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The Production and Circulation of Geographical Knowledge in the British Atlantic World, 1660-1720

NB: This is a very preliminary and initial draft.

In the second half of the seventeenth-century the boundaries of the British Atlantic world expanded, and it began to occupy a larger place in the political, economic, and intellectual imaginations of English men and women. Trade, commerce, settlement and their satellite activities in London and the Americas boomed. By 1700, the number of English colonies in the North Atlantic and Caribbean reached seventeen, totalling over 100,000 square miles.[1] Lured by the prospects of lucrative Spanish markets, ships setting sail from London also travelled to Spanish American coastlines, including Isthmus of Panama, the Atlantic coast of Brazil, and Tierra Firma at the extreme South of the continent.[2] 'Discovery' and settlement of lands went hand-in-hand with commercial exploitation of resource and labour, and as vast acres of lands in the New World were planted, commodities like sugar, tobacco, indigo and calicoes were sent across the Atlantic in increasing quantities. Between 1663 and 1701, the value of plantations imports rose by around 100%, and exports around 150%. England's plantation tonnage almost doubled in two decades from 1663, and from 1686, 335 ships a year entered London from the Atlantic colonies.[3]

During the same period, significant changes took place in modes of enquiry, epistemologies, and social and cultural forms of authority in natural philosophy across Europe. Traditionally labelled the era of the 'Scientific Revolution', the final decades of the seventeenth century have received much attention from historians.[4] Views range from considering the period to be the gateway into modern science, to revisionist judgements rejecting a positivist approach, but nonetheless identifying important developments in institutional and individual approaches to natural philosophy. It is clear that mathematical knowledge flourished in London. The founding of the Royal Society in 1662 and the Royal Mathematical School in 1673 indicated growing institutional and state interest in mathematics. The first English (rather than translated) sea atlas was published in London in 1657 by

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[1] Nuala Zahedieh, *The Capital and the Colonies: London and the Atlantic Economy, 1660-1700* (Cambridge, 2010), p32

[2] Glyndor Williams, '"The Inexhaustible Fountain of Gold': English Projects and Ventures in the South Seas, 1670-1750', in John E. Flint and Glyndwr Williams, *Perspectives of Empire* (London, 1973), pp.28-30. Tom Devine, *Scotland's Empire and the Shaping of the Americas* (2004), pp.44-46; G E Vaughan, *The Story of Scottish Settlement in the Darien (1698-1700) and Its Importance in British History* (1962); John Prebble, *The Darien Disaster* (2002). In 1711, England was awarded the *asiento* contract by the Spanish in the peace settlement after the War of Spanish Succession, which granted them a monopoly of slave trading from Africa to the Spanish in the Americas, and gave them unprecedented legal, rather than clandestine, access to Spanish American ports. Julian Hoppit, 'The Myths of the South Sea Bubble', *Transactions of the Royal Historical Society,* 12, pp.141-165 (2002), pp.141-142; Helen J Paul, *The South Sea Bubble: An Economic History of its Origins and Consequences,* (New York, 2011)

[3] Ralph Davis, *The Rise of the English Shipping Industry* (London, 1962) p22; Zahedieh, *The Capital and the Colonies,* p157

[4] The 'Scientific Revolution' boasts an extensive historiography. See in particular Lorraine Daston, Michael Hunter, Simon Schaffer, Steven Shapin.

Dutch émigré Joseph Moxon, followed by a major pilot atlas project a decade later by publisher John Seller.[5] The first printing manual printed in England, *Mechanick Exercises,* was published in 1667, whilst the first celestial pocket globes, navigation manuals, and mathematical instruments were all produced in increasing numbers. Indeed, by 1710 London was home to nine schools for the teaching of mathematics.[6]

This growth of London as a place for mathematical knowledge is usually attributed to changes in natural philosophy, with the founding of the Royal Society and the publication of Newton's *Principia* in 1685 cited as a pivotal moments.[7] Social and political change following the Restoration, and associated developments in social interactions and places of discussion are also considered to be explanatory factors.[8] However, despite growing attempts at transnational histories of knowledge, the relationship between Atlantic commerce and mathematical knowledge and philosophical practice has been obscured. Human capital, labour and interactions between actors involved in knowledge production are also often ignored by historians of science focussing on philosophies rather than skills.[9] Indeed, interactions between historians of science and economic historians are often lacking, despite the fundamental relationship between knowledge, skill, and economic activity. This has been partly addressed by historians such as Margaret Jacob, Joel Mokyr and Larry Steward writing about the development of European 'knowledge economies'.[10] However their focus on the roots of industrialisation leads them to disregard the role of non-European science and non-European history in the creation of these knowledge economies. The role of the discovery of new environments (to European eyes) and new markets inherent in imperial projects in challenging European modes of enquiry and existing skills that were linked to 'useful knowledge' has therefore neglected. James Delbourgo and James Dew have written "the history of science in the Atlantic world cannot be understood simply as a history of scientific travel from centre to periphery […] many who made

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[5] Joseph Moxon, *Book of Sea Plats* (London, 1657); John Seller, *English Pilot [in numerous volumes and editions]*

[6] These schools were Cornhill (Reeve Williams), Goodmans Fields (John Colson), Bread Street (R Sault), Wapping (Samuel Newton), Rotherhithe (James Atkinson), Ratcliff Arms (Mr Linton), Armitage (Mr Hindmarsh), and two endowed maths schools, one in Rochester (funded by money from Sir Joseph Williamson) and in the City under the will of Joseph Neale (Neales Mathematical School).

[7] E.G.R Taylor, The *Mathematical Practitioners* of Hanoverian England 1714-1840 (Cambridge, 1966); Lorraine Daston and Elizabeth Lunbeck (eds), *Histories of Scientific Observation,* (2011).

[8] Larry Stewart, *The Rise of Public Science: Rhetoric, Technology, and Natural Philosophy in Newtonian Britain, 1660-1750* (1992)

[9] See following texts for examples of excellent scholarship on early modern natural philosophy that unfortunately does not address skill development; Susan Dackerman, 'Introduction: Prints as Instruments' in Susan Dackerman (ed.) *Prints and the Pursuit of Knowledge in Early Modern Europe* (2011)

[10] All the three authors have written extensively on this topic. A sample includes Margaret C. Jacob, *The First Knowledge Economy: Human Capital and the European Economy, 1750-1850,* (Cambridge, 2014), Joel Mokyr, Larry Stewart, *The Rise of Public Science: Rhetoric, Technology, and Natural Philosophy in Newtonian Britain, 1660-1750* (1992)

knowledge in this world never made any such journey".[11] Indeed, publishers of Atlantic geographical knowledge working in London during this period almost certainly made no Atlantic journeys and instead relied upon information provided by mariners, captains, or natural philosophers. This leads us to considering the relationship between the artisan and scientific communities. David Livingstone suggests that science has a geography and writes "place is essential to the generation of knowledge. It is no less significant in its consumption […] But migration is not the same as replication".[12] My thesis attempts to analyses this connection between empire and 'useful knowledge'. One area of focus is information collection and circulation in the Caribbean and in areas of English interest in Spanish America.Although Spanish America is not traditionally included in the British Atlantic world, growing commercial interests in the region and increased allocation of resource to understanding the area merits its inclusion in this analysis. I use a transnational framework to try to 'follow' geographical knowledge and identify actors and relationship involved in its production. This includes analysing mercantile or State Company shipping routes and ship logs, discovery or settlement voyages such as the Scottish Darien ventures, and privateers activities.

This paper considers one small aspect of this in the printed accounts of voyages made by a number of pirates and mariners circulating in London between 1660 and 1700, and in the voyage diary, manuscript draught and printed map regarding John Narborough's voyage to the Straits of Magellan in 1669. The paper firstly describes the type of geographical information included in these accounts, and goes on to speculate regarding what conclusions can be feasibly drawn about the relationship between these accounts and knowledge of the environments they discuss.

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[11] James Delbourgo and Nicholas Dew, 'Introduction' in Delbourgo and Dew (eds) *Science and Empire in the Atlantic World* (London, 2008), p5
[12] David Livingston, *Putting Science in Its Place: Geographies of Scientific Knowledge* (Chicago, 2003), p2-3

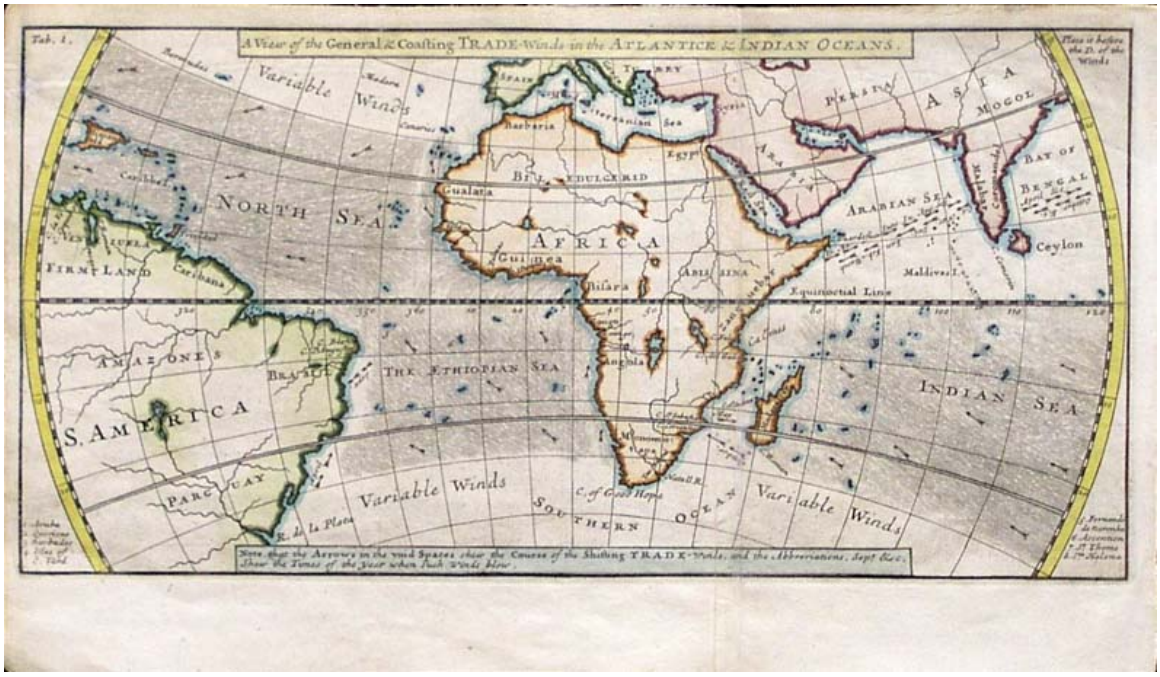

Figure 3: 'A View of the General and Coasting Trade Winds in the Atlantick and Indians Oceans', 1729, based on William Dampier's *Collection of Voyages.*[13]

William Dampier is best known for his work *A New Voyage Around the World*, published in 1698, which was the first of several long works describing his voyages in the Atlantic and Indian oceans.[14] He left his home in Somerset aged 18 to work on a merchant trading ship, and later sailed around Western Europe with the Royal Navy during the Third Dutch War in 1672-74. He sailed to Jamaica on the ship *Content* in 1674 where was supposed to work as a boiler on a sugar plantation, but he left to work with log-cutters in the Bay of Campeche in Mexico, then began his first circumnavigation of the world in 1679.[15] His second book V*oyages and Descriptions* was published in 1699, and included *A Discourse of Trade-Winds, Breezes, Storms, Seasons of the Year, Tides and Currents of the Torrid Zone throughout the World.*[16] He claimed that his descriptions of the trade-winds, currents etc

[13] British Library, Cartographic Items 673.c.12.
[14] William Dampier, *A new voyage around the world : describing particularly the isthmus of America, several coasts and islands in the West Indies, the Isles of Cape Verd, the passage by Terra del Fuego, the South Sea…* (London, 1698). Seven editions of Dampier's voyages appeared before 1727, and two of the volumes were translated into Dutch, German and French, with reissues of the English versions reappearing frequently. Indeed Dampier's descriptions of the places, people, animals, sea currents etc he had witnessed on his voyages were influential into the nineteenth century. In an early nineteenth century text describing the history of the discoveries of the 'South Sea', Admiral Burney wrote, "It is not easy to name another voyager or traveller who has given more useful information to the world: to whom the merchant and the mariner are so much indebted", Admiral Burney in *Chronological History of the Discoveries of the South Sea* (London, 1803-7).
[15] Joseph C. Shipman, *William Dampier: Seaman Scientist* (Kansas, 1962)
[16] ibid, p13-14

were based on observations made during his voyages, indicating that not only did his position as a mariner and privateer put him in a position where he was able to make first-hand observations of conditions at sea. For example "When we are in South Lat. in the Atlantick, if the sun is in Northern Signs, the Sky is clear, but if in Southern Signs, the sky is cloudy. This I once experience to my sorrow, in my return from Bantam, in the year 1671" and "South winds are also very violent winds. I have not heard any thing of these sorts of storms, but at Jamaica or by Jamaica sailers. The time when they blow at Jamaica is about June, July or August, months that norths never blow in."[17] The journal is full of comments of this nature, commenting on weather conditions, tides, winds, rocks, soundings and other navigation-related information. Much of this information had not been printed in England before the late seventeenth century.

Dampier's position as an experienced mariner gave him access to other sources of maritime information, including from privateers, sea captains, and even Spanish mariners. He mentions obtaining information from privateers or from his time as a privateer: "In all my cruisings among the privateers, I took notice of the rising of the tides; because by knowing it, I always knew where might best hall ashore and clean our ships: which is also greatly observed by all privateers".[18] Similarly, Dampier's references to other mariners or sea captains suggests that he gathered information from other people at sea. He included four letters from Captains he had written to asking for information about wind conditions:

> I have had an account of them from several who had Traded to Guinea: but more especially from a very sensible and experienced Gentlemen, Mr Greenhill, Commissioner of his Majesties Navy at Portsmouth; who upon my request was pleased to send me that following account: which the reader cannot have better than I his own words. Where, together with the Harmatans, he gives an account also of all the Winds on the Coast.[19]

Dampier's style of describing natural conditions was also found in other published accounts of voyages to the Americas. Another privateer, Captain Cowley, wrote an account of voyages which were published alongside several other diaries by chart maker William Hacke in 1699. Cowley sailed with Dampier and Bartholomew Sharpe in 1683, but joined another ship to became the navigator. He wrote that in December 1683 they reached soundings on the East coast of Brazil, after sailing south from the Caribbean sea. He wrote

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[17] Dampier, *A New Voyage, p4*
[18] ibid, p97
[19] ibid, p49

> We held our Course S.W till we came into the lat. Of 47 deg. where we saw land; the same being an Island not before known, lying to the West-ward of us. It was not inhabited, and I gave it the name of Pepys Island. We found it a very commodious place for Ships to water at and take in Wood, and it has a very good Harbour, where a thousand ships may safely ride[20]

Like Dampier, Cowley included information that would ostensibly be useful to mariners sailing in that area, such as the size of harbours, places to gather water, and appropriate places to anchor ships. Cowley also included a number of prospect drawings of coastlines and islands, including 'Nutmegg Island' and the 'Island of John Ferdinando'. These drawings marked latitude and bearings (7L and WS West), as well as anchorage points. Another drawing showed 'A Prospect of the Cape of Good Hope at 2 leagues distance bearing S West' and marked places such as a Dutch fort and a 'towne'.[21] As with the textual information, these drawings included useful and specific navigation information that would be of use to pilots sailing in the region. The method of drawing coastlines and topography as it would seen from the ship was still common in navigation, and printed navigation manuals instructed mariners to adopt this practice.[22] Some printed and manuscript pilot charts or atlases from this period included drawings of this style, for example John Seller *The English Pilot* or William Hacke's manuscript atlas of Spanish American coastlines.[23] It can be assumed that, as an experienced mariner and navigator, Cowley used these methods to record information whilst at sea, and that they would have been useful information to a pilot reading the account.

A second example of publication of geographical knowledge of the Americas in London focuses on the voyage to the Straits of Magellan in the South Sea and the observations made by naval commander Sir John Narborough. The voyage was sponsored by the English Crown and aimed to collect information that would be useful in developing English capacities to trade in Spanish America, but ultimately it was part of the ambition to access the Pacific Ocean from the Atlantic and exploit opportunities on the Pacific Coast of the Iberian Empire. This was not the first English voyage to the South Seas – Thomas Cavendish sailed there in 1587, but the straits remained relatively obscure to English sailors. The Straits of Magellan serve as a natural passage between the Pacific and

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[20] *A Collection of Original Voyages: Containing I. Capt. Cowley's Voyage Around the Globe, II. Captain Sharp's Journey over the Isthmus of Darien and Expedition into the South Seas, written by himself, III. Capt. Wood's Voyage thro' the Streights of Magellan, IV. Mr Robert's Adventures among the Corsairs of the Levant; his account of their Way of Living; Description of the Archipelago Island, Taking of Scio etc. Illustrated with several Maps and Draughts. Published by Capt. Willam Hacke. London. Printed for James Knapton at the Crown in St Paul's Churchyard, 1699* (London, 1699)

[21] ibid

[22] For example John Seller, *Practical Navigation* (London, 1665)

[23] John Seller, *English Pilot* (various editions), William Hack, *The Great South Sea of America*, National Maritime Musuem, Greenwich; British Library, London.

Atlantic but they are difficult to navigate due to the winds and currents, and the narrowness of the strait.

Sir John Narborough was chosen to head an exploration voyage to the South Seas in May 1669. Narborough was an English naval captain and he had served in the second Anglo-Dutch war, for which he made lieutenant in 1666.[24] The introduction to the post-humously printed copy of his journal (1694) explains '*His Majesty of Great Britain, His Royal Highness the Duke of York and several others of the nobility, designd a better discovery of Chili, in order whereunto two ships were sent out under the Conduct of the Great Navigator and worthy commander Sir John Narborough'*, and continues, '*his observations and draughts are the most judicious and exact of any that met before him*'.[25] In a time when the vast majority of Atlantic voyages were made by merchants ships for trade and commerce purposes, a specially-commissioned voyage was unusual, and Narborough was presumably chosen for his proven ability to command voyages in difficult circumstances.

This discussion focuses on the geographical information collected by Narborough on the voyage and its circulation in London following his return from the South Seas. It analyses three textual and visual accounts of the journey – the journal of his voyage; a hand-drawn draught map made by Narborough; and a printed map of the Straits published by map-maker John Thornton in London in 1673.[26] Two copies of Narborough's draught are in the British Library map collection.[27]

In August 1669, Narborough wrote to the captain of the second ship on the voyage, explaining the purpose of the trip - '*The design of this voyage being to make a discovery of both the seas and coasts of the world, and if possible, to lay the foundation of a trade there*'.[28] The ship, the Sweepstakes, began its long journey on September 26th 1669, with 80 men on board, 14 months of supplies, and goods to trade with 'natives', and took a common route to the Americas via the Madeira islands. By the end of October the Sweepstakes reached the Straits of Brazil, and followed a route to the North of Rio de La Plata, sailing South to the Straits of Magellan into the South Seas. Narborough writes then that they sailed south past the straits of Brazil, to reach Rio de la Plata, Uruguay, continuing south.

The vast part of Narborough's diary concentrates on describing the Straits of Magellan, and this is the area he drew a map of based on the observations he made of the landscape, weather

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[24] Glyndor Williams, "The Inexhaustible Fountain of Gold': English Projects and Ventures in the South Seas, 1670-1750', in John E. Flint and Glyndwr Williams, *Perspectives of Empire* (London, 1973)
[25] *An account of several Late Voyages & Discoveries to the South and North . . . by Sir John Narborough (London, 1694)*
[26] John Thornton, *A new Mapp of Magellan Straits: discover'd by Capt. Sir John Narborough* (London, 1673)
[27] An account of several late voyages…by John Narborough (1694)
[28] ibid

conditions, animals and settlements in the area. He wrote to Captain Fleming, who was commanding the accompanying ship,

> *You are to take observations with as much accuracy as you can, and also to cause your mate and company to do the like, to observe all head-lands, islands, bays, havens, roads, mouths of rivers, shoals, soundings, courses of tides, and settings of currents, and cause draughts to be made of them. Also you are to take notice of any trade winds you meet with, and of the weather and especially to observe harbours in the Straits of Magellan'.*[29]

Narborough described sea and land conditions on the route southward to Magellan, '*I judge a current sets out of Rio de la Plata, for I find nine miles more to the Southward than I expected*', and he commented on creatures they were sharing the water with, '*All the albycores, bonettoes and flying-fish have quite left the ship, no fish to be seen but whales'*. He made many observations regarding the type and number of animals witnessed, at one point describing an encounter with penguins,

> *The number of seals, penguins, and sea fowls upon these islands is almost incredible […] I put ashore and took into my boat 300 penguins and could have taken 3000 in the time, if my boat would have carried them, for it is but driving them in flocks to the shore, by the boats side, where two or three men knock them on the head with short truncheons, and the rest heave them into the boat*'.[30]

At the same time as making these observations, Narborough drew a draught of the Straits of Magellan, and referred to it in his journal. The hand-drawn and coloured map was drawn on vellum and measures 0.8m by 1.8m. It was relatively common practice for mariners to make these drawings or maps at sea, and there are references to them in other voyage diaries. Navigation manuals instructed mariners and pilots in how to draw charts at sea, and the Royal Mathematical School bought blank charts to use to instruct apprentices in navigation.[31] Narborough likely made a series of drawings or sketches whilst in the region, and then produced a final version in London. Narborough's was likely to have been unusual due to its concentration on describing the geography of the area, rather then plotting the ships course. This is an unusual case of a surviving draught (probably because it was designed to present to his Patrons), and it provides some interesting insights into what Narborough thought appropriate to include on a map of the region as well of evidence of the volume of observations he made on the voyage.

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[29] ibid
[30] ibid
[31] Christ's Hospital Account Books, MS12819 MF 11-13, London Metropolitan Records.

The draught shows the entrance to the Straits, fittingly labelled 'Sweepstakes Bay' and the passage that the ship took through the straits, with detailed pictures of the landscape and labels physical features and landmarks. It's clearly hand-drawn and coloured, and includes features common to maps of the period, such as a compass rose, areas of textual description, and a dedication to the patron. Unlike printed sailing charts of the period it is not drawn to a projection, and it does not have rhumb lines (criss-crossed lines drawn onto charts used for plotting courses).

There is a significant amount of information that could be described as 'useful' relating to navigation and sailing for mariners attempting to sail through the straits. This includes markings of the location of rocks, water depths, shoals and sand banks, inlets, longitude and latitude markings, as well as good or bad places to anchor ship. There are textual markings with information that a ship would find useful: *'dry at low water'*, *fresh water runns downe in most places', 'good rideing and good fishing'* and *'sounds run into the sand'*. Narborough also included a piece of text in the top left-hand corner of the draught which gives detailed information about the tides: '*the tide of flood comes from the southwards and sets strong into the straits at the first narrow'* continuing, *'it is much better to come from the westward, then to go to the westward for the winds as much turn to blow westerly and that is the course though navigation is difficult'*.

In addition to including navigational information, Narborough described the landscape and animals. He made observations such as '*spiere trees grow much in this wood*', '*mountains and snow hills high'* and '*good fishing with nets',* and accompanied them with drawings of the mountains, of penguins, guianaeo (a type of bird – Narborough also wrote that the weight of one that he killed was two hundred and sixty pounds) and ostriches. Many of the places were given names relating to the physical landscape – *high snow hills* or *whale sound.*

Narborough also included descriptions of local indigenous people that he called Natuits. He included drawings of eleven people he encountered living on either side of the straits, as well as houses and canoes he claimed they used. The people are holding fish, birds, baskets and spears. He accompanied the drawings with the description, '*The natives of this land as they appeared to me: some of them have loose garments of beast skins sewed to others; others naked; their weapons of bowes and arrows, they are of middle status, not taller than generally English men are'*. Narborough wrote that he spoke with some Natuits*: 'They made signs to shew that there is gold in the mountains near Porte Famin, but I should never find any. These people have a harsh language and pronounce it much in the throats'* etc. This does not seem to have been unexpected – Narborough wrote to Captain Fleming, before the voyage began, *'You are also to mark the temper and inclinations of the Indian inhabitant, and where you can gain any correspondence with them, and you are set on purpose*

to set on foot a trade, and to make friendship with them'.[32] The considerable space given on the draught to both textual and visual descriptions of their appearance and customs indicates that he considered this to be important information to provide to patrons in London. It may suggest that Narborough and mariners sailing with him gathered some local knowledge through communications with indigenous groups.

Indigenous groups were not the only people that Narborough and his ships came into contact with – there are frequent references to discussions with Spanish mariners, who, of course, would be in significant number in this area. Narborough appears to have been using several old draughts of the Straits to navigate with, perhaps from the earlier English voyage or from Spanish maps, and he had several conversations with a Spanish captain and Spanish groups on land regarding geography or navigation. He wrote

'I asked them how far it was to Baldavia? They answered me, three Leagues, and that the boats could go up to it, and that it was situated by the side of the River and the Plains. I asked him, if there were any passage by Land from Baldavia, to the other parts of Chile, they said there was, and they sent every week, but they went with good Guards to go secure from the Indians. Then I asked them if they built shipping here, they said no, but at Valparaiso they did built great ships.'

In some sense, it is difficult to know what to make of Dampier, Cowley and Narborough's account of their voyages. The diaries were published by William Hacke, who was working in a commercial and risky market in London, and he had an interest in producing interesting and exciting accounts of their journeys to distant places in order to appeal to the market. Accounts of encounters with the 'enemy' Spanish included alongside navigation information were almost certainly designed to appeal to the consumer in London. The authors also needed to cement their reputations as knowledgeable and credible mariners and privateers. One of the factors that protected privateers from persecution by the Crown or Admiralty was their in-depth and apparently unique access to desirable geographical information. Filling their printed voyage diaries with detailed and unusual, but plausible, geographical information may have served to lend credibility to the accounts and was perhaps designed to strengthen the idea that they played an invaluable part in the English maritime community.

In the case of Narborough's diary, it was not in his interests to produce negative or compromising information about himself that might suggest that the voyage had not been

[32] An Account of Several Late Voyages…By John Narborough (1694)

worthwhile or that he had failed to fulfil the requirements. Furthermore, as there were few mechanisms available to ordinary or elite Londoners to verify Narborough's account, he did not run the risk of damaging his reputation by publishing exaggerated information. The descriptions of indigenous groups and penguins could appear to be written to satisfy an audience accustomed to and expecting 'exotic' descriptions of the New World.[33] However, the printed copy of his diary was published post-humously in 1694, although it is not clear whether this was due to delay between the preparation of the manuscript copy and final publication, or if in fact Narborough had not intended to publish the diaries himself.

In fact, the nature of the navigational and geographical information in the journals and in the draught resonate with information included in manuscript diaries and maps that were not produced for commercial consumption. Examples of these diaries include Edward Barlowe's diary of his voyage from London to the Caribbean, English settler John Taylor's diaries of his voyages around the Caribbean, manuscript maps made by William Hack in the *South Sea Atlas*.[34] The type of information also matches the information that mariners were instructed to produce in printed navigation manuals. Therefore, it seems likely that not only was the information collected in the manner of an 'ordinary mariner', but also that it would useful information for pilots wishing to understand or navigate these regions.[35]

Furthermore, privateers were likely to have been at the frontiers of knowledge gathering. They engaged in legal and illegal clandestine trade, and could be granted a license by their national Parliament or Crown to pursue illegal activities and supply information to Europe. The highly damaging and lucrative raid led by Governor of Jamaica and privateer Henry Morgan on Spanish-controlled Panama in 1675 demonstrates the significant resources privateers could mobilize and the geographical information they could access. Similarly, Narborough's interest in proving his own reputation and justifying the voyage to the South Seas does not invalidate the veracity of the information he provided in the journal, particularly as he had already proven his abilities as a navigator and commander in the Second Anglo-Dutch war. Like the privateers, it also seems probable that he would have been able to view the natural conditions and the people he described in the accounts and journal.

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[33] I have written in other parts of my thesis about map publishers making appeals to ulility and accuracy of information in the titles and design of their maps and charts as a way of enhancing the credibility of the object and their own reputation.
[34] William Hack, *The Great South Sea of America*, various copies. National Maritime Musuem, Greenwich; British Library, London.
[35] There is another aspect to this that I have not explored here, which concerns the political use of the journals and draught in demonstrating English knowledge of Spanish America to European elites, and in particular the Spanish Crown.

Certainly, the works were well-received in London. Dampier seems to have established a reputation for navigational and maritime knowledge, and in 1698 the Council of Trade in England asked him to provide advice on navigation in the Indian Ocean, and he was also involved in the unsuccessful Darien project.[30] Dampier's first work was dedicated to Charles Montague, President of the Royal Society, and Dampier was introduced to leading natural philosophers including Hans Sloane (founder of the British Musuem), Robert Southwell, and to the Earl of Ofrord, the First Lord of the Admiralty whilst *Voyages and Descriptions* received a favourable review in the Royal Society journal *Philosophical Transactions*.[36] Furthermore, the master on the *Sweepstakes,* Greenvile Collins was a significant chart-maker in Britain, and was commissioned to produce Britain's first coasting pilot, based on surveys made by Collins in the 1680s.

John Narborough's draught of the Straits was used as the basis for a printed map of the area, published by map-maker and publisher John Thornton in 1673. The map was drawn to a smaller scale, and longitude is marked, as well as rhumb lines, but apart from these additions, the remainder of the detail was the same. The anchorage points, rocks, and depths markings match those on Narborough's draught, and the outline of the coast was the same. John Thornton acknowledged Narborough, in title of the map - *A new map of Magellan Straits discovered by Captain John Narborough as he sailed through the sade straights.* John Thornton was a successful publisher and map-maker – he was Hydrographer to the East India Company and the Hudson Bay Company – and his decision to use Narborough's draught and to advertise the provanence of the information suggests that he did not believe his reputation would be damaged by association with Narborough.

At this point, it seems difficult to come to any solid conclusion except that there was an appetite in London for information about voyages to distant place, in this case the Caribbean and the South Seas, arguably related to growing mercantile and 'scientific' interest and awareness in the region and in the markets. The geographical information included in the journals was clearly based on voyages made in these regions, and it appears that the status of 'having actually been there' was an important basis on which the veracity and utility of the accounts rested upon. The nature and content of the geographical and navigation information in the accounts and draught correspond with information in manuscript diaries and in manuals for navigation, indicating that the information could have been useful to mariners or pilots wishing to navigate in the region. The manuscript copies of Dampier, Cowley and Narborough's journals should provide further illumination into the volume of navigational detail, which appears to be at around 60% of the overall content. Similarly, further

[36] Shipman, p3

exploration of archival sources of ship logs and prize papers of captured ships, could illuminate further the nature of knowledge collection in the Caribbean and South Seas.