



The 1805 Club Conference

Commodore Anson's voyage round the world
from 1740 to 1744 and its aftermath

held at

The Medical Society of London
11 Chandos Street
London W1

on

7th June 2008

Contents

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List of Conference Speakers

Introduction

Paper 1	<i>The International Political Background to Anson's Circumnavigation of the Globe</i> Professor Richard Harding BA(Hons) PhD FRHistS	1
Paper 2	<i>Anson's Voyage: A Public Relations Triumph</i> Professor Glyn Williams, BA, PhD	10
Paper 3	<i>Anson's Voyage: Success, failure and the Spanish response</i> Professor Professor Julian de Zulueta, MD DTM&H (Spain) Institucion libre de Ensenanza Madrid	15
Paper 4	<i>The Nature and Consequences of the Medical Conditions That Developed Amongst the Ships' Companies during The Anson Voyage</i> Surgeon Vice Admiral Sir Godfrey Milton-Thompson KBE FRCP	18
Paper 5	<i>The Medical Aftermath of the Anson Voyage and its lasting bequest</i> Surgeon Vice Admiral Sir James Watt KBE, MD, MS, FRCP, FRCS	29

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Conference Speakers

Professor Richard Harding BA(Hons) PhD FRHistS: Professor in Organisational History at the University of Westminster, and Chairman of the Society for Nautical Research. Richard Harding is a distinguished naval historian. In addition to many articles, he has published several well-received books on naval history. He was also co-editor of "*Precursors of Nelson*", (2000) and *Contemporaries of Nelson*, which he edited with Dr Peter Le Fevre. He is currently completing a book on the war of 1739-1748, in the context of which Anson's circumnavigation took place.

Professor Glyn Williams, BA, PhD: Emeritus Professor of History at Queen Mary, University of London. He is the author of several books on the exploration of the Pacific and North America, and has been interested in Anson's voyage round the world since he visited Guernsey in the early 1960s to work on the papers of one of Anson's lieutenants, Philip Saumarez. His first publication on the voyage was a volume of documents issued by the Navy Records Society in 1967, followed in 1974 by an edition for Oxford University Press of the official account of the voyage published under Richard Walter's name in 1748. In 1999 he brought together the fruit of several decades of research in The Prize of all the Oceans: The Triumph and Tragedy of Anson's Voyage Round the World.

Professor Julian de Zulueta, MD, DTM&H(Spain): A doctor by profession, having had a particular interest in public health and epidemiology, with especial reference to malaria, and was an official of the World Health Organisation for 25 years, serving in many countries. He remains a member of the WHO Expert Advisory Committee on Malaria. He was formerly Professor of the Faculty of Medicine at the University of Seville, is the author of 50 scientific medical publications and holds the Spanish Grand Cross of Public Health. His interest in medicine on a world wide basis led him into a further interest in health at sea and naval history more generally. He is an overseas corresponding member of the Society for Nautical Research, and has written two articles for the *Mariner's Mirror* on Trafalgar and one on the Vernon Expedition to Cartagena. He is also a member of the Navy Records Society.

Surgeon Vice-Admiral Sir Godfrey Milton-Thompson KBE, MA, MB(Cantab), FRCP, DCH: He was Medical Director General of the Navy 1985 -1990 and Surgeon General, Defence Medical Services 1998-1990. He joined the Royal Navy in 1955, became a consultant physician at the Royal Naval Hospital at Plymouth in 1972 and a Fellow of the Royal College of Physicians in 1974. As Professor of Naval Medicine at the Royal Naval Hospital, Haslar 1975 -1980, he was involved in the postgraduate training of medical officers, and research into the clinical pharmacology of therapeutic agents affecting the gastro - intestinal tract. In retirement, he is Chairman of the St. John Council for Cornwall, and a member of the Chapter of the Order of St. John. His papers are mainly on clinical pharmacology, but include papers on nutrition in the Eighteenth Century Navy. He is a member of the Medical Research Society, the British Society of Gastroenterology and The 1805 Club.

Surgeon Vice Admiral Sir James Watt, KBE, MD, MS, FRCP, FRCS: He was Medical Director General of the Navy 1972 - 1977, President, Medical Society of London 1980 - 1981, President, Royal Society of Medicine 1980 - 1981, President Smeatonian Society of Civil Engineers, 1996, Director ECHO International Health services Ltd 1989 - 2003, Vice president of Epsom College and Hon Vice president of The Society for Nautical Research.

Introduction

The title of the Club embodies the year of the Battle of Trafalgar and, indeed, for more than ten years the Club's activities have naturally focused strongly on Lord Nelson's achievements and the bicentenaries of his and other naval actions during the Napoleonic Wars. However, the Club's remit extends to the whole period of the Georgian Sailing Navy, and its evolution.

The Royal Navy of 1793, which was rewarded with such success during the ensuing 22 years, was not an instant creation. It was very different from the Navy of 100 years earlier, and if Trafalgar had been fought at that time, the result would have been much less certain.

All organisations evolve, and substantial evolution of the Royal Navy occurred during the 18th Century, especially in the second half of the Century. One of the principal triggers for the wide ranging reforms that occurred was the fallout from the Anson voyage of 1741 to 1744.

During a confrontation with Spain over the British right to trade with the Spanish American colonies, known as the War of Jenkin's ear, Commodore George Anson was ordered to sail from England with a squadron of six ships, to round Cape Horn and to attack the Spanish colonies on the west coast of South America. The aim was especially to disrupt the transport of silver from Peru to Panama from where it continued onward to Spain. But, as a second objective, he was ordered to capture the Spanish treasure galleon plying on an annual basis across the Pacific between Manila in the Philippines and Acapulco in Mexico.

Anson failed in the first objective, and although he captured the galleon, to the substantial benefit of the British Treasury, the voyage proved tragic and disastrous in terms of the loss of life that occurred. During the voyage five of the six ships were lost, together with all but 188 of the 1850 men who had sailed from England. The great majority of these men had died, not due to hostilities, but to the diseases to which seafarers were then vulnerable. Typhus and dysentery, for example, were common, but after a long period at sea, deficiency diseases, especially scurvy, started to take a very heavy toll, especially among those already weakened by other shipborne diseases. Shipboard organisation was also poor at this date, and this led to uncertainties concerning the authority of the Captain, particularly after a ship had foundered. The loss of life from disease led to public outrage.

Anson was subsequently appointed as First Lord of the Admiralty, and in the light of his experiences during the voyage took a number of initiatives including organisational reform in the Navy. Particularly in the light of public concern, he also indicated the need for medical research aimed at ensuring that men could be kept fit and healthy at sea over long periods. Some have called him the "Father of the Royal Navy", and the reforms he instigated certainly put the Navy in the high state of health and morale in which enabled it to achieve so much under the guidance of Nelson and other British commanders fifty years later.

By the time of the Napoleonic Wars, there had been massive improvements in shipboard health. At this date, the nature and role of vitamins were not understood, but the importance of fresh food and the use of lemon or lime juice as a protective agent against scurvy were well recognised. Sick bays were also relocated in clean and well ventilated parts of British ships. The health of the seamen in the British fleet was a major factor in ensuring its success. Indeed, Professor de Zulueta, one of the speakers at the conference and an eminent naval historian, has written that the issuance of lemon juice to British seamen was a key element in enabling the British fleet to achieve victory at Trafalgar.

The conference focused on the events during the voyage itself and then especially on the medical initiatives which took place in the second half of the eighteenth century. The scene was set by Professor Richard Harding, who gave a detailed picture of the political background to the Anglo Spanish dispute that gave rise to the Anson voyage. He was followed by Professor Glyn Williams, who had written the definitive book on the voyage *Prize of All the Oceans* (a contemporary reference to the Spanish galleon captured by Anson), and who outlined the events during the voyage and the public reaction to it.

After lunch, Professor de Zulueta spoke about the Spanish squadron of Admiral Pizarro, which had sailed to intercept Anson. The Spanish government had received news of Anson's intentions through French representatives in London. However, Pizarro failed to find Anson. Indeed, his squadron suffered similar privations to that of Anson and he also only returned with one ship.

Surgeon Vice Admiral Sir Godfrey Milton Thompson then outlined the perceptions of the causes of disease both ashore and at sea in the eighteenth century, which were based largely on ancient Greek concepts. Relying on the logs of the Anson voyage, he then described the actual medical conditions from which the men suffered and the disconnection between the contemporary medical theory and these conditions.

Finally, Surgeon Vice Admiral Sir James Watt made a number of observations, based on his continuing research, following his paper on the Anson voyage in the Trafalgar Chronicle for 2000 (reprinted from the Journal of the Royal College of Physicians of November/December 1998). These concerned the significant changes in naval medical practice that took place in the second half of the eighteenth century, giving rise to the significant improvements outlined above. It is anticipated that his final paper on this subject will be published in the Mariners Mirror in 2010.

The full texts of the conference papers are set out below.

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The International Political Background to Anson's Circumnavigation of the Globe

Professor Richard Harding BA(Hons) PhD FRHistS

On 15th June 1744 HMS *Centurion* (60) dropped anchor in Spithead. Under the command of Commodore George Anson she had left that anchorage on 18th September 1740 in company with merchant convoys destined for the West Indies and the Mediterranean. Under Anson's command were five other warships (*Gloucester* 50, *Severn* 50, *Pearl* 40, *Wager* 28 and *Tryal* 8) and two victuallers the *Anne* and *Industry*. There was no fanfare for their departure as they were going on a 'Secret Service'.

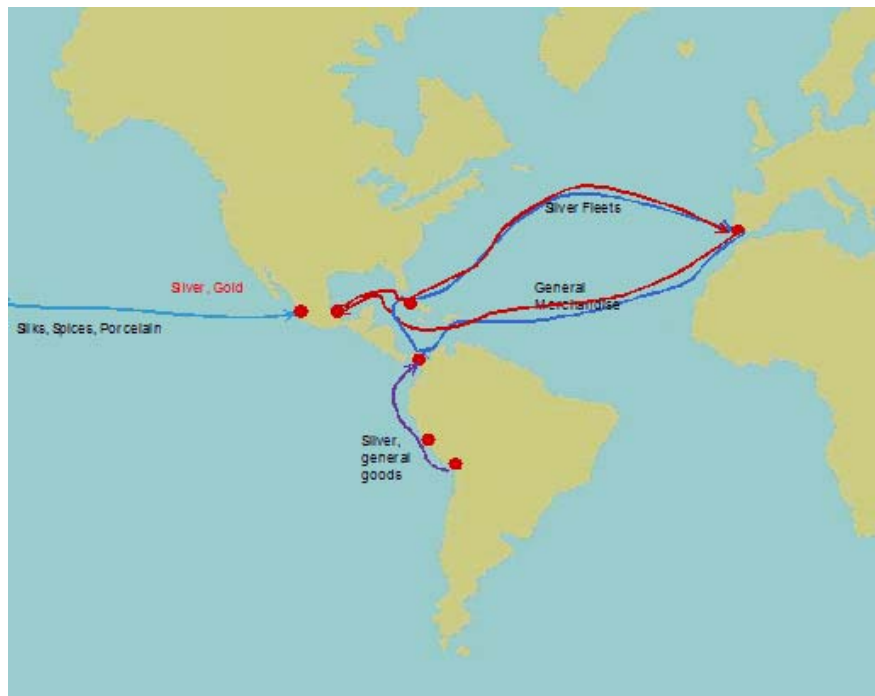
By the time *Centurion* anchored back at Spithead it had long been known to the public that Anson's mission was to go into the South Sea (Pacific) to raid Spanish shipping and settlements on the western coast of South and Central America. Although none of the other ships had made the journey, Anson's achievement rapidly gripped the popular imagination. In the hold of *Centurion* was a vast quantity of treasure. Anson had made several prizes on the coast of the Americas, but, off the Philippines, he had also taken the wealthy Spanish Acapulco Galleon, *Nuestra Senora de Cavadonga*, that carried trade between Acapulco and Manila. The plunder was rumoured to range from £500,000 to £1,250,000. Whatever the figure, and whatever the losses, Anson was the first commander to take a Royal Navy force around the world and had returned fabulously wealthy. In a war that had dragged on since 1739 without much success, this was a startling achievement.

Anson went on to become an admiral, and eventually First Lord of the Admiralty during the Seven Years War. His name is indelibly associated with the rise of the Royal Navy to a global force and the establishment of Britain as a major imperial power by 1763. The circumnavigation was the event which changed his career, but what is less well known is why he was sent to the Pacific. The origins of this famous expedition lay not in the South Sea, but in a long-running dispute between Britain and Spain over navigation in the West Indies.

Once the New World had been discovered at the end of the fifteenth century, Spain had dominated the exploration and exploitation of the region. The only immediate competitor was Portugal, whose exploration down the coast of Africa and into the Indian Ocean preceded Spanish expeditions to the Americas. By 1494 a papal declaration and treaty had divided the world north-south two hundred miles west of the Azores. To the west it was a Spanish monopoly, to the east Portuguese.

Naturally, this division had little impact on other nations eager to profit from the new discoveries. Dutch, French and English expeditions soon unsettled Spanish and Portuguese settlements and trade. In the sixteenth century these expeditions were a serious threat to maritime commerce and the way the Spanish crown managed the situation was to impose a controlled trading network across its empire.

Anson Conference - 7 June 2008



[Map 1]

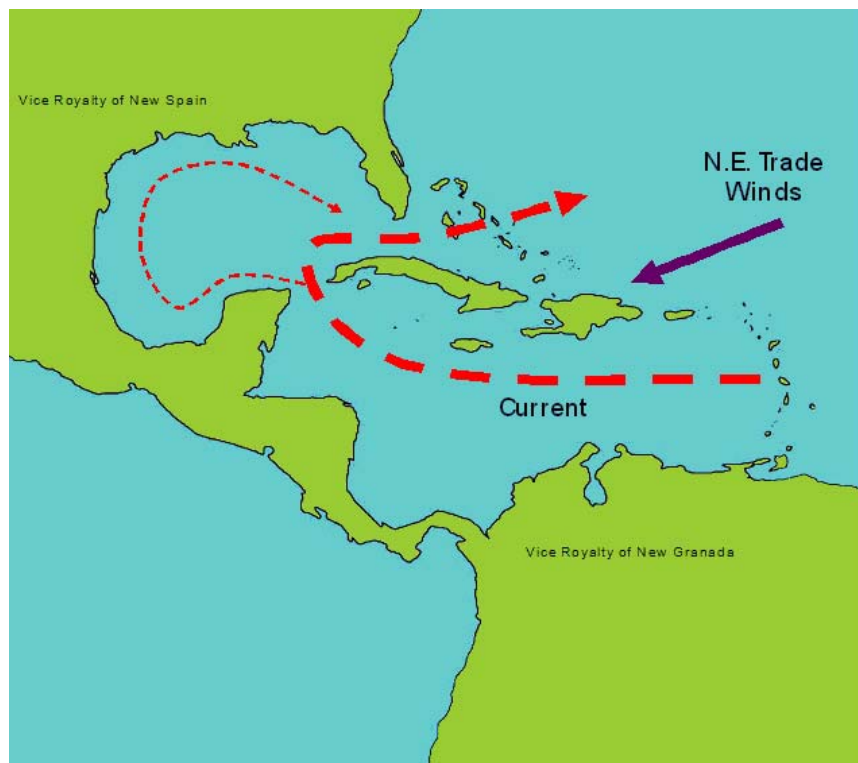
From the 1540s convoys were the means of protecting and regulating commerce. Ships with general cargoes left Seville (later Cadiz) in convoy for America. The *Flota* went to La Vera Cruz to unload goods to be traded for Mexican silver. The *Galleones* did the same for the fair at Porto Bello. Here goods were traded for the silver that had come from Potosi in Peru, via Lima, Callao to Panama and then over the isthmus to Porto Bello. A Spanish settlement was also established at Manila, where a trade to China was established. Silver brought from Acapulco paid for the silks, spices and porcelains prized in Europe and brought back via the great fairs at La Vera Cruz and later at Jalapa.

By the end of the seventeenth century, Spain had not been able to prevent other powers establishing themselves in the West Indies. The Dutch had settlements on the coast of South America, Curacao and St Eustatius. The French had settled Martinique, Guadeloupe, and half the large island of Hispaniola (St Domingue, now modern Haiti. The Spanish half was Sto Domingo, now the Dominican Republic). The English had settled Barbados, and some small islands north of Martinique and in 1655 an English expedition had captured Jamaica. Spain could not dislodge these interlopers, and was forced to tolerate their existence as a result of diplomatic necessity in the greater struggle with France in Europe.

By the beginning of the eighteenth century the Caribbean presented plenty of grounds for international tension. Spain maintained the legal claim of monopoly in American waters, yet traders from many European nations plied those waters. Spanish coast guard ships (*guarda costas*) were employed to ensure that no other European traders deviated from routes that were recognised passage from their own settlements. However, from the 1660s, the expansion of the sugar and slave trades meant that traffic expanded and made these waters of vital importance to commercial interests along the eastern Atlantic seaboard. Tension in the West Indies could not be ignored by these powers and given the nature of the claims, the interests and the geography, clashes were bound to arise.

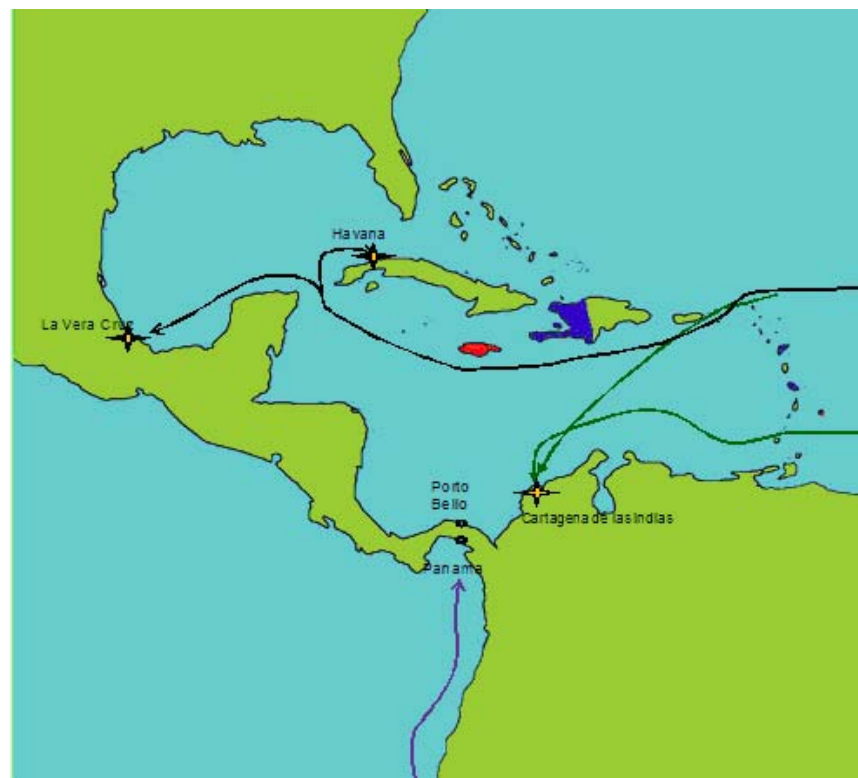
Trade to the West Indies followed fairly predictable patterns. The wind and currents set all year in a westerly direction. Without accurate calculation of longitude, seamen knew that their best passage was to reach the latitude of the Lesser Antilles (10° - 20° north) and then sail with the North East Trades and currents to the west.

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[Map 2]

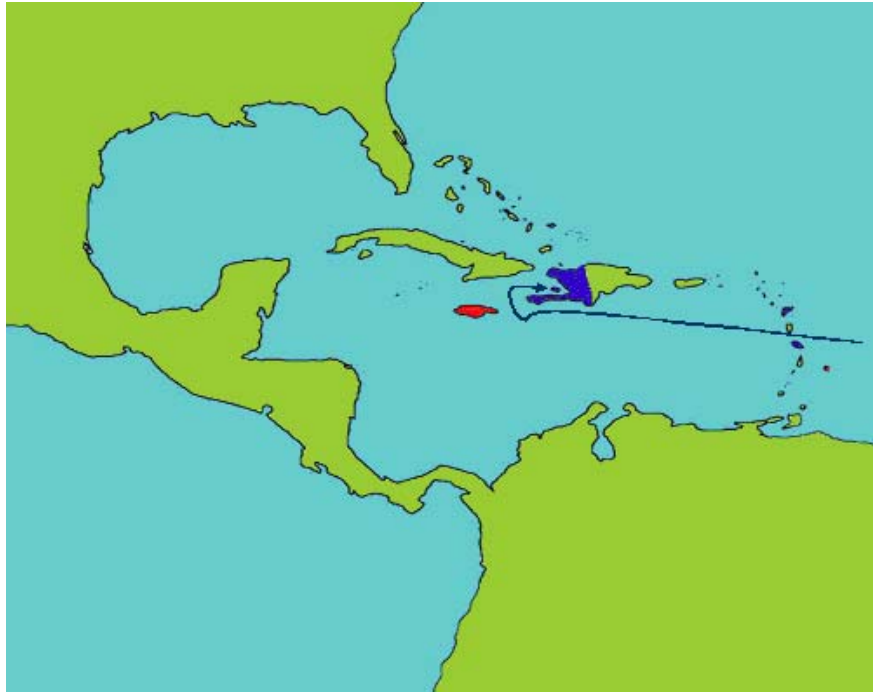
The Spanish trade fleets would either enter the Caribbean at Porto Rico and steer directly west for La Vera Cruz, or enter further south to reach the fortified port of Cartagena de las Indias. They would then have to beat north and east to Havana before leaving the Caribbean through the Straits of Florida (Map 4).



[Map 3]

Anson Conference - 7 June 2008

French traders had a fairly simple route. Martinique and Guadeloupe were important destinations in their own right. Ships could pass on westward to St Domingue (modern Haiti). From there they had to beat against the wind, through the Windward Passage to take a course northward until they picked up the Westerlies to take them back to Europe.

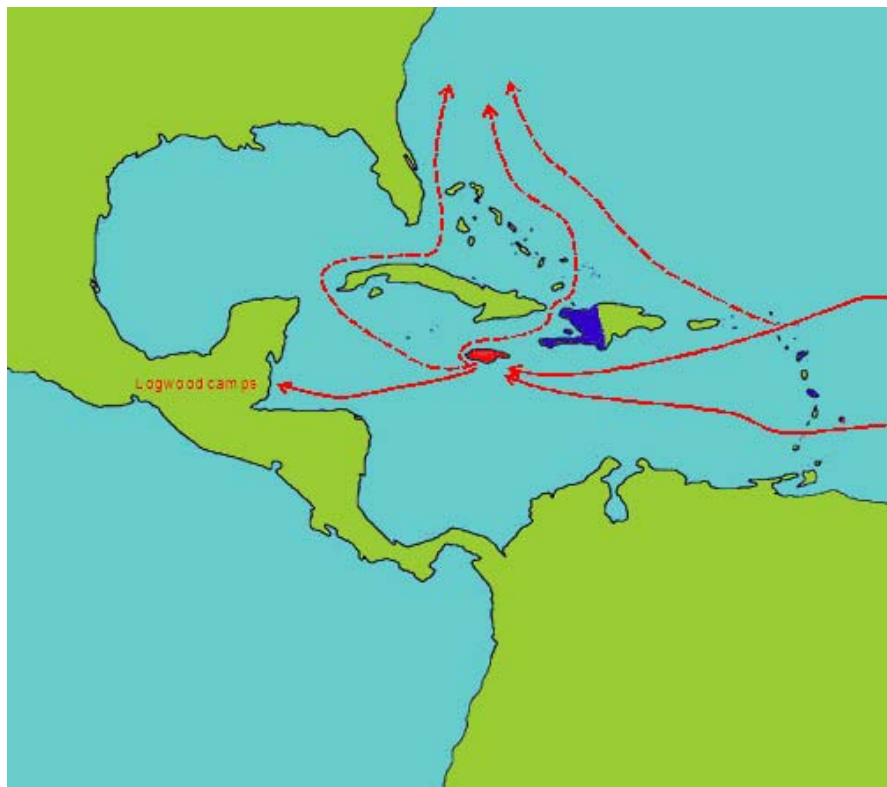


[Map 4]

British commerce was more complicated. Trade to Barbados and the Leeward Islands was fairly simple and could follow a route similar to the French trade. Ships sailing on to Jamaica could take passage easily to Kingston. Leaving the Caribbean was more problematic. Ships could take the shorter route through the Windward Passage, but this meant beating against the wind with potentially hostile coasts on either side. The alternative was to take the longer passage with the wind and current around Cuba and out through the Strait of Florida. This was more easy sailing, but a long passage around a hostile coast. Britain also had a tolerated settlement in the Gulf of Honduras, at Belize, where there was logwood cutting. British ships might be found beating back from these settlements with logwood and other goods that Spain considered her legal monopoly. Another legal trade that Britain had after 1713 was the *Asiento*. This was the contract to supply the Spanish Indies with slaves, given by the treaty that ended the War of Spanish Succession. The South Sea Company carried out this contract. As part of this contract the Company was permitted to keep agents in various ports in the Spanish Indies and it had the right to send an Annual Ship with trade goods to support their commercial activities. Company ships could be found lingering in Spanish waters on entirely legal purposes.

However, alongside these legal activities, it did not take long for illegal activities to accompany them. By 1728 the Spanish authorities had confessions from agents that the South Sea Company was covering a range of smuggling activities. Unlicensed British traders were also smuggling to and from the Spanish colonies. The Spanish reaction was send out *garda costas* to stop and search any British ship they suspected of smuggling. This was highly resented by legal traders to the British colonies and the seizure of ships created fury in this community. The link between this commerce and national power was quickly exploited by merchants and the parliamentary opposition to Sir Robert Walpole's government.

Anson Conference - 7 June 2008



[Map 5]

The expansion of the sugar trade from 1660s was seen as a major driver of British commercial and maritime power.

Sugar Imports into Britain (annual averages)

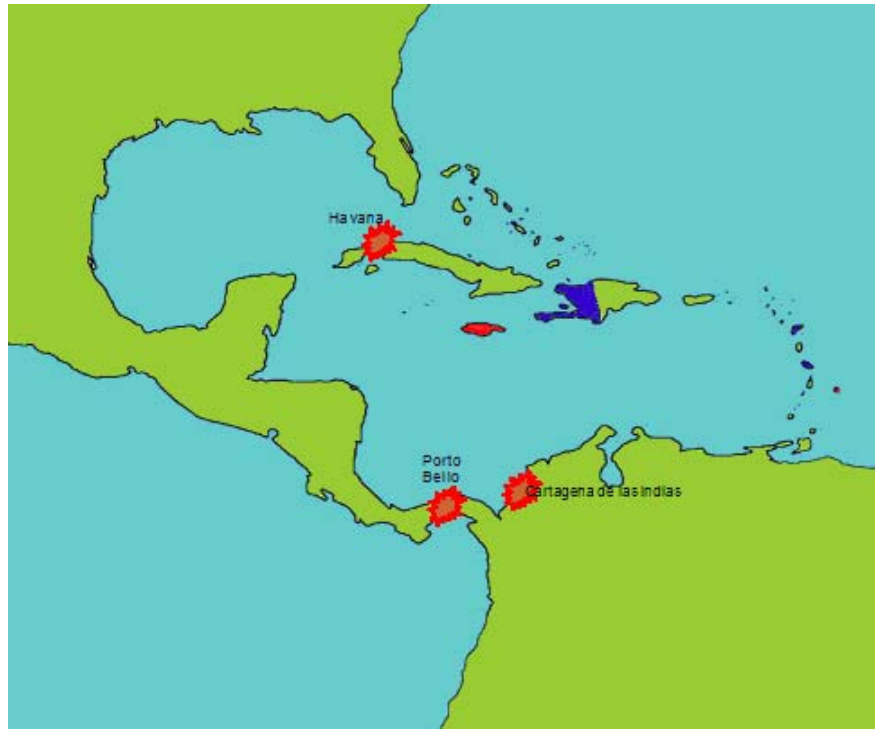
	Tons	%Growth	Ships Employed
1701-10	18,902	+3.8%	149
1711-20	28,122	+49%	221
1721-30	38,512	+37%	303
1731-40	41,069	+7%	323

At the end of the War of Spanish Succession (1713), Britain had secured the *Asiento*, which seemed to promise a further expansion of this vital region and it did continue into the 1720s. However, what was unexpected was the revival of the French sugar trade. French sugars sold more cheaply on European markets and during the 1730s, the British re-export trade to Europe began to suffer badly. The expansion in sugar imports into Britain also slowed dramatically. France seemed to be overtaking Britain in this trade. The link between Spanish interference with British shipping, the weakening of British commerce, relative to France, and the potential impact this would have on British power was easily made. By the end of 1737, the public agitation against Spain was becoming uncontrollable. Walpole did not want war and did all he could to prevent it. A new convention in 1738, in which Spain agreed to pay compensation for the seizure of British shipping and the South Sea Company agreed to pay compensation to Spain for lost tax revenues, came apart in March 1739 as neither Spain nor the Company paid the sums agreed. This left Walpole's government no choice but to begin hostilities. Popular anger at Spanish intransigence, the urgency of the economic case, the

Anson Conference - 7 June 2008

fear of France and the common belief that British sea power would quickly force Spain to peace, were unanswerable arguments after over ten years of negotiations.

The most obvious place for those hostilities was the Caribbean. There was a powerful belief that if the Spanish treasure fleets could be stopped, Spain would quickly become bankrupt and sue for peace. This could be done by taking Cartagena de las Indias, Porto Bello or Havana.



[Map 6]

Plans were considered for all these operations and more during the autumn of 1739. During this period another plan was also considered. This was to attack the Spanish settlements on the west coast of South America. These were far less well defended. The Caribbean had suffered from two centuries of raiding by privateers, pirates and national expeditions. As a result, defences had been developed in most of the Spanish ports. The admirals looking at such operations, the First Lord of the Admiralty, Sir Charles Wager, and the Admiral of the Fleet, Sir John Norris, concluded that it would need an army of about 10,000 men to take Havana and about 3,000 to take Cartagena. On the other hand, the settlements in the South Sea had suffered very little and a small force of between 1,000 and 1,500 troops might cause considerable damage. They might also encourage the native population to rise up against the Spanish and open further opportunities for the British. There was also the possibility of a successful attack on Manila. Manila had not been subject to serious attack before by a European power. If this town were taken, it opened possibilities for expanding a trade to China.

There was a further attraction to the South Sea plan. France was unlikely to stand by idly and watch Britain profit from a war in the Caribbean. The region was too important and French interests too strong to permit this. Any Caribbean expedition had, therefore, to expect French intervention. This might mean war with France as well as Spain. In the South Sea, France, like Britain, had no legal interests to defend and the impact of the campaign was less likely to excite French concerns.

Anson Conference - 7 June 2008

Walpole's ministry was faced with a dilemma – a campaign in the West Indies or Pacific/Manila? The balance of arguments might be presented as laid out below.

The West Indies?	The East Indies?
Potentially decisive	France had no legitimate rights to defend there
Met Political Expectations	Required far fewer forces
Spain appeared very weak	A Major new trade opportunity
France had legitimate rights to defend	Politically, too small and would take too long
Size of forces worried the King	Complication of HEIC Monopoly

In favour of a West Indian operation was the fact that it would be potentially decisive. Disrupting the treasure routes would force Spain to come to terms. It met political expectations. This was precisely what the political nation expected and to carry it out would defuse the increasingly volatile political situation for the ministry. On the other hand, France had clear legitimate rights to defend in the West Indies and could be expected to act if Britain appeared to be too successful. The King, George II, was worried about this and was further worried that a West Indian operation would take too many forces out of the country. Given the terrible diseases of the region, such as Yellow Fever and malaria, and the known terrors of long journeys cramped on transports, where dysentery, typhus and typhoid might take their toll, these troops could never be expected to return.

The arguments for the South Sea-Manila operation were that France was less likely to intervene. It required fewer forces and that major new trading opportunities might accrue. Against this it would take a long time for results to be known, and they might no answer the basic political assumption that Spain would be forced to a quick peace. There was a further complication that any operation against Manila might create problems with the East India Company, who had a legal monopoly of trade in those seas.

The debate during the autumn of 1739 swung between these alternatives:

The Plans: the Evolution of the Expeditions

	The West Indies?	The East Indies?
June 1739		
July 1739	Hostilities in the West Indies: Vernon sent out	
Aug 1739		
Sept 1739	Variety of West Indian Operations considered from Havana (10,000 troops) to Darien (2,000 troops)	Attack on Chiloe: (1,500 troops)
Oct 1739	17 th Cartagena most probable (3,000 troops)	18 th : Wager and Nash announce Manila Plan (mixed military/trading plan)
Nov 1739	22 nd American Troops Proposed	29 th Manila/Chiloe Approved
Dec 1739	5 th West Indian Operation Approved	5 th Manila dropped but South Sea Operation to continue

Anson Conference - 7 June 2008

Hostilities had begun in July when Vice Admiral Vernon had been sent to the West Indies with nine warships to attack Spanish shipping and settlements. This was in line with political expectations of the time. In the early autumn, Norris and Wager had begun considering the larger Caribbean operations and by the end of the month had established that a force of between 3,000 and 10,000 troops would be needed. At the same time, an projected attack on the large island of Chiloe off the coast of modern Chile had been considered, but eventually rejected. Although it was estimated that this would require only 1,500 troops, it would take too long and have too little impact on Spain. On 17th October the admirals concluded that an attack on Cartagena was the best prospect. However, Wager had been considering an attack on Manila proposed by James Naish, an ex-employee of the East India Company. He claimed that a single regiment (815 men) could take the place and it would shatter the western end of Spain's Pacific trade route. It would open the way for more trade with China and there were rumoured to be gold deposits on the island of Luzon. It was a plan that appealed to Walpole, who feared French intervention and saw that this was not only potentially lucrative but also less immediately dangerous. The King approved the plan and towards the end of October it looked like the Manila plan would be adopted.

War was declared on 23rd October 1739. Although the move was popular, Parliament would meet in a few weeks and the test of the political situation would not really be known until then. The Secretary of State for the Southern Department, who was responsible for all matters of foreign policy in the south of Europe and the wider world was seriously worried that this Manila plan would not answer parliamentary expectations and on 29th October a meeting of the ministers reconsidered the situation. Once again the lack of troops for a large expedition was thought to make a large West Indian operation impossible, but other ministers shared Newcastle's concern that the Manila plan was simply not enough. On examining papers in his office, Newcastle found a plan to raise troops in North America during an earlier crisis with Spain. Although the King would not allow large numbers of troops to go from Britain, here was a seemingly practicable plan to reinforce British troops with enough Americans to make the large West Indian expedition possible.

On 22nd November Newcastle raised the matter again in a meeting of ministers. Although nothing was agreed, Walpole, who had been the most enthusiastic for the Manila plan, realised that his colleagues were more convinced that the major effort had to be in the West Indies. When the ministers met again on 5th December 1739, Walpole opened the meeting by declaring that he accepted the need to concentrate effort in the West Indies. Those attending seem to have expected this change of mind as matters were quickly settled. The commander of the Manila expedition had already been decided upon by Wager and Norris. It was to be Captain George Anson. Anson was known to Wager. He had been almost continuously employed, unlike many other officers in times of peace. He had long experience of America, having served on the South Carolina station 1724-1732 and 1732-1735. He had just returned to Britain after a two year trip in the *Centurion* to West Africa and the West Indies. The Manila expedition was now abandoned, but a force would still go into the South Sea under Anson to raid the Spanish settlements on the Pacific coast. It was a hazardous operation well suited to a man who had proved himself on small independent commands. If it did not promise great glory in destroying the power of Spain, it held out the prospect of financial rewards in prizes.

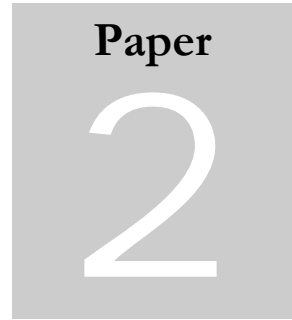
As Anson left England in September 1740 with his small squadron and little expeditionary army of about 500 invalids and 300 marines, he was embarking on a small speculative operation, not spearheading the main thrust of the Spanish war. Public and political attention was focused on the seat of dispute between Britain and Spain, - the West Indies. It was there that the decisive clash of arms was expected and the peace would be secured. In the event it was a disaster. Vernon had captured Porto Bello in November 1739, but nothing further was achieved. By the middle of 1742 the expeditionary army of 12,000 British and American troops, sent out in October 1740, had been reduced to almost nothing by disease, with only the capture of the little island of Roattan in the Gulf of Honduras to show for it. Spain had not been humbled. Worse still, France had joined the war early in 1744 and a

Anson Conference - 7 June 2008

battle off Toulon between the British Mediterranean squadron under Admiral Thomas Mathews, against the combined French and Spanish squadrons had been indecisive. The behaviour of a number of officers on that day, including the commander of the rear squadron, Vice Admiral Richard Lestock, was under suspicion. The navy had not proved to be as powerful as popular opinion in Britain had anticipated. At sea, in the Indies and in Flanders Britain was deeply involved in a war against France and Spain, with very little to show for it.

It was against this backdrop that Anson arrived back in England with his treasure. It was a magnificent achievement of navigation and determination. He had raided the Spanish coast of South America, captured prizes and brought one ship home laden. It made no difference to the war at this time. The idea that Spain was diplomatically vulnerable to the disruption of her Atlantic or Pacific trade communications had proved hopelessly optimistic. The West Indian ports were too tough to crack. The Acapulco-Manila route too small and too distant to have any impact on Spanish policy. Anson's circumnavigation was a small part in a plan that centred on the West Indies. It backfired, but Anson's return had proved that British naval power had a fragile global reach and could inflict spectacular damage. It was a lesson that was to be learned and profitably exploited just over a decade later during the Seven Years War, when both Manila and Havana fell into British hands.

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Anson's Voyage: A Public Relations Triumph

Professor Glyn Williams, BA, PhD

In 1739, as war between Britain and Spain approached, George Anson was an unremarkable naval captain, already more than 40 years old, engaged in humdrum trade protection duties on the West African coast. After war was declared in October, the British government began to plan an expedition to raid Spanish possessions and trade in the Pacific, and in November chose Anson to command it. The official records offer no indication of the reasons for this appointment. Seemingly nothing in Anson's career to date might have attracted attention; he appears as one among dozens of steady naval officers who had little chance to shine during the long years of peace. Connection may be part of the explanation. There is some evidence that Anson already enjoyed the patronage of one of the most powerful men in the govt., the Lord Chancellor Philip Yorke, the 1st Earl of Hardwicke, whose daughter he was later to marry. Whether the appointment was the result of chance, influence or good judgment, it was in retrospect a decisive moment, not only for Anson and the men who sailed with him to the South Sea, but also for the Navy whose fortunes he was soon to guide.

Anson was appointed commodore of a powerful squadron: his flagship *Centurion* (60 guns), *Gloucester* and *Severn* (50 guns each), *Pearl* (40), *Wager* (28), *Tryal* (8) and two storeships. Once around Cape Horn and into the Pacific, these ships were to raid Spanish coastal settlements and shipping, encourage rebellion in Peru, and seize the Manila galleon as it approached Acapulco with its lucrative cargo from the East Indies and China. On paper it was a formidable force, but to get the ships to sea, manned and in a fit condition for a voyage to the other side of the world proved a depressing task, with the press-gang providing many among the crews, most notoriously, 260 'invalids' being taken on board at the last minute, and with a constant seepage through desertion. Among the deserters was one from the *Wager*; given the fate of the ship this probably saved his life – it certainly saved him from much banter on the voyage, for his name was (William) Robinson Crusoe. The expedition did not sail until September 1740, and from the beginning was dogged by misfortune. The *Severn* and *Pearl* turned back in the storms off Cape Horn, and their captains faced insinuations of cowardice. The *Wager* was wrecked on a desolate island off the Patagonian coast, the prelude to a saga of suffering, mutiny and death. Two other vessels were scuttled in the Pacific as their hulls fell apart and their crews sickened and died. By August 1742 Anson was left with only one ship, and out of more than 1900 men who had sailed from England almost 1400 had died, most from scurvy. The only compensation was the seizure of a few Spanish trading vessels, and the burning of a small coastal town. At this point, the voyage was probably the most disastrous naval expedition ever to leave English shores, where the only firm news about the voyage came from the book published by Bulkeley and Cummins in 1743 telling the appalling story of the *Wager*.

The turning point of the voyage came after the *Centurion* refitted at Macao, and in June 1743 intercepted and captured the Acapulco galleon, laden with silver from the mines of Peru, as it approached the Philippines. When the *Centurion* returned home the next year with a colossal treasure on board, the lost men and ships were almost – but not quite – forgotten. Anson was compared with Drake and other heroes of a bygone age, and the nation

Anson Conference - 7 June 2008

celebrated a rare triumph in a drab and protracted war. From the moment the ship dropped anchor at Spithead in June 1744 the newspapers were full of reports of the voyage. The treasure was unloaded and sent under guard to London, with escort provided by the *Centurion's* crew, who hired fiddlers to enliven the ninety-mile journey. On 4 July a procession of 32 wagons of treasure made its way through London to the Tower. Prints show great crowds lining the streets; commemorative verses appeared in newspapers and periodicals, and broadsheets with ballads about the voyage were soon on sale. Just occasionally a dissident voice was heard. On 6 July the *Daily Post* responded to the triumphalist verses of other newspapers with a poem whose sentiments, if not literary style, had a surprisingly modern touch.

Deluded Briton! Wherefore should you boast
Of treasure, purchased at a treble cost?
To purchase this, think how much treasure's gone;
Think on the mighty mischiefs it hath done.
In this attempt, count o'er the numerous host
Of Albion's sons, unprofitably lost.
Then will your boastings into sorrow turn.
And injured Britons, Albion's fate shall mourn.

To meet the demand for detail about the voyage, narratives were rushed through the press – two anonymous ones before the end of 1744. They were, a member of Anson's circle said, 'despicable fictions', and he promised that 'the Commodore has lately determined to give the world an account himself'. Another anonymous account of the voyage appeared in two long instalments in periodicals and newspapers in the autumn of 1744. Here for the first time appeared the characterization of Anson that was to become standard – 'a brave, humane, prudent commander – his temper was so unruffled that the men and officers all looked on him with wonder and delight'. This picture of a paragon of the seas might seem slightly improbable, but the calmness shown by Anson under conditions of extreme stress was long remembered, and was incorporated into the evolving image of the British naval officer that was soon to include James Cook before it was dominated by the charismatic personality of Horatio Nelson. In 1745 Pascoe Thomas, schoolteacher on the *Centurion*, published *A True and Impartial Journal of a Voyage to the South Seas*, the only account so far of the main voyage to display the author's name. By no means an uncritical admirer of Anson, he confirmed the commodore's legendary coolness during the engagement with the galleon, although his praise was couched in characteristically acidulous terms. On some ships, Thomas wrote, he had observed six times more noise and confusion in hoisting out a cutter than was noticeable on the *Centurion* during the whole thunderous action. Anson was the commander who had watched helplessly while his crews died in their hundreds 'like rotten sheep', who had hauled ropes and chopped wood alongside his men and tended them when they were ill. What they made of this we have no way of telling, but he was never confronted with a serious threat of mutiny.

Thomas's work does not seem to have met with a very positive response. He had material for a second volume, but he evidently did not receive enough encouragement from the sales of the first to pursue it. Perhaps his critical tone did not fit the mood of wartime Britain, and in other ways the book fell between two stools. By the time of its publication, several unofficial accounts had already appeared. What the public was anticipating was the official or authorised account, but they had to wait until May 1748 for this to appear under the name of Richard Walter, chaplain on the *Centurion*, as *A Voyage Round the World* by George Anson. That the book would be a commercial success there was no doubt. The circumnavigation had been the springboard to Anson's rapid rise in the Navy. By the end of 1744 he was a member of the Bd of Admty, and the next year he was made Rear Admiral of the White. In May 1747 his defeat of the French fleet off Cape Finisterre in the first major naval victory of the War of Austrian Succession resulted in his elevation to the peerage, and in 1748 he was promoted Admiral of the Blue. Already a celebrated figure, Anson would soon become First Lord of the Admiralty, and he remained the dominant personality until his death in 1762.

Anson Conference - 7 June 2008

The first edition of *A Voyage Round the World* was a handsome quarto volume with 42 plates, and attracted more than 1,800 advance subscribers, including some of the leading figures in the land. The list was headed by 91 names from the ranks of the nobility and the bishopric, followed by 120 younger sons of the nobility, high-ranking ladies, and knights of the realm. There were 93 naval and army officers, and almost 200 clergymen. The directors of the EIC placed a subscription for 31 copies; oddly, nine Cambridge colleges subscribed, but none at Oxford. Clearly, the unofficial accounts published in the previous five years had kept the voyage firmly before the reading public, but had perhaps increased the sense of frustration that no authorized account seemed to be forthcoming. As the *London Magazine* for June 1748 commented, 'The publick curiosity had not for many years been raised so high, and kept so long in suspense, by any other work expected from the press.'

The subscription copies cost a guinea, those printed on royal paper a guinea and a half. At the same time an octavo edition was published, without plates, priced at 6s. A third edition was printed in June, and a fourth in August, both in octavo. In 1749 a fifth edition appeared in quarto with full plates. This early flurry of editions was followed by a steady procession of reprints, mostly in the cheaper octavo and duodecimo editions. There were translations into German, French, Dutch and Russian. Extracts from the book were printed in serial form in the newspapers and periodicals of the day, the fullest in the *Gentleman's Magazine*, where the story of the voyage ran for five months.

It told the story of a courageous struggle against the odds, with Anson as its unblemished hero. At one level it was a stirring tale of adventure on the high seas, at another a reasoned plea for the expansion of British enterprise in the Pacific.

A closer scrutiny of the book raises doubts about its accuracy and impartiality. There were questions from the beginning about Walter's authorship, and more than forty years ago I demonstrated – to my own satisfaction at least – that the pamphleteer Benjamin Robins was the main author. This was based mainly on the correspondence between the Rev Thomas Birch and Philip Yorke, Anson's brother-in-law, which also showed reception of the book in a rather different light from that generally portrayed. By now, Lord Anson had political enemies, and they alleged that he had bribed Robins with £1000 to write 'a gross panegyric'.

Clearly, with most of the book written by someone who was not on the voyage, Anson's role becomes more dominant, and in everything except stylistic terms – Anson was notoriously reluctant to put pen to paper - the book gave Anson's own version of events. It is valuable not as an impartial account, but as a narrative that reflects the views and achievements of the expedition's commanding officer. There was nothing unusual or disreputable about using the published account of a voyage as an apologia – William Dampier before Anson and James Cook after him did just this. But it does mean that certain key episodes need to be looked at more carefully, and it is worth mentioning that Walter had left Macao for England in November 1742, so had no first-hand experience of the three key episodes that I now want to describe.

First. The celebrated action against the *Nuestra Senora de Covadonga* on 19 June 1743. The description in the authorised account of the taking of the galleon was, to outward appearance, analytical and dispassionate. It rightly laid stress on the measures taken by Anson to overcome his deficiency in numbers. With only 227 men – instead of a normal crew of 400 plus marines – he had to adopt unconventional emergency measures to man the guns and tops. It went on to assess the galleon's strength. Readers learned that it was much larger than the *Centurion*, had 550 men on board, and 36 cannon and 28 swivel guns mounted for action. When prisoners were brought on board the *Centurion* after the action, and for the first time they saw her crew they cried out with anger that they had been beaten by a handful of boys. The image is clear. It was one accepted in England almost as a natural right since the days of Drake and Grenville, of an English vessel facing overwhelming odds. Lieut. Brett's drawing of the action shows the tall masts and high hull of the galleon

Anson Conference - 7 June 2008

looming over the low-lying *Centurion*, and Brett's drawing was followed by the more dramatic paintings of Samuel Scott and John Cleveley.

In fact, this was not a case of an English David bringing a Spanish Goliath to his knees, and unpublished sources from both sides modify the accepted version of the famous engagement. The *Centurion* was a vessel built and fitted for war. Of her 60 guns, 24 were 24-pounders, firing a solid iron ball that smashed through a ship's side and sent a hail of splinters across the decks to kill or maim all in its way. Although the *Covadonga* was pierced for 64 guns, only 44 were on board, and 12 of these were lying useless in the hold. The 32 guns that were in position were all on the open decks, and they were a miscellaneous collection, ranging from 6 to 12-pounders. Even the numerical superiority of the Spaniards was more apparent than real, for of the 530 men on board only 266 were reckoned as crew – most of the rest were passengers, servants and convicts. Contrary to the impression given by Brett, the galleon was smaller than the *Centurion* – Philippines-built she was about 700 tons burthen compared to the 1000 tons of Anson's ship. Measurements taken after the action showed that the galleon's gun deck was 124 feet long, 20 feet shorter than the *Centurion's*. More serious than the discrepancy in size was the fact that the galleon was essentially a trading vessel. Her low bulwarks gave little protection to the men on deck, and the narrow gun ports made it difficult to train the cannon at any sort of angle. The casualty figures tell their own story. The *Centurion* lost one man killed in the action, two died later of their wounds, and 17 others were wounded. The galleon had 67 killed, 84 wounded and, in Anson's words in a letter to the government, 'her masts and rigging were shot to pieces, and 150 shot passed through her hull, many of which were between wind and water, which occasioned her to be very leaky.' The last word can perhaps be left to Lieut. Saumarez, who was 'amazed to think what he [the galleon] could propose against our weight of metal'. Barring some extraordinary accident of war, there could be only one result to the engagement. This is not to downplay Anson's achievement – simply to suggest that it lay not so much in the events of 20 June 1743 as in his determination in preparing for action the survivors of one of the most gruelling voyages in British naval history.

Second. After the engagement both ships made for Canton, the *Centurion* towing the shattered hull of the galleon for much of the way. The stay in Canton was an exasperating and frustrating one as Chinese officials found it difficult to cope with a European man of war and its prize. The official account made much of Anson's coolness and firmness in handling recalcitrant Chinese officials, but the recently-discovered papers of Edward Page, the senior East India Company supercargo in Canton, tells a different story, of an irascible and impatient Anson who courted disaster by his clumsy handling of the Chinese authorities. One moment in the visit must suffice. After weeks or delay the viceroy of Canton (in fact the Chuncoon or acting Viceroy) eventually agreed to meet Anson and his officers to discuss their disagreements. The afternoon before the visit Anson told Page about the great feast being prepared in his honour. The next day Page and the other Company traders had just finished dinner when a gloomy Anson and his officers unexpectedly appeared, asking Page whether he had yet eaten. In the end the Page's cook produced a light meal for the naval officers which they ate in silence. Only at the end did Anson break out with the remark that he had not anticipated that the mandarins would have been 'such a Pack of Scrubs'. As a final insult, it transpired that not only had Anson not been offered a splendid meal but the Chuncoon had refused to accept the handsome gift taken by Anson, and his own present, sent round to the factory that night, turned out to be two pieces of cheap cloth. Understandably, none of this, nor Page's accusation that Anson's impetuous behaviour risked the valuable East India trade at Canton, appeared in the official account.

Finally, and differently, because it came after the voyage, there is the sad story of the dispute over the prize-money, in which the officers and warrant officers from the *Gloucester* claimed a share because of their involvement in the action against the galleon. The affair rumbled on from August 1744 to May 1747 when the Lords Commissioners for Appeals in Prize Cases agreed with the contention of Anson and his officers that the *Gloucester's* officers were supernumeraries, and so entitled only to a seaman's share of the prize money.

Anson Conference - 7 June 2008

It was a miserable business for most of those involved. On the winning side Lieut. Saumarez regretted 'the fatal law suit' that had separated him from his friends, and longed to be at sea again. On the losing side Millechamp, the *Gloucester's* purser, had the last, bitter words, 'We had more terrible engagements in the courts of law than ever we had in the South Seas.' Little of this would have been known to the readers of the official account, which finished – conventionally – when the *Centurion* dropped anchor at Spithead on 15 June 1744.

The engravings based on Lieut. Brett's drawings played an important part in the reception and popularity of *Anson's Voyage*. They were the result of direct observation and not 'composed at home from imperfect accounts given by curious and unskilful observers'. Of particular interest is Brett's depiction of the parklike grounds where Anson's scurvy-stricken crews pitched tent at Juan Fernandez, and the same tent again at Tinian where the scene is dominated by a breadfruit tree, palms and citrus trees, and picturesque ruins. Brett's drawings of paradisial tropical islands would blossom into full splendour in the paintings of William Hodges and John Webber on Cook's voyages, and like them those of Brett indicated nothing of the seamier side of the voyages. There were other links between Anson's voyage and those of Cook. When Cook returned home in 1771 from his first remarkable Pacific voyage the Admiralty approached Dr John Hawkesworth with a request to put into book form the journals of Cooks and others. His immediate response was to accept, with the words, 'I shall do my best to make it another *Anson's Voyage*'.

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Anson's Voyage: Success, failure and the Spanish response

Professor Professor Julian de Zulueta, MD DTM&H (Spain)
Institucion libre de Ensenanza Madrid

Sir Robert Walpole did not like it. He would have liked to keep his country at peace with Spain, shattered by 15 years of war – the War of the Spanish Succession. This was at the same time a civil war and a war between nations, one of which was Britain. But despite Walpole's reluctance, there was in both the House of Commons and the newspapers much talk of Spanish provocation; it was said that Spanish Customs officials had cut off the ear of the captain of a British merchantman attempting to defend his commercial rights. The facts were never proved, but the outbursts of public opinion were such that on 18th October 1739, England formally declared war on Spain. This was the start of what has become known as the War of Jenkin's Ear. The pressure applied by Admiral Vernon, as a member of the House of Commons, had been decisive in forcing Walpole's government to declare war.

But in July 1739, three months earlier, Vernon had returned to active service, been promoted Vice Admiral of the Blue and given command of a fleet sent to the West Indies. Clearly a military challenge to Spain had been decided upon well before the declaration of war. At the same time as Vernon had sailed from England in July 1739, another naval force was in preparation under the command of Commodore George Anson for a "subsidiary operation", the term used by Christopher Lloyd (1) to describe a campaign difficult to define. Anson, during the four years of his voyage, called himself in his official correspondence "Commander in Chief of His Majesties Ships on a particular expedition". It certainly was a very particular enterprise.

In December 1739, Vernon took the relatively unprotected port of Portobelo on the Isthmus of Panama, a staging port for Peruvian silver being transported to Spain via Cartagena. The politically motivated admiral beat his drums, claimed a great victory – which it was not – demanded reinforcements from England – which he received – and made preparations to attack the more fortified town and port of Cartagena, in what is now Colombia. The reports of his success at Portobelo reached England in early 1740, and in February of that year the Council of War in England approved his plans for the attack on Cartagena. Vernon attacked Cartagena in April 1741, but the attack was a failure, the reasons for which have been evaluated in detail by the present author (2).

But what needs to be explained here is how Vernon's expedition and its failure at Cartagena affected the preparations for Anson's voyage. We have the account of the Chaplain of Anson's flagship, *HMS Centurion*, cited by Lloyd and Coulter in *Medicine and the Navy*. This tells us that:

"350 seamen were offered for the six ships under his (ie Anson's) command of which only 175 reported on board", 32 of them direct from Haslar hospital. Instead of the able-bodied Marine Regiment which he had hoped to carry, 500 invalids from the out-

Anson Conference - 7 June 2008

pensioners were drafted to Portsmouth, men who from their age and disabilities were regarded as unfit for service”

Mr Anson, reported his Chaplain,

was greatly chagrined at having such a decrepit detachment allotted to him. But only 259 arrived, for all those who had limbs and strength enough to walk out of Portsmouth deserted, leaving behind them such as were literally invalids, most of them being sixty years of age and some upwards of seventy”

Anson was justifiably “greatly chagrined” and although the Chaplain does not tell us, he must have realised that those seamen and soldiers as had been available had already been sent to provide the reinforcements that had been demanded by Admiral Vernon for his projected attack on Cartagena. Vernon was a more senior officer with much more political influence than Commodore Anson.

The extraordinary thing is that with men in such a poor state of health, Anson was able to sail round Cape Horn at the worst time of year, the stormy austral winter, and harass the Spanish settlements along the Pacific coast of South America. Moreover, he had by then lost four of his six ships due to mainly to disease, especially scurvy, and navigational errors. Nevertheless, having failed to trap the Manila galleon at Acapulco, he crossed the Pacific and was able to fight and capture the treasure laden ship during the last stage of its voyage into Manila.

In 1744, Commodore Anson returned to England via the Cape of Good Hope in his flagship, the *Centurion*. She carried the treasure from the galleon, but only about half of her normal complement of men. These men also represented only about 10% of the nearly 2000 men who had sailed from England in 1740.

No mention has yet been made of the measures taken by Spain to face the menace of British incursions into the “South Sea”, the name by which the Pacific was generally known in the Seventeenth century. Admiral Pizarro appears in the programme for this conference as a subject for this talk. General D. Pizarro (4) was a respected naval figure in Spain (Spanish “Admirals” were officially designated as Generals until the Battle of Trafalgar). Pizarro had been given command of a squadron assembled at El Ferrol for the purpose of intercepting and capturing or destroying the Anson squadron. Anson’s planned activities, despite official secrecy, had become known to Spain though information received from French diplomats in London.

The first near contact occurred when the Spanish and British squadrons almost confronted each other near Marguerita Island off the coast of Brazil. Then Pizarro learned in Buenos Aires, while replenishing the stores of his ships, that Anson was sailing down the coast of Patagonia with the apparent intention of rounding Cape Horn. Pizarro pursued Anson, and at one stage, one of Anson’s ships – the 40 gun *Pearl* -- came within musket-shot of Pizarro’s squadron, but not a shot was fired. However Pizarro’s squadron, like Anson’s suffered tremendous losses due to scurvy and the stormy weather of Cape Horn. Being unsuccessful in rounding Cape, Pizarro decided to return to Rio de la Plata in his flagship, the *Asia*. As the senior Spanish naval officer, Pizarro then decided to cross the Andes to complete his mission by coordinating the Spanish defence against the British predators in the Pacific. However, he does not seem to have been involved in the protection of the Manila galleon. Eventually, he re-crossed the Andes to Rio de la Plata, and returned to Spain in the *Asia*, which was still serviceable.

In the voyage down to and round Cape Horn, Anson lost four out of his six ships, due to a combination of disease and poor navigation. However, surprising, inexplicable and even more extraordinary than the failure to challenge the *Pearl*, were subsequent events at Juan Fernandez Island – also known as Robinson Crusoe Island, made famous by Daniel Defoe.

Anson Conference - 7 June 2008

Four Spanish ships under the command of Don Jacinto Segurola, "General del Mar del Sur", under the instructions of the Viceroy of Peru, put to sea with the aim of intercepting Anson. The Viceroy was well informed of the aims and progress of Anson's expedition, knowing that they had headed down the coast of Patagonia towards the Strait of Le Maire in February. However having waited off Juan Fernandez until the beginning of June, Segurola reckoned that Anson's squadron had failed to round Cape Horn, and decided that the Spanish squadron should return to its base at Callao.

Three days after the departure of Segurola, Anson arrived at Juan Fernandez in the *Centurion*, followed shortly afterwards by the fifth ship of his squadron, which Anson was forced to scuttle so as to have sufficient men to man his flagship. Both ships were in such a state and short of men that they could easily have been destroyed by the Spanish squadron if it had remained for those three more days. But Anson would not then have captured the Manila galleon, or perhaps even himself returned to England, and the significance of this conference would have been somewhat lessened.

The appalling losses of men, due especially to scurvy, and the navigational problems faced by Anson as a result of the inadequate methods available for calculating longitude, triggered a number of initiatives after Anson returned to England. Eventually the *Treatise on Scurvy* (5) by James Lind was published. He dedicated it to Anson, by then raised to the peerage. It demonstrated the decisive value of citrus fruits in cure and prevention of the disease.

The other critically important development resulting from the navigational errors of the Anson voyage, was the development by John Harrison of his accurate timepieces, which were the key to the accurate determination of longitude at sea, and for which he was awarded £20,000 by Parliament.

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The Nature and Consequences of the Medical Conditions That Developed Amongst the Ships' Companies during the Anson Voyage

Surgeon Vice Admiral Sir Godfrey Milton-Thompson KBE FRCP

Many factors contributed to the triumph and disasters of Anson's voyage, but none are more difficult to assess and quantify than those affecting the health of the ships' companies. We know that over 1,900 men set sail, and almost 1,400 died before Anson reached home waters. Only a few of those died from enemy action, accidents, or man overboard; all the rest from disease. Looking back, we can understand the problems of navigation at the time, the effects of the weather, the fragility of wooden ships, especially those that were old and had been poorly maintained, and the problems of communication in the eighteenth century; we know the diet on board ship, and have a very good understanding of the conditions in which the sailors lived. But it is important to appreciate how poorly understood were the causes of ill-health at the time. It is also hard for us to be sure of the appropriate diagnosis when, although symptoms may be graphically described, clinical findings are rarely recorded and notes on post-mortems are almost non-existent. Although describing the medical conditions affecting ships' companies during the voyage must be speculative, I propose to discuss the probable diagnoses and the major health problems affecting the squadron during the circumnavigation and attempt to evaluate their impact.

Medical thinking at the time of Anson's voyage was still heavily influenced by Hippocrates posing the four humours and by the second century physician Galen whose enthusiasm for blood letting persisted into the nineteenth century. Indeed the Sixteenth and Seventeenth centuries had brought little in the way of change in medical provision or treatments, although Cinchona bark reached Europe between 1630 and 1640 and was known to be effective against some intermittent fevers, since Malaria was then endemic in England.

Theories of medicine in the Eighteenth century were many. Knowledge of human anatomy had greatly increased, physiology was in its infancy, therapeutics was unscientific and arbitrary. Voltaire (a contemporary of Anson) commented "doctors poured drugs of which they knew little to cure diseases of which they knew less into human beings of whom they knew nothing." Sadly there was some truth in this.

At the time of Anson's voyage, the fundamentals of medical thinking remained contentious. What was disease? What was its true cause? In a clinical climate still honouring Hippocrates, sickness was attributed to factors such as the quality of the air, diet and exercise. While contagion was popular as a cause of some diseases such as syphilis, miasmatic models – holding that sickness typically originated in the environment from poisonous exhalations - were important. For example, it was well recognised that intermittent fever, the ague, was common among those living in estuaries and wetlands. 'Putrid fevers' including typhus were recognised as infecting slum dwellers and occupants of prisons, barracks and ships. In all these 'bad air' was held to be the major cause.

Anson Conference - 7 June 2008

Such was the background of medical thinking at the time. But before considering how disease struck the men during the voyage, it is worth considering conditions ashore. Nutrition in the population was determined by the weather and the harvests to a much greater extent than now. The last famine in England was in the seventeenth century, but contrary to what the Global Warming protagonists would have us believe, the very warm mediaeval period, which had nothing to do with carbon di-oxide in the atmosphere, ended at the beginning of the fourteenth century.¹ This was followed by at least four centuries of cold weather in England and there were years of considerable hardship and poor harvests at the time that Anson set sail. Malnutrition must have been widespread. While the better off ate a great deal of meat, this was different among the working class, where bread was the staple diet and consumption of fruit and vegetables was distrusted by some medical opinion. Many of Anson's seamen and soldiers must have been in a poor state of nutrition before they ever set foot on board his ships. This state of affairs was compounded by the manning problems of the Fleet so that the men who did come aboard were a very mixed company, containing many who were clearly unfit to go to sea at all, let alone embark on so great a voyage. The proposed addition of 500 invalids (that is soldiers rendered unfit for active service by reason of illness, wounds or age) to his strength outraged Anson at the time – now it seems to us quite astonishing. Professor Williams has identified a number of those from the records of Chelsea Hospital and they make sorry reading; none of them would have been classed as fit to serve now, even on the lightest of light duties ashore². Those who finally joined the ships were extra mouths to feed and quite useless either as working hands or soldiers. To these were added three companies of marines, raw and untrained. In July, of the 143 marines ordered on board Anson's ships, 97 were still in quarters and of those 66 were sick. Once at sea their mortality rate was very high, so that within 10 months 84% had died in *Centurion* and 95% in *Gloucester*. It is impossible to be sure why this happened, but it is very likely that the majority were due to typhus, although itch (probably scabies and by no means lethal), pox and other distempers were described by Admiral Cavendish at Portsmouth,³ and bacterial dysentery was probably common.

Anson finally sailed on 18 September, and left Madeira on 5 November but very soon serious sickness was disabling the ships' companies of all his squadron.

'We were remarkably sickly' wrote the Revd Richard Walter, Chaplain in *Centurion*, 'so that many died and great numbers were confined to their hammocks both in our own ship and in the rest of the squadron, and several of these beyond hopes of recovery. The disorders they in general laboured under are those kind of fevers which they usually call calentures and a disease which was not only terrible in its first instance but ever the remains of it proved fatal to those who considered themselves recovered from it, for it always left them in very weak and helpless condition and usually afflicted with fluxes or tenesmus.'⁴

It seems likely that serious overcrowding, and a considerable population of rats and plagues of flies had ensured the spread of typhus and dysentery. Typhus is a virus-type disease spread by body lice from a human reservoir, the infective agent remaining active within the dried faeces of the creatures for a considerable time. Mortality among infected patients is related to age, and reaches 50% in those aged 50 or more. The onset is abrupt with severe fever, vomiting and prostration, with a red, sometimes haemorrhagic rash developing about the fifth day. It is a matter for conjecture, but it seems likely that both Waller, Anson's surgeon, and Robert Weldon, the Purser of *Centurion*, died as a result of typhus. Dysentery, an infective diarrhoeal disease quite unlike typhus was less likely to kill, but must have been extremely disabling for many of those affected. Because nobody understood the infective nature of these diseases, Anson had ordered scuttles to be cut in all ships to improve

¹ *Unstoppable Global Warming: Every 1,500 Years*. Singer F and Avery D. (2007)

² *The Prize of All the Oceans*. Williams G Harper Collins 1999, p21

³ Adm 1/903, 904 July 1740

⁴ *Voyage Round the World by George Anson*, compiled by Richard Walter 8th Ed 1756, page 52

Anson Conference - 7 June 2008

ventilation, believing that poor air was responsible for both conditions. It is very unlikely that scurvy was a problem during this part of the voyage, since this deficiency disease normally appears after a longer period of deprivation.

The ships arrived St Catherine's Island on 21st December and Saumarez's description makes it sound a veritable paradise on first inspection but experience soon proved that it had many hazards⁵. Saumarez noted:

`the air extremely hot and sultry... and thick fog until the sun gathered strength; this renders the air close and humid and occasions many fevers and fluxes among us`.

Diarrhoeal diseases were a problem, always worsened by poor sanitation and many flies. We know that where new arrivals are exposed to indigenous strains of E coli, acute diarrhoea is a common event and only subsides as an immunity is developed. Such immunity would not have happened with the elderly and those already infirm who were likely to be the majority of the fatalities; while some may have gone on to develop the chronic diarrhoea known as Tropical Sprue, a chronic failure of fat absorption following bacterial infection of the gut. The sick were landed and nursed in tents and Walter noted that

"all the day we were pestered with great numbers of muscatoes which are not much unlike the gnats in England, but more venomous in their stings. And at sunset, when the muscatoes retired they were succeeded by an infinity of sand-flies which, though scarce discernible to the naked eye make a mighty buzzing and wherever they bite raise a small bump in the flesh which is soon attended by painful itching, like that arising from the bite of an English harvest bug"⁶

We can only conjecture what diseases they may have carried. Malaria is not now a problem as far south as St Catherine's Island but the geographical distribution of disease changes over the years and we cannot tell whether the parasite existed in the mosquito population at the time. Where malaria is prevalent, all three varieties of the malarial parasite occur, but that causing malignant tertian malaria, which predominates in the tropics, is the most dangerous⁷; if malaria existed on St Catherine's, which I think unlikely, the malignant variety may have been there, and would have developed ten days or so after inoculation by the local mosquitoes. Perhaps more likely is that the insects were carriers of the virus of Dengue fever, a febrile illness causing considerable pain and discomfort, and sometimes pursuing a haemorrhagic and fatal course.

We do know that the island was well endowed with citrus fruits and Anson ensured that these were taken on board.

Setting out from St Catherine's Island on 18 January 1741, the weather and navigational problems became the major preoccupation and in March the ships' companies were still considered in a reasonable state of health⁸ although the storms produced the inevitable casualties and loss of life among the seamen, Walter recording:

"One of our best seamen was canted overboard and drowned. Another dislocated his neck, a third was thrown into the main hold and broke his thigh, and one... broke his collarbone twice, not to mention many other accidents of the same kind"⁹

As the squadron began to face rounding the Horn, the first case of scurvy was recorded in *Gloucester* on 11th March, delayed, no doubt, by the sojourn at St Catherine's Island in

5 *Log of the Centurion*. Papers of Capt Philip Saumarez, Ed Heaps 1973 p51-58

6 *Voyage Round the World by George Anson*, compiled by Richard Walter 8th Ed 1756, page 61

7 Snow, Guerra, Noor, Myint & Hay, *Nature* 434, 214-217

8 *Log of the Centurion*. Papers of Capt Philip Saumarez, Ed Heaps 1973 p 70

9 *Voyage Round the World by George Anson*, compiled by Richard Walter 8th Ed 1756, page 107

Anson Conference - 7 June 2008

December, where fresh vegetables and fruit would have been available, although individual reservoirs of Vitamin C would not have been returned to normal. In *Centurion*, Walter wrote:

“Soon after passing the Straits of Le Mare the scurvy began to make its appearance amongst us and our long continuance at sea, the fatigue we underwent and the various disappointments we met with had occasioned it spreading to such a degree that at the latter end of April there were but few on board who were not in some degree afflicted with it and in that month no less than 43 died of it on board the *Centurion*... in the month of May we lost near double that number and as we did not get to land till the middle of June the mortality went on increasing and the disease extended itself so prodigiously that after the loss of above 200 men we could not at last muster more than six foremast men in a watch capable of duty”¹⁰ Pascoe Thomas corroborated this sad story writing ‘And now, as it were to add the finishing stroke to our misfortunes, the people began to be universally afflicted with that most terrible obstinate and at sea incurable disease the Scurvy, which quickly made a most dreadful havoc among us. As most of the living were of the same distemper and the little remainder who preserved their healths better, in a manner quite jaded off their legs, I have on that account seen four or five dead bodies at a time, some sewn up in their hammocks and others not, washing about the decks for want of help to bury them in the sea...’¹¹

Because Scurvy is, without doubt, the most important factor in my sorry story, I propose at this stage to spend a little time considering it as a major deficiency disease.

Although the value of citrus fruits in the prevention of scurvy had long been recognised by seamen such as Drake, Hawkins and Lancaster, their perishable nature made the Victualling Board deem them unnecessary for a long voyage. The victualling of the fleet was standard for the time, and although the diet probably had sufficient calories, it was woefully inadequate in terms of vegetables and fruit.

At the time of Anson’s voyage, the Royal College of Physicians had recommended elixir of vitriol, a mixture of sulphuric acid, alcohol, sugar and spices, and of no therapeutic value whatever. Many were the spurious remedies proposed by doctors who did not base their conclusions on scientific evidence. Indeed the medical profession were lamentably resistant to any new ideas. Symptoms of scurvy would have been exacerbated when Ward’s drop and pill (a mixture of antimony, balsam and wine, acting as a violent purgative) were administered as a last resort during the outbreak while crossing of the Pacific.

By the beginning of the twentieth century, theories still abounded as to its cause, and it was not until a satisfactory animal model was identified for experimentation that real progress could be made. In 1907 Holst and Frolich, working in Oslo, identified the guinea pig as a suitable experimental model, feeding them on a scorbutic diet and finding at post-mortem the changes associated with human scurvy. These changes could be reversed by cabbage, lemon juice and apples. Much experimental work, mainly using guinea pigs, followed over the next twenty years, hastened by the development of real scurvy during the Great War in number of situations, particularly the British Army in Mesopotamia, which was readily relieved by citrus juices. That scurvy was a deficiency disease was well recognised by then, but it was Szent-Gyorgyi, working in Cambridge, who in 1928 first isolated hexuronic acid, which we now call ascorbic acid or Vitamin C. This substance was subsequently shown by other scientists to protect guinea pigs from experimental scurvy. Szent-Gyorgyi, a modest but brilliant research chemist whose name was still a household word in the Department of Biochemistry at Cambridge when I was an undergraduate, later said:

“I was not acquainted with animal tests in this field, and the whole problem was, for me, too glamorous, and vitamins were to my mind, theoretically uninteresting. “Vitamin”

¹⁰ Ibid. p 139

¹¹ *True Journal of Voyage to the South Seas...* Pascoe Thomas London 1745 page 22

Anson Conference - 7 June 2008

means that one has to eat it. What one has to eat is the first concern of the chef, not the scientist.”¹²

But it was of the greatest concern to sailors!

Experiments during the twentieth century in human volunteers saturated with Vitamin C, showed that symptoms developed after some 17 to 20 weeks of ascorbic acid deprivation.¹³ However, during Anson's voyages, as in all others of the time, scurvy was of insidious onset and that onset was usually much sooner, suggesting that the majority of people were moderately deficient in Vitamin C before ever embarking on a long voyage. There was considerable variation in the onset of symptoms, since human beings on normal diets have a considerable store of Vitamin C and do not develop symptoms until that is exhausted. The size of that store dictates the time of onset after deprivation. But other factors were also relevant. Individual variation in susceptibility was considerable, and there is some evidence that the young were less prone to scurvy than older men, while the invalids were most severely affected. Because vitamin C is concerned with the connective tissue throughout the body – the cement that holds all the bricks together – the disease is a generalised one from the beginning. Very few doctors now in practice have seen Scurvy, but one reads that symptoms begin with a roughening of the skin around the hair follicles, which later develop small haemorrhages around them. Later, the gums begin to bleed, old scars become livid and red, and more generalised haemorrhages occur both externally and, one assumes, internally, explaining the sudden death that sometimes takes place in severely affected patients. The clinical picture during the voyage, however, was undoubtedly confused in many cases since deficiency diseases are rarely single.

At the same time, it is not easy from the detailed descriptions of both Pascoe Thomas and Walter, to decide to what extent scurvy was the sole problem, or whether other diseases were complicating the issue. Reading their individual descriptions, it is clear that some of the symptoms Walter attributed to scurvy: e.g. swelled legs and mental confusion, are not normally those of scurvy, but due to an associated deficiency of other vitamins, especially those of the B group, while jaundice, not a feature of vitamin deficiencies, could have been a symptom of rat borne disease such as Weil's disease, or viral hepatitis (inflammation of the liver).¹⁴ Developing scurvy himself at a later stage in the voyage, Pascoe Thomas described his own symptoms with, one suspects, accuracy and makes a particular point of the great pain in joints and bones, while Walter comments on the way old scars broke down, and, most alarmingly:

“others, who have confided in their seeming strength and have resolved to get out of their hammocks, have died before they could well reach the deck; nor was it an uncommon thing for those who were able to walk the deck, and to do some kind of duty, to drop down dead in an instant, on any endeavours to act with their utmost effort, many of our people having perished in this manner during the course of this voyage”¹⁵.

Cardiac arrest was clearly a risk in severe cases. Was this pure Scurvy? Probably not.

I do not propose to dwell on the hardships and rigours of the ships' companies as they attempted to round the Horn in appalling weather with an increasing casualty list from scurvy, but *Centurion's* arrival at Juan Fernandez on June 11th 1741 throws further light on their medical tribulations. Walter described their arrival thus:

¹² Carpenter K J; *The History of Scurvy & Vitamin C*. Cambridge University Press 1986. p191

¹³ *Price's Textbook of the Practice of Medicine*, Ed Donald Hunter 9th Ed, 1956

¹⁴ *Voyage Round the World by George Anson*, compiled by Richard Walter 8th Ed 1756 page 140-142

¹⁵ *Ibid.* p 142

Anson Conference - 7 June 2008

The extreme weakness of our sick may in some measure be collected from the numbers who died after they had got on shore; for it had generally been found that the land, and the refreshments it produces, very soon recover most stages of the sea-scurvy; and we flattered ourselves that those who had not perished on this first exposure to the open air would have been speedily restored to their health and vigour. Yet, to our mortification it was near twenty days after their landing before the mortality was tolerably ceased, and for the first ten or twelve days we buried rarely less than six each day and many of those who survived recovered by very slow and insensible degrees”¹⁶

Saumarez described:

“The men... raising tents for the sick who now died apace. It being impossible to conceive the stench and filthiness which men lay in or the condition that the ship was in between decks”¹⁷

Gloucester's arrival and attempts to enter harbour at the end of June were evidence of the extremely serious condition of all on board. The dead lay everywhere. Those who could walk or crawl did so with a most excruciating pain in their joints caused by the scurvy. Captain Mitchell and the men who still survived barely held on to life. Rats infested the ship, gnawing away at the dead and eating the fingers and toes of those who were too weak to defend themselves. A pestilence plagued the ship.¹⁸ During this time, however, the supply ship *Anna* had found a secure harbour while on passage and had replenished her supplies, so that her ship's company was in better condition than those in *Centurion*, *Tryal* and *Gloucester*. Pascoe Thomas, however, was quite complimentary about the facilities of the island, writing:

“Here are greens and sallads of several sorts and very wholesome, by the assistance of which our sick men began to recover a-pace; and those greens and fish were our principle food while here... and young seals and sea lions.”¹⁹

I do not propose to consider in any detail the reasons why *Severn* and *Pearl* turned back while attempting to round the Horn. *Severn's* sickness rate was very high, *Pearl's* not so, and the resulting reports by their Captains attempted to justify their actions.²⁰ Whether their decision to desert the Flag could be explained by the Captains' incompetence, cowardice or ill health is not possible to determine. The fate of *Wager* and the remarkable story of its Captain and ship's company have been dealt with by Admiral Layman. For the remaining ships, there is no doubt that the stay at Juan Fernandez gave Anson the opportunity to repair his ships and recover his invalids so that, when he set sail again in September, the remaining ships of the squadron, although severely depleted in man-power, were in reasonably good heart; however *Tryal's* structural condition was bad enough to justify scuttling her and transferring guns and stores to one of the Spanish prizes captured from Juan Fernandez. The storming of Paita on 13th November must have been good for morale, with only one fatality, one slightly wounded and booty worth having, although hardly up to expectations. Health was clearly not a major concern as the ships cruised northwards, reaching Quibo in early December. Here Pascoe Thomas commented that the island was:

“full of trees and is said to be very fruitful. Tis reported (how truly I know not) that the woods abound with very fierce tygers.”²¹

Here they spent nine days re-provisioning and watering, but met no tigers. Turtles provided an abundance of fresh meat, but there are no records of fruit and vegetables. Cruising off

¹⁶ Ibid. p 155

¹⁷ *Log of the Centurion. Papers of Capt Philip Saumarez*, Ed Heaps 1973 p112

¹⁸ *Log of the Centurion. Papers of Capt Philip Saumarez*, Ed Heaps 1973 p 114

¹⁹ *True Journal of Voyage to the South Seas...* Pascoe Thomas London 1745 p 31

²⁰ *The Prize of all the Oceans.* Williams G. Harper Collins 1999 p66-76

²¹ *True Journal of Voyage to the South Seas...* Pascoe Thomas London 1745 p 101

Anson Conference - 7 June 2008

the coast of Mexico in vain hopes that the Manila galleon would sail seems to have been frustrating for the men but their health stood up to the task. Turtles there were aplenty but water became a problem and the ships finally berthed at Chequetan on 7 April 1742. Here Walter wrote that:

'fruits and vegetable refreshments at this place were neither plentiful, nor of the best kinds, nor is there any other useful vegetable here worth mentioning except brook-lime; this indeed grew in large quantities near the fresh water banks and as it was esteemed an anti-scorbutic we fed upon it frequently, though its extreme bitterness made it very unpalatable.'²²

Pascoe Thomas was more specific:

'we brought on board some fine lemons, which greatly rejoiced us, hoping to have found them in great plenty²³. The water here is a small lagoon or lake, so covered by woods that you must search narrowly to discover it..... Notwithstanding our utmost precaution the water proved very bad, being not only brackish but soon full of nauseous live worms; and I verily believe that this water contributed much towards that dreadful disease which almost ended us between this coast and Asia.'²⁴

I doubt whether this surmise had any real justification.

Sailing from Chequetan on 30 April, the ships' companies remained reasonably well for about a month, although missing the trade winds and thus prolonging the voyage, but on June 11 (six weeks after sailing) Thomas recorded

'About this time abundance of scorbutic symptoms such as blackness in the skin, hard nodes in the flesh, shortness of breath and a general lassitude and weakness of all the parts began to prevail, almost universally, among our people. This with the great mortality we experienced from this distemper in our Cape Horn passage, and the time we might still expect to be at sea, having yet 1800 leagues to those islands... where we would expect our next refreshment; and our trade wind being not yet settled; these considerations, I say, gave us dreadful apprehensions of what this passage might terminate in.'²⁵

It is therefore clear that the majority of the ships' companies were still deficient in Vitamin C when they left Chequetan since the first symptoms of renewed Vitamin deficiency were appearing so soon. By July Pascoe Thomas wrote that

"people were beginning to die very fast...those whose breath was any ways affected dropt off immediately."²⁶

This suggests that some, at least were more affected by Vitamin B1 deficiency (Beri-Beri) where the symptoms are often more specifically cardiac. On the other hand, Thomas's description of his own symptoms, which developed during this part of the voyage, are a good description of scurvy as it is usually recorded (few physicians nowadays having the opportunity to observe a genuine case).

"I was first taken about the beginning of the month (July 1742) with a small pain on the joint of my left great toe; but having hurt that a little time before, I imagined it to be the effect of that hurt, and minded it the less... but in a little time a large black spot appearing on the part affected (which I suspect to have been a haemorrhage into the skin) with very intense pains at the bone, gave me to understand my case. I then took

²² *Voyage Round the World by George Anson*, compiled by Richard Walter 8th Ed 1756 p 355

²³ *True Journal of Voyage to the South Seas...* Pascoe Thomas London 1745 p 114

²⁴ *True Journal of Voyage to the South Seas...* Pascoe Thomas London 1745 p 120

²⁵ *Ibid.* p 137

²⁶ *Ibid.* p 141

Anson Conference - 7 June 2008

physic often by way of prevention, but to little purpose; several hard nodes now began to rise in my legs, thighs and arms, and not only many more black spots appeared in the skin, but these spread until almost my legs and thighs were as black as a negro; and this accompanied with such excessive pains in the joints of the knees, ankles and toes, as I thought, before I experienced them that human nature could never have supported. It next advanced to my mouth; all my teeth were presently loose and my gums, overcharged with extravagated blood, fell down almost quite over my teeth. This occasioned my breath to stink much, yet without affecting my lungs; but I believe, one week more at sea would have ended me²⁷.

Anson, himself mildly affected, was probably not the first, and in my experience certainly not the last captain of a ship to wish to assume a medical role. Pascoe Thomas again:

‘The Commodore, having by him some quantity of Ward’s Pills and Drops, in order to experience whether they would be of any use, first try’d them on himself and then gave a quantity of them to the surgeon to give to such of the sick people as were willing to take them. The surgeon would not recommend them to any person, but severall took them; tho’ I know of none who believ’d they were of any service to them. They worked most people who took them very violently both by vomit and stool, after which they would seem to be a little easier (though weaker) for perhaps a day or two but then they always relapsed and became worse than before. And this, together with the inefficacy of all our surgeons could do in the case, sufficiently shewed the variety of attempting the cure of this distemper at sea.’²⁸

Not a remedy for scurvy at any time, the poor wretches on whom this experiment was tried cannot have anticipated so dire a reaction.

Reading these sombre accounts of the tragedy is lightened a little by this story of the Commodore trying out his own medical remedies (rejected by the doctor), and also by the evident dissension between the School master, Thomas, and the Surgeon Ettrick. Thomas noted:

‘Since passing Cape Horn, our Surgeon Henry Ettrick (who was a very good practical surgeon but in the theory part vain and pragmaticall making science to consist in a flow of words with little or no meaning) had been very busy in digesting a theory of Scurvies; wherein he enumerated many cases very particularly, having been allowed to open and examine as many bodies as were abundantly sufficient for that purpose. His system was principally grounded on the observations made on a long passage in a very cold climate.....but this passage in a very hot climate, where the symptoms were not only more dreadful but the mortality much more quick and fatal in proportion to the number of people, put our scheming doctor to a sad non-plus; he could not account for this!’²⁹

Anson’s decision at the end of July to try to reach the island of Guam was undoubtedly the right one, but the decision to fire *Gloucester* because of its dreadful condition and because so few men were capable of working the ship, was a measure of how desperate the whole enterprise had become. Fortunately Centurion reached land, not Guam, but Tinian on 23 August and, although very few were capable of bringing the ship to her moorings, the most acute dangers to the health of the remaining men afloat were relieved. Thomas recorded:

‘We began to send on shore the sick the number this day of about 54, myself being one of them; all of us being so extremely ill and helpless that we were forced to be carried out of the ship in our hammocks on men’s shoulders into the boats and in the same manner from thence on shore and to the tent, and our Lieutenants and a few other officers were almost the only persons in the ship capable of giving us that assistance. However, such of us as the distemper had not mortally seized began in two or three days

²⁷ Ibid.p 141

²⁸ *True Journal of Voyage to the South Seas...* Pascoe Thomas London 1745 p143-144

²⁹ Ibid.p 142

Anson Conference - 7 June 2008

time, by the help of staffs to support ourselves, to get out to procure a little water and a few acid fruits; by the assistance of which we recovered apace.”³⁰

This last observation accords with the fact that officers ate rather better than the sailors and it is no surprise to find that vitamin deficiencies were less severe, although as I have already mentioned, Anson himself was suffering from scorbutic symptoms during the Pacific crossing.

While the delights of Tinian were immediately evident to all, especially to the sick, Walter recording cattle, chickens, hogs, fruit and vegetables, water melons and breadfruit, he discovered that the Spaniards had at some time previously removed all the inhabitants from the island because of sickness raging amongst the islands.³¹ It was not long before he discovered the disadvantages:

‘the principle inconvenience attending it is the vast numbers of muscatoes and various other species of flies, together with an insect called a tick. This though principally attached to the cattle would yet frequently fall upon our limbs and bodies and if not perceived and removed in time, would bury its head under the skin and raise a painful inflammation.’³²

It is a matter of speculation as to what, if any, diseases were carried by these ticks, now well known as carriers of a number of viral diseases. But we have no evidence as to whether they contributed to the sick list. Thomas was also less than enthusiastic about the fauna of the island recording:

‘the wild rats were very numerous and there was a prodigious number of flies, which not only sting and that sharply, but continually fall into whatever you eat or drink’³³

In spite of various problems, including *Centurion* herself being swept out to sea in a gale while Anson was ashore, and brought back by Saumarez, the island provided an opportunity to get the ship into a better state of repair and for the ship’s company to recover their health. Walter noted:

“we sent one of each mess on shore to gather as large a quantity of oranges, lemons, coco-nuts and other fruits of the island as they possibly could for the use of themselves and their mess-mates when at sea”³⁴

It is evident from the records, that the health problems of Anson’s remaining ships’ company were largely at an end once the men had recovered among the fruit and vegetables of Tinian. Finally sailing on October 21st, they had a fair passage to Macao, which they reached without mishap early in November. One of our sources, Richard Walter, left for home in December of that year. Anson left Macao on April 19 1743 after entering 23 more men, the greatest part of them Lascars or Indian sailors, and the rest Dutch. He now had 227 hands of which 30 were boys and was able to bring his ship’s company to a good standard of seamanship and gunnery, exercising the great guns and allowing the sharpshooters plenty of practice for the longed for encounter with the treasure galleon.³⁵ This finally took place on 20 June 1743.

As so often happened in unequal encounters between ships under sail, the battle was quickly over, and *Centurion*’s casualties were remarkably light, with one killed and 17

³⁰ Ibid. p 154

³¹ *Voyage Round the World by George Anson*, compiled by Richard Walter 8th Ed 1756 p 404

³² Ibid. p 413

³³ *True Journal of Voyage to the South Seas...* Pascoe Thomas London 1745 p 166

³⁴ *Voyage Round the World by George Anson*, compiled by Richard Walter 8th Ed 1756 p139

³⁵ *Log of the Centurion. Papers of Capt Philip Saumarez*, Ed Heaps 1973 p216

Anson Conference - 7 June 2008

wounded, two more dying of their wounds, while the *Covadonga* lost 67 killed and 84 wounded³⁶. The aftermath is described by Pascoe Thomas thus:

"With us went on board of her likewise two of our surgeons to take care of the General, and the other wounded persons, who were about 70 in the whole, several of whom were very dangerously and desperately wounded and some few, as it proved, mortally, but by the care and skill of Mr Allen, surgeon of the Trial sloop under whose directions principally they were put, and Mr Nasmith with his mate and assistant, all the rest to the number of about 60 were very well recovered, several of those were very surprising cures."³⁷

Alas, we are given no details to substantiate this claim. It does, however, illustrate the honourable way in which Anson's men treated the enemy in the aftermath of the engagement, and underlines the skill with which Royal Naval surgeons dealt with the wounds of battle.

Anson returned to Canton in July 1743, and finally weighed for home on 15 December of that year. It is interesting that Schoolmaster Thomas's old sparring partner, Surgeon Ettrick, died in Canton in September, but the circumstances are unknown.

The voyage home was remarkably uneventful when one considers the desperate conditions under which they reached China. When at the Cape of Good Hope, Thomas noted that:

"The Dutch have a fine hospital here whither they send the sick seamen that arrive in their fleets going to and from India,"³⁸

A lesson the Admiralty at home had been slow to learn. Coping with storms as they neared home was not so difficult with fitter men and a well repaired and maintained ship. On the 14th June 1744, "*we anchored at Spithead*" wrote Thomas with masterly understatement, "*thus concluding our tedious and perilous voyage*"³⁹

The ravages of infectious and deficiency diseases during this astonishing voyage are unparalleled in the history of the Royal Navy. Scurvy was understood to be a sea disease, but there was no clear understanding of why, once men came ashore, the symptoms would abate. The connection between relief of symptoms and dietary fruit and vegetables was imperfectly understood. Where adequate and regular re-provisioning was possible, as on the return voyage from China, the ship's company remained healthy. Captain Scott, dying in the Antarctic of scurvy, hypothermia and frostbite one hundred and sixty years later wrote in his diary:

"Had we lived, I should have had a tale to tell of the hardihood, endurance, and courage of my companions that would have stirred the heart of every Englishman."⁴⁰

Such another tale is that of Anson's remarkable voyage. His courage, determination, imperturbability and fortitude were matched by the endurance and long suffering of his men in the face of such appalling medical disasters. It was for the medical profession to produce the solution to this scourge, and for the Admiralty to implement such a solution. That lay in the future.

³⁶ *The Prize of all the Oceans*. Williams G. Harper Collins 1999. p174

³⁷ *True Journal of Voyage to the South Seas...* Pascoe Thomas London 1745 p287

³⁸ *Ibid.* p321

³⁹ *Ibid.* p347

⁴⁰ *Life of Captain Scott*, Gwynn, S, Penguin 1940 p 161

Anson Conference - 7 June 2008

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The Medical Aftermath of the Anson Voyage and its lasting bequest

Surgeon Vice Admiral Sir James Watt KBE, MD, MS, FRCP, FRCS

Note: *This paper is based on information to hand at an intermediate stage of Sir James Watt's research. He anticipates that a fully developed paper will be published in the Mariner's Mirror in 2010.*

At the time of the Anson voyage, surgeons were being recruited from two sources: those who had served a traditional apprenticeship with the Barber Surgeon's Company, and those who had come from teaching hospitals or universities, often with university qualifications. To the latter, the Anson voyage was a medical disaster exposing surgeons' ignorance of the sea diseases and they felt that something had to be done about it. John Atkins, a surgeon with independent views, had published a practical book on surgery in 1742 which had advocated a medical centre in Portsmouth to update surgeons on recent medical advances, and the more concerned surgeons established the Association of Naval Surgeons for that purpose in January 1746.

James Lind was a member of the Association and provided two papers in which he drew important lessons from Anson's voyage and described his controlled clinical trial in HMS *Salisbury* which identified lemon juice as a specific for scurvy. This was the first such clinical trial and provided the basis for the evolution of the modern controlled clinical trials by which all modern drugs are assessed. By the time that his *Treatise of the Scurvy* was published in 1753, Anson, equally anxious to draw lessons from the events of his circumnavigation, had become a reforming First Lord of the Admiralty. Due to, and following from, his initiatives, for the next fifty years there followed fruitful collaboration between naval executive officers, surgeons and physicians.

The Medical Society of London, the first civilian postgraduate medical society, was founded in 1773. Naval surgeons were among its founding members and actively participated in its meetings. Nathaniel Hulme, a naval surgeon and one of its presidents, supplied Joseph Banks with lemon juice for his voyage with Cook in the *Endeavour*. Banks found that it cured his scurvy and, unlike Cook, gave a ringing endorsement of its ability to cure the condition.

The quality of the new generation of naval surgeons was demonstrated in their role in the founding of the Australian penal colony at Port Jackson, later Sydney. Three, including John White, the Surgeon General, were members of The Medical Society of London, and sent the Society specimens of new drugs with instructions on their use. The surgeons who sailed for Australia, with what subsequently became known as the First Fleet, had been carefully selected by Sir Charles Middleton, Comptroller of the Navy, aided by his secretary James Ramsay, a former naval surgeon who had remained in touch with leading reformers.

This vast expedition was on a scale never previously contemplated and met with similar frustrations to those experienced on the Anson voyage. However, the health problems of those who sailed from England on 13th May 1787 in the 11 ships of the First Fleet were

Anson Conference - 7 June 2008

under the management of a new generation of naval surgeons with radical views. Of the 1464 who sailed, only 26 died on passage, 23 of whom were already enfeebled convicts. All of the ships arrived together at Port Jackson on 26th January 1788 having 'never having been separated a single hour' during the 12,000 mile voyage. This was a far cry from the experiences of Anson less than 50 years earlier.

Rodney, Howe, St Vincent and Nelson were quick to recognise the qualities of the new breed of naval surgeons. At Trafalgar, only 7 of 102 casualties died in *Victory* and only 3 of 11 amputations carried out were for compound fractures, a vindication of the training and practice of the new naval surgeons who outperformed their civilian contemporaries. It is perhaps significant that the first account of Nelson's injuries was read to the Medical Society of London by Nelson's physician Leonard Gillespie in December 1805.

Other medical initiatives in the early nineteenth century led to the conquest of the sea diseases which had decimated Anson's squadron. Sir Gilbert Blane pointed out that the impact of health reforms had been dramatic. In 1779, hospital admissions had been 1 in 2.4 of those seeking or requiring medical attention, and deaths 1 in 42. By 1813, only 1 in 10 were being admitted to hospital and deaths had been reduced to 1 in 143.

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