The role of the Canary Islands in the Atlantic coal route from the end of the nineteenth century to the beginning of the twentieth century:

Corporate Strategies

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The Role of the Canary Islands in the Atlantic Coal Route from the End of the Nineteenth Century to the Beginning of the Twentieth Century: Corporate Strategies¹

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Introduction

It is widely accepted that transport as 'social overhead capital' was a basic component of economic growth from the Industrial Revolution onwards;² and maritime transport in particular has played a fundamental role in the development of trade, a role which was consolidated from the moment at which ships began to use coal as fuel. The significance of this fuel was such that W. S. Jevons defined it as "the essential cause of modern material civilisation".³ It is thus hardly surprising that the companies that controlled its distribution "often played a decisive role in colonial expansion policy",⁴ since coal was the source of the energy used by steam ships.

But a generalised use of coal was only possible when two separate circumstances coincided. The first of these were technological advances in steam navigation (the high pressure boiler, the propeller, the turbine) that enabled a powerful source of energy – in this case coal – to increase the sailing range of ships, while at the same time lowering consumption rates and increasing cruising speeds. The second factor was the availability of construction techniques and materials, which enabled the large infrastructures required by bigger and more complex vessels to be constructed.⁵ However, given the limited sailing range of steam ships, conveniently located supply stations along the length of trading routes were essential in that they allowed ships' holds to be occupied by merchandise rather than by huge amounts of fuel. The Iberian Atlantic islands (Madeira, the Canary Islands, Cape Verde, and to a lesser degree the Azores), situated as they were at a mid-point on the Atlantic trading route, proved to be ideal servicing stations.

Alongside these activities a "differential economic model for islands" was developed,⁶ enabling the islands to develop their own enclave economies. As has been theorised by

¹ A previous version of this paper was published in *International Journal of Maritime History*, 16:1 (June 2004), pp.95-124.

² S. P. Ville, Transport and the Develoment of the European economy, 1750-1918, London: Macmillan, 1990,

p.1; D. North, 'Ocean Freight and Economic Development 1750-1913', *Journal Economic History*, 18 (1958), pp.537-55.

³ W. S. Jevons, *The Coal Question. An Inquiry Concerning the Progress of the Nation, and the Probable Exhaustion of our Coal.mines*, Madrid: Pirámide, 2000 [1865], p.73.

 ⁴ J.-L. Miège, *Expansión europea y descolonización de 1870 a nuestros días*, Barcelona: Labor, 1975, p.5.
 ⁵ S. Lilley, 'El progreso tecnológico y la revolución industrial, 1700-1914', in C. M. Cipolla (ed.), *Historia*

económica de Europa (3). La revolución industrial, Barcelona: Ariel, 1983, pp.195-264; G. Jackson, 'The ports', in D. H. Aldcrolft & M. J. Freeman (eds), *Transport in the Industrial Revolutions*, Manchester: Manchester University Press, 1983, pp.177-209.

⁶ A. M. Bernal, 'Los instrumentos del comercio en el sistema mercantil de las islas atlánticas ibéricas y caribeñas', in *Historia das Ilhas Atlânticas (Actas de Seçao de Archivos do IV Coloquio Internacional de Historia das Islhas Atlânticas)*, Vol. I, Funchal: Centro de Estudos de Historia do Atlântco/Secretaria Regional do Turismo e Cultura, 1992, pp.43-87.

Douglass North, the development of transportation played an important role in the structure and specialisation of these.⁷ In this economic model, the exportation of agricultural products to Europe (bananas, tomatoes, potatoes) benefited maritime transport fleets, in that it cheapened their operating costs, since ships could now exploit the 'return' leg of their journey with a cargo to take back to Europe. This activity was then further complemented by passenger transport, either in the form of tourists visiting the islands (which had already become popular destinations for Europeans, for what would now be termed 'health tourism'), or as a port of call for emigrants on their way to South America.

The geographical location of the Canary Islands, at the crossroads of different maritime trading routes, determined its historical importance in international trade and maritime traffic, relegating the archipelagos of the South Atlantic (Ascension Island, St. Helena, the Falkland Islands), which had enjoyed a certain importance as coaling stations in the nineteenth century, to a secondary role.⁸ This leads to the hypothesis that the ports of these archipelagos, and in particular those of the Canary Islands, were created as a support to Atlantic trade through a range of factors: geographical location; adequate infrastructure; benign climate; size of market; and the existence of institutional arrangements that benefited and reduced the costs of commercial transactions, such as franchises and commercial liberties (which took the form of 'free ports' in the Canary Islands).

This paper analyses a factor that contributed to the maritime transport dynamic in the second half of the nineteenth and the first third of the twentieth century: the supply of coal in Canary Islands ports to ships covering the Mid- and South Atlantic route. Till now, research has tended to be informed by the theory of a fully liberalised market where supplying companies were able to compete in terms of price and quality. According to this theory, the quantities sold by each company were directly related to the prices at which such products were offered in the ports. This price, in turn, was fixed in accordance with the current coal purchasing price, to which the cost of transporting the coal to the supply docks would have to be added, together with loading, freight and import duties where applicable. In this situation, British coal – which combined low raw material costs with economical haulage costs – displaced Spanish mainland coal to an extent that the almost total lack of Spanish coal on offer in the Canary Islands ports became starkly apparent. The coal came mainly from English mines in Newcastle and Wales.

The paper analyses the characteristics of the marketplace and transportation of this coal designated for maritime trade, and the role that the islands of the Iberian Atlantic archipelagos played as coaling stations, from the mid-nineteenth century to the mid-twentieth century, when coal ceased to be the main form of fuel used in shipping. An analysis is made of the quantities of coal supplied, corporate behaviour and supply conditions (prices, haulage etc.), filtering certain sets of statistics and adding others that are either unknown or unused to date. The paper's framework is therefore the role of coal in the development of maritime transportation within the context of capitalist expansion from the late nineteenth to the early twentieth century. This is explored in the next section. The following section deals with the coal supply in the Canary Islands ports in relation to the other ports of the 'coal route' of the Iberian Atlantic Islands (the Azores, Madeira and Cape Verde). Here the Canary Islands is treated as the central axis firstly because the Canary ports came to be the most important

⁷ North (1958), p.537.

⁸ W. Minchinton, 'The role of the British South Atlantic islands in sea-borne commerce in the ninetennth century', in *Actas del IV Coloquio de Historia Canario-americano*, Las Palmas: Universidad de Las Palmas de Gran Canaria, 1985, pp.543-76.

coaling stations in the Atlantic Ocean, and secondly because of the greater amount of available documentation. This is followed by a section devoted to the companies that supplied coal in these ports, and in particular the domination of British companies in the Iberian Atlantic coaling business. The penultimate section analyses coal sale and supply conditions, with particular reference to agreements made between the different companies with a view to forming a price cartel; and the paper ends with some brief provisional conclusions.

Capitalist expansion and coal supply in the Atlantic

With the European economy in an expansionary phase, and as a consequence of changes originating in the Industrial Revolution and the growth of the capitalist economy, there was an increase in world trade, which made capital available for aggressive investment abroad. This meant that the infrastructure required to cater for the needs of this increase in transportation, be it in the form of ports or railway lines – essential elements in successful trade development – became the object of large-scale investment, both public and private.⁹

At the same time, international European maritime traffic depended on an economic framework defined by the existence of a coal-mining industrial and commercial centre located in the United Kingdom in the Tyne estuary and along the Bristol Channel, connected with a burgeoning industrial axis.¹⁰ This was connected to the outside world through metal working, electromechanical engineering and shipbuilding companies, and in turn with the shipping companies that would convert Wales and north-east England into an important hub in terms of international trade. The archipelagos of the Iberian Atlantic were connected to this industrial hub through the numerous shipping lines making use of their ports.

The ocean location of these archipelagos provided them with characteristic structural features, and an original and shared model of growth. On the one hand, they were economically dependent on the European powers, while on the other they continued to belong politically to the Iberian states of Spain and Portugal. Nevertheless, from the early nineteenth century onwards commercial relationships between these archipelagos practically ceased to exist, although this did not stop companies from operating from more than one island, in such a way that several Madeira-based companies (for example, the Blandy Brothers) opened branches in the Canary Islands to which they moved their businesses. This led to a more intense commercial relationship between the Canary Islands and Madeira, particularly in the agriculture, port and tourism sectors. Furthermore, by the mid-nineteenth century the archipelagos had become obligatory ports of call on the main steamship routes between Europe and other continents, as the principal Atlantic trade routes became defined. It is thus unsurprising that A. W. Kirkaldy, in one of the most commonly cited reference works on maritime traffic at the turn of the twentieth century, affirmed that:

the important coaling with English coal, namely Madeira, Las Palmas, and St. Vincent. On the outward route Europe to South America, steamers bound for ports on the west coast, after coaling at Las Palmas.¹¹

⁹ Ville (1990).

¹⁰ P. Fraile Balbín, *Industrialización y grupos de presión. La economía política de la protección en España, 1900-1950*, Barcelona: Alianza Universidad, 1991, pp.99-100.

¹¹ A. W. Kirkaldy, *British Shipping: its History, Organisation & Importance*, London: Kegan Paul, Trench, Trubner & Co., London, 1919, p.465.

Of the 24 trade routes described by Kirkaldy for the year 1913, one of them passed by Santa Cruz de Tenerife, another by Funchal in Madeira, seven passed by San Vicente and a total of twelve of these routes featured Las Palmas Port, with the quantity of these routes gradually increasing throughout the period.¹² Prior to 1897, the British steam ships that stopped off in the islands principally belonged to four shipping companies. Two of these sailed from London and the other two from Liverpool. The French steamers that frequented the Islands in the midnineteenth century belonged to the Compagnie Transatlantique (based in Le Havre), Chargeurs Réunis (a Marseilles-based enterprise) and the line covered by Paquet, forming a trading triangle consisting of Marseilles, the coastal ports of Morocco and Gibraltar.

| | PORT OF LAS P | ALMAS | |
|-------------|---|-----------------------|-----------------------------|
| Nationality | Company | Origin | Destination |
| USA | United States Shipping Board | New York | Western & Southern Africa |
| Germany | Hamburg Sudamerikanische Dampis Ges | Hamburg | South America |
| | Hamburg Amerika Linie Hamburg | Hamburg | South America |
| | Woermann Linie Act. Ges. | Hamburg | Western Africa |
| | Deutsche Ost Afrika Linie | Hamburg | South Africa |
| | Horddeutscher Lloyd | Hamburg | |
| | Oldemburg Portngiesische Dampis Rhed | Hamburg | |
| | Norddeutscher Lloyd | Hamburg | South Africa |
| Belgium | Lloyd Royal Belga, S.A. | Amberes/Marseille | South America /South Africa |
| - | Armemment Deppe | Amberes | South America |
| Spain | Cía Transmediterránea | Cádiz/Seville | Marocco / South America |
| • | Cía Transatlántica | Cádiz/Seville | Gulf of Guinea/South |
| | Miguel M. de Pinillos | Cádiz/Seville | |
| | Ybarra y Cía, S. en C. | Cádiz/Seville | South of America |
| | Cía Correos Interinsulares Canarios | Tenerife/La Palma | Marocco |
| France | Sociedad General de Transport Maritimes a Vapor | El Havre | South of America |
| | Cía Générale Trasatlantique | | Central America |
| | Cía de Navegation Paquet | Marseille/El Havre | Western Africa |
| | Sociedad Maritime Auxiliare de Transports | Burdeos/Marsella | |
| | Cía Française de Navegation a Vapor | Burdeos/Marsella | |
| | Andrew Weir y Cía | | Western Occidental |
| | Cáia Marseills de Navegation a Vapor | | Dákar |
| Holland | Hollansche Stoomboot Maats | | Western Africa |
| | Van Nievelt condrian y Com. Stoomv. | Marseille | South America |
| | Koninklijke Hollandsche Lloyd | | South America |
| Italy | Cosulich Soc, Triestina di Nav. | Trieste | South America |
| - | Sociedad Libera triestina | Trieste | Western Africa |
| U.K. | Yeoward Bros | Liverpool | |
| | Royal Mail Steam Packet Com. | - | |
| | Elder Dempster y C°. Ltd. | Liverpool/Southampton | South America /W. Africa |
| | Peninsular y Oriental Steam Nav. C°. | London/Liverpool | |
| | T. y S. Harrison | London | Australia |
| | Anglo Saxon Petroleum Co. Ltd. | London | Central America |
| | Federal Steam Nav. C°., Ltd. | London | Australia |
| | Lamport y Holt Ltd. | London | South America |
| | Union Castle Mail S.S. C°, Ltd. | London | Australia |
| | Houlder Bros y C°, Ltd. | London | South America |
| Norway | Fred Olsen Linie | | |
| - | Dep. Bergenske D/S | | South America |

Table 1 - Relation of Navigation Sealines with Stopover in Grand Canary (1929) and Madeira (1931)

¹² Kirkaldy (1919), pp.465 & 348-72.

| | PORT OF FUNC | CHAL (1931) | |
|-------------|---------------------------------------|-------------|--------------|
| Nationality | Company | Destination | Observations |
| British | Blues Star | Liverpool | London |
| | Booth S. S. Co. | Liverpool | |
| | Elder Dempster | Liverpool | |
| | Royal Mail Lines, Ltd. | Southampton | Lisbon |
| | Union Castel Mail S.S. Co. | Southampton | |
| | Yeoward Line | Liverpool | Lisbon |
| French | Chargeurs Reunis | | |
| | Cyprien Fabre Line | | |
| Portuguese | Companhia colonial de Navegaçao | | |
| | Companhia Nacional de Navegaçao | | |
| Danish | Det Forenede Sampskibs-Selskap | | |
| German | Hamburg Amerika Linie | | |
| | Norddeutscher Lloyd | | |
| Dutch | Koninlklijke Nederlandsche Stoomboot- | | |
| | Maatschappij | | |

Source: Junta de Obras del Puerto de Las Palmas, *Memoria correspondiente al año 1928*, Madrid: Imprenta Vicente Rico, 1928; J. B. Browne, 'Report on Economic conditions in Madeira', Annexe I in A. H. W. King, *Economic conditions in Portugal*, London: HMSO, 1932, p.76.

In the years following the Great War, the number of shipping lines using the Iberian island ports continued to grow, as can be seen in the records for the Ports of Gran Canaria and Madeira (Table 1). In Las Palmas, which continued to be by far the most frequently visited, the number of shipping lines making a stop-over had increased considerably, to a total of 39: ten of these British, seven French, seven German, five Spanish, three Dutch, two each from Belgium, Italy and Norway, and one from the U.S.A. In the case of the Port of Madeira in the year 1932, six of the shipping lines passing through were British, two each were from France, Portugal and Germany, while Denmark and Holland were represented by one shipping line each.

The role of the Iberian Atlantic islands as coaling stations

In order to tend to the needs of these shipping lines, coal deposits were installed in the Atlantic islands, and coal started to be supplied in small quantities from the beginning of the twentieth century. Coal-bunkering operations were initially carried out at the various Atlantic archipelago ports (Madeira, San Vicente, Saint Helena) as well as from several ports on the nearby African coast (Dakar and Casablanca), with the Canary Islands playing a very limited role. However the Canary Island ports soon began to become increasingly important, and the hegemony of the Islands in terms of coal supply was confirmed by the 1930s.

The Canary Island ports began to supply coal in 1838, following the Royal Decree 11 November of that year in which the Port of Santa Cruz was officially given the status of coalsupplying port, enjoying practically no customs tariffs, since coal-supply operations was subjected to a single storage charge of just two percent. However, even after the declaration of Free Ports in 1852, and more significantly the construction of large port infrastructures in Gran Canaria and Tenerife, only 62 steam ships (50 from the UK and 12 from France) visited the ports, generating an overall coal supply of just 4,837 tonnes. It was not until the construction of the major ports in Las Palmas de Gran Canaria and Santa Cruz de Tenerife in the last third of the nineteenth century that large quantities of coal for shipping began to be stored. The then British Consul for the Islands observed that the Canary Islands had: taken on a major role as a coaling station for companies whose steam ships sailed to Cape Town, New Zealand and South America.... The Islands are indeed located in the direct route for all ships sailing southbound. The other important coaling station in the South Atlantic is San Vicente, in the Cape Verde Islands... 800 miles to the south.

Furthermore, towards the end of the century the island ports became even more important as major Atlantic coaling stations, a fact which is reflected both in the number of vessels calling in at the ports and the tonnage of coal supplied (see Tables 1 and 2).

The supply of coal from Canary Island ports increased uninterruptedly until the period prior to the First World War. This era could be regarded as the golden age for this business, to the extent that one port alone was supplying over a million tonnes of coal per year. However, the war had a very negative effect on Island interests, with coal supplies interrupted as sea trade in the Atlantic Ocean was severely curtailed. When the war ended and trading patterns were resumed, coal-supply operations were re-established, but its days were numbered because of two factors: firstly, the economic recession of the thirties; and secondly, the unstoppable competition of liquid fuel, both of which led to a decline in steam navigation after World War Two and to its almost complete disappearance in the 1950s.¹³

| | British | | | German | | | TOTAL | |
|------|------------|----------|---------------|------------|----------|--------------|-------|-----------|
| | Las Palmas | Tenerife | Total British | Las Palmas | Tenerife | Total German | | |
| 1891 | | 105,516 | 100,516 | | | | | |
| 1892 | | 99,940 | 98,940 | | | | | |
| 1893 | | 103,728 | 103,728 | | | | | |
| 1894 | | 77,159 | 77,159 | | | | | |
| 1895 | | 114,365 | 114,365 | | | | | |
| 1896 | | 146,673 | 146,673 | | | | | |
| 1897 | | 160,859 | 160,859 | | | | | |
| 1898 | 213,000 | 133,480 | 133,480 | | | | | |
| 1899 | | 206,709 | 206,709 | | | | | |
| 1900 | | | | | | | | |
| 1901 | | | | | | | | |
| 1902 | | | | | | | | |
| 1903 | 331,667 | | | | | | 33 | |
| 1904 | 277,331 | | | 170 | | | 12 | |
| 1905 | 273,000 | | | | | | | 595,000 |
| 1906 | 343,625 | 199,875 | 543,500 | 51,500 | | 51,500 | | 633,000 |
| 1907 | | | 575,000 | 58,000 | | 58,000 | | 537,000 |
| 1908 | | | 484,000 | 53,000 | | 53,000 | | 537,000 |
| 1909 | | | 423,000 | 61,000 | | 61,000 | | 484,000 |
| 1910 | | | 941,000 | 141,643 | | 141,643 | | 1,082,631 |
| 1911 | | | 952,369 | 120,631 | | 120,631 | | 1,073,000 |
| 1912 | 828,482 | 410,054 | 1,238,536 | 108,500 | | 108,500 | | 1,347,036 |
| 1913 | | | 974,904 | | | 185,096 | | 1,160,000 |
| 1914 | | | 636,478 | | | 70,087 | | 706,565 |

Table 2 - Origin of the Coal Supplied in the Canaries

Source: Constructed by author, from data taken from British consular reports (F. Quintana Navarro (ed.), *Informes consulares británicos sobre Canarias (1856-1914)*, Las Palmas: CIES de la Caja de Ahorros de Canarias/ Universidad de Las Palmas de Gran Canaria, 1992; T. J. Morris, *Trade and Economic conditions of the Canary Islands*, London: HMSO, 1921.

¹³ M. E. Fletcher, 'From coal to oil in British shipping', Journal of Transport History, 3:1 (1975), pp.1-19.

What were the causes of this hegemony enjoyed by the Canary Island ports? The main reason was undoubtedly the geographical location of the archipelago. The strategic position of the ports half-way between Europe and the other continents made them ideal for setting up coaling stations, to such an extent that the aforementioned report maintains that "it is for coal, and for no other reason, that the majority of ships decide to call in here".¹⁴

The low price of haulage (see Table 3) was fundamental for the coaling business, made the Canary Island ports attractive to foreign shipping companies, and is a reflection of production improvements in sea transportation. That ships returning to Europe were able to load up their holds with highly desirable consumer goods has already been mentioned. This enabled British and German shipping companies to maintain lower haulage costs than those of their Spanish counterparts. The price difference between British coal and that from Asturias has been measured at both the points of origin and departure: during the 1880-1933 period the ratios were 1.1 and 2.8 for price at source, and 1.0 and 1.6 for ports of departure.¹⁵ In 1882, haulage costs for a tonne of coal transported from Great Britain to Cadiz were 16.6 percent lower than for coal from Asturias, while such costs for transporting a tonne of coal from Liverpool to Las Palmas were 19 percent lower than from Barcelona to Las Palmas; and, in 1891 coal from Cardiff cost an estimated 38 percent less than the finest mainland Spanish coal.¹⁶

In addition to this, the Free Port status of the Canary Islands gave the ports a considerable advantage with respect to other competitor ports because it made operating costs comparatively lower. In 1894, ships arriving in the Islands to be refuelled with coal hardly had to pay any taxes if they entered port for "coal, water or victualling", paying just 3s.4d. to enter and leave port, 28s.2d. for pilotage and 4s.2d. consular fee. In 1896, ships were paying just 25s. per tonne of coal supplied.¹⁷ Nevertheless, each port had to share this hegemony with the other island ports, which led to great inter-island competition, as is reflected in the advertising material from this era. The Consul of Tenerife, for example, denied that the increase in traffic in the Canary Islands was to the detriment of traffic in Madeira; on the contrary, traffic had also increased there, he affirmed, stating that:

on occasion it has been falsely claimed that the increase in maritime traffic and coaling operations in the Canary Islands has been achieved at the expense of other ports. This is not quite true, as can be seen from shipping activity figures from the island of Madeira.

To prove his point, he provided the following sets of figures about shipping activity in Funchal Port: in 1886, 618 vessels with an overall registered tonnage of 8,887,497 tonnes visited the port and were supplied with 76,495 tonnes of coal; four years later, 645 vessels with an overall registered tonnage of 1,002,770 tonnes loaded 67,574 tonnes of coal. However, these amounts were smaller than those supplied by the Canary Islands ports: some 333,919 tonnes in the year 1890.¹⁸

¹⁴ Figures from consular reports, in Quintana (1992), pp.398 & 954.

¹⁵ S. Coll Martín & C. Sudrià y Triay, *El carbón el España*, 1770-1961. Una historia Económica, Madrid: Turner, 1987, pp.484-9.

¹⁶ A. Guimerá Ravina, *La Casa Hamilton. Una empresa británica en Canarias, 1837-1987*, Santa Cruz: Litografía Romero, 1989, pp.148-50.

¹⁷ According to consular reports (Quintana 1992, pp.293, 307 & 476).

¹⁸ Foreign Office, 'Report on the Social and Economic conditions of the Canary Islands', *Foreign Office Miscellaneous Series*, 246, London: HMSO, Harrison and Sons, 1892, p.11.

| Year | r Prices in Canary Island Ports | | | | | | |
|------|---------------------------------|-------------------|-------------------------|------------------|-------------------|------------------|--|
| | Pounds/Ton | Pesetas/Ton | Constant pesetas | Haulage (pounds) | Haulage (pesetas) | Constant pesetas | |
| 1891 | 0.6 -0.6145 | 17.76-16.42 | 6.39-5.91 | 0.3291 | 8.85 | 3.18 | |
| 1892 | 0.4722-0.416 | 6.47-5.02 | 2.39-1.85 | 0.3291 | 9.55 | 3.53 | |
| 1893 | 0.4270 | 12.79 | 4.60 | 0.3291 | 9.85 | 3.54 | |
| 1894 | 0.5104-0.5520 | 15.36-16.62 | 5.22-5.65 | 0.3291 | 9.90 | 3.36 | |
| 1895 | 0.4270-0.4687 | 12.33-13.54 | 4.56-5.00 | 0.3291 | 9.50 | 3.68 | |
| 1896 | 0.7708 | 23.42 | 8.19 | 0.3291 | 10.00 | 3.50 | |
| 1897 | | | | 0.3291 | 10.71 | 3.96 | |
| 1900 | 1.375-1.4375 | 44.77-46.80 | 19.69-20.59 | | | | |
| 1903 | 1.2-1.3 | 40.78-45.05 | 18.35-20.27 | 0.2916-0.3541 | 9.91-12.03 | 4.45-5.41 | |
| 1904 | 1.15-1.35 | 39.85-46.79 | 18.33-21.52 | 0.2875-0.3 | 9.96-10.39 | 4.58-4.77 | |
| 1905 | 1.175-1.225 | 38.66-40.31 | 17.78-18.54 | 0.2666-0.3875 | 8.77-12.75 | 4.03-5.86 | |
| 1906 | 1.275-1.5 | 33.38-42.61 | 14.68-18.74 | 0.325-0.3625 | 9.23-10.29 | 4.06-4.52 | |
| 1907 | 1.5 | 42.13 | 19.37 | 0.2875-0.375 | 8.07-10.53 | 3.71-4-84 | |
| 1908 | 1.2-1.55 | 34.06-44.00 | 15.32-19.80 | 0.2625-0.35 | 7.45-9.93 | 3.35-4.46 | |
| 1909 | 1.2-1.25 | 32.58-33.93 | 14.33-14.92 | 0.275-0.4 | 7.46-10.86 | 3.28-4.77 | |
| 1910 | 0.86-1.25 | 23.30-33.87 | 10.48-15.26 | 0.3-0.4 | 8.13-10.84 | 3.65-4.87 | |
| 1911 | 1-1.55 | 27.24-42.22 | 11.71-18.15 | 0.35-0.8375 | 9.53-22.81 | 4.09-9.80 | |
| 1912 | 1-2.5 | 26.97-67.42 | 12.13-30.33 | 0.4875-0.8375 | 13.14-22.58 | 5.91-10.16 | |
| 1913 | 1.45-1.6 | 39.28-43.34 | 18.06-19.93 | 0.4-0.475 | 10.83-12.86 | 4.98-5.91 | |
| 1914 | 1.55-2.35 | 40.42-61.28 | 18.99-28.80 | 0.325-1.4 | 8.47-36.51 | 3.98-17.15 | |
| 1915 | 1.9-3.6375 | 47.31-90.57 | 26.49-50.71 | 1.125-1.5 | 28.01-37.35 | 15.68-20.91 | |
| 1916 | 3.2-5.3 | 76.57-126.82 | 50.53-83.70 | 1.25-2.8 | 29.91-67.00 | 19.74-44.22 | |
| 1917 | 4.5-10 | 95.26-211.7 | 74.30-165.12 | 1.875-3.75 | 39.69-79.38 | 30.95-61.91 | |
| 1918 | 4.9-6.65 | 97.31-132.06 | 93.41-126.77 | | | | |
| 1919 | 7.3-8.05 | 163.52- 180.32 | 156.97-166.18 | 1.625-2.5 | 36.40-56.00 | 34.94-53.76 | |
| 1920 | 3.8 | 88.54 | 92.08 | 0.875-2.375 | 20.38-55.33 | 21.19-57.54 | |
| 1921 | | | | 0.6 | 17.10 | 15.21 | |
| 1933 | 1.525 (Wales) | 60.96 | 45.72 | | | | |
| | 1.425 | 56.97 | 42.72 | | | | |

Table 3 - The price of coal and haulage in canary island ports

Source: 1891-1909, consular reports (Quintana 1992); 1910-20 (Morris 1921, p.12); 1933, information from the Archives of Las Palmas Official Chamber of Commerce, Industry and Navigation.

Notes: 1900. The prices are with contract, without contract £1/12/6. 1891-95: f.o.b. prices, embarking from Cardiff. Peseta/pound exchange rates from A. Carreras Odriozola (ed.), *Estadísticas histórica de España. Siglos XIX y XX*, Madrid: Fundación del Banco Exterior, 1989, pp.390-2. Price deflator taken from J. Aixala Pasto, *La peseta y los precios. Un análisis de largo plazo (1868-1915)*; and *Spanish Statistical Annual Report* (kindly supplied by Luis Cabrera Armas).

At times the rivalry between the ports intensified or diminished for several reasons, but competitiveness definitely existed, as can be demonstrated by a number of facts. For example, an increase in customs tariffs in Madeira in 1880 led to an increase in prices on the part of the supply company – in this case the Blandy Brothers, to the advantage of the Canary Island coaling companies. The port management resorted to a wide range of tactics including inventing false reports about the economic situation and bribing the ships' captains or chief engineers. At the same time the coaling companies had a number of ways of attracting customers, such as price reductions or preferential treatment towards ship captains. In any case, such competitiveness as existed was relative since most of the time the Atlantic ports

were governed by cartels that emerged from an agreement known as the Atlantic Islands Depot Arrangement (AIDA), which survived into the 1930s.¹⁹

One general feature of this process was that the quantities of coal supplied from the island ports were subject to a set of factors, some of which were beneficial while others were detrimental. The effects of war, for example, are well known. The South American War of 1896 had a very negative effect on Canary Island ports. In contrast, it was the end of the Boer War in 1903 that had a negative effect because it led to a drop of 580,000 tons in Las Palmas Port, due, according to the British Consul, to "the end of the war in South Africa and the resulting drop in transportation traffic". The following year coaling fell to just 510,000 tons.²⁰ The effect of industrial disputes in producer countries also had a knock-on effect. Prices rose, for example, as a direct result of the Welsh miners' strike in 1898. Later on, rumours of an imminent miners' strike in South Wales "led to a far greater amount of coal than usual being loaded on 1st January 1912, some 78 tons".²¹ This strike meant that of a total of 750,000 tons of coal imported that year, 427,803 tons came from Wales and 257,802 from Durham, while in March and April of that year, as a consequence of the strike, 39,535 tons of US coal and 24,560 tons of German coal were imported. In contrast, the strikes in Cape Verde and Tenerife, coupled with the cholera epidemic declared in Madeira in 1910, were beneficial to the Port of Las Palmas.²² However, the continual industrial unrest suffered in Canary Islands ports throughout the 1930s (Las Palmas Port was nicknamed the 'red port' because of its dockers' willingness to strike) was used as an excuse to deflect ships to neighbouring competitor ports.

The predominance of British companies in the Atlantic coaling business

Since the coal that was supplied at the Iberian Atlantic ports mainly came from the UK (Wales and Durham), it is hardly surprising that the majority of supply companies should also be British (see Tables 1 and 4). However, in addition to this, the hegemony enjoyed by Cardiff and Durham coal can also be explained by the quality of the product (highly suited as it was to steam navigation) as well as by its lower price (thanks to lower haulage costs for coal transportation between the UK and the Canary Islands), all of which meant, as seen above, that good quality coal was available at a competitive price and conveniently stowed by the coaling companies. The British Consul to the Canary Islands confirmed this trade domination when in his 1904 report he stated that "five major companies are currently operating. The entire coal handling business in the Port remains in the hands of British companies".²³

¹⁹ Quintana (1992), pp.588, 609 & 793; J. P. Trant, *Economic Conditions in the Canary islands. An Annexe on Rio de Oro*, Report, London: HMSO, London, 1931, pp.33-5; and Guimerá (1989), pp.171-3, 217 & 235.

²⁰ Quintana (1992), pp.620 & 640.

²¹ Quintana (1992), pp.866 & 793. On the influence of the 1912 Welsh coal miners' strike on the behaviour of coaling companies established in the Canaries, see article by J. Franchy Roca (leader and assessor of the port workers' societies in Gran Canaria) in the local newspaper *El Tribuno*, 29 July 1912.

²² Quintana (1992), p.793.

²³ Quintana (1992), p.657.

| Company | Nationality | Islands w | ith Company | Representation | Observations | |
|--|-------------------|--------------------------|-------------|----------------|--|--|
| | | Gran Tenerife Canaria | | Madeira | - | |
| Blandy Bros & Co. (G. C.) Coaling & Shipping, S.A. | Anglo- Spanish | X | X | X | Represented in London by Blandy Bros. & Co. | |
| Compañía General Canaria de Combustibles, S.A. | Anglo- Spanish | X | | | Subsidiary of Anglo Spanish Coaling, LTD (Cardiff) | |
| Compañía Carbonera de Las Palmas | Anglo- Spanish | X | | | Represented by Hull, Blyth & Co., Ltd, London | |
| Compañía de Combustibles "Oceánica", Ltda. | Anglo- Spanish | X | | | Subsidiary of the Oceanica Coal Co., Ltd. | |
| Compañía Nacional de Carbones Minerales | Anglo- Spanish | Х | | | Subsidiary of Wilsons, Sons & Co. Ltd and of the Françause des Charbonnages S.A. de Dakar | |
| Cory Brothers | Anglo- Spanish | X | X | X | Agent of Cory Brothers Co., Ltd of Cardiff and London | |
| Deutsche Kohlen Depôt Geselschaft | German | | X X | | | |
| Elder Dempster | British | X | X | X | Branches of the company established in the ports of the Canary Islands for the coal supply business | |
| Geroge Davidson. | | | X | | | |
| Guirlanda Hnos. | Spanish | | Х | | | |
| Gran Canary Coaling Co., S.A- | Anglo- Spanish | X | | | Subsidiary of the Atlantic Coaling Co., Ltd y Elder Dempster | |
| Compañía Hespérides | Anglo- Spanish | | | | Acquired by Wilson | |
| Hamilton & Co., Ltd | Anglo- Spanish | | X | | Agent of Lloyd's and Reuter's. Rerpesented in London by Sinclair, Hamilton & Co. and Millers (Canary Islands) Coaling Co., Ltd. 3, St. Helens Place, E.C. 3 | |
| Miller y Cía, S.A. | Anglo- Spanish | X | X | | Represented in London by Miller's (Canary Islands) Coaling Co. Ltd | |
| Tenerife Coaling Co, Ltd. | Anglo- Spanish | | X | | Subsidiary of the Atlantic Coaling Co., Ltd y Elder Dempster | |
| Wilson and Sons | Anglo- Spanish | X | | Х | UIT representation in Dakar | |
| Woermann-Linie Ltd. | German | X | X | | Subsidiary of Woermann Linie, Ltd. | |

Table 4 - Coaling companies in Las Palmas port

Source: Constructed by author using information from an anonymous article, 'Las Casas Carboneras establecidas en el Puerto de la Luz', *España Nueva*, April 1933, pp.14-15; Registry Book of Las Palmas, Morris (1921), pp.27-9; and T. Tortella Casares, *Una guía de fuentes sobre inversiones extranjeras en España (1780-1914)*, Madrid: Archivo del Banco de España, 2000; Hamilton, George Davidson & Guirlanda in Guimerá (1989).

On the other hand, since coaling ships were expensive, single-purpose vessels, they were very much linked to industrial and financial interests. Elder Dempster, for example, had

connections with trading companies, cotton companies and the Bank of British West Africa;²⁴ the companies, which were powerful in themselves due to the increasing tendency to amalgamate, found themselves at the centre of economic decision making, where business and politics coincide. For example, the Woermann Linie Company was strongly backed by the Reischstag.²⁵ Furthermore, these companies made agreements amongst themselves, such as that which existed between the two aforementioned companies and others to form the West African Shipping Conference in the 1880s.²⁶ The connection which existed between the economic centres (coal mining and commerce) located in the most highly developed regions of Europe, with the shipping companies, provided an important link with international trade; at the same time, the most powerful industrial groups were connected in various ways with Cunard White Star, Peninsular and Orient, the Royal Mail, Furness & Withy, Ellerman Lines and Alfred Holt – big companies that "maintained a tight control over more than forty smaller companies and which dominated up to the 1920s half of British foreign trade and a third of the world total".²⁷

These companies normally owned coal mines and ships; and they either possessed their own coal warehouse facilities in the island ports or reached agreements with local operators. Generally speaking, they were able to provide all of the services related to a port of call: the supply of ships in transit, which required fast and efficient "coaling, watering and victuals"; as well as all the operations related to repair work, and even construction work for domestic service ships, such as shipyards and dry docks. In the case of the Canary Islands (and for Spanish ports in general) the coal supply stores were established through the concession of licences, regulated by the 1880 Spanish Ports Law. This meant that it was impossible to set up a business without the permission of the Ministry of Public Works and Economy: a regulation that led to the politics of collusion and interest-seeking. This in turn led to many irregularities being committed, such as the initiation of construction programmes without the necessary authorisation, with a view to negotiating a solution to such anomalies with the public authorities at a later stage.²⁸

The aim of the coaling companies was to possess a network of coal deposits throughout the Iberian Atlantic archipelagos to supply ships on the West Africa and South America trade routes.²⁹ At the turn of the nineteenth century there were nine British and two German coal deposits in the Canary Island ports. In the Port of Las Palmas the most important coaling companies started trading between the end of the eighteenth and the beginning of the twentieth century, and the port was soon enjoying a near monopoly in this activity in terms of mid-Atlantic navigation. Some companies operated from just one port. The oldest of the coaling companies established in Gran Canaria was Miller & Co. (founded in 1854),³⁰ which from its humble origins as a modest trading house became transformed into one of the most modern. This is a good example of a company that diversified its operations to an

²⁴ P. N. Davies, *The Trade Makers. Elder Dempster in West Africa, 1852-1972*, London: Allen and Unwin,

^{1973;} and *Sir Alfred Lewis Jones, Shipping Entrepreneur par Excellence*, London: Eyropa Publications, 1978. ²⁵ Miège (1975), p.5.

²⁶ Davies (1973), pp.72-8ff.

²⁷ Fraile (1991), p.103.

²⁸ According to M. Rodríguez y Díaz de Quintana, *Miller y compañía: Cien años de Historia*, Artes Gráficas Clavileño, Las Palmas, 1989, p.101, the authorisation for the works carried out by a concession led to León y Castilla being removed from ministerial office.

²⁹ Documents relating to these companies can be found in microfilms held at Companies House, Cardiff; while in the Archives of the Bank of Spain can be found documents relating to their constitution and the granting of powers to branch directors.
³⁰ Rodríguez (1989); also a family history, written by a descendent of the company's owners (Basil Miller,

³⁰ Rodríguez (1989); also a family history, written by a descendent of the company's owners (Basil Miller, *Canary Saga. The Miller family in Las Palmas*, Las Palmas: Cabildo Insular de Gran Canaria, 1988).

extraordinary extent. It started out at the beginning of the nineteenth century exporting orchilla and then cochineal, to which it subsequently added ship agency, insurance and commissions. It is common knowledge that ships weighing anchor in Las Palmas Port availed themselves of the services provided by the company's coal warehouses: coaling; taking on provisions and water for the ships' water tanks; loading and unloading. Repair work and chandler services were also provided, and the company possessed both shipyards and dry docks. They even provided banking and export warehouse facilities, where merchandise such as fertilisers, agricultural machinery, nautical equipment, liquor, cloth, iromongery items and grain could be stored. The coal business started comparatively early, at a time when Las Palmas' oldest dock, San Telmo – which was later replaced by the more modern facilities at La Luz - was still being used. The business became really prosperous following the construction of new dock infrastructure in the Port of Las Palmas, and by 1909 up to 100,000 tonnes of coal were being supplied annually.³¹ The company also specialised in the sale of coal for the local market, and in 1910 it introduced so-called 'kitchen coal', which came from Newcastle and was more suitable for domestic purposes than Welsh coal. The company was a pioneer in that it was the first to recognise the importance of liquid fuels, and in 1922 it became the representative of the first liquid fuel company to be established in Las Palmas: the petrol company Shell, subsidiary of the Asiatic Petroleum Co. Ltd.

The Compañía Carbonera de Las Palmas (Las Palmas Coaling Company) was established in 1909, when it had become apparent that the trade was growing; and it acted as shipping agent for the Dutch Mala Real fleet. The Cía General Canaria de Combustibles (General Canary Islands Fuel Company) began to operate in Las Palmas Port in the 1920s. This company was a subsidiary of the Compañía General de Carbones (General Coal Company), which was already operating in the mainland Spanish ports of Cádiz and Barcelona. The company was constituted in Barcelona (1914) as an agent for the Anglo-Spanish Coaling Co. Ltd. (founded in Cardiff in 1913), and concentrated on coal provision and storage, and ship victualling, in the ports of the Bay of Cádiz, although it also had representation in most mainland Spanish ports.³² Oceánica was established in Las Palmas in the 1920s, and provided coal to the vessels of its British parent company, the Oceanic Fuels Company. This company pioneered the introduction of modern coaling methods using floating steam-driven cranes to unload the coal from lighters and deposit it directly into the ships' holds: a swifter coaling technique that was greatly appreciated by the ship owners whose motto was 'time is money'. The method was introduced by the local entrepreneur Bernardo de la Torre, whose son B. De la Torre Millares became President of the Administration Board in 1932. The company possessed its own tugboats.

For Port of Santa Cruz de Tenerife, there is documented evidence of the existence of three companies devoted to coal import and supply by the end of the nineteenth century: Hamilton & Co., George Davidson and the Guirlanda Bros. The first of these was the most important, and was possibly the very first coaling company to operate in the Canary Islands.³³ G. Davidson disappeared at the turn of the century; and new companies were set up that would eventually enjoy an absolute monopoly in the Port of Santa Cruz, causing great controversy and unrest. These were British companies, which displaced the local companies to such an extent that Hamilton & Co. alone supplied more than half of all the coal supplied at the port between 1903 and 1911. The Elder Dempster Co./Tenerife Coaling Co. Ltd. (1896) meanwhile accounted for 36 percent of the market; and Cory Brothers, operating as an

³¹ Guimerá (1989), p.145.

³² From the archives of the Bank of Spain, in Tortella (2000), pp.86-7; and Companies House microfilms.

³³ Guimerá (1989).

independent company after breaking away from Hamilton in 1920, accounted for the remaining ten percent of market share. However, these companies lost their monopoly in favour of Grand Canary companies during the so-called 'coal war', which began in 1910.³⁴

The most important companies either set up and/or had branches in several ports. Elder Dempster, for example, entered the Canary Islands coal trade via its subsidiary company the Grand Canary Coaling Co. (1886). It became a vertically integrated organisation, since it possessed coal mines in Wales, and also controlled a shipping line with interests in West Africa. The company's Canary Islands branch, managed by Alfred L. Jones, was one of the very first coaling companies in the Port of Las Palmas, and in its heyday supplied up to 168,000 metric tonnes of coal a year.³⁵ Although the company acquired great prestige during the Boer War, its primary function was to supply the West African trade, where the company possessed important commercial interests in the British colonies. As a business strategy the company attempted to diversify its business operations, building its own dry dock and repair workshop.³⁶

An example of a company with interests in several archipelagos was Blandy,³⁷ which obtained an operating license for the Port of Las Palmas in 1885, but had been established in Madeira from 1811 where it was involved in the wine trade. The company opened an office in London in 1838, and eight years later they opened a branch in Lisbon. Blandy played an important role in the development of several business activities in Las Palmas Port: making a major contribution to the development of coal supply and the fruit trade; insuring ships (representing the Alliance Insurance Co. Ltd., the Royal Exchange and the Board of Underwriters of New York); and also a member of the maritime committee of Lloyds of London, acting as agents for the Blue Funnel Line, the Orient Line and Canadian Pacific S.N. Co. amongst others.³⁸ In this second phase, the Blandy Company enjoyed its heyday under the directorship of Carlos Mauricio (1872-1940), acquiring the modern structure of a limited company in the 1930s, becoming Blandy Brothers & Cia. (Grand Canary) Coal and Shipping S.A., and forming part of the coal merchants' trust. After the Spanish Civil War and the Second World War, Blandy opened a branch in Tenerife and made changes to the structure of the company. It restructured and diversified its business operations, and now acts as shipping agent and travel agency under the name of Blandy Brothers Shipping and Agency S.A. (1954).

The *Compañia Nacional de Carbones* (National Coaling Company) is a subsidiary of Wilson Sons. This company bought out *Carbonera Hespérides* and set up in Las Palmas in 1895 under the directorship of James Nelson Bates as a subsidiary of the *Compañía Nacional de Carbones Minerales*. The company possessed its own dry docks and repairs workshop. The parent company, Wilson & Ocean Merthy Ltd, had business interests in various ports in Africa, South America and Madeira, and owned coal mines in Wales, providing fuel to the company's fleet.³⁹ Cory Brothers was the main coal exporting company for South Wales, but had its headquarters in Liverpool. In 1913, the company possessed eighty coaling stations globally. It became involved in coaling in Gran Canaria in 1904, while in Tenerife it worked in association with Hamilton & Co. between 1884 and 1909, in which year the company set

³⁴ U. Martín Hernández, *Tenerife y el expansionismo ultramarino europeo (1880-1919)*, Santa Cruz de Tenerife: Aula de Cultura de Tenerife, 1988, pp.179-208; and Guiméra (1989).

³⁵ Guimerá (1989), p.145.

³⁶ Davies (1973), p.475; also interview of Dempster director, Víctor E. Pavillard, *Hoy*, 25 June 1933, p.16.

³⁷ See Blandy, *The Blandy family of companies. Our first 150 years, 1811-1961.* Madeira: Blandy, 1961.

³⁸ See Anon (1933).

³⁹ From the archives of the Bank of Spain, in Tortella (2000), pp.46 & 287; and Companies House microfilms.

up independently. The company possessed coal mines in Cardiff and transported the coal used to supply Royal Navy vessels from various Atlantic ports.⁴⁰

The only coaling company operating in Canary Island ports which did not have a British connection was Woermann Linie; nevertheless, this shipping line was associated with Elder Dempster via the West African Shipping Conference, as it was formerly known. The company was based in Hamburg and its policy of opening up the Africa trade was given the active support of the Reischstag. The company set up in Las Palmas in 1906, and from 1913 onwards it operated from the Port of Santa Cruz, where it was able to secure a share of the market under the name Deutsche Kohlen Depôt Geselschaft.⁴¹

To summarise, it is possible to identify certain common characteristics amongst coal supplying companies operating from the ports of the Iberian Atlantic archipelagos:

- A distinction can be made between the domiciled companies of European origin British in particular – established from the early nineteenth century in the case of Blandy, Hamilton and Miller, and those other companies such as Elder Dempster, Wilson, Cory or Woermann, which commanded considerable capital and were based in a European country;
- A common feature of most of the companies was a tendency to diversify their business activities (Miller, Elder, Blandy). Others were organised in a vertical fashion: Elder Dempster and Cory Brothers possessed coal mines in Wales, and as well as operating as shipping lines they could provide the services of a shipping agency and had their own dry docks and/or shipyards. The Grand Canary Co. and Blandy meanwhile offered the last three of these services;
- The companies frequently worked in concert and often reached agreements with a view to carving up the market, as was the case with AIDA;
- It is also worth noting that by the 1920s the process of modernising these companies' management structures was complete and up-to-date management methods started to be introduced. By this time almost all the companies had the status of public limited companies.

An interesting aspect of company thinking at that time is that the coaling companies operating in the Port of Las Palmas participated actively in the prevailing trend towards association formation by becoming members of the Shipping Agents' Association.⁴² This organisation was responsible for harmonising its members' interests and for managing administrative aspects such as workers' retirement payments. However, it also acted as a tool to defend the interests of the business community. For example, it challenged any attempts made to withdraw trading licenses, intervened in the Fair Trade Committee, drew up work plans and negotiated with trade unions on behalf of the employers. Workers' collectives used

⁴⁰ Minchinton, W., 'The Canaries as port of call', in *Actas del VI Coloquio de Historia Canario-americano*, Vol. 3, Las Palmas: Universidad de Las Palmas de Gran Canaria, 1987, pp.273-300; Guimerá (1989), pp.165 & 188; Anon (1933).

⁴¹ Quintana (1992), p.849.

⁴² Asociación Patronal de Consignatarios de Buques del Puerto de Las Palmas, formed in 1925 and directed by foreign businessmen or their representatives (M. Suárez Bosa, 'Trabajadores y empresarios en el Puerto de La Luz y de Las Palmas. La organización del trabajo, 1891-1980', 1996).

a whole battery of protest methods, always verbally virulent, ranging from denouncements of illegality to accusations of connivance with the Authorities.

The limitation to free trade: the formation of cartels

Despite operating in a market that was theoretically governed by free trade principles, from the data available for the Atlantic islands it can be deduced that during the last third of the nineteenth century and the first quarter of the twentieth, coaling companies adopted several strategies involving the formation of trade cartels, drawn up collectively to distribute market shares as and when the need arose. The agreement that they reached for sharing the local coal supply trade was AIDA, under the provisions of which, from the early twentieth century onwards, a single price was fixed for all fuel supplied in the ports of the Atlantic archipelagos, along with a number of additional jointly agreed provisions that were maintained up to the 1930s.

There is no extant documentation dealing exclusively with this agreement, but its existence has been corroborated through indirect references in company documents and consular reports. For example, an internal communication between the Hamilton and Cory partners reads:

our losses must be down to the profits we have made in the coaling trade, which is not as profitable as it ought to be due to the large contributions which we are obliged to make to the consortium. I enclose a note which details the payments which we have made since the constitution of the Atlantic Islands Deposit. I have fought constantly and with no outside support against these exorbitant dues but with little success.⁴³

A similar set of figures detailing the contributions made by two other companies that formed part of the agreement – Hamilton & Co. and Cory Bros. in Tenerife – provides irrefutable evidence of the existence of the agreement (Table 5).

| Year | Hamilton (5/8) | Cory Bros (3/8) | Total |
|-------------|----------------|-----------------|--------|
| 1903 (1/29) | 341 | 204 | 546 |
| 1904 | 2.101 | 1.260 | 3.361 |
| 1905 | 4.573 | 2.743 | 7.317 |
| 1906 | 7.403 | 4.521 | 11.924 |
| 1907 | 5.571 | 3.343 | 8.914 |

Table 5 - Contibutions made to the AIDA by Hamilton and Cory (£ sterling)

Source: Hamilton internal company correspondence, taken from Guimerá (1989), p.217.

The AIDA agreement was initially signed by Miller, Grand Canary and Blandy, but was gradually extended to include all remaining companies. Under the terms of the agreement each company was designated a percentage of the total trade and a system of compensation was established: whoever sold the most over the course of a given year was obliged to compensate those companies selling less coal. Such companies would thus pay three shillings

⁴³ Cited in Guimerá (1989), pp.269-70.

into a common fund when they exceeded their quota of the market share. This fund would then be shared out amongst the companies which had failed to reach their quota.⁴⁴

However, while the prices agreed from the beginning of the twentieth century were similar for all the islands, they could vary substantially. Thus in 1901, prices were somewhat lower in Madeira, while in the year 1912 coal was cheaper in the ports of the Canary Islands than it was in the other islands or many mainland Spanish ports: while Welsh and Durham coal respectively cost 22 and 19 shillings per metric ton in Las Palmas and Puerto de La Luz, in the Port of Bilbao the price was 24/6 and in Lisbon 24/3 and 22/-; while in San Vicente the price was as high as 31 shillings. In 1933, the price of coal in the Canary ports was 30/6 in Las Palmas and 28/6 in Tenerife – rather more expensive than in Madeira where the price stood at 30 shillings for Welsh and 28 shillings for Durham coal, but cheaper than the coal on offer in San Vicente (33 shillings for Welsh and 28 shillings for Durham coal), Dakar (33 shillings for Welsh coal), Sierra Leone (32/6 for Welsh coal) or Gibraltar (£1/2/6 for coal from Cardiff and £1/0/6 for Newcastle coal).⁴⁵ Nevertheless, the evolution of coal prices (see Table 3) shows that prices fell in Las Palmas Port during the period in which the agreement was broken (between 1910 and 1913), while coal prices remained high as long as the agreement was functioning. Price variations should not, therefore, obscure the existence of the accord.

The price war, which began in 1910, was short-lasting but caused a genuine storm in the sea of calm that the agreement had provided up to that moment. As diplomatic sources recognised at the time:

a ferocious tariff war caused by the actions of one of the seven coaling companies operating in the Port of Las Palmas. This company had previously broken the terms of the agreement by charging less for coal than had been stipulated for the year in question, which was one pound and four shillings per ton f.o.b. In order to face up to the new situation which had been created the other companies lowered their prices on the 14th April to one pound two shillings and sixpence, on the 24th March to one pound and on the 23rd September to seventeen shillings and sixpence per ton f.o.b.⁴⁶

So began the price war.

The causes of the price war and the identity of the company that started it are unclear. According to Davies, the war began when the new owner of Elder Dempster, Owen Philipps, decided to try to achieve a greater share of the market for Elder's coaling companies in the Canary Islands;⁴⁷ other writers believe that the war broke out when the coaling companies attempted to reduce the participation of Miller by making the company agree to a smaller market share. Miller refused to comply and in 1910 lowered its price to £1/4 per ton. In response to this, the other companies dropped their prices on the 14 April to £1/2/6 per ton,

⁴⁴ The agreement was broken between 1910 and 1912: see Miller (1988); and Rodríguez (1989), pp.110-4.

⁴⁵ Prices tended to be lower in European ports, but these were not so well situated on the route: in Amsterdam 13s.-19s./tonne; in Antwerp, 13/6; in Gibraltar, 23s. for Welsh y 21s. for Durham; en La Havre, 21/5 Welsh and 16/6 Durham (Kirkaldy, 1919, pp.600-10). In 1933, the prices were: Liverpool, 19s.; Hull, 14/6 ('Expediente en averiguación de la causa de retirada de líneas de vapores de este Puerto de La Luz', Archivo de la Cámara Oficial de Comercio Industria y Navegación de Las Palmas, Legajo 'Comunicaciones e infraestructura', Caja 200).

⁴⁶ Quintana (1992), p.79.

⁴⁷ Davies (1973), p.145.

and on 23 September reduced their prices further to 17/6 per ton. They had by now gone to the extreme of offering coal for sale at prices which were lower than pit-head prices in Wales, where coal was being sold for a pound a ton – implying a loss to the Canary coaling companies of four or five shillings on the ton.

Miller was able to survive thanks in part to its substantial fleet of barges, which enabled the company to offer a far more efficient and economical service.⁴⁸ Furthermore, thanks to its network of associated companies in London, the company was guaranteed a supply of coal. According to one of the descendents of the Miller family, the company made contact with Townley and Mickley, and acquired a stock of 350,000 tons for a year.⁴⁹ The companies also chartered a fleet of Norwegian coaling vessels to cover the same period, thus guaranteeing a supply of first class coal. The operation was so successful that 3,500 tons of coal was supplied within a twenty-four hour period, and according to surviving records ships were queuing up in Puerto de la Luz to take on coal. This undoubtedly led to the arrival of an unprecedented number of steamships at Las Palmas harbour to fill their holds with bunkers, and when seen in conjunction with the strike action that had been common in the ports of Tenerife and San Vicente, together with the cholera epidemic in Madeira, goes a long way towards explaining the enormous increase in sales enjoyed by the Port of Gran Canaria. Taking advantage of the low prices on offer at the port, ships left the UK with sufficient coal to reach the Canary Islands, where they then loaded up with whatever coal they required to reach their final destination.

However, this situation could not be maintained indefinitely, and the coaling companies consequently sought to reach a new agreement. This agreement was reached towards the end of 1913, and coal prices were fixed as follows: top quality Welsh coal, £1/12; top quality coal from the north of England, £1/9. One interesting and significant detail is that the coal tonnage sold at Las Palmas Port was maintained, thanks mainly to the free publicity that it received throughout the duration of the trade war as an accessible and efficient coaling station.

From this point onwards the strategy of unity was maintained, albeit with diverse ramifications or characteristics, to such an extent that, once the First World War had ended, the British Consul reported that a commercial agreement amongst companies was operating in 1920.⁵⁰ Indeed, the coaling companies based in Las Palmas drew up a more far-reaching agreement in 1930, forming a trust that was directed from London by Ernest Wooton Summerlin, who had been the British Consul to Gran Canaria, and by Gerard Miller in Gran Canaria. This agreement was motivated firstly as a strategy to counter the economic crisis of the 1930s, and secondly to counter the structural transformations that were being caused by technological changes in maritime navigation, which entailed the substitution of coal by liquid fuel. A third factor was the generational change that occurred in the coaling companies. Furthermore, Puerto de la Luz had become one of the most conflictive ports in the region during the Second Spanish Republic.⁵¹

⁴⁸ In Las Palmas, the possession of barges served as a "parameter of the analysis for determining who controlled the coal business". It was by no means a coincidence that they were all in the hands of foreign companies (F. Quintana Navarro, *Barcos, negocios y burgueses en el Puerto de la Luz. 1883-1913*, Las Palmas: CIES de la Caja de Canarias, 1985, p.57).

⁴⁹ See Miller (1988).

⁵⁰ "The principal firms belonging to this association, known as the Canary Islands Committee, with their local representives" (Morris 1921, p.6).

⁵¹ Suárez (1996).

This agreement modified company structure in the Port of Las Palmas. Sure as they were that competition was bad for a rapidly reducing market, the coaling companies considered that forming an association was in their interests, and all of them offered both their installations and their staff for the common good. British Consul reports of the period make clear that the agreement continued in Las Palmas, although some companies had not signed it:

(I)n this port, in 1930, a central administrative organisation was formed of six of the British coaling firms and a fuel oil agency doing business there, for the purpose of effecting economies in management and operation, as well as in the first cost of the coal. This leaves three coaling companies at that port, one British, one partly British and one German, outside the combine, and these continue to operate independently as heretofore.⁵²

Thus, after complex negotiations an Anglo-Canarian holding company was established comprising Miller & Co., Blandy Bros. Coaling & Shipping, S.A., Grand Canary Coaling and Co., Compañía Carbonera de Las Palmas, S.A. and Compañía Nacional de Carbones Minerales, S.A. Cory Brothers & Co. Ltd. did not join the group until 1946, a delay that can be explained by incompatibilities with respect to liquid fuels, since Miller acted as agent for Shell (although this had still not been established by name in Las Palmas at this time), while Cory sold British Petroleum products. The German company Woermann, and affiliate British company Oceánica, did not join the agreement either.

As was to be expected, the merger led to a whole series of internal problems, due to the multitude of new relationships that had to be forged between mangers and members of staff of different ranks and responsibilities; and external ones, due to the response of workers' unions to the labour and unemployment problems caused by the merger.

Conclusions

Available data confirms that between the end of the nineteenth century and the beginning of the twentieth, the Canary Island ports became the principal coaling stations for ships on the Atlantic trade route, superseding the other island and continental ports. Coal supply from the Canary ports increased constantly, with occasional periods of crisis such as that suffered during the First World War, to such a degree that over one million tons of coal was being supplied from a single port. The causes of this monopoly lie in the geographical location of the archipelago, low transportation costs thanks to the return traffic, and favourable institutional conditions that reduced operating costs and attracted companies to set up businesses with the offer of efficient services.

Nevertheless, the coal supply business in the Canary Island ports did not follow traditional free-market parameters, since for most of the time the supply was controlled by an English-owned cartel, with very limited participation by other nationalities. The framework of trading freedom was thus limited by the strategies of foreign companies operating according to the AIDA agreement, and in the case of Las Palmas going as far as to form a trust (1930). An interest group, known as the Ship Agents' Management Association was also involved in this agreement, further increasing the price of the coal supply.

⁵² See *Hoy*, 24 May 1934, p.5 and Trant (1931), p.37.

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| Years | Las Palmas | Santa Cruz | S. Vicente | Madeira | Fayal | S. Miguel |
|-------|------------|-------------|------------|---------|-------|-----------|
| 1875 | 111 | | | 610 | 339 | 332 |
| 1876 | 119 | | | 606 | 395 | 342 |
| 1877 | 129 | 403 | | 619 | 456 | 351 |
| 1878 | 148 | 405 | | 585 | 625 | 351 |
| 1879 | | 453 | | 652 | 704 | 270 |
| 1880 | | 427 | | 682 | 893 | 188 |
| 1881 | | | | 673 | 957 | |
| 1882 | | | | 715 | 1,125 | |
| 1883 | 236 | | | 720 | | |
| 1884 | 238 | 452 | | 811 | | |
| 1885 | 236 | | | 780 | | |
| 1886 | 522 | 563 | | 733 | | |
| 1887 | 660 | | | 679 | | |
| 1888 | 954 | 726 | | 751 | | |
| 1889 | 1,180 | 786 | | 793 | | |
| 1890 | 1,441 | 819 | | 742 | | |
| 1891 | 1,558 | 836 | | 680 | | |
| 1892 | 1,562 | 843 | | 702 | | |
| 1893 | 1,719 | 836 | | 689 | | |
| 1894 | 2,718 | 814 | | | | 343 |
| 1895 | 2,887 | 901 | | 720 | | 350 |
| 1896 | | | | 749 | | 483 |
| 1897 | | | | 796 | | 566 |
| 1898 | 2,831 | 2,122 | | 883 | | 619 |
| 1899 | | 2,706 | | 820 | | 706 |
| 1900 | | 2,933 | | 1,290 | | 688 |
| 1901 | | 2,919 | | 1,211 | | 599 |
| 1902 | 3,944 | 2,841 | | 1,513 | | 511 |
| 1903 | 3,848 | 2,968 | | 1,397 | | 120 |
| 1904 | 4,103 | 3,199 | | 1,257 | | 141 |
| 1905 | 4,833 | 3,529 | | 1,259 | | 424 |
| 1906 | 4,925 | 3,663 | | 1,287 | | 446 |
| 1907 | 4,992 | 3,538 | | 1,365 | | 414 |
| 1908 | 4,549 | 3,169 | | 1,440 | | 217 |
| 1909 | 4,501 | 2,541-3,537 | | 1,535 | | 219 |
| 1910 | 4,393 | 2,512-3,642 | | 1,391 | | 278 |
| 1911 | 4,751 | 3,782-2,864 | | 973 | 1,208 | 296 |
| 1912 | 4,888 | 2,484-3,934 | | 1,507 | 1,660 | 267 |
| 1913 | 4,974 | 2,110-3,564 | | 1,330 | 1,397 | 221 |
| 1914 | 3,556 | 1,570-3,155 | | 1,027 | | 200 |
| 1915 | 2,740 | 2,497 | | | | |
| 1916 | 2,211 | 1,900 | | | | |
| 1917 | 636 | 643 | | | | |
| 1918 | 445 | 433 | | | | |

Appendix 1 - Annual Movement of Ships in the Atlantic Ports (number Ships)

| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | | | · · · · · · · · · · · · · · · · · · · | |
|--|------|-------|-------|---------------------------------------|--|
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 1919 | | 1,028 | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 1920 | 2,112 | 1,503 | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 1921 | 2,187 | 1,759 | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 1922 | 2,976 | 2,306 | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 1923 | 3,318 | 2,403 | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 1924 | 3,863 | 2,589 | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 1925 | 3,923 | 2,891 | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 1926 | 3,762 | 2,811 | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 1927 | 4,099 | 2,875 | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 1928 | 4,225 | 3,403 | | |
| 1931 4,485 3,075 887 1932 2,874 930 1933 2,823 1,088 1934 2,705 1000 1935 2,751 1000 1936 2,085 1000 1937 1,563 1000 | 1929 | 4,492 | 3,072 | 1,026 | |
| 1932 2,874 930 1933 2,823 1,088 1934 2,705 1 1935 2,751 1 1936 2,085 1 1937 1,563 1 | 1930 | | 3,025 | 1,029 | |
| 1933 2,823 1,088 1934 2,705 | 1931 | 4,485 | 3,075 | 887 | |
| 1934 2,705 1935 2,751 1936 2,085 1937 1,563 | 1932 | | 2,874 | 930 | |
| 1935 2,751 1936 2,085 1937 1,563 | 1933 | | 2,823 | 1,088 | |
| 1936 2,085 1937 1,563 | 1934 | | 2,705 | | |
| 1937 1,563 | 1935 | | 2,751 | | |
| | 1936 | | 2,085 | | |
| | 1937 | | 1,563 | | |
| 1938 - | 1938 | | - | | |
| 1939 1,787 | 1939 | | 1,787 | | |
| 1940 1,357 | 1940 | | 1,357 | | |

Source: for Santa Cruz de Tenerife: E. Murcia Navarro, *Santa Cruz de Tenerife, un puerto de escala en el Atlántico. Estudio de Geografía urbana*, Santa Cruz de Tenerife: Aula de Cultura de Tenerife, 1975 and Quintana (1992); for Azores, Cape Verde and Madeira, Martín Hernández, U., 'Los archipiélagos atlánticos de Canarias, Madeira, Cabo Verde y Azores 1880-1919. Una aproximación al estudio de sus relaciones a través de los informes consulares británicos', in *Actas del VIII Coloquio de Historia Canario-Americano*, Vol.2, Las Palmas: Universidad de Las Palmas de Gran Canaria, 1991, pp.116-20.

| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | Years | Las Palmas | Tenerife | Madeira | Ascensión | St. Elena | Falklands | San Miguel |
|--|-------|------------|----------|---------|-----------|-----------|-----------|------------|
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | | | muuenu | | | 1 unnunus | Sun niguei |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | | , | | | | 973 | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | | | | | | ,,,, | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | | | | | | 1.409 | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | | ., | | | | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | | | | | | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | | | | | | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | | 5.641 | | -,, | | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | | | | 2.237 | | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | | | | | | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | | | | | | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | | , | | | | | |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | | | | | | | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | 6.700 | | | | | | |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | | | | | , | | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | | , , | | | | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | | | 76,495 | | | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | | | , | - | | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | | | | 2,446 | | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | | | 67.574 | | | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | , | | , | , | | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | | | | | | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | | | | , | | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | | | | | , | | 1,134,218 |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | 191,174 | | | | | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | , | | | | , | | , , |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | | | | | | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | | | | | 927 | | 3,890,661 |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | | 206,709 | | | | | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | | | | | | | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 1901 | , | | | | | 1,980 | |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | 1902 | | | | | | | 5,477,621 |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | 1903 | 331,667 | | | 2,509 | | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 1904 | | | | | | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 1905 | 334,625 | | | - | | | 4,766,564 |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | 1906 | · · · · | | | 2,026 | | | 4,518,109 |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | | 375,000 | | | | | | |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 1908 | , | | | 1,384 | | 5,150 | |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | | | , | | | | | |
| 1911 822,231 198,045 2,303 30,903 13,310,544 1912 791,985 518,554 4,082 34,729 15,082,897 1913 828,376 349,060 4,737 28,580 16,083,650 1914 636,523 227,711 11,123,630 11,123,630 1915 299,196 171,575 1 1 1916 249,260 151,827 1 1 1917 25,952 26,898 1 1 1918 5,960 1 1 1 1920 280,000 146,846 1 1 1 1921 226,857 1 1 1 1 1 | | 706,475 | 166,564 | | | | | 9,046,663 |
| 1912 791,985 518,554 4,082 34,729 15,082,897 1913 828,376 349,060 4,737 28,580 16,083,650 1914 636,523 227,711 11,123,630 11,123,630 1915 299,196 171,575 111,123,630 1916 249,260 151,827 111,123,630 1917 25,952 26,898 111,123,630 1918 5,960 111,123,630 111,123,630 1919 210,114 76,023 111,123,630 1920 280,000 146,846 111,123,630 1921 226,857 114,846 114,846 | | | , | | | | | 13,310,544 |
| 1913 828,376 349,060 4,737 28,580 16,083,650 1914 636,523 227,711 11,123,630 1915 299,196 171,575 11,123,630 1916 249,260 151,827 11,123,630 1917 25,952 26,898 11,123,630 1918 5,960 11,123,630 1919 210,114 76,023 11,123,630 1920 280,000 146,846 11,123,630 1921 226,857 11,123,630 11,123,630 | | | | | | | | |
| 1914 636,523 227,711 11,123,630 1915 299,196 171,575 1 1916 249,260 151,827 1 1917 25,952 26,898 1 1918 5,960 1 1 1919 210,114 76,023 1 1 1920 280,000 146,846 1 1 1921 226,857 1 1 1 | | | , | | | | | 16,083,650 |
| 1915 299,196 171,575 Image: constraint of the system | | | | | | , | , | 11,123,630 |
| 1916 249,260 151,827 < | | | | | | | | |
| 1917 25,952 26,898 1918 5,960 <td></td> <td></td> <td>,</td> <td></td> <td></td> <td></td> <td></td> <td></td> | | | , | | | | | |
| 1918 5,960 1919 210,114 76,023 1920 280,000 146,846 1921 226,857 | | , | | | | | | |
| 1919 210,114 76,023 | 1918 | | | | | | | |
| 1920 280,000 146,846 | | | 76,023 | | | | | |
| 1921 226,857 | | | | | | | | |
| | | | , | | | | | |
| | 1922 | 342,508 | | | | | | |

Appendix 2 - Tons of Coal supplied in the Atlantic Ports

| 1923 | 463,367 | | | | |
|------|---------|---------|--|--|--|
| 1924 | 471,373 | | | | |
| 1925 | 352,977 | | | | |
| 1926 | 396,181 | 161,214 | | | |
| 1927 | 453,686 | 187,608 | | | |
| 1928 | 351,954 | 178,786 | | | |
| 1929 | 348,447 | 164,300 | | | |
| 1930 | 267,140 | 128,759 | | | |
| 1931 | 254,783 | 120,077 | | | |
| 1932 | 207,735 | 92,071 | | | |
| 1933 | 185,913 | 85,031 | | | |
| 1934 | 167,898 | 79,868 | | | |
| 1935 | 167,729 | 87,722 | | | |
| 1936 | 89,533 | 55,725 | | | |
| 1937 | 107,853 | 61,480 | | | |
| 1938 | 75,121 | | | | |
| 1939 | 82,084 | 39,317 | | | |
| 1940 | 118,547 | 25,390 | | | |

Notes: 1912 – the 750.000 tons imported from Las Palmas are 427,803 from Gales and 257,802 from Durham; there was a strike in Wales and so 39,539 were imported from North America and 24,560 from Germany (Quintana (1992), p.866). 1913 – 723,437 from Gales; 436,563 from Durham (Quintana (1992), p.878). 1914 – 422,577 from Wales, 283.988 from Durham (Quintana (1992), p.910), plus 13,136 tons of American and 44,300 German-Welsh (Quintana (1992), p.927). San Vicente, 1931: 126,500 metric tonnes (Report 1934). Madeira, 1886: 76,495; 1890: 67,754 metric tonnes (Foreign Office Miscellaneous Series, n° 246, 1892).

Source: for Las Palmas, Quintana (1992), Cámara Oficial de Comercio Industria y Navegación, *Memoria comercial correspondiente al año 1946*, Las Palmas (1947 & 1955) and Morris (1921), p.11; for Santa Cruz de Tenerife, Murcia (1975); for Ascensión, Santa Elena and Falkland, Minchinton (1985), pp.559-61.

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- WP02: Jonathan Curry-Machado, 'Sub-imperial globalisation and the phoenix of empire: sugar, engineering and commerce in nineteenth century Cuba' (October 2007)
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Commodities of Empire is a joint research collaboration between the Open University's **Ferguson Centre for African and Asian Studies** and London Metropolitan University's **Caribbean Studies Centre**. These two institutions form the nucleus of a growing international network of researchers and research centres.

The mutually reinforcing relationship between 'commodities' and 'empires' has long been recognised. Over the last six centuries the quest for profits has driven imperial expansion, with the global trade in commodities fuelling the ongoing industrial revolution. These 'commodities of empire', which became transnationally mobilised in ever larger quantities, included foodstuffs (wheat, rice, bananas); industrial crops (cotton, rubber, linseed and palm oils); stimulants (sugar, tea, coffee, cocoa, tobacco and opium); and ores (tin, copper, gold, diamonds). Their expanded production and global movements brought vast spatial, social, economic and cultural changes to both metropoles and colonies.

In the Commodities of Empire project we explore the networks through which such commodities circulated within, and in the spaces between, empires. We are particularly ttentive to local processes – originating in Africa, Asia, the Caribbean and Latin America – which significantly influenced the outcome of the encounter between the world economy and regional societies, doing so through a comparative approach that explores the experiences of peoples subjected to different imperial hegemonies.

The following key research questions inform the work of project:

- 1) The networks through which commodities were produced and circulated within, between and beyond empires;
- The interlinking 'systems' (political-military, agricultural labour, commercial, maritime, industrial production, social communication, technological knowledge) that were themselves evolving during the colonial period, and through which these commodity networks functioned;
- 3) The impact of agents in the periphery on the establishment and development of commodity networks: as instigators and promoters; through their social, cultural and technological resistance; or through the production of anti-commodities;
- 4) The impact of commodity circulation both on the periphery, and on the economic, social and cultural life of the metropoles;
- 5) The interrogation of the concept of 'globalisation' through the study of the historical movement and impact of commodities.

www.open.ac.uk/Arts/ferguson-centre/commodities-of-empire/index

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