpool, 1810 seventy-four for form suggests it

¹³Vesse cited in note 11.

undertaken by the same or different vessels. Taking each year individually, the numbers of sailings and vessels engaged in the trade correspond very closely. Few vessels were able to make two clearances on slave trading voyages within a single year because of the duration of the triangular voyage, the likelihood of delays in various ports of call, and the need to refit or undergo repairs before embarking on a further voyage.¹⁰ To discover how far over a period of years the trade was undertaken by the same or different vessels requires an analysis of the utilisation of individual craft. Fortunately, this is made possible by official returns that list all vessels engaged in the slave trade from British ports between January 1795 and April 1806.¹¹ Together with a list of all sailings from Liverpool between January 1806 and the ending of the trade in May 1807 in *Gore's Liverpool Directory for 1807*, this permits a complete survey of all vessels in the trade.¹²

Tables 2 and 3 represent two approaches to assess the extent to which the trade was undertaken by vessels regularly engaged in it. Table 2 examines sailings in the slave trade annually by dividing total clearances into three categories: vessels making their first slaving voyage; those which made at least one such voyage in the preceding two years; and those which had previous experience but had not made a slaving voyage in the preceding two years.¹³

¹⁰In the period 1798-1807 there were only eleven instances of a vessel making two clearances for Africa in the space of a calendar year. All of these vessels fell into what will be subsequently classified as the "regular trading" category. Many more, however, managed two clearances in an interval of a twelve-month period.

¹¹The key source used for identifying vessels is located in Great Britain, *Parliamentary Papers (BPP) Accounts and Papers*, "Accounts Relating to the African Slave Trade 1806" (265), XIII, 777. Within these accounts, Nos. 2, 3, 4 list and name all vessels clearing for Africa between 1795 and 5 April 1805 from Liverpool, London and Bristol, while No. 7 covers all three ports from 5 April 1805 to 30 April 1806. The aggregate figures in table 1 are derived from this source. Some supplementary information relating to vessels clearing from Liverpool between 1792 and 1802 was gleaned from *BPP*, "Accounts Respecting the Trade to the Coast of Africa for Slaves 1801-1802" (88), IV, 429.

¹²*Gore's Liverpool Directory for the Year 1807* (Liverpool, 1807), 97-100. As far as can be determined the list provides a complete record of clearances from Liverpool for Africa in 1806 and 1807. It catalogues a total of 185 such clearances and the accuracy of this figure is confirmed by a table in Thomas Troughton, *The History of Liverpool* (Liverpool, 1810), 265, which records 111 Liverpool-Africa clearances for 1806 and seventy-four for 1807. Moreover, although Gore's list gives no indication of a source, its form suggests it was compiled from customs material.

¹³Vessels were traced back to 1793 using *Lloyds Registers* and the official sources cited in note 11.

Table 2
Sailings for Africa of Vessels Engaged in the Slave Trade
from British Ports, 1798-1807

	Total Sailings	Sailings by ves- sels making their first voy- age in the slave trade (with % of total annual sailings)	Sailings by vessels with at least one slave voyage in the previous two years (with % of total annual sailings)	Sailings by vessels with past experi- ence of the trade prior to two previ- ous years (with % of total annual sailings)
1798	160	84 (52.50)	74 (46.25)	2 (1.25)
1799	156	80 (51.28)	75 (48.08)	1 (0.64)
1800	133	46 (34.59)	82 (61.65)	5 (3.76)
1801	147	55 (37.42)	82 (55.78)	10 (6.80)
1802	157	58 (36.94)	93 (59.24)	6 (3.82)
1803	99	20 (20.20)	73 (73.74)	6 (6.06)
1804	148	50 (33.78)	83 (56.08)	15 (10.14)
1805	111	40 (36.04)	61 (54.95)	10 (9.01)
1806	117	41 (35.04)	67 (68.92)	9 (7.69)
1807	74	16 (21.62)	51 (68.92)	7 (9.46)

Source: See table 1 and notes 12 and 13.

Table 2 shows clearly that in each year a high proportion of sailings was undertaken by vessels not long returned from a previous slaving voyage or which had past experience of the trade. In each year between 1800 and 1807, more than sixty percent of sailings were made by such vessels; indeed, in 1803 the proportion was almost eighty percent. A slightly lower fraction – around fifty percent – prevailed in 1798 and 1799, but this simply reflected the fact that these were years of expansion in the trade that attracted an inflow of vessels.¹⁴ It is apparent from the table that in each year the bulk of sailings were undertaken by vessels which at that point could be regarded as regularly employed in the slave trade. Likewise, it is clear that throughout the final years of the trade there was a body of shipping which could be justifiably referred to as the "slave fleet," though the composition of this fleet was subject to constant marginal variation. At the same time, however, in every year a considerable number of sailings were made by craft new to the trade, only some of which went on to make further voyages.

These conclusions are borne out by the material presented in table 3 which analyses sailings in the overall period 1798-1807, dividing the total of 1302

¹⁴While there is some uncertainty about the precise figures, annual clearances for Africa in both 1796 and 1797 were about thirty percent below those of 1798 and 1799. Richardson, "Eighteenth Century Slave Trade," 194, suggests a total of 109 sailings in each year.

sailings in the voyages in the 1302 sailings: proportion of limited number (less than a third) of sailings. Third trade between features bear of the slave trade comprising "precisely how an essential part of the vessels, involved in the definition of a voyage in a period of time short, a matter many more voyages taken here was undertaken at least should occur assumed to be other trades. I duration of a voyage to voyage there was also the Caribbean. All of these on voyages for as little as 140 350 days.¹⁶ In

¹⁵For Atlantic trades, see David M. Williams, *Values: Canadian*

¹⁶B.K. Problems," in A

sailings in the trade among vessels which made one, two, three, four and more voyages in the trade. Three main features emerge. Firstly, that while there were 1302 sailings in the trade, only 525 vessels were involved. Secondly, a high proportion of the total sailings in the period were undertaken by a relatively limited number of vessels: in fact, the 183 vessels making three or more sailings (less than a third of all vessels) accounted for 776 sailings, sixty percent of total sailings. Thirdly, a large proportion of the 575 vessels participating in the slave trade between 1798 and 1807 made only one or two voyages in the trade. These features bear out the information portrayed in table 2, namely that the shipping of the slave trade in its final years was made up of two groups of vessels, one comprising "regular traders" and the other "occasional traders." Deciding precisely how many vessels fell into each of these categories, and this is clearly an essential prerequisite of any subsequent examination of the characteristics of vessels, involves an attempt at defining a regular trader.¹⁵ An acceptable definition of a regular trader would be a vessel which undertakes a number of voyages in a particular trade over a period of time. The "number of voyages" and "period of time" will vary according to the trade. In trades where voyages were short, a matter of days or weeks, a vessel would obviously be required to make many more voyages before it could be regarded as a regular trader than in a trade where voyages were long, running into many months or over a year. The decision taken here was that to be regarded as a regular trader, a vessel would have to undertake at least three voyages in the slave trade. Furthermore, such voyages should occur within such a time period that the vessel might be reasonably assumed to be either exclusively engaged in slaving or but briefly involved in other trades. Fixing the time period poses problems, for in the slave trade the duration of a triangular voyage could vary immensely from vessel to vessel and voyage to voyage. Apart from differences in actual sailing times on the three legs, there was also the time spent acquiring slaves in Africa and disposing of them in the Caribbean and sometimes assembling a cargo for the return Atlantic passage. All of these operations at best took weeks, and, at worst, months. Drake's work on voyages for the years 1791-1794 and 1804-1807 shows voyages ranging from as little as 140 days to over 500 days. He suggests the average voyage was around 350 days.¹⁶ In the period covered by this paper a number of vessels managed two

¹⁵For a discussion of regular and occasional or "transient" trading vessels in other Atlantic trades, see Robert G. Albion, *Square-Riggers on Schedule* (Princeton, 1938); and David M. Williams, "The Shipping of the North Atlantic Cotton Trade in the Mid-nineteenth Century," in David Alexander and Rosemary Ommer (eds.), *Volumes Not Values: Canadian Sailing Ships and World Trades* (St. John's, 1979), 303-329.

¹⁶B.K. Drake, "The Liverpool-African Voyage c.1790-1807: Commercial Problems," in Anstey and Hair (eds.), *Liverpool*, 132-135.

slave trade clearances within twelve months, but generally the time period between one sailing from Liverpool and the next was from fourteen to eighteen months.¹⁷ Much longer periods, however, were not unusual due to delays of one kind or another, and the wartime disruption of normal trading.

Table 3
Vessels Engaged in the Slave Trade between 1798 and 1807,
Divided into Groups on the Basis of the Number of Sailings Undertaken,
Together with Total Sailings for Each Group

Group	Vessels	Total Sailings of Group
Vessels making one sailing	258	258
Vessels making two sailings	134	268
Vessels making three sailings	70	210
Vessels making four sailings	52	208
Vessels making five sailings	28	140
Vessels making six sailings	18	108
Vessels making seven sailings	11	77
Vessels making eight sailings	3	24
Vessels making nine sailings	1	9
Total	575	1302

Source: See tables 1 and 2.

In the light of these considerations, for the purpose of this paper, it was decided to define a regular trader in the slave trade as a vessel, which made three sailings in the trade within any inclusive five-year period. Vessels, which did not meet this definition, were classified as occasional traders. Dividing the 575 vessels, which took part in the slave trade between 1798 and 1807, into regular and occasional traders on the basis of this definition is a fairly straightforward exercise. Almost all the vessels listed in table 3 as making three or more sailings between 1798 and 1807 fell within the scope of the definition of regular trader. However, vessels listed as making only one or two sailings – if these were made in any of the years up to 1801 – could not be automatically assumed to be occasional traders. Such vessels might have been active in the trade before 1798; if so, and they had made voyages in 1795, 1796 or 1797, they could have undertaken three sailings within a five-year period. Research into sailing lists for 1795, 1796 and 1797 found thirty-eight vessels which made only one or two voyages after 1798. Taking these vessels into account, the number of vessels meeting the required definition of a regular trader totalled 216, leaving 359 vessels classified as occasional traders. However, while numerically occasional traders substantially exceeded the regular traders, in terms of voyages, the 216 regular

traders performed the 359 occasions.

It is clear that the group comprised two types of vessels engaged in the trade, a larger number of which, as to why the statistics of merchants are up of partnerships, is possible, is because of the vessels. The analysis is generally accepted as relatively specific. The trade was done on a contemporary basis. Liverpool merchants with a detailed knowledge of seven (sixty-nine) a mere fourteen. Wallace, writing of houses...which engaged in the geous trade." The houses participated in the data provided by the of concentration.

¹⁸It is possible that the nature of the trade after the Peace of Amiens was increased as a result of the Regional Distribution XXXVIII (1997) in the trade, which might have been a century before at

¹⁹BPP,

²⁰F.J. V
State of the Town

²¹J.E. I
the Late Eighteenth

¹⁷Richardson, *Bristol Slave Traders*, 11, suggests that voyages in the eighteenth century generally took fifteen months to complete.

traders performed 812 voyages (62.37% of the total voyages, 1798-1807) while the 359 occasional traders made only 490 voyages (37.63%).¹⁸

It is clear then that in its final years, the shipping of the slave trade comprised two groups of vessels. One was a "slave fleet" of vessels regularly engaged in the trade which accounted for a high proportion of voyages; the other, a larger number of vessels, made only occasional voyages. Any full explanation as to why the shipping of the trade took this form would require the identification of merchants and shipowners engaged in the trade, and in both instances the make up of partnerships, at the time of each voyage. Such an exercise, even were it possible, is beyond the scope of this paper which is primarily concerned with vessels. The answer, however, may well lie in the structure of the slave trade. It is generally accepted that by the end of the eighteenth century the slave trade was relatively specialised in its organisation and in Liverpool, the principal port, the trade was dominated by a small number of large merchant houses. Two contemporary observers stated this to be the case. Robert Norris, an eminent Liverpool merchant, provided a Select Committee on the Slave Trade in 1790 with a detailed list of vessels and their owners. According to his figures, ninety-seven (sixty-nine percent) of 141 Liverpool vessels in the trade were owned by a mere fourteen (thirty-five percent) of the forty listed owners.¹⁹ Likewise, J. Wallace, writing in 1795, observed "a regular routine of the established African houses...which yearly and successively hold the main substance of this advantageous trade." He asserted that in the period 1783-1793, thirty percent of the houses participating in the trade employed fifty-seven percent of the ships.²⁰ The data provided by Wallace have been used by Inikori to argue for a high degree of concentration in the Liverpool trade.²¹ Even so, despite the presence of large

¹⁸It is pertinent to inquire whether this distribution may have been influenced by the nature of the period under review. The years 1798-1807, with the exception of the brief Peace of Amiens, was marked by war. In such times the "normal" level of losses in the trade increased as a result of enemy action. See S.D. Behrendt, "The Annual Volume and Regional Distribution of the British Slave Trade, 1780-1807," *Journal of African History*, XXXVIII (1997), 190-191. Additional losses led to an increase in the turn-over of vessels in the trade, which in turn served to reduce the extent of concentration below that which might have been the case in peacetime. It is worth remembering, however, that in the half century before abolition, years of peace were the exception.

¹⁹BPP, Accounts and Papers, 1790, XXIX (698), 500-509.

²⁰F.J. Wallace, *A General and Descriptive History of the Ancient and Present State of the Town of Liverpool* (Liverpool, 1795), 229-231.

²¹J.E. Inikori, "Market Structure and the Profits of the British African Trade in the Late Eighteenth Century," *Journal of Economic History*, XLI (1981), 748-753.

established firms, there was still considerable participation by newcomers or others engaging on a more casual basis. Some slaving voyages were still organised as "one off" ventures between numerous partners who came together for a single voyage. Such involvement might be large or small-scale; as Wallace observed, "almost every order of people is interested in a Guinea cargo."²²

It is likely that the division of the shipping of the trade into regular and occasional trading vessels reflects the participation in the trade of these two types of operators. Large, established houses, often possessing considerable shipowning interests, would be more likely to use the same, rather than different, vessels on their frequent Africa voyages. Similarly, the activities of less-fully engaged merchants probably accounts for the presence of a large number of occasional trading vessels. In the absence of fuller information on ownership such a conclusion on the correlation between regular and occasional ship use and established and casual operators in this period must remain tentative.²³ But it is supported by Richardson's examination of shipping in the Bristol slave trade.²⁴ Still, whatever the relationship between shipping and the structure of the trade, it is clear that any examination of the shipping of the slave trade must distinguish between vessels with only a casual involvement and those regularly employed.

III

For any survey involving a large number of vessels, *Lloyd's Registers* are the most readily accessible source. The *Registers* provide a body of information on such features as size, type, indication of owners, employment, age and condition. The detail of the data supplied is uneven but in a survey such as the one under review, involving so many vessels, the *Registers* are highly valuable, permitting a full examination of the tonnage, rig, place of build and sheathing of slave trade

²²Wallace, *History of Liverpool*, 229, also commented that "[i]t is well known that many of the small vessels that import about 100 slaves are fitted out by attornies, drapers, ropers, grocers, tallow chandlers, taylors etc., some have one eight, some a fifteenth [sixteenth?], and some a thirty-second."

²³No full survey of vessel ownership using the Liverpool Registry of Merchant Ships has yet been undertaken, but any such study would have to consider both multiple and regular changes in ownership in many craft.

²⁴Richardson, *Bristol Slave Traders*, 11, notes that "many vessels made only one or two slaving voyages before leaving the trade. They were often owned, furthermore, by small and irregular investors in the trade. By contrast some 120 vessels [out of a total of 600], or about a fifth of those involved in the trade, each made at least five voyages to the coast and accounted for almost half of Bristol's total slaving ventures." Such vessels, however, were "mainly owned by some of the largest of Bristol's investors in slaving."

vessels. The
that of the 5
than 542 (nir

Dist
Total Range
0-49
50-99
100-149
150-199
200-249
250-299
300-349
350-399
400-449
450-499
500-549
550-599
600+
Total

Source: See

Usi
information
excluded for
tons, giving
complete gro
the 353 occa
of 226.35 to
the overall av
conceal the
distribution a
The smallest
at the other
largest vesse

²⁵For
Lloyd's Regist
compilation of

²⁶R.

vessels. The comprehensive nature of the *Registers* is demonstrated by the fact that of the 575 vessels which took part in the trade from 1798 to 1807, no less than 542 (ninety-four percent) are listed.²⁵

Table 4
Tonnage Distribution of Slave Trade Vessels, 1798-1807,
Distinguishing between Regular and Occasional Trading Vessels

Total Range	Regular	Occasional	All Vessels
0-49	-	2 (0.56)	2 (0.35)
50-99	8 (3.70)	32 (9.07)	40 (7.03)
100-149	25 (11.57)	56 (15.86)	81 (14.24)
150-199	46 (21.30)	59 (16.71)	105 (18.45)
200-249	46 (21.30)	67 (18.98)	113 (19.86)
250-299	39 (18.10)	57 (16.15)	96 (16.87)
300-349	26 (12.04)	32 (9.07)	58 (10.19)
350-399	15 (6.94)	16 (4.53)	31 (5.45)
400-449	7 (3.24)	19 (5.38)	26 (4.57)
450-499	2 (0.93)	7 (1.98)	9 (1.58)
500-549	1 (0.46)	4 (1.13)	5 (0.88)
550-599	1 (0.46)	1 (0.28)	2 (0.35)
600+		1 (0.28)	1 (0.18)
Total	216	353	569

Source: See table 3 and *Lloyd's Registers*, various years.

Using the *Registers* and other sources, it proved possible to find tonnage information for ninety-nine percent of the 575 vessels, only six vessels being excluded for lack of data. Total tonnage of the 569 vessels covered was 133,782 tons, giving an average tonnage of 234.64 tons. For the 216 regular traders, the complete group, figures were 52,254 tons total and an average of 243.17 while the 353 occasional trading vessels had a total tonnage of 81,258 and an average of 226.35 tons. Thus regular trading vessels were slightly larger in tonnage than the overall average, and occasionals slightly smaller. Average tonnages, however, conceal the wide variety of vessels in the trade. Table 4 depicts the tonnage distribution and reveals a range extending from below fifty tons to over 700 tons. The smallest was the *Speculation* of forty-one tons which made a voyage in 1802, at the other end of the scale was the 726-ton *Duke of Clarence*, in its time the largest vessel on the Liverpool Register, which sailed in 1799.²⁶ Both of these

²⁵For this period, both Underwriters' volumes and Shipowners' volumes of *Lloyd's Register of Shipping* are available. Both sets of the *Registers* were used in the compilation of tables 4-7. The *Registers* have been reprinted by Gregg Press, London.

²⁶R. Craig and R. Jarvis, *Registry of Merchant Ships* (Manchester, 1967), 145.

vessels were occasional traders, but the tonnage range of regular traders was also extensive. Here, the smallest vessel was *Jane* (fifty-five tons), which made three voyages in 1799, 1800 and 1801, and the largest, the 563-ton *Egyptian*, also made three sailings. Such contrasting dimensions were, however, exceptional.

Table 4 shows that almost eighty percent of all vessels in the trade were between 100 and 350 tons, with fifty-five percent in the narrow range of 150-299 tons. A comparison of regular and occasional trading vessels suggests some interesting differences, with regular traders below 150 tons comprising only 15.27 percent of the total regular group, while occasionals of such dimension accounted for 25.49%. In contrast, regular vessels between 150 and 299 tons comprised 60.70%, while occasionals in this range represented 51.84%. Clearly regular traders were somewhat larger than occasionals and were more closely bunched within limited tonnage ranges. But just as the occasional group contained many more small vessels, so too it accounted for most of the really large: of the forty-three vessels over 400 tons, thirty-two were occasionals. The presence of these larger vessels raises the average tonnage of occasional traders and conceals the extent to which vessels in this group were smaller than regular traders.²⁷

Size of vessel has a distinct bearing on rig. Table 5 depicts the rig and tonnage distribution of slaving vessels. Again, the table provides a remarkable coverage for rig details were located for ninety-five percent of vessels in the trade. The subject of rig is a complicated field, not least because of the lack of a defined and agreed system of nomenclature in the late eighteenth century. However, according to Davis, from the last quarter of that century, "all ships over 300 tons – and nearly all over 200 – were three-masted and mostly ship-rigged."²⁸ This statement is clearly borne out by the table; of the 329 vessels over 200 tons for which data was available, 321 (97.57%) were listed as ships.

Taking all vessels covered by table 5 (including the five percent with no rig data), it is apparent that ship-rigged vessels were predominant in the slave trade, accounting for over seventy-two percent of all vessels. Of other rigs, only the brig (fifteen percent) was of any significance, although sloop and schooner rigs understandably featured among the smaller vessels.²⁹

²⁷Were the thirteen occasional vessels over 450 tons (a mere 3.65 percent of the group) to be excluded from the analysis, the impact would be to reduce the occasional average by some eight tons to 218 tons.

²⁸Ralph Davis, *The Rise of the English Shipping Industry in the Seventeenth and Eighteenth Centuries* (London, 1962) 78.

²⁹The situation is complicated by the lack of differentiation between brigs and brigantines and the interchangeability of the terms "brig" and "snow." See Davis, *Rise of the English Shipping Industry*, 77; and Craig and Jarvis, *Liverpool Registry*, xxxiv.

Table 5
Rig and Tonnage Distribution of the Slave Trade Vessels, 1798-1807,
Distinguishing between Regular and Occasional Trading Vessels

Table 5
Rig and Tonnage Distribution of the Slave Trade Vessels, 1798-1807,
Distinguishing between Regular and Occasional Trading Vessels

Tonnage range	Schooner			Sloop			Snow		
	Reg	Occ	Total	Reg	Occ	Total	Reg	Occ	Total
0-49		1	1		1	1			1
50-99	2	9	11	2	12	14	1		4
100-149	4	3	7		3	3	2	2	3
150-199		1	1		1	1	1	2	3
200-249				1	1		1	1	2
Total	6 (2.78)	14 (3.97)	20 (3.52)	3 (1.39)	17 (4.82)	20 (3.52)	4 (1.85)	5 (1.42)	9 (1.58)
Tonnage range	Brig			Ship			Unspecified		
	Reg	Occ	Total	Reg	Occ	Total	Reg	Occ	Total
50-99	3	7	10					4	4
100-149	10	31	41	8	12	20	1	5	6
150-199	11	15	26	33	35	68	1	5	6
200-249	1	4	5	44	56	100		6	6
250-299		2	2	39	51	90		4	4
300+				52	78	130		2	2
Total	25 (11.57)	59 (16.71)	84 (14.76)	176 (81.48)	232 (65.72)	408 (71.70)	2 (0.93)	26 (7.37)	28 (4.92)

Source: Derived from Table 3 and Lloyd's Registers.

The findings, which emerge from the preceding analysis of tonnage and the associated factor of rig, suggest a number of aspects for comment. One such is the limited number of very large vessels in the trade, particularly bearing in mind Davis' comment that "on trans-Atlantic routes vessels of 300-400 tons were frequently to be met."³⁰ Ideally it would be useful here to review the tonnage distribution of British shipping in other long distance trades, but regrettably this is an aspect we know little about. However, it may be pertinent to observe that whereas in many trades larger vessels bring certain economies of scale, in the business of slaving, size intensified some of the problems of the trade. The slave trade was characterised by delays: in acquiring slaves on the West Africa coast; disposing of them in the West Indies; and then, if a return freight was sought, putting together a cargo of tropical produce. Obviously, the larger the vessel the longer the period spent assembling its cargoes. This could be crucial. Drake, commenting on the complexity of transactions, observes, "from the start of the venture, entrepreneurs had to take account of the fact that the final outcome depended not only on the immediate profits, but on the length of time capital had been locked up in the voyage."³¹ Irrespective of the time and money equation, delays on the African coast increased the possibility of crews falling sick in the treacherous climate.³² The health of the cargo was also important.³³ Nor did it follow that employing larger vessels enabled proportionately larger numbers of slaves to be carried. Analysis by Klein of the ratio of slaves per ton shows a decline as tonnage increases, for the greater the number of slaves, the greater the need for additional water, food and equipment storage space.³⁴ Such aspects of operation militated against the use of very large vessels. Moreover, it should be remembered that slaving was an uncertain, risky venture³⁵ and a larger vessel

³⁰Davis, *Rise of the English Shipping Industry*, 78.

³¹Drake, "Liverpool-African Voyage," 133.

³²The dangers of disease, fevers and dysentery on the African coast were considerable; of the original crews of 350 Bristol and Liverpool slaves between 1784 and 1790, 21.6% died. See Roger Anstey, *The Atlantic Slave Trade and British Abolition 1760-1810* (London, 1975), 26.

³³Klein, *Middle Passage*. The issue of slave mortality is much debated and has given rise to an extensive literature. This is discussed further in section V of this essay.

³⁴Klein, "English Slave Trade," 29 and 37.

³⁵The issue of the profitability of the slave trade has aroused much interest at both the venture and aggregate level. On the former, see David Richardson, "Profits in the Liverpool Slave Trade: The Accounts of William Davenport, 1757-1784," in Anstey and

meant increased. The latter possi 1807 with the c

A fur accounted for the size, in the ser Explaining why knowledge of c permit some in tions may be we size, or at least sight of the fac areas of the Afr tics and the sup been an optimal in operation, bu above. The not albeit in the nar where there ar distribution pre wider base to st is that while the not fully prove businesses from Less fully comm

Hair (eds.), *Liver Marriner*, "The N Review, 2nd ser.,

³⁶Between of 75,189 were ta

³⁷Anstey 150; and Behrend

³⁸Klein,

³⁹In 178 from registered to size. See Christop *Journal of Econo* 98-107.

meant increased liabilities should the voyage prove unprofitable or the vessel lost. The latter possibility was heightened by war virtually throughout the period 1798-1807 with the constant threat of enemy privateers.³⁶

A further observation of interest is that regular trading vessels – which accounted for the majority of sailings in the trade – were more consistent in their size, in the sense that most of them fell within a narrow range of tonnages. Explaining why this was so is far less easy than presenting the evidence. Fuller knowledge of ownership and voyage patterns with various ports of call would permit some informed judgement, but in the absence of such data, two suggestions may be worthy of consideration. First that there may have been an optimal size, or at least an optimal tonnage range, for slaving vessels. This is not to lose sight of the fact that the Africa trade was not homogeneous and that different areas of the African coast varied in their harbour facilities, seasonal characteristics and the supply, price and quality of slaves on offer.³⁷ Yet there may have been an optimal size – one, which was large enough to bring certain economies in operation, but not such as to encounter the problems or run the risks outlined above. The notion of an optimal-sized slave vessel has been suggested before, albeit in the narrower context of the Jamaican slave trade in the 1780s,³⁸ a decade where there are problems of tonnage analysis.³⁹ The evidence of tonnage distribution presented here, particularly of regular traders, gives support and a wider base to such a contention. A second, perhaps more speculative comment, is that while the relationship between vessel use and the structure of the trade is not fully proven, it would not be unreasonable to assume that established businesses from their experience would tend to use such “optimal sized vessels.” Less fully committed operators, without such specialised commercial know-how,

Hair (eds.), *Liverpool*, 60-90; and Francis E. Hyde, Bradbury B. Parkinson and Sheila Marriner, “The Nature and Profitability of the Liverpool Slave Trade,” *Economic History Review*, 2nd ser., V (1952), 368-377. See also footnote 63.

³⁶Between 1793 and 1805, 377 Liverpool-registered vessels with a total tonnage of 75,189 were taken prize. See Craig and Jarvis, *Liverpool Registry*, 188.

³⁷Anstey, *Atlantic Slave Trade*, 58-88; Drake, “Liverpool-African Voyage,” 135-150; and Behrendt, “Annual Volume,” 197-206.

³⁸Klein, “English Slave Trade,” 36; and Klein, *Middle Passage*, 158-159.

³⁹In 1786 the official system of measurement for English vessels was changed from registered to measured tons. This causes some problems for comparisons of vessel size. See Christopher J. French, “Eighteenth Century Shipping Tonnage Measurements,” *Journal of Economic History*, XXXIII (1973) 434-444; Lamb, “Volume and Tonnage,” 98-107.

were not so selective, hence the wider distribution of occasional trading vessels. And, although the few very large vessels which engaged in the trade were to be found in the occasional group; in general, occasional trading vessels were smaller than those regularly employed perhaps reflecting the more limited resources of their operators. Wallace, writing in 1795, intimated as such, "almost every man in Liverpool is a merchant, and he who cannot send a bale, will send a bandbox ...almost every order of people is interested in a Guinea cargo, it is to this influenza, that so many small ships are seen."⁴⁰

It remains to relate the findings of the analysis of tonnage to those of previous studies, always remembering that earlier work is based on examinations of annual sailings. Work on the trade as a whole, as opposed to selective studies concerned with vessels sailing from or to particular ports, is limited, but the valuable work done by Lamb suggests, for 1789-1792, an average tonnage of 185.9, and for 1790-1797, 190.6 tons.⁴¹ These findings compare with the current survey's figure of 234.64 for the period 1798-1807. Lamb also undertook a tonnage distribution for the early period, 1789-1792, which produced figures of 53.9 percent of vessels between 100 and 199 tons and 23.5 percent between 200 and 299.⁴² These compare with 32.69 and 36.73 percent; this suggests there was a substantial rise in the tonnage of vessels in the trade in its later years.

Various factors contributing to this rise in vessel size can be advanced. First, as Craig and Jarvis' survey of the Liverpool Shipping Registers reveals, there appears to have been a general trend towards larger vessels with many more vessels over 200 tons listed on the Registers of the early nineteenth century compared with the 1790s.⁴³ More specifically, the explanation may be linked with changes in the pattern of destinations on the African coast. In its later years the slave trade shifted east and south, concentrating on the Bight of Biafra, and southwards to Angola and the Congo, with the trade coming to be heavily concentrated in these areas. In contrast, regions such as Senegambia, Sierra Leone, the Windward and Gold coasts declined in importance.⁴⁴ This change is significant for there is much evidence of inter-regional variation in vessels size (due to local harbour and river conditions, slave supply, etc.), and the shift which

occurred reprimanded to ones where Jones commenced 100 and 200 tons,⁴⁶ an observation West Africa and Angola, which to the use of

One regulating the reducing slave be the major establishing a the number of carry a given 1788 legislative although after which limited however, state the general in determining the

The preceding trading vessel majority of sail

⁴⁰Wallace, *History of Liverpool*, 229.

⁴¹Lamb, "Volume and Tonnage," 101.

⁴²*Ibid.*, 100.

⁴³Craig and Jarvis, *Liverpool Registry*, 142-145.

⁴⁴See the detailed table in Richardson, "Eighteenth Century Slave Trade," 173. Richardson's estimates are refined in Behrendt, "Annual Volume," 197-206.

⁴⁵Lamb

⁴⁶Quoted in *the Slave Trade*

⁴⁷Lamb

⁴⁸Dollan, "The Act's implication Causes of Slave History, XLVI Eighteenth-Century

⁴⁹Herr, "1791-97," in *A*

occurred represented a move from destinations where small ships were customary to ones where larger vessels were favoured.⁴⁵ The contemporary trader James Jones commented in 1788 that while vessels trading to Sierra Leone were between 100 and 200 tons, those operating in the Niger Delta were typically of 200-250 tons,⁴⁶ an observation borne out by Lamb's analysis of tonnage size related to West Africa destinations. It has also been suggested that trading to the Delta and Angola, which involved a longer voyage with increased hazards, may have led to the use of larger vessels.⁴⁷

One further influence may be that of legislation concerned with regulating the slave trade. Two Acts were passed, in 1788 and 1799, aimed at reducing slave mortality through alleviating overcrowding which was assumed to be the major cause of casualty. The first, Dolben's Act,⁴⁸ regulated capacity by establishing a ratio of slaves and tonnage and had the effect of reducing and fixing the number of slaves a vessel of a particular tonnage could carry.⁴⁹ Hence, to carry a given number of slaves in 1790 required a larger vessel than before the 1788 legislation. This may have encouraged the use of vessels of greater size, although after 1799 the use of very large vessels was discouraged by an Act, which limited the maximum loading of any vessel to 400 slaves. Overall, however, state regulations are likely to have been of minor significance alongside the general increase in vessel size and the geographical shifts in the trade in determining the increasing tonnage of slave trade vessels.

IV

The preceding sections have demonstrated that while both regular and occasional trading vessels took part in the slave trade, regular traders accounted for the majority of sailings. Again, while the tonnage of vessels varied enormously, there

⁴⁵Lamb, "Volume and Tonnage," 101.

⁴⁶Quoted in Elizabeth Donnan (comp.), *Documents Illustrative of the History of the Slave Trade to America* (4 vols., Washington, DC, 1930-1932), 589-590.

⁴⁷Lamb, "Volume and Tonnage," 103.

⁴⁸Dolben's Act is reprinted in Donnan (comp.), *Documents*, II, 582-589. The Act's implications are discussed in R.H. Steckel and R.A. Jensen, "New Evidence on the Causes of Slave and Crew Mortality in the Atlantic Slave Trade," *Journal of Economic History*, XLVI (1986), 57-77. See also Richardson (ed.), *Bristol, Africa and the Eighteenth-Century Slave Trade*, IV, xxx-xxxi.

⁴⁹Herbert S. Klein and Stanley L. Engermann, "Slave Mortality on British Ships, 1791-97," in Anstey and Hair (eds.), *Liverpool*, 113-125.

appears to have been something of an optimal size vessel as indicated by the clustering of regular traders within limited ranges of tonnage. This section builds on these findings of certain vessels specialising in the trade and being of a particular tonnage, and enquires whether slave vessels possessed any particular features in respect of place of build and sheathing, two other features on which *Lloyd's Registers* provide information.

Place of build is an interesting aspect, as it has been suggested that "by the second half of the eighteenth century slavers were usually of a special construction, since the nature of their human cargoes demanded decks rather than holds."⁵⁰ This is somewhat misleading for it implies that vessels had to be specially constructed for the trade. In fact, it was a relatively simple matter to put temporary decks into hold space; indeed, as another writer more accurately observes, "it was convenient to buy ships that were constructed for the slave trade, but West Indiamen could be adapted with facility."⁵¹ That the latter statement is more correct is clearly evidenced by the analysis undertaken in section II. The large number of occasional trading vessels making only one Africa voyage clearly indicates that adapting a vessel for what proved a temporary excursion into the trade must have been relatively easy and not too expensive, thus belying any suggestion of special construction as a pre-requisite.⁵² However, the residual implication remains that some vessels were specifically built for the slave trade. Without doubt this was so and slave trade merchants in Liverpool, Bristol and London contracted with local or nearby yards, for example in Lancaster or Chester, to build vessels. Even so, the picture of place of build presented in table 6 hardly suggests that such vessels were a significant element of the trade's shipping.

The table lists the place of build of vessels that made voyages in the slave trade, 1798-1807. It provides data on 536 (93.39%) of the 575 vessels, information not being available for the remaining thirty-nine. Most of these were vessels of the occasional class, and coverage of regular traders, where information was lacking on only four vessels, represented 98.15%.

⁵⁰Anstey, *Atlantic Slave Trade*, 9.

⁵¹Drake, "Liverpool-African Voyage," 128-129.

⁵²The single voyage undertaken by most occasional trading vessels suggests that the construction and removal of temporary decks must have been a fairly simple procedure. Temporary decks were widely used in British North American timber vessels, which from the 1830s regularly conveyed emigrants on the return crossing. See H.I. Cowan, *British Emigration to British North America: The First Hundred Years* (rev. ed., Toronto, 1961), 144-171.

Dist

British Built

Overseas built
Foreign

Colonies

No indication
place of build
Total

Source: Deriv

The
built overseas
the 575 vessels
Britain, with
built, fifty-one
built.

With
for 112 of the
London and B
respectively, v
all around the
Bermuda acco
colonies and I
to the British

Table 6
Place of Build of Slave Trade Vessels 1798-1807,
Distinguishing between Regular and Occasional Trading Vessels

		Regular	Occasional	Total
British Built	Liverpool	72	40	112
	Chester	5	6	11
	Lancaster	7	8	15
	Bristol	4	7	11
	London	8	18	26
	Others	19	51	70
	Total	115 (53.24)	130 (36.21)	245 (42.61)
Overseas built				
Foreign	France	37	71	108
	Spain	16	36	52
	Holland	1	8	9
	Other Europe	3	1	4
	USA	23	41	64
	South America	-	2	2
	Other	-	1	1
	Total	80 (37.04)	160 (44.57)	240 (41.74)
Colonies	Bermuda	11	17	28
	West Indies	1	-	1
	Brit. N. America	1	12	13
	East Indies	4	5	9
	Total	17 (7.87)	34 (9.47)	51 (8.87)
No indication of place of build				
		4	35	39
Total		216	359	575

Source: Derived from table 3 and *Lloyd's Registers*.

The picture that emerges is surprising for the table reveals that vessels built overseas comprised over half of all the vessels that took part in the trade. Of the 575 vessels, 291 (50.61%) were built overseas and 245 (42.61%) built in Britain, with the remaining vessels being unidentifiable. Of the 291 overseas built, fifty-one emanated from the colonies, leaving 240 (41.74%) as foreign built.

Within the British places of build, Liverpool predominated, accounting for 112 of the 245 vessels, and Chester and Lancaster provided twenty-six. London and Bristol, the other slave ports, accounted for twenty-six and eleven respectively, while the remaining seventy vessels were drawn from ports scattered all around the coasts of Britain. Colonial places of build were less diverse, Bermuda accounting for over half the group and the British North America colonies and India the remainder. Foreign built vessels were not usually admitted to the British Registry unless they had been captured in time of war and

subsequently sold out of Admiralty prize courts.⁵³ This explains why the foreign built vessels, to all intents and purposes, originated from only three sources – France, Spain and the United States – all hostile powers at various times in the late eighteenth and early nineteenth centuries.

The overall profile of place of build is modified only slightly when regular and occasional trading vessels are considered separately. The regular trader group certainly contained a higher proportion of home built, 115 (53.24%) out of 216, and of those 115, ninety-four were built in ports with an involvement within the slave trade. Precisely one-third of all regular trading vessels were Liverpool built which may give some support to the idea of vessels specially constructed for the trade, but despite the higher British built element, 44.91% of regular trading vessels were overseas built and 37.04% were foreign built. Occasional trading vessels showed a heavier bias towards overseas built. If the thirty-five unidentified vessels are discounted, 59.88% of occasionals were overseas built with 49.38% foreign, and the places of build within the British built component were much more diverse.

The evidence on place of build both provides answers and raises questions. It certainly serves to categorically reject any suggestion that the shipping of the slave trade comprised of vessels specially constructed for the trade. True, the presence of a significant proportion of slave port built vessels in the regular trading category could imply a nucleus of vessels built for the trade, but the diverse origin of the vast majority of vessels is abundant proof that such vessels were the exception. Yet, in demonstrating this fact the evidence itself throws up an intriguing question. Why were so many vessels overseas, and particularly foreign, built? Partly this was because in the war-torn period around the turn of the nineteenth century there was a vast amount of prize tonnage coming onto the market. Between 1786 and 1805, 570 prize vessels were registered at Liverpool; in the decade 1796-1805, of 1152 vessels registered at the port, 405 (35.16%) were prizes.⁵⁴ This flow of prizes must have been attractive to merchants in all trades and perhaps especially in the slave trade where casual operators undertaking a venture might wish to purchase a vessel for a particular voyage.⁵⁵ But the scale of usage of foreign built vessels suggests that there may have been other reasons besides availability and ease of purchase. One possibility is that foreign vessels were more sharply built. The typical British vessel tended

⁵³On the statutory Registry of British shipping, see R.C. Jarvis, "Liverpool Statutory Registry of British Merchant Ships," *Historic Society of Lancashire and Cheshire Transactions*, CV (1953), 107-122; and Craig and Jarvis, *Liverpool Registry*, v-xxxix.

⁵⁴Craig and Jarvis, *Liverpool Registry*, 165-170, 189-194.

⁵⁵Drake, "Liverpool-African Voyage," 129.

to be short a
system of t
design. A fir
an important
passage. Me
armaments
description
as "remarka
may well be
apparent pr

If
sheathing. S
tropical wa
increased sa
factor which
ocean curre
adopting co
became cus

Of
majority wi
for the rem
Sheathing w
limited app
vessels bein
sheathing a
vessels wer
almost the
occasional
as an essen
detailed ex

⁵⁶
(690), VI, Q
968.

⁵⁷
the English

⁵⁸

⁵⁹

⁶⁰

to be short and deep in its proportions, partly in order to take advantage of the system of tonnage measurement,⁵⁶ foreign vessels had a relatively finer hull design. A finer, sharper design gave better and faster sailing. Such qualities were an important consideration in the slave trade, given the need for a speedy middle passage. Moreover, in the dangerous conditions of wartime, slave ships besides armaments relied on their speed and maneuverability to resist capture.⁵⁷ The description of "Africa vessels" by James Penny, a slave trade captain, in 1788, as "remarkably sharp, fast sailors"⁵⁸ indicates the type of vessels favoured and it may well be that finer proportions and better sailing qualities partially explain the apparent preference for foreign built vessels.

If a sharper hull design facilitated faster sailing, so too did copper sheathing. Sheathing besides giving protection from the ravages of the *teredo* in tropical waters also prevented the fouling of hulls with marine growths. This increased sailing speed and enabled more progress to be made in light winds, a factor which facilitated navigation since the vessel was less liable to drift on the ocean current. For such reasons the slave trade was in the forefront of those adopting copper sheathing from the 1780s.⁵⁹ The extent to which copper sheathing became customary by the turn of the century is shown in table 7.

Of the 575 vessels in the trade, 539 (93.74%) were sheathed, the vast majority with copper. Only three vessels were described as "not sheathed" while for the remaining thirty-three there was no indication of sheathing or otherwise. Sheathing was well nigh universal in the trade at a time when the practice was of limited application elsewhere – only ten percent of British overseas trading vessels being copper sheathed in 1806.⁶⁰ Given the slave trade's early entry into sheathing and the obvious advantages it brought, to find that all regular trading vessels were sheathed was hardly unexpected, but it is perhaps surprising that almost the same level of adoption prevailed for vessels which made only an occasional voyage. Clearly sheathing was regarded not merely as desirable, but as an essential prerequisite of participation in the trade. That is borne out by a detailed examination of the *Registers*. This reveals that the vast majority of

⁵⁶BPP, "Select Committee on Commerce, Manufactures and Shipping 1833" (690), VI, Q.3678; and "Select Committee on British Shipping 1844" (545), VIII Qq. 967-968.

⁵⁷Gareth Rees, "Copper Sheathing, An Example of Technological Diffusion in the English Merchant Fleet," *Journal of Transport History*, New Series, I (1971).

⁵⁸BPP, Accounts and Papers, 1789 (629), XXIV, 40.

⁵⁹Rees, "Copper Sheathing," 85-94.

⁶⁰*Ibid.*, 87.

occasional trading vessels were sheathed very shortly before they undertook their slaving voyage. Sheathing was thus a feature all vessels had in common and, as such, was a special characteristic of the shipping of the slave trade.

Table 7
Extent of Copper Sheathing in Slave Trade Vessels, 1798-1807,
Distinguishing between Regular and Occasional Trading Vessels

	Regular	Occasional	Total
Sheathed with copper	209	311	520
Sheathed, but copper not specified	5	14	19
Not sheathed		3	3
No indication	2	31	33
Total	216	359	575

Source: Derived from table 3 and *Lloyd's Registers*.

V

This paper has addressed a limited number of basic questions comprising the number of vessels taking part in the slave trade, the size and rig of those vessels and other features namely, place of build, design and fittings. Its findings can be expressed almost equally succinctly. The shipping of the slave trade, in its final years, comprised two groups of vessels, regular and occasional traders, with the former accounting for a high proportion of total voyages. Vessels in the trade were of varied size but the tonnage range 150-349 tons embraced sixty-five percent of all vessels and a much higher percentage of regular traders which, in general, were somewhat larger than occasional traders. The size of vessels determined that most were ship-rigged. The survey of place of build revealed perhaps the most surprising aspect of the trade's shipping, that over half of all vessels were overseas built. While a glut of wartime prizes partially explains this, there may have been a preference for foreign vessels, which if of finer lines, sailed more speedily, an especially desirable quality that also accounts for the universal practice of sheathing.

The focus of this paper has been on vessels and the basic questions of how many and of what type? However, the findings within this seemingly narrow perspective have implications for wider aspects of the slave trade. Amongst the main themes explored by modern research in the trade, those of triangularity, profitability and slave mortality have featured prominently. In all these areas the division of the shipping of the trade into regular and occasional vessels may have some significance. The debate over triangularity arises from the suggestion that the traditional pattern of the slave trade with cargo carried on each leg of the voyage, changed at some stage in the eighteenth century. It has been argued that the trade became increasingly two-sided with the proceeds of slave sales being remitted as bills of exchange rather than as cargoes of sugar and other West India

goods. Much a "myth" and to consider (some bearing voyages with vessels making were accomplished either available cargo clearly affected final resort, market situation masters. Even ports and revealing.

When through delay bearing on it been an issue concern here high returns, likely to have those engaged

⁶¹On Triangular Trade "Commercial History, III (1975); and M

⁶²So sailings between (eight sailings

⁶³Th Eric Williams, especially chapter the Slave Trade "Profits in the Darity, Jr., "Journal of Economic History for Profits in Economic Hist

goods. Much controversy has ensued with the triangular trade being dismissed as a "myth" and subsequently "revisited" and reinstated.⁶¹ This is not the occasion to consider the merits of either case, but the evidence of this paper may have some bearing on the debate. The ability of regular traders to undertake series of voyages with remarkable consistency, and there are many, many instances of vessels making annual sailings over a period of years,⁶² suggests that such vessels were accomplishing rapid turn around times. Of course these may have been achieved either by forsaking a return freight or through having ready access to available cargo due to their regular schedule. Whichever was the case would clearly affect the opportunity and ability of other vessels to obtain a freight. In the final resort, whether cargo was carried on the return voyage depended on the market situation and the operating decisions of owners and their instructions to masters. Even so, a comparison of the voyage times, length of stay in Caribbean ports and return cargoes of regular and occasional trading vessels might prove revealing.

Whether a return freight was carried or not, and the costs incurred through delay while assembling cargo, or saved by a speedy turnaround, had a bearing on the profits of a slave trade voyage. The profitability of slaving has been an issue of controversy for over fifty years.⁶³ The ongoing debate is not of concern here, but it may be observed that while individual ventures could give high returns, the trade was inherently risky, and average profits, over time, are likely to have been modest rather than spectacular. The financial accounting of those engaged in the trade embraced all manner of considerations but the fitting

⁶¹On the "triangularity" debate, see Gilman M. Ostrander, "The Making of the Triangular Trade Myth," *William and Mary Quarterly*, 3rd ser. XXX (1973); Sheridan, "Commercial and Financial Organisation;" J.E. Merritt, "The Triangular Trade," *Business History*, III (1960), 1-7; C. Duncan Rise, *The Rise and Fall of Black Slavery* (London, 1975); and Minchinton, "Triangular Trade Revisited."

⁶²Some vessels achieved remarkable records of consistency, such as *Ann* (ten sailings between 1796 and 1807); *Crescent* (nine sailings, 1796-1807); *Earl of Liverpool* (eight sailings, 1797-1804); and *Governor Wentworth* (seven sailings, 1799-1805).

⁶³The following selection of studies provides an indication of the extent of debate: Eric Williams, *Capitalism and Slavery* (Chapel Hill, 1944); Anstey, *Atlantic Slave Trade*, especially chapter 2; R.P. Thomas and R.N. Bean, "The Fishers of Men: The Profits of the Slave Trade," *Journal of Economic History*, XXXIV (1974), 885-914; Richardson, "Profits in the Liverpool Slave Trade," 75; Inikori, "Market Structure," 745-776; W. Darity, Jr., "The Numbers Game and the Profitability of the British Trade in Slaves," *Journal of Economic History*, XLV (1985), 693-703; and David Richardson, "Accounting for Profits in the British Trade in Slaves: Reply to William Darity," *Explorations in Economic History*, XXVI (1989), 492-499.

out of the vessel was a significant element. Apart from the usual costs involved in getting any vessel ready for sea, the slave trade required the provision of decking within the hold, special fittings to store food, water and other supplies for the middle passage, and from the late eighteenth century, the sheathing of the hull. Fitting out was not a cheap matter.⁶⁴ This being so, there were clear cost advantages to be gained from employing the same vessels repeatedly in the trade, for the constructional expenses, both of money and time, would not be encountered after the initial voyage. If it was the large established houses that owned and employed the regular trading vessels, this gave them a cost advantage in addition to the benefits they accrued from expertise, contacts and market expertise. In some ways too, the use of optimal-sized vessels may have conferred financial benefit, marginal perhaps, but not to be dismissed given the estimates of relatively low profits.

Crucial to the profitability of any voyage was the ability to deliver the middle passage cargo as safely and as completely as possible. The health, and particularly the mortality of slaves, has been much studied. One outcome has been a recognition that local conditions in Africa may have been as significant as the treatment slaves received in the middle crossing as an explanation of variations in mortality.⁶⁵ On the shipping side there has been some discounting of the contemporary emphasis on overcrowding as a prime cause of casualty.⁶⁶ In contrast, the duration of the middle passage has been shown to be a significant influence on slave mortality, particularly on voyages greatly exceeding the normal passage time.⁶⁷ Such evidence would suggest the pursuit of fast sailing, embodied in the choice of vessel and the adoption of sheathing, was well founded.

⁶⁴David Richardson, "The Costs of Survival: The Transport of Slaves in the Middle Passage and the Profitability of the 18th-Century British Slave Trade," *Explorations in Economic History*, XXIV (1987), 178-196, esp. 184-185.

⁶⁵Curtin, *Atlantic Slave Trade*; Herbert S. Klein and Stanley Engerman, "Slave Mortality," 113-125; H.S. Klein and S.L. Engerman, "A Note on Mortality in the French Slave Trade in the Eighteenth Century," in Gemery and Hogendorn (eds.), *Uncommon Market*, 261-272; Johannes Postma, "Mortality in the Dutch Slave Trade 1675-1795," in *ibid.*; J.C. Miller, "Mortality in the Atlantic Slave Trade," *Journal of Interdisciplinary History*, XI (1981), 385-423; and Steckel and Jensen, "New Evidence," 57-77.

⁶⁶Klein and Engerman, "A Note on Mortality in the French Slave Trade," 272; R.L. Cohn and R.A. Jensen, "The Determinants of Slave Mortality Rates on the Middle Passage," *Explorations in Economic History*, XIX (1982), 269-282.

⁶⁷David Eltis, "Mortality and Voyage Length in the Middle Passage: New Evidence from the Nineteenth Century," *Journal of Economic History*, XLIV (1984), 301-308. Eltis' footnote on 301 lists the many contributions to the debate.

Nevertheless
passage mor
the long term
was clearly
increased us

The
this paper th
This is large
overseas tra
features can
peculiarity ly
rather that it
dimension r
transporting
emigrants. A
moreover, a
Americas - t
trades in the
largely in co
bles of clim
variables tha
always an ele
initiative. It i
merchants tra
vessels were
certain, how
conclusions
provokes a n

⁶⁸On
included Engla
Portugal. See

⁶⁹Thi

Nevertheless, it would be interesting to discover whether the incidence of middle passage mortality varied between regular and occasional traders. Also whether the long term decline in mortality over the course of the eighteenth century which was clearly linked to reduced sailing times, was in turn associated with the increased use of optimal-sized, regular trading vessels.

The clearer appreciation of the shipping of the slave trade provided by this paper thus serves to provoke as many questions as it endeavours to answer. This is largely because the slave trade was very different from other branches of overseas trade undertaken by British merchants and ship owners. Three special features can be stressed: first, the peculiar nature of its middle passage cargo, its peculiarity lying not so much in that it was a human or even captive cargo, but rather that it comprised human beings with a commercial value. This commercial dimension made the business of shipping slaves very different from the transporting of other large numbers of persons, convicts, troops and later emigrants. A second special feature was the trade's triangular form and, moreover, a variable triangle given the variety of destinations in Africa and the Americas – though it must be said that its triangularity was not unique for other trades in the eighteenth century involved a roundabout voyage pattern.⁶⁸ Third, largely in consequence of the above features, but also because of the imponderables of climate, disease and seasonality, the trade arguably possessed more variables than any other. In consequence, while luck and good fortune were always an element, a premium was placed on efficient organisation, flexibility and initiative. It is quite possible that some of these uncertainties were lessened when merchants traded on a regular basis, employed experienced captains⁶⁹ and if some vessels were put into the trade year after year – all of which was the case. More certain, however, is that the complexities of the slave trade make it a field where conclusions must at best be cautious and each small advance in knowledge provokes a new range of aspects for consideration.

⁶⁸Other multilateral Atlantic trades in the eighteenth and early nineteenth centuries included England, New England, and the West Indies; and England, Newfoundland and Portugal. See Minchinton, "Triangular Trade Revisited," 332.

⁶⁹This was certainly the case. See Behrendt, "Captains."