Déjà vu all over again! :the reluctant rise and protracted demise of Scott Lithgow Limited

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Abstract

This thesis charts the growth and demise of the two largest shipbuilding firms on the Lower Clyde in Scotland, Scotts' Shipbuilding & Engineering Company Limited of Greenock, [established 1711] and Lithgows Limited of Port Glasgow [established as Russell & Company in 1874 and as Lithgows Limited in 1918]. The history of each firm is considered separately, with more emphasis on Lithgows, in order to give the reader a fuller perspective of their respective growth and internal and external dynamics. The bulk of the thesis, however, is concentrated in the post-1945 period with emphasis on the protracted merger of the shipbuilding interests of Scotts' and Lithgows to form Scott Lithgow Limited in 1970. Thereafter, the history of the merged firm is considered in detail, including its disastrous entry into the giant tanker market up to the nationalisation of the British shipbuilding industry in July 1977 when the firm was transferred to the control of the State Corporation, British Shipbuilders. From there, including an even more disastrous entry into the large offshore structures market, the period of nationalisation is then analysed up to March 1984 when Scott Lithgow became the first British Shipbuilders constituent shipyard to be privatised when it was controversially sold to the industrial conglomerate Trafalgar House plc. Trafalgar House, with no previous experience of building complex semi submersibles was unable to resurrect Scott Lithgow's tarnished reputation in the offshore market. Accordingly, the yard was put on a care and maintenance basis in 1988 from which it never recovered. In considering the complex history of Scotts' and Lithgows through what is in effect a micro study, it is hoped that this thesis will identify certain parallels in the demise of Scott Lithgow that will enhance our knowledge of cause and effect in the overall decline of the British shipbuilding industry.

Table of Contents

List of acronyms and abbreviations commonly used in the text, and note on punctuation

BS	British Shipbuilders
BSRA	British Ship Research Association
CSA	Clyde Shipbuilders Association
DSIR	Department of Industrial & Scientific Research
Ferguson	Ferguson Brothers Limited
KFS	Kingston Financial Services (Clyde) Limited
KIC	Kingston Investment Company
Lithgows	Lithgows Limited
Mintech	Ministry of Technology
MoD (N)	Ministry of Defence (Naval)
Scotts'	Scotts Shipbuilding & Engineering Company Limited
SIB	Shipbuilding Industry Board
SIC	Shipbuilding Inquiry Committee
SEF	Shipbuilding Employers Federation
SRNA	Shipbuilders and Repairers National Association
UCS	Upper Clyde Shipbuilders

Throughout this text, the use of the apostrophe in the case of Scotts' Shipbuilding and Engineering Company Limited will be thus (Scotts'). Two versions, [Scott's and Scotts'] are used in historical accounts of the company, but I intend to persevere with the spelling convention used by the company in the last edition of its history, that is, Scotts' of Greenock. In contrast, no apostrophe has ever been used either in the letterhead of the firm, or in any historical account of Lithgows Limited. Thus it is referred to throughout the text as Lithgows.

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For Portia

Déjà vu all over again! The Reluctant Rise, and Protracted Demise of Scott Lithgow Limited. [1]

Introduction

The antecedents of modern British shipbuilding lie in an atomistic craft industry based on wood and sail, one dominated by small-scale family enterprises and partnerships typical of the eighteenth and nineteenth centuries. What shipbuilding that there was on the Clyde in the seventeenth and early eighteenth centuries was relatively insignificant in terms of total output, and was based mainly in and around the burgh of Greenock. By 1765, however, the Greenock firm of John Scott, established in 1711, had began to build its first square-rigged vessel for owners outside Scotland. Thereafter, Scotts' and other firms graduated steadily from wood and sail to steam and iron construction as the Clyde rose to become the centre of the Scottish shipbuilding industry. By 1850, the ascendancy of Clyde shipbuilders was apparent and had been enhanced and was to be further consolidated by local innovations in marine engineering. By this stage, however, in common with other major river centres of shipbuilding in Britain, iron was the metal of choice on the Clyde for the construction of sail and steam vessels. The pig iron industry had expanded rapidly in Scotland, particularly in Lanarkshire and Ayrshire after the invention, patented in 1828 by James Beaumont Neilson, of the hot-blast furnace. This process, and its rapid assimilation, transformed the industry when combined with the use of local deposits of black-band ironstone to produce pig iron of commercial quality. Scottish pig iron production was further improved by the substitution of hard Scottish splint coal for coke, which, with other technical improvements, cut coal consumption and increased the amount of pig iron produced. These improvements gave the industry in Scotland a comparative advantage in the costs of production, in yield and in price over other British producers. However, large-scale production of malleable iron lagged behind that of pig. Nevertheless, those malleable iron producers who stuck at it reaped the rewards with the rising demand for high quality ship plates and marine forgings from Clyde firms. By 1870,

Clyde shipbuilders were building over two thirds of all the iron ships built in Britain, and iron producers alone took twenty per cent of Scottish coal output. A decade later, local malleable iron manufacturers already had sufficient impetus to respond to the growing demand from shipbuilders for the transition from iron to steel plates. This vertically integrated economy, confined mainly within a distinct area of the West of Scotland was not of itself sufficient to explain the seemingly inexorable rise of Clyde shipbuilding. Entrepreneurial talent, a ready supply of labour, a plethora of general and marine engineering shops and foundries, and good railway and other transport links were also important. Of equal import to the rise of Clyde shipbuilding and marine engineering was the genius of local inventors who made major improvements to the efficiency of marine steam engines and boilers. In 1853, Charles Randolph and John Elder cut fuel consumption by one third with the introduction of their compound marine expansion engine. By 1862 James Howden had further improved the efficiency of the marine engine by the introduction of his high-pressure cylindrical Scotch boiler. Innovation continued, and by 1874 Dr. Alexander Carnegie Kirk at Fairfield had developed the triple expansion engine, followed a decade later by the invention of the quadruple expansion engine by Walter Brock at Denny Brothers. These inventions, when fully developed went on to power a significant proportion of the world's merchant fleets, and cemented a worldwide reputation for Clyde shipbuilding and marine engineering prowess.

These general observations on the growth of Clyde shipbuilding form a backdrop to the history of two remarkable Lower Clyde shipbuilding firms. Scotts' of Greenock and Lithgows of Port Glasgow. It is with the growth and eventual demise of these two world-famous enterprises that this thesis is primarily concerned. Of the two family enterprises, Scotts' was by far the older and more technically proficient mixed mercantile and naval builder with a long-established marine engineering works. Lithgows Limited (est. 1918) grew out of the co-partnery of Russell and Company est. (1874), and concentrated mainly on volume cargo tramp shipbuilding, and latterly on tanker construction. Overall, the history of Scotts' is by far the better known, and up to 1920, the early story of the firm and much else besides has already been the subject of an unpublished doctoral thesis by the late Dr. J. F. Robb, a former engineering director of Scotts' and later, of Scott Lithgow.[2] The Greenock

firm also published various editions of its history, with the last issued in 1961 in celebration of its two hundred and fiftieth anniversary.[3] In stark contrast, there is no official history of Lithgows Limited. However, the early years of the firm when it traded as Russell & Company until the end of the First World War are relatively well known.[4] Each firm survived the turbulent interwar years, and made significant contributions to the salvation of their country in World War II. Lithgows, under the leadership of James and Henry Lithgow, had through various acquisitions risen to become by far the greatest Scottish shipbuilding group, and also the largest in private hands in the world. Before the first post war decade had ended, however, Lithgows suffered a devastating double blow when first, Henry, and then Sir James Lithgow died in May 1948 and February 1952 respectively. Both of these remarkable men, already imbued with entrepreneurial spirit when as young men they had inherited the firm from their father in 1908, worked assiduously throughout their lives to enlarge the Lithgow empire in their native Port Glasgow and throughout the West of Scotland. [5] Sir James Lithgow's widow, Lady Lithgow, took over the chairmanship of the family firm in 1952 and by 1960 her son, Sir William Lithgow, had assumed the chairmanship, by which stage the chill blast of foreign competition was already apparent. In the following years, both Scotts', led by its seventh generation chairman, Michael Sinclair Scott, and Lithgows belatedly completed the bulk of the post war modernisation of their shipyards from their own reserves.

Contemporaneously, the newly elected Labour government of October 1964, conscious of an overall lack of international competitiveness in British shipbuilding commissioned an independent inquiry into the industry under the chairmanship of Reay Geddes. Following the recommendations of the Geddes Committee, published in March 1966 as the Shipbuilding Inquiry Report of 1965-66, each firm began to look for prospective partners for a possible merger.[6] Subsequently, an unofficial Scott Lithgow Group was formed in 1967 but an official merger of the shipbuilding and engineering interests of the Greenock and Port Glasgow firms did not take place until 1 January 1970. The protracted nature of the merger negotiations owed much to the desire of both firms to stay out of a single Clyde group and to retain a naval capability. From the beginning, however, the new firm, Scott Lithgow Limited, was under capitalised and had already embarked on an ill-starred venture into the large

tanker market. Despite the firm's entry into the offshore market for drill ships, in a inflationary climate, losses mounted, and in common with the majority of firms in the industry Scott Lithgow was subsequently nationalised by the Labour Government after a protracted parliamentary struggle in July 1977. Thereafter, under the control of the state-owned British Shipbuilders, the firm made a disastrous entry into the large offshore oil structures market before it was controversially returned to the private sector by a Conservative government as the first State-owned yard to be privatised in March 1984. Thereafter, under the stewardship of the industrial conglomerate, Trafalgar House, Scott Lithgow continued to make further losses and suffered a protracted demise.

The Thesis outlined:

These events are of comparatively recent vintage, and remain controversial. With this in mind, the original idea of this thesis was to concentrate upon the events arising from the Shipbuilding Inquiry Report of 1965-6, which subsequently led to the establishment of the merged firm. From this base and in the light of decisions arising from it, analysis would then concentrate on the major factors that contributed to the firm's demise. However, on reflection, I felt that this approach would necessarily have had cut out a substantial period of the history of the growth of these two private firms, whose significant presence on the industrial landscape of the Lower Clyde in many ways defined the area in the public consciousness. In order to achieve a fuller perspective of each firm, therefore, I have structured this thesis so as to consider separately the history of Scotts' and Lithgows shipbuilding and other interests until their eventual merger. From there I go on to consider the history of the merged firm, through its subsequent reincarnations, until its eventual denouement. What follows, therefore, is neither a standard business history, nor a work of general reference. Rather, my approach is a holistic one, conditioned to a large extent by the paucity of information held on the activities of subsidiary firms, and the largely uneven nature of the vast amount of records deposited, particularly in regard to Lithgows. However, in reference to what has already been published, and again with the limitations of the extant records held in mind, I intend to concentrate the bulk of this thesis in the post 1945 period. Although full reference is made to the secondary

literature, the early chapters of this work are not intended to be definitive explanations of the history of either company. They are undertaken to give the reader a general perspective of the various factors that I believe shaped the history of Scotts' and Lithgows, which is in keeping with the holistic nature of the thesis. Initially, in the case of Scotts' two dominant strands in the twentieth century history of the firm will readily become apparent, the importance of bespoke linkages with the Liverpool firms of Alfred Holt and John Swire, and that of naval work. Naval contracts were crucial to the firm's profitability, especially in times of low mercantile demand, and remained so through to the merged firm's eventual demise. Secondly, given that no official history of Lithgows exists, the chapter on that firm to 1945 is double that in length of the chapter on Scotts' to the same period. Moreover, the story of Lithgows can not be divorced from the personal history of Sir James Lithgow, a colossal and controversial influence not only on the Scottish industrial scene, but also in the British shipbuilding industry. Both Lithgow brothers were also intimately involved in the reconstruction of the Scottish steel industry, and Sir James with the establishment of the shipbuilding industry's trade association, the Shipbuilding Conference and subsequently with its rationalisation vehicle, National Shipbuilders Security. Again these activities require substantial explanation, and reference is also made to primary source material and secondary literature on the shipbuilding industry's attempts to improve its position throughout the interwar period.

Methodologically, I have concentrated my efforts on the copious records of Scotts' and Lithgows, most of which have been recently catalogued and are held at the Modern Records and Business Archives Centre of the University of Glasgow. [7] Analysis and interpretation of this material, with reference to its significance and context will form the bulk of this particular work. However, there are significant gaps in the extant records, for example there are no records of board meetings deposited for Lithgows prior to 1948. However, given the secretive nature of all Lithgow transactions, those board minutes that are deposited are deliberately scant. On the other hand, however, the board minutes of Scotts' whilst far from comprehensive, are a little more revelatory. Nevertheless, there are significant gaps in the records of both companies that require further explanation, and with this in

mind, I have interviewed, with a suitable degree of caution, many of the major players in the post-war history of Scotts' and Lithgows. Moreover, these interviews, and the thesis as a whole, are further corroborated by the study of other primary source material in the records of various departments of state contained in the Public Record Office at Kew, London, and by reference to the records of the employers national and local associations.[8] The above material is further supplemented by the use of other business and banking records, and secondary literature at appropriate stages within the text. Such secondary literature that exists on the industry in general, and on individual shipyards in particular, has been avidly read in conjunction with the local and national newspaper press.

Much of the academic literature has, however, tended to analyse the precipitous decline of the British shipbuilding industry in mutually exclusive terms. Accordingly, there is no generally accepted monocausal paradigm of decline. It is recognised, however, that explanations of decline that are based on either institutional rigidity, or entrepreneurial failure paradigms, are not mutually exclusive. Rather, it is more of a question of what particular weight is attributed to either one or the other. Whether one advances the view that the industry, or indeed Scott Lithgow's demise took place as a result of "the British Disease" of poor industrial relations. Or, alternatively, that decline was inevitable due to international market conditions, adverse factors of production, or entrepreneurial failure, it takes us only so far. Moreover, much of the general literature has drawn heavily on UK Government papers and sources, and less so on the wealth of evidence available in national and regional records of the shipbuilding employers, trade unions and individual shipyards. [9]

In the light of the aforementioned factors, it is hoped that this thesis will act as a micro-study to correct this imbalance by identifying certain parallels in the demise of Scott Lithgow that will enhance our knowledge of cause and effect in the overall decline of the British shipbuilding industry.

Endnotes: Introduction

[1] The phrase, 'its déjà vu all over again' is attributable to the great American Baseball coach, Yogi Berra

[2] 'Scotts' of Greenock, Shipbuilders and Engineers, 1820-1920: A Family Enterprise'. Johnston Fraser Robb. Unpublished Thesis presented to the University of Glasgow for the degree of Doctor of Philosophy, 1993.

[3] *Scott's Shipbuilding & Engineering Co. Ltd: Two Centuries of Shipbuilding by Scotts at Greenock*, three editions, 1906, 1920 and 1950, were published by the company, and a fourth edition, *Two Hundred & Fifty Years of Shipbuilding By the Scotts at Greenock*, was also published by the company in 1961.

[4] See, for example, M.S. Moss, entries on Joseph Russell and William Todd Lithgow in A. Slaven & S. Checkland (eds.), *Dictionary of Scottish Business Biography 1860-1960, Vol., I, The Staple Industries* (Aberdeen, 1986), pp. 236-238 and pp. 227-228. [Hereafter referred to as *DSBB*]. See also, M.S. Moss, 'William Todd Lithgow-Founder of a Fortune', *The Scottish Historical Review*, Vol., LX11, 1: No. 173: April 1983, pp. 47-72.

[5] For the life of Sir James Lithgow, see J.M. Reid, *James Lithgow, Master of Work* (London, 1964). See also, A. Slaven's entry on Sir James Lithgow, *DSBB*, pp.222-227.

[6] Shipbuilding Inquiry Committee Report, 1965-1966, (HMSO, London) Cmnd. 2937.

[7] The records of Scotts' and Lithgows are held mainly within three classifications at the University of Glasgow Modern Records and Business Archives Centre, Thurso Street, Glasgow. These are GD 319, Scotts'; GD 320, Lithgows; and GD 323, Scott Lithgow Ltd. In addition some personal papers of Sir James Lithgow are held within the classification, DC 35. Hereafter, these class numbers only are referred to in the text.

[8] Government source material will mainly concentrate on Admiralty, Board of Trade, Ministry of Labour, Ministry of Technology, and Department of Trade and Industry records and correspondence held at the Public Record Office, Kew, London. These records are hereafter referred to in the text as PRO ADM, PRO BT, etc. The records of the Shipbuilding Employers Federation, (SEF) formed in 1899, and of the Shipbuilding Conference, the industry's trade association, formed in 1928, are held within the Shipbuilders and Repairers National Association Papers deposited at the National Maritime Museum, Greenwich, London. They are hereafter referred to in the text by the acronym, SRNA. The papers of the Clyde Shipbuilders Association, (CSA) affiliated to the SEF, are held in the Glasgow City Archives, Mitchell Library, Ingram Street, Glasgow. For a description of the records of the SRNA, see H. Campbell McMurray, 'The Records of the Shipbuilders and Repairers National Association', in *Business Archives*, No. 45, November 1979. See also A. Slaven, 'Shipbuilding industry organisations and policies, 1920-1977', and H. Campbell McMurray, 'The Shipbuilders and Repairers National Association', in A. Slaven & J. Kuuse (eds.), *Scottish and Scandinavian Shipbuilding: Development Problems in Historical Perspective*, Gothenburg University Conference Series, mimeograph, (Gothenburg, 1981). For the records of British shipbuilding firms in general, an invaluable source is L.A. Ritchie, *The Shipbuilding Industry: A Guide to Historical Records* (Manchester, 1992).

[9] One is naturally hesitant to identify academic authors with particular strands of debate, if only to avoid overly simplistic explanations of arguments which are complex and which also take into account the prevailing state of debate at the time of writing. Positions do change over time as new evidence confirms or refutes existing standpoints. However, one can trace two particular strands within the overall debate on British Industrial decline that is relevant to the shipbuilding industry. First, that decline resulted from institutional factors such as bad industrial relations, government inactivity, persistent inflation, spatial considerations, and the entry of newer industrialised nations into shipbuilding. These factors, which are by no means exhaustive, were such that only one economic actor could substantially solve them, the State. Secondly, entrepreneurial failure

encompasses the failure to innovate, modernise and to read the market, and, most directly, the failure to manage. Again, the latter explanation is by no means exhaustive, but both explanations are advantageous blocks upon which to build and to test particular assumptions in relation to individual firms. Edward Lorenz and Frank Wilkinson gave the institutionalist argument in a one-chapter study in an influential collection of individual essays. See, E. W. Lorenz and F. Wilkinson, 'The Shipbuilding Industry, 1880-1965', in B. Elbaum & W. Lazonick (eds.), *The Decline of the British Economy* (Oxford, 1986). Lorenz, in a later book partly based upon his doctoral thesis, further expanded his argument to include a behaviourist theory of decline based on a endemic lack of trust between owners, management and men, see, E. W. Lorenz, *Economic Decline in Britain: The Shipbuilding Industry, 1890-1970* (Oxford, 1991). The entrepreneurial failure argument is given in D. Thomas, 'Shipbuilding-Demand Linkage and Industrial Decline', in K. Williams, et al. *Why are the British Bad at Manufacturing?* (London, 1983). Thomas views the decline of the industry through its historical reliance upon the bespoke home market leading to its failure to make capacity and product adjustments to adequately respond to changes in the pattern of demand in the international market for ships. Perhaps the best known exponent of the entrepreneurial failure thesis in shipbuilding is Anthony Slaven, who has written widely on the subject. See for example, A. Slaven, 'Marketing Opportunities and Marketing Practices: The Eclipse of British Shipbuilding 1957-1976, in L.R. Fischer (ed.), *From Wheel House to Counting House: Essays in Maritime Business History in Honour of Professor Peter Neville Davies* (St. John's, 1992). The arguments and controversies attendant upon both explanations of decline are further explored and given an added international dimension in a roundtable discussion of the Edward Lorenz book. See L.R. Fischer, J. Ljunberg, K. Olssen and A. Slaven, 'Roundtable: Notes on Edward H. Lorenz, Economic Decline in Britain: The Shipbuilding Industry 1890-1970', in the *International Journal of Maritime History*, Vol., V No. 1, June 1993.

Chapter I: Scotts' of Greenock, 1711-1945

In 1711, John Scott, a native of Roxburgh, established a small shipyard at the mouth of the West Burn in Greenock where he built bluff-bowed Herring Busses, crewed by no more than four men. His sons, James and William Scott I continued the business under their name and in 1765 built the first large squared rigged ship on the Clyde for owners outside Scotland. Thereafter, the founder's grandson, the second John Scott, extended the yard by building a dry dock and basin, and acquired the Greenock Foundry in 1790.[1]

Daniel Weir's History of Greenock informs that by the early nineteenth century the shipyard of Messrs Scott & Sons was, '...allowed to be the most complete in Britain, excepting those belonging to the Crown'.[2] Weir's statement, in all likelihood was subjective and took cognisance of local pride. Beforehand, the firm had again changed its name in 1802 to become John Scott & Sons. By this stage, however, John Scott's II brother, William Scott II, had already decamped to Barnstaple in Devon to engage in shipbuilding. John Scott III in partnership with Robert Sinclair (his future son-in-law) subsequently purchased in 1825 a former brass and iron foundry in Greenock from William Brownlie in order to manufacture his own marine engines.[3] On a co-partnership basis with the shipbuilding arm this firm became known as Messrs Scott Sinclair and Company, but reverted to the title of the Greenock Foundry Company in 1859.[4] The initial outlay of £5,000 for the Brownlie works proved to be a shrewd investment, and by 1839 Scotts' engine building arm employed around two hundred and twenty men in the manufacture of steam engines.[5]

Earlier, in 1794, Scotts' had completed the largest ship at that time built in Scotland, the *Caledonia,* of 650 tons, for the carriage of timber to naval dockyards.[6] The firm had for a period concentrated on building wooden square, and fore-and-aft rigged vessels, but had diversified its product line to take account of technical developments. Consequently, by the publication of Weir's history in 1839, Scotts' concentrated mainly on steamers and steam engines.[7] Beforehand, Scotts' claimed to be first Scottish firm to have built a warship for the Admiralty, a sloop of war, the *Prince of Wales* in 1803.[8] However, it was not until 1849 that the Greenock firm launched its first naval vessel of note, an iron screw frigate, appropriately named

HMS Greenock. This was the real beginning of a long association with the Admiralty, whose preservation was to remain at heart of the firm's future policy.[9]

By 1850, Charles Cuningham Scott had split from his brother. John Scott III. {the latter continued to build ships trading as Scott & Sons until going bankrupt in 1861. thus bringing to an end 150 years of shipbuilding and repair at Westburn) to form Scott & Company and began to build iron ships at Cartsdyke. Two years later the Cartsdyke yard saw the launch of its first iron ship, the paddle steamer. *Gourock*.[10] His sons, John Scott IV and Robert Sinclair Scott, in turn, completely reconstructed the yard, and in 1883 expanded the business by acquiring the nearby iron shipbuilding yard and graving dock of Robert Steele & Sons at Cartsburn. On this site they established the Cartsburn Dockyard which they laid out for naval construction and repairs.[11]

By this stage, however, the retention of bespoke linkages with shipping firms was equally important. Scotts' began their long association with the Liverpool shipowner, Alfred Holt, in 1857, when Holt ordered a vessel, the *Plantagenet,* for the West Indies trade, which was soon followed by another four vessels.[12] It was Holt's incursion into the China trade, however, that cemented his relationship with the Greenock firm when in 1865 he ordered three long-haul steamers for his new venture, the Ocean Steam Ship Company, in which Scotts' took a substantial shareholding. These iron-built vessels were the first to be fitted with compound steam engines for the Far East trade.[13]

Contemporaneously, although this is omitted in the company history. John Scott IV had already undertaken a contract for the French Compagnie Generale Transatlantique to construct a fleet of eight transatlantic liners to take advantage of the burgeoning emigration trade. Three of these vessels were to be built at Greenock and five at Penhoet St Nazaire, in France, where Scotts' had leased a shipyard and proceeded to develop it. By the end of 1864, however, only two out of the eight vessels were in service, with the others late. In the following year, three of the five St Nazaire vessels had been completed and another at Scotts' but difficulties over payments had persisted and as Scotts' embarked upon the construction of the Holt

vessels, relations with the French had deteriorated. As a result, two months after Scotts' had delivered the third Holt vessel, *Achilles* in September 1866; Scott and Company went into liquidation but were in business again by February 1887 owing to a payment of three shillings in the pound to their creditors. [14]

Previously, John Scott's younger brother, James Henry Scott, armed with letters of introduction from Alfred Holt had arrived in Shanghai on the *Achilles* in December 1866 and secured a position as a bookkeeper just as John Samuel Swire of Liverpool was setting up the trading house of Butterfield Swire. By securing a return cargo for the *Achilles*, Butterfield Swire became Holt's agents for the Ocean Steamship Company in China, and Swire, like Scott had done earlier, took shares in Ocean. By 1872 Swire had established his China Navigation Company registered in London, with James Henry Scott's father among its shareholders. Subsequently, the younger James Henry Scott became a partner in 1874, and with Swire he visited Greenock in that year and purchased two steamers, later named *Fuchow* and *Swatow* from John Scott IV, who in turn took a half share in them. The two vessels steamed for China and formed the basis of another new company, the Coast Boats Owners, in which John Scott was again a substantial investor. Up to 1879, Scotts' supplied six steamers to the company, and by 1882 had supplied another ten vessels. By the following year, Coast Boats and China Navigation had been merged in response to competition, with the new company retaining the China Navigation name. From modest beginnings, therefore, the relationship of mutual trust and friendship between Scotts', Holt and Swire, initially through builder-client relationships and then through interlocking shareholdings later resulted in Holt's Ocean Steamship Company registering as a private company in 1902. In doing so, Ocean also purchased a controlling interest in the China Navigation Company, by which stage John Samuel Swire had died and James Henry Scott had become the senior partner. [15] Subsequently, in 1917, Ocean purchased by arrangement, one-third of the Ordinary shares of Scotts', at a cost of £366,640.[16]

The mutuality of interests between builder and owners that had grown through Holt, Swire, and Scotts' becoming inextricably linked in the establishment of the Far Eastern liner trades has been extensively dealt with elsewhere.[17] However, as Falkus

notes, the liner conference system pioneered by John Samuel Swire had bound the Liverpool and London based firms even closer.[18] Swire's Taikoo Dockyard & Engineering Company Limited complex in Hong Kong was established in 1900 at a cost of around £250,000, on a 999 year lease.[19] The Hong Kong yard and graving dock, completed in 1909 were built and designed under the active supervision of Scotts', who continued to supply drawings for ships constructed there on behalf of Holt and Swire.[20] When Taikoo became operational, this to some extent took valuable Swire work from Greenock. However, a later comparison of hull costs of three China steamers built at Taikoo and at Greenock undertaken in 1915 found that differences in the final net costs were trifling. Material costs were, not unexpectedly, more expensive in Hong Kong, but this was counterbalanced by cheaper labour costs. [21] Nevertheless, Scotts' initial success in attracting orders from Holt and Swire was primarily due to strong interpersonal relationships, and a willingness to offer a bespoke product at reasonable prices for good quality vessels. Given the inherent ups and downs of shipbuilding, however, the timing of orders was probably just as important to Scotts'.[22]

Nonetheless, Scotts' to their credit had never been content to stand still. The Greenock firm had earlier made a historical contribution to the development of the clipper ship when they built the first tea clipper wholly constructed of iron, completed in 1853 as *Lord of the Isles*. This vessel had the measure of the heavier American clippers engaged in the China tea trade and in 1856 made a record voyage from China.[23] Its design, and that of other vessels was aided by Scotts' system of building fully- rigged five foot models and testing them in nearby Loch Thom, in the hills above Greenock.[24] Scotts' had also been quick to convert to steam, and from wood to iron and later, to steel construction. An earlier example of innovation was the paddle steamer, *India*, launched in 1839 and later transferred to Peninsular and Oriental. Scotts' claim that this vessel was probably the first steamship to have two sub-divided engine room watertight bulkheads, pre-dating their general acceptance requirement by the Board of Trade by fifty years.[25] 1839 also saw Scotts' co-partnered engineering arm become the first Scottish firm to supply the engines for two wooden steamers, the first naval vessels built elsewhere and sent to Scotland.[26] From then on Scotts' continued to supply engines for Dockyard-built wooden sloops

of war and later composite sloops and gunboats. However, it was not until 1889, the year of the Navy Defence Act, that a larger Admiralty building programme enabled the Greenock Foundry to win contracts to supply the engines for two larger warships, the first of class battleship *HMS Centurion*, and *HMS Barfleur*. These contracts were followed by other battleship engine orders for the first of class *HMS Canopus*, engined in 1900 and the first British battleship to be fitted with water-tube boilers, and for the London class *HMS Prince of Wales* engined in 1902.[27] By December 1901, however, Scotts' had broken through into the big league of naval construction when it was awarded its largest order to that date from the Admiralty, a contract to build and engine a Devonshire class armoured cruiser, *HMS Argyll*. This highly profitable contract, commenced in 1902 and completed in 1905, established the Greenock firm as a major warship builder for the Royal Navy and also necessitated a major reconstruction of its shipbuilding facilities. Of particular note was the building of a wet dock able to take all classes of warship foreseen, irrespective of tidal conditions. [28]

Earlier in 1899, John Scott IV and Robert Sinclair Scott as sole partners in Scotts' and in the Greenock Foundry had decided to convert both partnerships into a limited company, and that year they incorporated as Scotts Shipbuilding & Engineering Company Limited. By 1 January 1902, the Greenock Foundry had been effectively merged into the business. However, this arrangement was not finalised until April 1904, when the adoption of new Articles of Association, registration of Directors and the purchase of Scott and Company and of the Greenock Foundry was laid before, and agreed at a meeting.[29] Given that by this stage, Scotts' had in effect become a mixed naval and mercantile builder, the company was in effect under capitalised. Indeed, Scotts' share capital of £300,000 made up of 2,500 4% Cumulative Preference Shares of £10 each and 27,500 Ordinary Shares of £10 each, remained unchanged from 1899 to 1957. [30]

However, the incorporation of the shipbuilding and engineering assets, and the increase in naval work, particularly the contract for *HMS Argyll* was important to the Greenock firm's profitability in this period. As Peebles has noted, from 1896 to 1901 Scotts' bespoke linkages with Holt and Swire had become something of a

mixed blessing. The firm had completed ten ships for Alfred Holt, [who liked to order at the bottom of the market] all at a loss amounting to £40.006. However. twelve ships for Swire's China Navigation Company had resulted in a profit of £33,741.[31] Bespoke linkages are, by their very nature, problematical. Shipowner's, in periods of low freight rates, can exercise considerable financial leverage over shipbuilders, and the reverse is often true when correspondingly high freight rates pertain. They can also place a brake on innovation, and hamper the rapid assimilation of new technology, but give some guarantee of work and keep skills within the firm. Although other factors necessarily impinged, Scotts' shipbuilding arm, in terms of cumulative net profits over an eleven year period from 1890 to 1900, failed to balance its losses, but only just.[32] In the same period the net profit showing of the Greenock Foundry was far better but hardly set the heather on fire. and as Peebles again notes, naval engine building at the Foundry had not been particularly profitable either.[33] The importance of the *HMS Argyll* contract in particular, was its net profit outcome of £152,038. This enabled Scotts' to offset the costs of modernisation of its facilities to complete it, and capital expenditure. depreciation of fixed assets and bank borrowings all benefited. From 1902 to 1906. Scotts' consolidated its position with profitable work undertaken for the China Navigation Company and other merchant contracts, including the oil tanker. *Narragansett*, the largest of its day. Naval work remained significant. During this period, Scotts' two main Admiralty contracts, the cruiser *HMS Argyll*. and the engine only contract for the battleship, *HMS Prince of Wales*. accounted for 54.3 per cent of contributions to overheads and profits. [34]

The importance of naval contracts to the firm at this stage is clear. There is no evidence, however. that Scotts' contemplated taking a decision to concentrate on naval or mercantile construction to the exclusion of either. Realistically. any reduction in Admiralty demand was likely to be felt first by the private shipbuilders and not by the Royal Dockyards. Moreover. after the completion of *HMS Argyll*. naval contracts were rather thin on the ground. Unfortunately. this was also true of mercantile contracts, and, due to a scarcity of enquiries and the unfavourable outlook. the firm's new chairman. Charles Cuningham Scott II noted in September 1906, that the Cartsdyke yard should be closed after the launch of a nearly

completed steamer.[35] In situations such as this, all employees under foremen level were usually summarily dismissed as soon as their services could be dispensed with, but were normally re-employed when suitable work was found for them. Security of employment for the mass of men employed in shipbuilding was therefore directly related to the work available, and depended upon what particular stage of the construction process was being undertaken. In this regard there was little alternative work for hull trades such as riveters, however, those employed in the outfitting trades had skills that were more transferable.

By the year ending 31 December 1907, Scotts' had posted a loss of £28,343, 6s 6d, mainly due to the small output of work.[36] However, in December of that year, the firm had crucially been awarded the contract for the turbine-powered machinery of the Dockyard-built battleship, *HMS St Vincent*, its first naval order since completing *HMS Argyll* in December 1905. This gave Scotts' sufficient impetus to win the Clyde's first order to build and engine a *Dreadnought* type battleship, *HMS Colossus*, completed in 1911, an order followed by a contract to build and engine a larger *King George V* class battleship, *HMS Ajax*, completed in 1913. Although the upturn in naval demand had encouraged Scotts' to build a new shop to service the demand for turbine machinery, reconstruction of the firm's other facilities, as Peebles noted, encompassed practically the whole of the buildings in the shipyard, engine shop and boiler shop departments up to 1912. [37] Scotts' nevertheless, found trading conditions difficult, and from 1907 to 1914, the firm mainly traded at a small loss covered by transfers from reserves.[38] Indeed, these large naval contracts and the reconstruction of facilities involved placed considerable demands on management to ensure liquidity. With *HMS Colossus* laid down in 1909, the Scott family doubled their overdraft facility guarantee to the Commercial Bank of Scotland to £200,000 in September of that year.[39] According to Robb, reconstruction, primarily due to the gearing up for large naval work at Scotts' shipyards and engine works had cost the firm £500,000 in capital expenditure from 1900 to 1912.[40] By December 1912, bank borrowings had amounted to the not inconsiderable sum of £310,397. [41]
Nonetheless, the completion of *HMS Ajax* marked the high watermark of capital ship construction at Scotts' but reconstruction had adversely affected contract outcomes, and neither *Colossus* nor *Ajax* was as profitable as *HMS Argyll* had been. Indeed, an

order for a submarine depot ship, *Maidstone*, built in 1910 resulted in a loss. Thereafter, unlike Scotts', three Clyde firms' Beardmore, John Brown and Fairfield all secured orders for capital ships before the outbreak of the First World War. In Beardmore's case, its purpose-built naval yard secured orders for one *Iron Duke* class and one *Revenge* class battleship, Fairfield won an order for an *Queen Elizabeth* class battleship and John Brown secured orders for a *Tiger* class battlecruiser and for one Queen Elizabeth class battleship. However, as Peebles has further noted, in some respects, particularly in the case of Beardmore, the larger yards' performance, in tandem with the declining profitability of Admiralty contracts, was disappointing in comparison with their smaller neighbours. [42]

Prior to 1909, only two British establishments built submarines, Vickers at Barrow, to whom the Admiralty had awarded a private monopoly some years earlier, and Chatham Dockyard, which began to construct submarines from 1907. On the Upper Clyde, Beardmore had tried to break the Vickers submarine monopoly and establish submarine facilities in 1907, but did not begin to construct these facilities until 1912. [43] At Clydebank, John Brown had turned down offers from Nordenfelt and Laurenti to build submarines under licence in 1905 and 1907 respectively. Moreover, by 1909, John Brown had also turned down another offer from Laurenti. [44] Scotts' in contrast, were not content to rely solely upon surface naval vessel, mercantile work and engine building alone, and looked to increase its product line to include submarine construction. That year, the Greenock firm took out a licence from the Fiat San Georgio Society of La Spezia in Italy to build submersible craft to the Laurenti design.[45] Vickers subsequently lost its private monopoly in 1911, and in the following year, the Submarine Development Committee of the Admiralty reported and recommended that the Royal Navy develop two distinct types of submarine craft: one for coastal operations and another larger type for seaborne operations. The Committee also recommended that foreign designs should be studied and lessons incorporated. [46] By 1912, therefore, Scotts' had received a licence from the Admiralty to build a vessel of the Laurenti type. [47] This coastal submarine, *S 1*, was delivered to the Royal Navy in July 1914, and had the distinction of being the first submarine to be built in Scotland. Three *S* class submarines were built, all on the basis of a fixed price, and were equipped with six-cylinder Scott-Fiat diesel

engines.[48] However, these contracts were barely profitable due to specified royalty payments to Fiat San Georgio in the sum of £49.000. Scotts', in contrast, only made a net profit of around £1,000 after deduction of Munitions Levy Duty and other wartime taxation.[49] Nevertheless, Scotts' patriotically agreed to modify their sole rights to the Laurenti design to allow Fiat San Georgio to give licences to other British builders.[50] Although building to foreign designs had not been particularly profitable, this should not be seen as the sole yardstick in shipbuilding; Scotts' were able to gain a great deal of experience in submarine construction and design over a relatively short period of time. Prior to the Admiralty opening up competition in the private sector, only Vickers, a firm with far greater resources, was the undisputed leader in the submarine market, and would easily remain so for the rest of the twentieth century.[51]

Scotts' had, nonetheless, carved out a niche in a new market, and to this end, the Greenock firm also made many innovative improvements in submarine design and technology. One particular vessel, the first steam turbine-driven submersible craft, *HMS Swordfish*, delivered in 1916 is worthy of note. Built and designed in response to a demand for higher surface speeds, *Swordfish* had impulse reaction type steam turbines driving twin propellers through reduction gearing. These gave the submersible, with its ship type hull, a maximum surface speed of 18 knots. Although not operationally successful, *Swordfish* was the type ship for the larger steam driven *K* class fleet submarines of which Scotts' built one, *K15*, with a maximum surface speed of 25 knots.[52] However, the complex *K* class submarines, despite the technological innovation involved in their design and construction achieved an unenviable reputation for accidents and disasters. [53] Scotts' also patented an early version of the "Schnorkel," however; the Royal Navy did not take up this particular example of innovation.[54] Nevertheless, the firm's directors at that time did realise that the most economical method of submarine construction was to build undercover. To this end, a contract for a large new submarine shed was signed in December 1913, was completed in June 1914, and the construction of *Swordfish* proceeded therein. [55]

Naval work of this nature was crucial as from 1909 to 1912, all nine mercantile contracts undertaken by Scotts' had resulted in losses. Prior to the Great War, however, Scotts' built three passenger liners for Cunard, all of which were profitable, including the first geared turbine transatlantic liner, the *Transylvania*.[56] As Peebles has further noted, Scotts' could claim only to have had limited success in exploiting the opportunities presented by the upturn in naval demand post-1909. By December 1914, the firm still owed its bankers £215,177 and apart from emergency orders placed by the Admiralty as a result of the war, Scotts' Order Book comprised two merchant ships, three submarines, and the machinery for Dockyard-built cruiser, *HMS Conquest*.[57] However, up to July 1915, Scotts' continued to build a mixture of naval and merchant ships until designated a Controlled Firm, which effectively barred it from undertaking private mercantile construction for the duration of the war.[58]

Thereafter, beginning in July 1914 (when the submarine *S I* was delivered) to 1918, Scotts' further built and engined for the Royal Navy, one armoured monitor, two light cruisers, twelve destroyers, eight submarines, and three minesweeping sloops.[59] In addition, the Greenock firm built two War Standard ships and docked or repaired one hundred and ninety other vessels during the course of the war, and also supplied the engines for a Dockyard-built light cruiser and for a fleet auxiliary vessel.[60] Scotts' also launched the cruiser, *HMS Durban* in 1919 (subsequently completed at Devonport Dockyard in 1921), and completed another two destroyers and one submarine but had to contend with the cancellation of four destroyers and three submarines. Despite this, however, Scotts' entered the immediate postwar period in a far better position than they had begun it. Volume naval construction had proven to be highly profitable, and as Peebles again noted, the firm had cleared its bank borrowings by 1917 and at the end of 1919, reserves and retained profits amounted to £528,373.[61]

Earlier, in 1917, as previously stated, Scotts' established bespoke linkages with the Holt and Swire companies were considerably strengthened when Messrs. Alfred Holt & Company of Liverpool purchased on their respective behalf, and by arrangement with the vendors, one third of Scotts' Ordinary shares.[62] Beforehand, in

1915, Scotts' chairman, Charles Cuningham Scott II had died and was immediately replaced by Robert Lyons Scott, who. by agreeing to the Holt-Swire purchase at the high price of £40 per Ordinary share, realised the sum of £366,640.000. Ocean. as a result of this deal now held 4,583 ordinary shares each in Scotts'.[63] This purchase not only formalised a longstanding arrangement, but also gave these shipping concerns considerable leverage over the Greenock firm's future building programme. However, in the light of postwar naval cancellations and treaty limitations, this arrangement was crucial, especially when the market for ships had all but collapsed after an unsustainable postwar boom.

Indeed, from 1868 to 1920, Holt had provided fifty-seven contracts. with Swire providing eighty-one, which amounted to forty-one per cent of all contracts undertaken. As Robb informs the total mercantile order book in this period was worth just over £14,000,000. The Swire connection, however, although lesser in tonnage than Holt, was far more profitable and accounted for forty per cent of Scotts' net profits over the period. Accordingly, the Swire contracts delivered an average profit of 11.4 per cent as against an average of 2.6 per cent for Holt vessels. Such was the contribution of China Navigation to Scotts' profits, that the Swire rate of return was even greater than the profit rate on naval construction.[64] Through the largely depressed interwar period until rearmament had begun in earnest. the Swire-Holt connection amounted to forty-four per cent of all Scotts' mercantile contracts, with the proportion being eighty-one per cent between 1921-1925 and sixty per cent between 1931-1935. [65] This was undoubtedly a vitally important contribution to the survival of Scotts' during this period of weak demand where a combination of international naval treaties. economic nationalism. increased foreign competition. foreign subsidies, structural changes in trade and collapsing freight rates all impacted negatively upon the British shipbuilding industry.[66]

As previously stated, the early effort and innovation put into submarine construction in response to the Admiralty's requirements for greater surface speeds had given Scotts' valuable experience. However, the poor performance of the larger *K* class submarines and the treaty limitations on naval construction. obviously put a brake on any further design effort in this sphere. Nevertheless, war production had energised

the firm's finances and allowed a build up of reserves to weather any future slumps of reasonable duration. Scotts' bank borrowings had all been repaid by 1917 and by the beginning of 1920, including war provisions, the firm's reserves and retained profits amounted to £528,373. Consequently, it was not until 1923 that the firm's accounting records showed a recognisable downturn.[67] Ocean had earlier placed its first postwar order with the Greenock yard in 1920, and in the following year China Navigation had placed orders for four ships. Between 1923 and 1924, Scotts' built six ships of different types, including two passenger ships for Holt. Earlier in 1922, however, the firm had built two 17-knot fast passenger ships, *Aconcagua* and *Teno*, to foreign account, driven by Brown Curtis turbines with single reduction gearing. [68] A downturn in the firm's fortunes, evident by 1923, had not been aided by its lockout of boilermakers at the end of April of that year which was to last nearly seven months, and inevitably placed serious constraints on output. Scotts' as a condition of membership, had resorted to the time-honoured tactic of the lockout in conjunction with other federated firms belonging to the Shipbuilding Employers Federation, (SEF). The dispute had arisen over the Boilermakers Society refusal to be signatories to a nationally agreed overtime clause negotiated with the other shipyard unions. A settlement was eventually reached with the Boilermakers on 16 November 1923 when, after a vote, the men returned to work on 26 November.[69]

By this stage, it was evident that trade unionism was particularly strong on the lower reaches of the Clyde. Indeed, as early as 1849, Greenock was the location of the first Scottish branch of the Boilermakers Society (formed in 1834 at Manchester).[70] Greenock also witnessed the birth of the Scottish United Operative Blacksmiths Protective and Friendly Society in 1857.[71] The ensuing years, fuelled by the inherent lack of job security in the industry, witnessed a succession of lockouts, wage reductions, inter-union disputes, and defensive judicial decisions, although the length of the working week was eventually reduced and payment by the hour became the norm.[72] Throughout this period, mutual mistrust had flourished on all sides of the industry, which led to bitterness and recriminations, and formed the depressing backdrop against which industrial relations took place.

By 1926, however, the downturn in Scotts' financial position had continued, with the firm posting a loss of £101,712 although this was covered by transfers from General Reserve Account of £100,000, and £20,000 from the Income Tax Reserve Account. This, taken in conjunction with the balance carried forward from 1925 of £20,266, put the accounts back in the black. In the following year, however, a further loss of £57,743 was sustained and another transfer from General Reserve of £100,000 augmented the balance carried forward. [73] In only two years, therefore, the firm had committed £200,000 from its reserves and in nine successive years from 1925, as Peebles has again noted, Scotts' reported a trading loss before depreciation and interest. [74] Whilst mercantile contracts generally were decidedly thin on the ground, the firm did win a four-ship contract from Campbell Brothers & Company in 1926. Scotts' nevertheless, continued to innovate, and in 1928 they completed the first diesel electric driven tanker on the Clyde [and subsequently two more for the same owner] and the largest of its type in the world to that date, the *Brunswick* for the Atlantic Refining Company. [75] Although bespoke linkages gave Scotts' first refusal on Ocean and China Navigation vessels, a factor that was crucial for the firm's viability for most of the difficult interwar period, losses continued to mount. From 1926 to 1933 annual deficits averaging £49,500 were recorded, further transfers from reserves and retained profits and the realisation of a War Loan security, however, covered these losses.[76] The financial situation of the firm by this stage had begun to look grave as the firm had used up reserves and retained profits amounting to £480,650 in twelve years. Accordingly, at the year ending 31 December 1933, only £15,000 remained in Scotts' reserves in addition to a credit balance of £3,269 on its profit and loss account, and an overdraft of £87,387. [77] Earlier, in May 1931, however, Scotts' had cut salaries in excess of £2 per week, by ten per cent, which included those of Directors, whose annual salaries had already been cut to £50 per annum each in November 1928. [78]

Naval work, due to Treaty limitations had been conspicuous by its absence, but was reinstated in May 1928 when the Admiralty placed orders with Scotts' for two destroyers, *HMS Anthony* and *HMS Ardent* at a combined price of £439,850.[79] The contract outcome on both these vessels, given all other circumstances, was adequate.[80] These naval contracts meant that once again the firm had, at least

temporarily, a viable product mix. In contrast, the prospects for future naval orders for the larger warship builders were not good. This was confirmed at the London Naval Conference in 1930 where the replacement of capital ships of over 35,000 standard displacement tons, barred since the Washington Naval Treaty of 1921, was extended for a further five years.[81] Moreover, quota restrictions were also placed on both fleet and individual displacement of cruisers, destroyers and submarines.[82] In this scenario, Scotts' relative lack of scale and size in comparison to their larger publicly quoted competitors was advantageous. However, it was not until 1933 that Scotts' laid down another two destroyers, *HMS Escapade and HMS Escort*. [83]

On the mercantile side, Scotts' had completed by 1930, three-sister ships for Campbell Brothers, three motor vessels for Holt, and one for China Navigation. [84] This level of completions left the firm with a declining amount of merchant vessels in hand. In the following year the firm had completed one motor vessel for Holt, two tankers for different owners and a passenger vessel for China Navigation. 1932 saw the completion of only one merchant ship for China Navigation followed by another vessel for the same company in 1933, a year when British shipbuilding launches totalled 133,115 gross tons at the nadir of the industry's fortunes. As an indicator of the worldwide depression in shipbuilding, Britain's launching output still comprised 27.2 per cent of the World total. However, in 1930, Britain had launched 1,478,563 gross tons of shipping, eleven times more than in 1933, but this comprised only 51.2 per cent of the World total. [85] To further compound matters, in January 1933 just over sixty three per cent of the 170,000 strong insured workforces in shipbuilding and shiprepairing were unemployed. [86]

The upturn in naval work had again came at a crucial time, and by May 1933, Scotts' had successfully tendered to build and engine the cruiser, *HMS Galatea*, at an overall price of £762,890. [87] This vessel and the two destroyer contracts demanded an increase in structural electric welding, and to this end the firm inaugurated a Training School.[88] The extent of the *Galatea* contract gave Scotts' confidence in period of widespread uncertainty, and in 1934 the firm began negotiations to exchange its East Cartsdyke yard with the Mid Cartsdyke yard of the Greenock Dockyard Company, in a deal which included the machinery in each yard.

The physical layout of Scotts' two shipyards situated on either side of the yard of the Greenock Dockyard had denied the firm a continuous river frontage. However, contracts undertaken had not been sufficient to utilise available capacity, and the firm's directors acknowledged that, 'there had been few occasions on which both yards had been fully occupied'. It was also noted that the extended Cartsburn Dockyard, owing to the purchase in 1925 of the Ross and Marshall site at Cartsdyke West, could have undertaken most of the firm's work over a prolonged period of time. In this light, the other possibility discussed was the sale of the Cartsdyke East yard or its sterilisation from any form of shipbuilding for up to forty years under the auspices of the Shipbuilding Conference rationalisation vehicle, National Shipbuilders Security Limited, (NSS), the role of which is considered in more detail in chapter two.[89]

NSS, in June 1930, had purchased William Beardmore's shipbuilding interests at Dalmuir for £209,000 and sterilised them forthwith. Scotts' had shown their confidence in NSS by contributing £10,000 as part of a £250,000 guarantee from NSS to the Bank of England to purchase Beardmore until NSS issued debenture stock.[90] The Bank of England had loaned NSS the sum of £200,000 repayable over six calendar months at one per cent over Bank Rate, with a minimum of four per cent.[91] The loss of Beardmore did not unduly inconvenience other warship builders on the Clyde, and it left Scotts' in a stronger position as a submarine builder.[92] The Greenock firm did, however, continue to support NSS throughout its controversial existence, although none of the firm's capacity was subsequently sterilised. As stated, the possibility of sterilising the firm's Cartsdyke East yard by NSS had been discussed at Board level, where it was mooted that the loss of prestige involved in disposing of the yard would at least be obviated by the increase in the amount of Admiralty work obtained. Nonetheless, it was felt that an exchange of the East yard for an equivalent amount of ground adjoining the Cartsburn Dockyard would consolidate of the firm's shipbuilding activities in the long term.[93] This novel arrangement, which came within the rules of NSS, progressed, and the yards were duly exchanged. However, the matter was not officially concluded until June 1938.
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By 1935, however, naval contracts had once again taken priority at Scotts' and this allowed the firm to again rebuild its depleted reserves and to abandon the ten per cent across the board cut in wages in place since June 1931.[95] Britain had rigidly adhered to the terms of the London Naval Treaty up to December 1936, despite the rapidly deteriorating international situation, and Japan's walkout from the second London Naval Conference in January 1936. The subsequent breakdown in arms limitation talks presaged a more intensive construction programme spread across numerous yards, and also allowed for a return to capital ship construction. Although Scotts' was no more than a medium-sized establishment, due, in part due to spatial considerations, warship work, whilst profitable, was also a source of considerable prestige to the firm.[96] Through its membership of the Shipbuilding Conference, the firm belonged to the elite Warship Group of private shipbuilders. However, the existence of this Group had been deliberately kept in the background by the private shipbuilders for the obvious reason that such a secretive organisation could be seen as a price protective cabal, or in the argot of the period, a "ring". This was precisely what it was, and, in consequence, it had no direct relations with the Admiralty. Moreover, until the appointment of the Royal Commission on the Private Manufacture of and Trading in Arms in February 1935, this remained the case.[97] Although the Admiralty's Contracts and Technical Departments had strong suspicions that a "ring" existed, no official investigation had taken place to confirm or deny this. During the Royal Commission's investigatory period, however, a decision was taken by the Warship Group to inform the Commission of its existence. In an agreed memorandum advanced by Sir Charles Craven of Vickers Armstrong, the Group finally admitted that it had indeed regulated the distribution of orders for warships and prices. This memorandum, which also explained the reasons behind the formation of the Group and that of NSS, was sent in the form of an appendix to the report of the Royal Commission. However, neither direct reference, nor adverse comment was passed upon the Group in the body of the report, and the appendix was never published. Thereafter, the Warship Group's existence was officially recognised by the Admiralty, and meetings instituted by either party through the auspices of the Shipbuilding Conference commenced. [98]

In view of the deteriorating international climate, however, and with the likelihood of rearmament gathering speed, it was hardly surprising that the Commission chose not to throw any particular light on the activities of the Warship Group. The Commission did, however, highlight the relationship between Vickers Armstrong and the Electric Boat Company of Groton, Connecticut. It duly transpired that an agreement existed that regulated the use of Electric Boat patents in the construction of submarines which provided for the payment to the American firm of forty per cent of the profits on submarines built in Britain by Vickers Armstrong. The existence of this agreement gave rise to the allegation of price manipulation by the two firms to increase costs to governments. This allegation remained not proven, and the Commission later deigned that the abolition of private manufacture of arms and substitution of State monopoly, which, 'may be practicable', was nevertheless, 'undesirable'.[99] Thereafter, the Government accepted the Commission's conclusions, and Warship Group practice continued much as before.[100]

Membership of the Warship Group gave a medium-sized firm such as Scotts' not only prestige, but also a degree of parity in relation to its larger competitors than would otherwise have been the case. The firm could, nevertheless, be depended upon to build cruisers, destroyers and submarines and this versatility and proven competence was increasingly advantageous to Scotts' as rearmament proceeded. The yard had not carried the massive overheads attendant on larger Warship Group members such as Fairfield and John Brown who had the capacity to build both capital ships and large passenger liners. Nevertheless, from 1934 to 1939, Scotts' share of Admiralty contracts exceeded that of other Clyde yards in terms of numbers of both hull (14) and engine (16) contracts.[101] Given, however, the larger capacity of its upper Clyde competitors, the firm took third place in terms of total tonnage built for the Admiralty during the period behind John Brown in second, and the first placed firm, Fairfield. The respective positions were, however, reversed in terms of total engine horsepower built as Scotts' exceeded that of the second placed Fairfield by 38,480 horsepower, although the Govan firm built only half the engines.[102]

From 1935 with the completion of the cruiser, *HMS Galatea*, until the outbreak of war in September 1939, Scotts' were almost exclusively engaged on warship

construction. Although, the firm did build four cargo and passenger liners for the Elder Dempster Line in 1937 and 1938, three of which were unprofitable, and one barely profitable cargo and passenger liner for Holt in 1938. [103] By 1936, Scotts' had, for the first time in the interwar period, completed a submarine, the *Shark class*, *HMS Seawolf*. That year also saw another two destroyers completed, *HMS Hostile and HMS Hotspur*. The following year, the firm completed the cruiser, *HMS Glasgow* which had been laid down two years earlier, and launched another two destroyers, *HMS Matabele and HMS Punjabi*. In 1938 the mine-laying submarine, *HMS Cachalot* was commissioned, and in the following year the firm completed another submarine, *HMS Tribune*. Two other submarines, *HMS Tarpon* and *HMS Tuna,* and one cruiser, *HMS Bonaventure*, all ordered under the 1937-38 programme were completed in 1940. Additionally, the cruiser, *HMS Scylla*, the destroyer depot ship, *HMS Tyne*, and two destroyers, *HMS Lookout and HMS Loyal*, had been laid down before the outbreak of war.[104]

Alike the Holt-Swire connection, naval contracts were also of crucial importance to Scotts' in the interwar period, a factor that cannot be stressed highly enough. As a direct consequence of an increase in Admiralty work an improvement in profitability had become apparent from December 1934. At the year-end, Scotts' posted a trading profit before depreciation of £105,383, mostly due to net profits on two destroyers and by an appropriation against work-in-progress on the cruiser *HMS Galatea* of £40,000.[105] That year, ordinary dividends, which had not been declared since 1926 were reinstated.[106] The firm's reserves, which had been severely depleted by 1933, were substantially augmented in every year thereafter until the outbreak of war. Resulting from this, at the year ending 31 December 1939, the sum total of £455,000 had been added to the firm's General Reserve and Special Reserve No.2 accounts.[107] Undoubtedly, naval work and rearmament had substantially saved the firm, all naval vessels were profitable, and if the Great War proved to be any kind of guide, the Second World War promised more of the same.

Before the outbreak of war, however, Scotts' Chairman, R.L. Scott, who had been at the helm of the firm since 1915, had died in July 1939. Colin C. Scott duly replaced him at an annual salary of £5,000. By June 1940, the yard and engine works had

been designated by the Government as a "Protected Place" with James Brown, the Managing Director, and a Director since 1912, as the "Approved Authority".[108] During the war, Scotts' built exclusively for the Royal Navy, however, the lacunae in submarine construction evident for the bulk of the interwar period, had its effect on the firm. In the 1940 programme, the Admiralty had initially authorised the construction of ten U class and six S class submarines. By August of that year it had been decided that Scotts' should concentrate exclusively on S class craft. This decision evidently met with the firm's approval, as Brown commented that he was 'glad to know that we have to continue with the S class only'.[109] The yard suffered extensive bomb damage in May 1941 when the General Office was burned down to the ground, and many records, plans, documents and paintings of great historical significance were lost. The explosion also blew a destroyer nearing completion off its berth, necessitating rebuilding. Scotts' engine and boiler works also suffered a direct hit and were put out of action for six months.[110] This damage had resulted from blast and incendiary bombing of the district on 5 and 6 May by the *Luftwaffe* that resulted in many deaths, serious injuries and damage to property. [111] At the beginning of the war in September 1939, Scotts' employed 2,440 men in shipbuilding and 1,920 in its engine works. [112] By September 1942, however, due to shortages of labour, the firm now employed a substantial proportion of male and female diluted [non-apprenticeship, therefore unskilled or semi-skilled] labour. As a result the corresponding numbers employed had risen to 2,715 and to 2,450 respectively. [113] A draft letter of reply to the Admiralty in July 1942 made it clear that apart from a few male dilutees employed in the shipyard, all other dilutees were employed in the engine works, and comprised thirty one per cent of the skilled labour force.[114] This concentration of female labour in the engine shops and offices, to their exclusion at the berths, was a widespread characteristic of the industry in the early years of the war. [115]

The interwar period as a whole had been a harsh one for the majority of shipbuilding firms, and investment had been correspondingly low as a result. It was hardly surprising, therefore, that two Government sponsored inquiries into the industry, both of which reported in 1942, were critical of the industry.[116] The industrialist, Robert Barlow who chaired the first committee to report to the Minister of

Production in July 1942, [The Barlow Report was followed by a report by Cyril Bentham to the Machine Tool Controller in September], noted in a memorandum that, 'a degree of complacency amongst all concerned permeates the whole field of production'.[117] Before meeting with the Controller of the Navy, Vice Admiral Wake Walker, to discuss the report and Barlow's memorandum, the Warship Group with K.E. Greig representing Scotts', held a preliminary meeting to agree to a united response. Two points in particular were agreed; a small committee was to be formed from within the Warship Group, which should not be chosen by the Admiralty, and second, Ministry of Production officials must be kept out of it.[118] At the meeting with the Controller of the Navy, Sir Charles Craven of Vickers Armstrong stated that he was particularly annoyed at the term, 'complacency'. The Controller then informed the assembled shipbuilders that he did not wish circumstances to arise which caused other Ministries to, 'throw bricks at the Admiralty', and that he would welcome anything that came from the shipbuilders direct which would tend to improve production.[119] Subsequently, at a later Warship Group meeting, four zonal committees were formed, with prominent shipbuilder's in the chair. It was also unanimously agreed that the Admiralty should not be allowed to gain sufficient knowledge of shipbuilders' costings on particular contracts, and that, 'under no circumstances could shipbuilding firms' standard profit be upset'.[120]

Essentially, two contributory factors were at work here. Both the Warship Group and the Admiralty were equally determined to keep the Ministry of Production at arms length, on the basis that it was better to deal with the devil they knew. Secondly, the shipbuilders had been under considerable pressure as to the extent of their profit margins. By 1941, the Admiralty had abandoned the pre-war system of seeking fixed priced tenders on shipbuilding contracts that had in the past led to large profits. The new system reimbursed the shipbuilder for previously agreed costs of labour. material and overhead charges and allowed a profit margin on these costs not exceeding 7.5 per cent. This gave the shipbuilder a return on capital of around thirteen per cent, far less than the average profit in the period of rearmament.[121] That this had occurred at all had been due to two factors, the sheer avarice of Warship Group firms, and the lack of proper knowledge in the Admiralty of the private builders' costs and profit margins thereon. An Admiralty investigation into profit

rates on warships in twenty-two firms, which had been deferred until February 1941, discovered median profit rates of twenty-seven to twenty-eight per cent. However, profit rates on submarines, which only Cammell Laird, Scotts' and Vickers built, remarkably, were over seventy per cent. This prompted one Member of Parliament to comment that the Director of Naval Construction (DNC) at the Admiralty had already been wiped out as an expert in costings. To which the DNC replied, 'only in the matter of submarines'. [122]

Despite serious damage to its facilities and attendant loss of output in May 1941, Scotts' had a creditable war record. In the seven years from 1939 to 1945, the firm completed three cruisers, one destroyer depot ship, eighteen submarines, sixteen destroyers, two sloops and eight other vessels including tank landing craft. [123] Scotts' also launched the cruiser *HMS Defence* in September 1945; however, this vessel was completed elsewhere. In addition, the firm carried out numerous major repairs, conversions and refits of naval vessels. As was the case in the aftermath of the Great War, the firm had to contend with a number of cancellations, which left the firm with just two destroyers and two A class submarines to complete for the Admiralty. If the lessons of the past were any guide, then a short-lived postwar boom would soon give way to a major slump in both mercantile and naval construction. An exhausted Great Britain, burdened by huge debts, stumbled on through yet another period of austerity. However, Scotts' soon began to take advantage of the boom in prices of ships as a result of wartime inflation, and concentrated on restoring the bespoke linkages that had sustained the company in the past. Nonetheless, even the most prescient shipbuilder could hardly have foreseen the extent of what was to become an unprecedented post war expansion of the maritime industries.

Endnotes: Chapter I

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[1] *Two Hundred & Fifty Years of Shipbuilding*, pp. XV, 2, John Scott was apparently closely associated with the father of Greenock's most famous son, James Watt in several schemes of improvement in the burgh. By 1728, Greenock had a fleet of some 900 fishing vessels. This history of the Greenock firm is an invaluable source, but not unnaturally accentuates the positive aspects of the history of the firm, to the exclusion of any adverse comment.

[2] D. Weir, *History of the town of Greenock* (Glasgow, 1839), p.89.

[3] R.M. Smith, *The History of Greenock* (Greenock, 1921)

[4] *Two Hundred & Fifty Years of Shipbuilding*, p.26.

[5] Weir, *History of Greenock*, p.94.

[6] Ibid., p.5

[7] Ibid., p.89, note 5, Weir noted with regret that a list of Scotts' tonnage built goes no further back than 1802.

[8] *Two Hundred & Fifty Years of Shipbuilding*, p.55.

[9] Scotts' claim to have first built a Sloop of War, the *Prince of Wales* for the Admiralty during the Napoleonic wars. However, Fred Walker, in his monograph, *Song of the Clyde: A History of Clyde Shipbuilding* (Glasgow, 1984), p.131 contests this claim. Walker states that Scotts' received two orders from the Admiralty in 1794, one of which was a revenue brig the Prince of Wales, this vessel was, however, sold to the Navy in 1803, re-rigged and renamed *HMS Thrush*, with 18 guns and a crew of 121 men. Hugh Peebles in his authoritative study *Warshipbuilding on the Clyde* (Edinburgh, 1987), p.8, credits the laying of the foundations of the Clyde warship building industry to Robert Napier. Scotts' nevertheless, claimed throughout their existence that they were the first private yard to build for the Admiralty in Scotland. The firm also pipped Napier at the post in warship building, when they launched in 1849, the largest iron warship of her day, a screw frigate, *HMS Greenock*, just before Napier launched a larger vessel, *HMS Simoon*. For Robert Napier, see J. Napier, *Life of Robert Napier of West Shandon* (Edinburgh, 1904). For warship building around this period see, J.H. Biles, 'Fifty Years of Warship-building on the Clyde', *Transactions of the North East Coast Institution of Shipbuilders and Engineers*, Vol. XXVI (1908-1909). For a nationwide view of the industry from 1870, see S. Pollard & P. Robertson, *The British Shipbuilding Industry, 1870-1914* (Cambridge, Mass. 1979). An authoritative economic history of Scottish industry up to the Second World War is R. H. Campbell's, *The Rise and Fall of Scottish Industry, 1707-1939* (Edinburgh 1980). Of equal authority, is A. Slaven's regional study, *The Development of the West of Scotland 1750-1960* (London, 1975). See also J. Shields, *Clyde Built* (Glasgow, 1948), and J. Hume & M.S. Moss, *Workshop of the British Empire, Engineering and Shipbuilding in the West of Scotland* (London, 1977).

[10] Robb, 'Scotts of Greenock', op cit., p.403-404.

[11] *Two Hundred & Fifty Years of Shipbuilding*, pp. XV1-XV11.

[12] M. Falkus, *The Blue Funnel Legend. A History of the Ocean Steam Ship Company 1865-1973* (London, 1990), p.95.

[13] *Two Hundred & Fifty Years of Shipbuilding*, pp 43-7, Alfred Holt inaugurated a steamship service to China with these three ships, named, *Agamemnon, Ajax* and *Achilles*. See also, Falkus, *Blue Funnel*, p.96, Holt registered the Ocean Steam Ship Company on 11 January 1865 and ordered the above vessels from Scotts at a cost of £156,000.

[14] These events are discussed in greater detail in, Robb, 'Scotts of Greenock', chapters, 3-4 pp.136-170.

[15] Ibid.

[16] GD 319/1/1/2 Minute Book, Directors Meeting, 26 February 1917.

[17] For Swire and the China Navigation Company, see F.E. Hyde & S. Marriner, *The Senior John Samuel Swire 1825-1898: Management in Far Eastern Shipping Trades* (London, 1967). The initial story of Alfred Holt is contained in F. E. Hyde's *Blue Funnel: A History of Alfred Holt & Company of Liverpool from 1865 to 1914* (Liverpool, 1956). The story of the firm is brought up to date by Falkus, *The Blue Funnel Legend.*

[18] Falkus, *Blue Funnel*, p.4.

[19] Hyde & Marriner, *The Senior John Swire*, p.130.

[20] *Two Hundred & Fifty Years of Shipbuilding*, p. XV11.

[21] GD 319/14/12/8, Comparison of Hull Costs of China Steamers, Taikoo/Greenock, 4 August 1915.

[22] Falkus, *Blue Funnel*, p. 95, notes that Holt invariably ordered ships in times of depression ensuring low prices, and that this policy also proved advantageous to the shipyard concerned.

[23] *Two Hundred & Fifty Years of Shipbuilding*, p.15.

[24] ibid., p.12.

[25] ibid., p.35.

[26] ibid., pp 57-58.

[27] ibid., pp.65-75.

[28] Peebles, *Warshipbuilding on the Clyde*, p.55. Peebles notes that the *Argyll* contract yielded a net profit of £152,039 that allowed the firm to substantially write off the cost of the new wet dock. On the construction of the wet dock, Peebles also cites an article in *Fairplay*, 13 November 1902 quoting an earlier article in the *Greenock Telegraph*. The author is very much indebted to Hugh Peebles, as his study has served as a qualitative and quantitative benchmark for my own studies on Scotts' naval work.

[29] GD 319/1/2/1 Directors Meeting, 29 April 1904.

[30] GD 319/12/1/51 Letter dated 25 September 1957 from M A Sinclair Scott to the Preference and Ordinary shareholders of the company.

[31] Peebles, *Warshipbuilding on the Clyde*, p.55.

[32] GD 319/7/1/1 Scott & Company, Balance Sheets etc., net profits/losses from 1890-1900. Cumulatively, over the eleven-year period, losses at the shipyard outweighed profits by just £2,504. GD 319/7/2/5-6 Greenock Foundry, net profits/losses 1890-1900. Cumulative Foundry profits over the period-outweighed losses by £21,854. Peebles, *Warshipbuilding on the Clyde*, p.54, fn.70, gives the figures for profit/loss for both firms on a yearly basis from 1899-1901. Net profit and loss is the management of the firm's own estimate of profitability on contract outcomes usually agreed on an arbitrary basis after the deduction of overheads.

[33] Peebles, *Warshipbuilding on the Clyde*, p.55.

[34] ibid., pp.55-6

[35] GD 319/1/1/1, Minute Book, Directors Meeting, 4 September 1909.

[36] Ibid., Balance Sheet, 31 December 1907.

[37] H. Peebles, *Warshipbuilding on the Clyde*, pp. 74-75.

[38] Ibid., Balance Sheets, 1907-1914.

[39] GD 319/1/1/1, Directors Meeting, 2 September 1909.

[40] Robb, 'Scotts of Greenock', p.419.

[41] Peebles, *Warshipbuilding on the Clyde*, p. 78.

[42] Ibid., pp. 77-84.

[43] I. Johnston, *Beardmore Built: The Rise and Fall of a Clydeside Shipyard* (Clydebank, 1993) p.77.

[44] I. Johnston, *Ships for a Nation 1847-1971, John Brown and Company, Clydebank* (West Dunbartonshire, 2000) p.77.

[45] GD 319/3/5/1 1909 Agency Agreement: Fiat, San Georgio. The Agreement was signed with Scotts on a sole agency basis on 4 January 1909, and was valid for fifteen years.

[46] J.J. Tall & P. Kemp, *HM Submarines in Camera. An Illustrated History of British Submarines 1901-1996*, Second Edition (Leicester, 1998).

[47] *Two Hundred & Fifty Years of Shipbuilding*, p.90.

[48] GD 319/3/5/1, Fiat San Georgio, p.1.

[49] Ibid., p.2.

[50] Ibid., Supplementary Agreement with Fiat San Georgio, 26 August 1914.

[51] For Vickers Armstrong see, J. D. Scott, *Vickers: A History* (London 1962).

[52] GD 323/1/4/115 Scott Lithgow Notes on Submarine Construction.

[53] In all there were eight disasters and sixteen major accidents, Tall & Kemp, *HM Submarines*, p.42.

[54] ibid.

[55] GD 319/1/1/1 Directors Meetings, 25 December 1913, and 16 June 1914.

[56] Two Hundred & Fifty Years of Shipbuilding, p.137.

[57] Peebles, *Warshipbuilding on the Clyde*, p. 78.

[58] Robb, 'Scotts of Greenock', p. 422.

[59] *Two Hundred & Fifty Years of Shipbuilding*, pp. 99, 100, 103 and 104.

[60] ibid., p.109.

[61] Peebles, *Warshipbuilding on the Clyde*, p.93.

[62] GD 319/1/1/2, Directors Meeting, 26 February 1917. Both Scotts' and Swire held shares in Holt's Ocean Steamship Company. Falkus informs that Holt's 'Blue Funnel ships were assigned to three companies, Ocean Steamship, China Mutual Navigation and the Dutch registered NSMO. China Mutual and NSMO ranked as investments in the Ocean Steam Ship accounts, although all the ships were in effect part of one Blue Funnel fleet', Falkus, *Blue Funnel*, p.xv.

[63] GD 319/1/1/2 Directors Meeting, 26 February 1917. Scotts' Ordinary share capital of 27,500 shares was apportioned thus: Executors of the late R. Sinclair Scott-5,047; Trustees of the late C.C. Scott-5,685; R.L. Scott-5,684; James Brown-833; Ocean-4,583; China Mutual-4,583; Others-1,085.

[64] Robb, 'Scotts of Greenock', Table 5/7 Main Contract Outcomes, Merchant Contracts, and Naval Contracts 1868-1920.

[65] Ibid., compiled from data in Vol. II Scotts' Ship List.

[66] For the interwar period at the national level, see L. Jones, *Shipbuilding in Britain, Mainly between the Two Wars* (Cardiff, 1957), and N. K. Buxton, 'The Scottish Shipbuilding Industry Between The Wars: A Comparative Study', *Business History*, Vol. X, 1968. Slaven, *The Development of the West of Scotland*, pp. 186-190, briefly discusses the shipbuilding industry in the interwar period. Other studies include A. Slaven,' A Shipyard in Depression: John Brown's of Clydebank, 1919-1938', *Business History*, Vol. XIX, 1977, J. Hume & M. Moss, *Beardmore: The History of a Scottish Industrial Giant* (London, 1979), and Johnston, *Beardmore Built*. For the British shipping industry, policy, sharp business and political practice, see E. Green & M. Moss, *A Business of National Importance: The Royal Mail Shipping Group 1902-1937* (London, 1982). On the naval side at the national level: see, S. W. Roskill, *Naval Policy Between the Wars*, two volumes, (London, 1968 and 1976). See also, G A.H. Gordon, *British Sea Power and Procurement Between the Wars*, (London, 1988), and R. B. Shay, *British Rearmament in the Thirties: Politics and Profits* (London, 1977).

[67] Peebles, *Warshipbuilding on the Clyde*, pp. 93 and 106.

[68] *Two Hundred & Fifty Years of Shipbuilding*. pp.149-150.

[69] GD 319/1/1/2 Directors Meetings, 5 June, 8 October and 3 December 1923.

[70] J.E. Mortimer, *The History of the Boilermakers Society*, 1834-1906 (London, 1993), vol. I, p.51.

[71] This became the Associated Blacksmiths, Forge and Smithy Workers' Society, see A. Tuckett, *The Blacksmiths' History* (London, 1974). Tuckett, p.5, omits to mention that the society was formed in Greenock, only mentioning that it was formed on the West Coast of Scotland.

[72] For an overview of 'industrial relations' in shipbuilding and engineering on Clydeside in this period see, W.S. Cormack, 'An economic history of shipbuilding and marine engineering with special reference to the West of Scotland', (unpublished Ph.D. thesis, University of Glasgow, 1931), pp. 255-282.

[73] GD 319,1/1/2 Directors Minute Books, Balance Sheets 1925-1927.

[74] Peebles, Warshipbuilding on the Clyde, p.113.

[75] *Two Hundred and Fifty Years of Shipbuilding*, p.152.

[76] GD 319/1/1/2 Directors Minute Books, Balance Sheets 1926-1933.

[77] Ibid., Balance Sheet, 1933. Peebles, *Warshipbuilding on the Clyde*, p.129, also notes Scotts precarious financial position at this time.

[78] GD 319/1/1/2 Directors Meetings, 26 November 1928 and 1 June 1931.

[79] Ibid., Directors Meeting, 28 May 1928.

[80] Peebles, *Warshipbuilding on the Clyde*, p.111, Peebles notes that although the contract made a reasonable contribution to overheads and profits, it made a net loss of £516.

[81] The Washington Treaty stipulated that Britain could build two new capital ships of not more than 35,000 standard displacement tons only if four extant King George V battleships were scrapped when these new ships were completed, Roskill, *Naval Policy between the Wars*, Vol., I p.331. By this stage, however, a substantial proportion of Great Britain's dreadnought battle fleet was already considered to be obsolescent. A. J. Marder, *From the Dreadnought to Scapa Flow: The Royal Navy in the Fisher Era*, 1904-1919 Vol., 5, (London, 1970) p.225.

[82] The effects of the London Naval Treaty on British fleet displacement by type of ship are explained in Conway's *All the World's Fighting Ships* 1921-1945 (London, 1980) p.3.

[83] *Two Hundred & Fifty Years of Shipbuilding*, p.117

[84] Ibid., pp.117 & 155.

[85] All shipbuilding statistics at the national level, unless otherwise stated, are either from Lloyd's Annual Register of Shipping, or from the Shipbuilding Conference Statistical Series.

[86] Jones, *Shipbuilding in Britain*, p.113, Jones cites figures contained in various Statistical Abstracts for the United Kingdom.

[87] GD 319/1/1/2 Directors Meeting, 29 May 1933.

[88] Ibid.

[89] GD 319/1/1/2 Directors Meeting, 14 January 1935.

[90] GD 319/12/1/4, Letter, dated 23 June 1930 from James Brown, Director, SSEC, to James Barr, at NSS.

[91] Ibid., Letter from James Barr to James Brown, 30 July 1930.

[92] Beardmore built eleven submarines of different classes, one of which was completed at a Royal Dockyard, and had two cancelled during the war years. Scotts', by comparison, built nine and had three cancelled. However, Beardmore was the only Clyde firm to build submarines in the 1920s when it completed two Oberon class vessels in 1928. During the war, other Clyde firms built submarines of different classes: Fairfield built ten and had four cancellations; Denny built six, including one completed at a Royal Dockyard, with two cancellations; John Brown built three E class submarines and Yarrow one. Numbers of submarines built have been worked out from Conway's *All the World's Fighting Ships* 1906-1921, and 1922-46, (London, 1985 and 1980).

[93] GD 319/1/1/2 Directors Meeting, 14 January 1935.

[94] GD 319/1/1/3 Directors Meeting, 6 June 1938.

[95] GD 319/1/1/2, Directors Meeting, 3 June 1935.

[96] Following the closures of Beardmore and Palmer, by NSS, of the private warship yards, only Fairfield, and John Brown on the Clyde, Vickers Armstrong at Barrow and on the Tyne, Cammell Laird on the Mersey and Harland and Wolff at Queens Island, Belfast were capable of building capital ships.

[97] Parliamentary Papers, Royal Commission on the Private Manufacture of and Trading in Arms, Cmd 5292, September 1936.

[98] GD 319/12/1/6 Memorandum to all Warship Group Firms from Captain T. E. Crease, Acting Chairman of the Shipbuilding Conference and Representative of Warship Group, 18 July 1940..

[99] Report of the Royal Commission on the Private Manufacture of and Trading in Arms, p.58 and chapter X11 para. 3.

[100] Parliamentary Papers, Statement relating to the Report of the Royal Commission on the Private Manufacture of and Trading in Arms, Cmd. 5451, May 1937.

[101] Peebles, *Warshipbuilding on the Clyde*, p.140, gives tonnage and engine horsepower output for all Clyde firms undertaking naval contracts from 1934 to 1939.

[102] Ibid.

[103] Ibid., p.149 Peebles notes that the Holt vessel only made a net profit of £4,400.

[104] In addition, Scotts' engine works built the engines for the cruisers *HMS Gloucester*, completed in 1939, and *HMS Sirius*, completed in 1942.

[105] GD 319/1/1/2 Minute Book, Balance Sheet for year ended 31 December 1934.

[106] Ibid.

[107] GD 319/1/1/2 and GD 319/1/1/3 Minute Books, Balance Sheets etc. 1934-39.

[108] GD 319/1/1/3 Directors Meetings, 24 July 1939 and 3 June 1940.

[109] GD 319/12/1/6 Letter dated 15 August 1940 from James Brown to Capt. T. E. Crease, Shipbuilding Conference.

[110] *Two Hundred & Fifty Years of Shipbuilding*, p.122, 125.

[111] *Greenock Telegraph*, 6 May 1971, incendiary bombs were first dropped on Greenock in May and on Port Glasgow in October of 1940, then in April 1941. However, the largest raid occurred on the nights, 5 and 6, and 6 and 7 May 1941, when 246 people died, 290 were seriously injured, and 8,000 houses were destroyed or damaged by fire or blast.

[112] GD 319/12/1/8 Notes in Regard to staff and conditions of labour, October 1942.

[113] Ibid.

[114] GD 319/12/1/10 Admiralty Correspondence, 1941-1942, 14 July 1942, draft letter in reply to an Admiralty letter dated 1 July 1942.

[115] For a national view of female employment in the private shipyards during the war, see H. Murphy, 'From the Crinoline to the Boilersuit': Women Workers in British Shipbuilding During the Second World War, in *Contemporary British History*, Vol., 13, No.4 (Winter 1999).

[116] PRO ADM 1/111892, Labour in Naval and Mercantile Shipyards, 24 July 1942 (Barlow Report), and PRO BT 28/319 Report to the Machine Tool Controller on the Equipment of Shipyards and Marine Engineering Shops by Mr Cecil Bentham, 30 September 1942, (Bentham Report).

[117] GD 319/12/1/10 1940-1942 Admiralty Correspondence. Meeting with Warship Group in Controller's Office at the Admiralty, 20 August 1942.

[118] Ibid., Preliminary Meeting held by Warship Group before meeting with Controller, 20 August 1942.

[119] Ibid., Meeting with Controller, 20 August 1942.

[120] Ibid., Warship Group Meeting at Carlisle, 25 August 1942.

[121] W. Ashcroft, *Contracts and Finance* (London, HMSO, 1953), p.112.

[122] Parliamentary Papers 1942-1943, Vol.II, Public Accounts Committee, Minutes of Evidence, Navy Appropriation Account, 9 June 1943, para 4066.

[123] These figures are taken from Conways, *All the World's Fighting Ships*, 1922-1946 (London, 1980), and not from Two Hundred & Fifty Years of Shipbuilding, which is ambiguous on this point.

Chapter II: Russell & Company to Lithgows Limited, 1874-1945.

In 1874, the co-partnership of Russell and Company began in the small Renfrewshire town of Port Glasgow, when Joseph Russell, Anderson Rodger and William Todd Lithgow took over the former McFadyen and Company owned Bay yard. With Russell as senior partner, the firm established a formidable reputation for its shipbuilding prowess. All three partners profited on their original capital invested, and by 1879 had expanded their shipbuilding interests by leasing from the Greenock Harbour Trustees the former mid-Cartsdyke yard of J.E. Scott at Greenock to construct standardised sailing vessels.[1]

Although shipbuilding had only gained in importance in Port Glasgow since the 1860s; the development of iron shipbuilding and that of suitably engined steamships was generally well established on the Clyde.[2] By 1870, Clyde shipbuilding firms accounted for two-thirds of all British steamship output, and for seventy per cent of all ships built in iron. [3] At Greenock, Scotts' had completed the last wooden vessel of note in the district, the *Canadian*, in 1859. [4] Russell and Company, under the design direction of the younger partner, William Todd Lithgow, quickly found its niche in the market by building three and four-masted barques to limited semi-standardised designs with interchangeable components. [5] With cargo capacity more important than speed in many trades, these competitively priced vessels soon became attractive to prospective owners. This strategy, aided by local shipowning connections, was reinforced by the partners' willingness to take shares in the vessels they built.[6] Neither was the firm afraid in times of low demand to take the calculated gamble to build ships speculatively from stock designs, in the expectation of a quick sale when market conditions warranted it. As the tonnage of these Russell built slab-sided sailing ships grew incrementally, their marketability was enhanced, particularly for the North American Pacific coastal trades in grain, nitrates and timber.[7]

The success of this initial strategy, aided by tried and trusted methods of construction, gave the firm the confidence to later transfer to the construction of economical steam-powered tramp ships. In 1881 the partners' leased the Port Glasgow dry dock, and a year later purchased an open site from Henry Murray at

Kingston where they laid out a new six-berth shipyard to take advantage of steel ship construction. Subsequently, the Kingston yard reputedly became the first yard on the Clyde to introduce electricity in place of steam for driving power around 1891. [8] Contemporaneously, the firm's Bay and Cartsdyke shipyards were also modernised, although the partners continued to build in iron on competitive grounds due to the initially higher cost of steel. [9]

The preparations for steel shipbuilding at Kingston had, nevertheless, anticipated future demand. By the turn of the century, ninety seven per cent of all tonnage launched on the Clyde was of steel construction. [10] Such was Russell and Company's initial success that a decade earlier the firm had headed the table of British tonnage output with a total of thirty-four ships of 70,370 gross tons.[11] By this stage, William Todd Lithgow had intimated that he wished to leave the partnership and set up on his own at the Cartsdyke yard, but was persuaded not to by Russell as the latter neared retirement. However, the original partnership was subsequently dissolved in November 1891 when Russell retired from shipbuilding production. [12] Tensions between Lithgow and Rodger had by this juncture become apparent, and resulted in Rodger retaining the Bay yard and the lease of the dry dock. [13] Lithgow, as sole partner, with financial assistance in the form of a loan from Russell continued to trade as Russell and Company from the mid-Cartsdyke and Kingston yards until 1895, when he sub-let the Greenock yard to Carmichael and McLean. [14] Beforehand, a notable vessel built at Russell and Company's Greenock yard was the four masted barque, *Hinemoa,* at over 278 feet long she was the first vessel fitted with refrigerating plant for the carriage of frozen mutton. Another famous ship built at the Kingston yard, and launched in 1891 was the ill-fated five-masted, auxiliary engined *Maria Rickmers*, and at 3,800 tons and 375 feet long she was the largest sailing ship in the world. [15] With production now concentrated at the enlarged Kingston yard, however, the firm stopped building sailing ships altogether in 1899, and in 1900 the mid-Cartsdyke yard at Greenock was sold to the Grangemouth Dockyard Company. [16]

Todd Lithgow's eldest son, James, followed some two years later by his brother,

Henry, began his apprenticeship at the Kingston yard, which had been further enlarged, in May 1901. [17] By then, their father's tight financial controls, innovatory shipbuilding techniques and willingness to modernise and to build speculatively, combined with a sizeable portfolio of shipping investments, had seen the firm through several shipbuilding depressions. William Todd Lithgow's tenure at the helm of Russell and Company was remarkable, and before he died a millionaire in June 1908, his sons had already been taken into partnership in the family firm.[18] Their father had left James and Henry Lithgow a secure financial foundation upon which to continue the business, and his methods formed the basis of the firm's future product strategy.[19] The brothers retained the Russell name, kept close financial controls over the business, undercut their competitors, and continued to build ships speculatively in times of low demand. Alike their father, the brothers also encouraged local owners to purchase part shares in these vessels by doing so themselves, and concentrated on batch production ships of stock designs, which gave their workforce the confidence borne of repetition to improve output and quality. Their father's reputation and status in the community, he had married into the Birkmyre family, owners of the Gourock Ropework Company, who also had substantial shipowning interests, gave the brothers sufficient business goodwill to succeed in expanding the firm. That their father had died a millionaire at the age of fifty-four, after being left an inheritance of £1,000 and also left his sons financially secure gave James and Henry Lithgow the means to emulate and sufficient impetus to surpass his considerable achievements. [20]

The Lithgow brothers, with the aid of an upsurge in demand for ships, the sage advice of Joseph Russell, strong local management, and the goodwill of former customers continued to concentrate on what they knew best, the construction of economical semi-standardised ocean-going tramp ships. Russell's consolidated its presence in Port Glasgow in 1911, by purchasing, two years after his death, Anderson Rodger's Bay yard. The wheel had indeed turned full circle, as this was the yard of the original partnership. This acquisition gave the firm a stronger hold over the local labour supply, and also prevented interlopers impinging upon their

territory, a joint motive that was to drive company policy in future. By this stage, however, James Lithgow's wider potential had been recognised by his election to the vice-presidency of the Clyde Shipbuilders Association, based in Glasgow. A year later, he became its President, and forged a lifetime friendship there with Andrew Rae Duncan, an industrial lawyer, which was to prove highly influential during the interwar years. [21]

The purchase of the Bay yard was but the first in a series of expansionary activity by Russell and Company in Port Glasgow. To this end, and in keeping with the secretive nature that would mark the Lithgow brothers' financial affairs in future, they formed the Kingston Investment Company (KIC) in October 1911 with a share capital of £6,000 divided into 600 shares of £10 each.[22] At the first meeting of KIC it was noted that James and Henry Lithgow now held 300 shares each, fully paid up.[23] It is also noteworthy that this share capital was to remain unchanged up to the liquidation of KIC in 1957. [24] As the investment arm of the business, KIC gave the Lithgow brothers anonymity and was used as a vehicle for shipping and trade investments. KIC also owned dwelling houses in Port Glasgow, which were not primarily purchased to give a yield on capital, but to give yard employees factored accommodation in close proximity to their workplaces. Not only did this make sound business sense, it also engendered a degree of loyalty in the recipients who tended to be skilled workmen, or foremen. [25] The formation of KIC highlighted the Lithgow brother's determination not only to remain in shipbuilding, but also to diversify their investments. Contemporaneously, Russell and Company continued to prosper. After their father's death in 1908 the firm's balance carried forward in credit stood at £511,149 and by November 1914 it had risen to £951,795. [26] This upward trend continued during the war years and at the year ending 30 November1918, the balance carried forward in credit stood at £1,474,637. [27]

Henry Lithgow ran the shipbuilding side of the business for part of the war whilst James Lithgow first fought in France from February 1916, before the latter was brought back to serve at the Admiralty as Director of Merchant Shipbuilding in 1917.[28] There, James Lithgow recommended, and was responsible for, the

introduction of standard ship designs, which in turn led to gains in productivity in the construction of standard ships.[29] Two years earlier in March 1915, the brothers had continued their policy of local acquisitions by purchasing by agreement another Port Glasgow shipbuilding firm, the East yard of Robert Duncan and Company. Russell's offered the sum of £62,500, half of which was to be paid on a valid transfer of Duncan's share capital of £50,000. This, in turn, allowed Russell's to complete on their own account two steamships for W. S. Millar & Company under construction at the East yard, and to pay half the balance of the purchase price on so doing. The Lithgow brothers had gained a shipbuilding yard and heritable property extending to about ten acres, and did so with the added bonus of work in progress. [30] Unlike other medium to large shipbuilding firms, Russell's Bay, Kingston and East yards did not have a separate engine works with attendant overheads, and had hitherto relied on sub-contractors for its supply of engines. However, to counter-balance what could be considered to be a potential weakness in certain market states, the Lithgow brothers made a substantial trade investment in 1917 by purchasing the controlling interest in the Glasgow marine engineering and engine building company of David Rowan. [31] Again, in accordance with company policy, Duncan's and Rowan's were allowed to trade under their own banner, with local management in charge. During the war, Russell and Company did build ships on Government account, although the vast majority of tonnage completed was for private owners. War output from the Kingston and Bay yards totalled 315,141 gross tons of merchant shipping, and in 1916, Russell and Company (and subsequently Lithgows Limited), built their one and only naval vessel to date, P21, a fast patrol boat for the Admiralty. [32]

Lithgows Limited: A new beginning.

In the aftermath of the Great War, the Lithgow brothers finally consigned the partnership of Russell and Company to history by incorporating the family firm as Lithgows Limited, a private limited liability company. [33] From its modest beginnings in 1874 to its demise in 1918, Russell and Company had gone on to become the largest volume producer of cargo tonnage on the Clyde and in Scotland.

In the thirty-four years from 1885 to 1918 the Port Glasgow firm headed the river in annual output on no less than thirty occasions, and was second in two. Moreover, in 1890 and in 1904 Russell and Company headed the annual British tonnage output table.[34] The incorporation of Lithgows Limited in 1919, however, heralded another stage in the growth of the firm, which was partly defensive in nature. The war had led to an expansion of capacity in the shipbuilding industry, much of it speculative in the expectation of a post war boom. In order to check the advance of outside capital in their area, and also to consolidate their hold on the local economy, the Lithgow brothers purchased a half interest in the Glen yard of their Port Glasgow neighbours, William Hamilton, and bought the Inch yard of Dunlop Bremner and Company. Again, in accordance with Lithgow policy, both Hamilton's and Dunlop Bremner continued to trade under their own banner. [35]

Dunlop Bremner

The case of Dunlop Bremner serves as a good example of the Lithgow brother's business methods, and as such is worth considering in detail. Through Russell and Company, James and Henry Lithgow held significant amounts of cumulative participating six per cent preference shares in Dunlop Bremner.[36] This of itself was hardly novel, however, by an Agreement of 18 and 19 October 1911, the Lithgow brothers hand in the affairs of Dunlop Bremner is revealed. This agreement between Donald Bremner and James and Henry Lithgow operated by way of Cash Credit Bonds and a Disposition in Security in favour of Russell and Company with repayment on demand at any time within two months the principal. Under its terms, Russell and Company would aid their rivals by lending them, 'from time to time the money required ...for providing certain machinery and doing certain work specified in the said Agreement, on Mortgage or Mortgages secured over our premises, including fixed plant, postponed to a prior mortgage held by us for fifteen thousand pounds'.[37] Dunlop Bremner, at January 1912 had an authorised share capital of 4,000 cumulative participating six per cent preference shares at £10 each, 2,975 fully paid, and 40,000 ordinary shares at £1 each, 23,000 fully paid. By which stage, it was noted that the works were now more fully employed at prices that should yield a

profit. By February 1915, however. the issued share capital fully paid had risen to 3,000 preference shares and to 30,000 ordinary shares. [38]

In July 1915, the Inch yard was declared a Controlled Establishment under the Munitions of War Act. [39] And, at the year end the firm's profit and loss account showed a profit of £19,389, and its balance sheet a balance carried forward of £161,482, with £11,000 on deposit and £70,000 in Treasury Bills. [40] By March 1917, however, it was noted that the Inch yard's management had a considerable difficulty in calculating the amount of Excess Profits Duty and Munitions Levy due to Government. As a result they were unable to submit balance sheets and profit and loss accounts for the years ending 31 December 1916 and 1917, a situation that persisted into 1918. Preference dividends and debenture interest were. however, paid throughout the war, as were ordinary dividends of ten per cent. [41] At a meeting in April 1918, Dunlop Bremner's managing director, Donald Bremner. moved that 1,000 preference shares should be allocated to Peter McBride. and this was duly seconded and carried. A month later at an EGM of preference shareholders. McBride proposed that the authorised share capital of the company be increased to £200,000 by the creation of another 6,000 cumulative participating six per cent preference shares of £10 each and 60,000 ordinary shares of £1 each. Again, this was duly seconded and carried unanimously.[42] When Henry Lithgow's solicitors, Neil Clerk & Murray were advised of this they noted that this constituted practically a loan to the company. Technically, this also gave Dunlop Bremner the option of borrowing on the security of their property by creating a secure first mortgage, which would rank in priority to the preference shares and would therefore prejudice the Lithgow position. On receipt of a letter containing his solicitor's advice to this effect, coincidentally on the same day that Peter McBride moved to increase the share capital of Dunlop Bremner, Henry Lithgow annotated, 'not to take any further action'.[43] By November 1918, however, negotiations for the purchase of Dunlop Bremner had been completed. The Lithgow brothers had agreed to take over mortgages totalling £26.745 and 7.500 £10 issued preference shares at par. and 75.000 £1 issued ordinary shares at £4 15s a share. in addition to all other liabilities

and assets at 31 December 1918. [44] Consequently, in June 1919, certificates for the vast majority of ordinary and preference shares in Dunlop Bremner were placed in trust for James and Henry Lithgow, and Donald Bremner, Peter McBride and R. Beckitt vacated their office as Directors. [45]

Throughout this process, as major preference shareholders, the Lithgow brothers must have been fully conversant with events, and in all probability were the prime movers behind the scenes, if only to protect Dunlop Bremner from purchasers outwith the area. This is of course a speculative contention, which at the very least can be inferred. That it is made at all, however, is indicative of the inherent difficulty of unravelling James and Henry Lithgow's complex financial affairs. The use of trusts to cover and protect their beneficial interests and to prevent scrutiny from possible purchasers of their businesses was a tactic that marked the business strategy of the Lithgow brothers throughout their careers, as were transfers of shares between individual Lithgow companies to nominees. By June 1919, James and Henry Lithgow were directors, had placed their respective shares in trust, and in November 1920, James Lithgow assumed the chair of Dunlop Bremner.[46] Nevertheless, the case of Dunlop Bremner pales into relative insignificance alongside the strategic acquisition (dealt separately with later in this chapter) in December 1919 when Lithgows acquired a controlling interest in the Lanarkshire coal, iron and steel masters, James Dunlop and Company. Although most of the profits of this business came from coal, it had been involved with shipbuilding steel through its Calderbank steelworks, and gave Lithgows a foothold in an area that other shipbuilding firms had not been slow to enter. [47]

The Lithgow acquisitions, however, were made before the full effects of the postwar depression were felt. At the end of the war, United Kingdom shipbuilding capacity, measured by the maximum productive output of the industry being fully utilised, and with no supply constraints impinging, stood at forty per cent above that of 1914.[48] However, this headline figure has to be treated with considerable caution, as much shipbuilding berths due to the general increase in the size and complexities of ships were redundant. Nevertheless, world tonnage had also grown dramatically, with

America, mainly through its war emergency shipbuilding programme being responsible for eighty-six per cent of the increase in net world shipbuilding output between 1914 and 1921.[49] The situation of available tonnage far in excess of likely demand was further compounded by Britain's continental competitors, not unnaturally pursuing policies of economic nationalism by building up their shipbuilding industries with the aid of subsidies, subventions, tariffs, and by resort to flag discrimination.[50] Lithgows, primarily a tramp ship builder, were particularly vulnerable to cancellations owing to downturns in freight rates, and by 1921 these rates had plummeted as carrying capacity far exceeded the volume of world trade.[51]

At the year ending 30 November 1920, it was noted that Lithgows had cancelled eleven contracts for engines placed with the Greenock firm of John G. Kincaid, paying a total of £54,415 in consideration. [52] Despite this setback, however, the firm's balance of Profit and Loss account remained in substantial credit at just over £295,000. [53] Thereafter, Lithgows went on to survive the deeply depressed interwar years by transfers from reserves, strict control over costs, labour rotas, speculative building in the depression years, and the sale of yards. Nonetheless, total assets, which had stood at £3,557,620 in 1920, had declined at the nadir of the postwar depression in 1933 to £1,844,838.[54] However, as compensation for the low load factor in the core shipbuilding yards, the Lithgow brother's investment vehicle, the Kingston Investment Company, retained reserves averaging £338,947 in the twenty years from 1920 to 1939. [55] Lithgows, as a matter of policy, also kept large cash deposits with banks, as this gave bankers confidence in the firm's liquidity position and made them more amenable to future borrowing.[56] Indeed, investments particularly in unquoted stock, shipping and marine underwriting to a large extent served to counterbalance the difficult trading conditions experienced by the core shipyards.[57] Nevertheless, Lithgows tight control over costs and labour resulted in profit margins on costs of vessels completed from 1920 to 1938 averaging 7.5 per cent. [58] Despite difficult trading conditions, however, when an opportunity arose to extend their interest in the local economy, Lithgows were not slow to exploit it. The firm, which also held a sizeable shareholding in J.G. Kincaid, took a controlling

shareholding in another Greenock marine engineering firm, Rankin and Blackmore in 1923. [59] By this stage, Lithgows, already dominant in the economy of Port Glasgow, were now in effect a large vertically integrated concern, with interests in coal, iron and steel making, shipbuilding, shipowning, ship management and marine engine building. [60]

A Wider Perspective: James Lithgow and the labour question?

The history of Lithgows Limited in the interwar period cannot be completed without reference to James Lithgow's public role as a spokesman, not just for the shipbuilding industry, but for industry in general and Scottish industry in particular. In 1920, he became President of the Shipbuilding Employers Federation (SEF), based in London. He then made the first of his many controversial excursions into print, appropriately in the *Glasgow Herald Annual Trade Review* in 1921. Therein he set out his forthright views on the labour question in shipbuilding, and in public at least his views changed little throughout the interwar period. Lithgow readily acknowledged the skills of tradesmen in the industry, but pointed to the increase in pneumatic tools, which in his view had deskilled many jobs, without a corresponding drop in wages. The drop in skill content could, however, be compensated by for by a dramatic increase in output, but Lithgow recognised that organised labour would cling tenaciously to hard-won trade practices. Nevertheless, he firmly believed that the laws of supply and demand provided an adequate safeguard against exploitation, even if this meant an across the board reduction in wage rates.[61]

In effect, what had suited the employers in the past was in James Lithgow's view no longer applicable. On the labour side, demarcation of trades so that a particular process was the exclusive province of a single trade had long been established. Historically, due to the low level of educational achievement of their workforces, the employers' had insisted on sub-division of trades, such as that of boilermaking into different crafts. Thus, on the completion of an apprenticeship that from the outset was circumscribed by more of what you could not do rather than what you could,

this would mean that a plater would always be a plater. In short, there existed little interchangeability between trades. As the industry grew. labour intensive practices combined with the squad system of work organisation worked perfectly well. However, the growth of mechanisation in shipbuilding and the likelihood of the increased use of pneumatic tools, particularly in riveting, the principal method of metal joining in the industry, posed a dilemma for the employers. Any attempt by them to impose de-skilling of trades would be fiercely opposed by those trades directly affected, and would necessarily entail a unified approach on the part of the employers, something that could never be taken for granted in the atomistic structure of the British shipbuilding industry.

Realistically, James Lithgow foresaw that for the industry to remain competitive, and if foreign competition were to be met head on, then work practices would have to change accordingly.[62] Throughout the interwar period he continued to communicate, somewhat myopically, that the major obstacle to change was the shipyard labour force, particularly in its labour organisation. To him, union insistence on the retention of individual crafts, 'was an obstacle to efficiency in an age when science and other developments have rendered such an outlook entirely obsolete'. [63] However, in an industry that did attempt to fix national rates of pay, albeit with local variations, within an atomistic structure, it would first require the collective will of all employers to effect a revolution in commonly accepted work practices. Secondly, it would also require trade unionists to in effect vote themselves out of a job. Neither scenario was remotely likely to occur due to the self-interested positions of individual employers and unions alike. Moreover, Britain's largely unprotected shipbuilding industry was particularly vulnerable to cyclical fluctuations in world trade, and due to the largely bespoke nature of its product was highly dependent on indigenous shipping firms, who were on the whole notoriously short-sighted and prone to cancel contracts when freight rates dropped. Taken together, these factors, which are not, exhaustive, hardly gave builders the confidence to invest heavily in fixed and moveable plant. never mind the creation of a revolution in working practices. James Lithgow had. nonetheless. went out on a

limb by publicly expressing what the bulk of his contemporaries probably thought in private, and would continue to do so for the rest of his public life.

Nevertheless, the other side of James Lithgow's complex character had been shown in 1921 when Lithgows took up shipbreaking to alleviate local unemployment on a rota basis. [64] A year later, on the advice of Andrew Duncan and Lord Weir, he became Vice-President of the National Confederation of Employers Associations (NCEA). This appointment allowed him to become a delegate and member of the governing body of the International Labour Organisation (ILO) based in Geneva, Switzerland, and in 1924 he became President of the NCEA. Lithgow remained a member of the ILOs Governing Body for five years, and this gave him the opportunity to make further important contacts with high-ranking officials. [65] James and Henry Lithgow's policy of drawing little from the business in terms of dividends and building up substantial reserves, mainly from shipping and other unquoted investments, served the firm well in this difficult period. However, by February 1925, the Lithgow brothers had resolved that Dunlop Bremner should be voluntarily wound up. [66] A year later the Inch yard had launched its last ship.

Throughout his working life the impulsive side James Lithgow's character was apt at times to get the better of him, particularly in his relationships with politicians. In correspondence with Sir Sydney Chapman of the Trade Facilities Committee in July 1925 Lithgow wrote: 'I am absolutely "fed up" with the vacillating, backboneless policy of the present Cabinet that I feel sorely tempted to disassociate myself utterly from it'. Chapman, who was no doubt used to Lithgow's outbursts persuaded him not to.[67] Earlier in that year, James Lithgow had been made a Baronet on the recommendation of Stanley Baldwin. By this stage, Sir James Lithgow had served his country in war, and had represented his industry on local, regional, national and international organisations and forums.[68] His early contacts with fellow shipbuilders, industrialists, Ministers of the Crown, senior civil servants and leading officials of trade organisations, gave him an accumulated experience and gravitas that few others could match. In the years that followed, this background undoubtedly helped to make him the leading shipbuilder of his generation, but his continued

outspokenness, particularly on labour matters, conspired to place Sir James in the vanguard of many future controversies.

Sir James Lithgow, and the Shipbuilding Conference.

Sir James Lithgow's earlier warnings on foreign competition and the high level of costs in the United Kingdom came sharply into focus when Dutch builders built a total of twenty-seven vessels (which included standardised coasters and ten oil tankers) for British owners in 1924 and 1925 respectively. In March 1925, however, it transpired that Furness Withy had placed a five-motor ship order with a German shipyard at a price that was over £300,000 less than that of the lowest British tender. [69] Predictably, the German order sparked public outrage and prompted a Joint Inquiry into Foreign Competition and Conditions in the Shipbuilding Industry held by the SEF and shipyard trade unions in 1925 and 1926. This Inquiry, undertaken in an atmosphere of collective pique, had the effect of apportioning much of the blame for a lack of international competitiveness on factors outwith the industry's control. [70] Behind the smoke and mirrors, this was a conclusion that was to be all too often echoed by the industry in the decades to come. By this stage, however, the elite firms in the industry, already shaken by the slump in naval demand due to the Washington Naval Treaty, and the deleterious effects of overblown capacity on mercantile competition, at last contrived to broaden their horizons beyond the questions of labour and working conditions. In a series of meetings in London and through their contacts in the SEF, the larger firms began to plan for their long-term future. The forum for the collective aspirations of the industry in this regard would ideally be their own commercial organisation, and this resulted in an agreement in April 1928, to form the Shipbuilding Conference. [71]

The Conference was a natural home for a man of Sir James Lithgow's standing in the industry, and he was soon intimately involved in the formation of the shipbuilders highly controversial rationalisation vehicle, National Shipbuilders Security Limited (NSS). Characteristically, Sir James, in the year of the Conference's formation, had saved the Ayrshire Dockyard Company at Irvine, the

hometown of his old friend, Sir Andrew Duncan. The influential Duncan was by this stage a Director of the Court of the Bank of England. and an industrial adviser to its Governor, Montagu Norman. The Bank's attempts at industrial reorganisation had been given added impetus by the loss of £5,000.000 in debenture holdings and £500,000 in interest that it had reputedly sustained in the reorganisation of the firm of Sir W.G. Armstrong and Company. This, and other schemes, such as the capital reconstruction of the Beardmore Empire in 1928, as Jones has noted 'impressed upon the Bank the urgent need to for a thorough reorganisation of the [shipbuilding] industry'. [72] The obvious candidate of sufficient gravitas to approach in this regard was the leading shipbuilder of his generation, Sir James Lithgow.

However, Sir James Lithgow's subsequent involvement in the formation of NSS had not been entirely preordained. Earlier in 1928 he had characteristically put his own firm's interests first by refusing to join the Conference if the river Wear cargo tramp builders did not do likewise.[73] Lithgow's position was understandable: his remained a private firm, but for one small naval craft, it had never ventured into the warship sector, and he had to take into account the impact of joining the Conference and of the subsequent costs to be borne if his competitors did not. His fears were, however, temporarily assuaged when two of the larger publicly quoted firms in the industry, John Brown and Vickers Armstrong took part after the initially hostile Cammell Laird, eventually joined. [74] Given that three of the largest publicly quoted firms in the land had signed up to the Conference, Sir James, in reality, had little choice but to do likewise to, if only to avoid a further concentration of the industry which could have threatened his own interests. In the event, most of his tramp ship competitors on the river Wear and on the Tees also joined, in all likelihood for the same reason. For most of the1920s the long-term economic prospects of the industry had looked bleak, and with the onset of the severe depression from the early 1930s, in concert with the highly volatile political situation in the UK, those prospects looked considerably bleaker.

Milford Securities Limited

At this stage, although their motives remain unclear. Sir James and Henry Lithgow decided to transfer the ordinary share capital of Lithgows Limited and Robert Duncan & Sons Limited to an off the shelf Canadian company. Milford Securities Limited, specially created for that purpose. [75] Milford Securities was incorporated in May 1930 with a head office in Montreal, but due to the cessation of reciprocity in death duties between the province of Quebec and the UK. the head office was subsequently moved to Toronto in the province of Ontario. Although Milford Securities appeared to own all the ordinary shares in Lithgows and Duncan's. the share certificates were steadfastly retained in the offices of Lithgows London solicitors, Allen and Overy. As were executed letters of hypothecation of the shares in favour of James and Henry Lithgow, and executed transfers in blank by Milford Securities in respect of those shares to make such hypothecation effective. [76] Sir James Lithgow's long-term friend and business associate, Sir Andrew Simpson Macharg had crossed the Atlantic by boat to represent their interests and reported that the 'transfer' of shares had been duly completed. Macharg advised that a Canadian firm of Auditors, Messrs Riddell, Stead, Graham & Hutchinson required that $100,000 be put at their disposal for a day or two to pay in cash for the Milford shares. Sir James, through the Union Bank in Port Glasgow, wired the funds by cable to the Bank of Montreal to be used by Messrs Riddell for a period of seven days, thereafter, it would be remitted back to the credit of Sir James account. [77]

Milford Securities remained in existence until January 1939, and had no debts or liabilities, save ordinary charges and the expenses of winding up its affairs and surrendering its Charter. No beneficial interest in the Ordinary shares of Lithgows and Duncan's had passed to other parties as the shares were transferred to a mere nominee of the transferor. This entire episode is indicative of James and Henry Lithgow's financial sophistication; but due to the absence of further explanatory records regarding Milford Securities, their motives can only be the subject of

speculation. What is certain is that the preservation of the core shipbuilding activities in Port Glasgow was uppermost, and as to speculation, it was in all likelihood done as a hedge against future nationalisation of the shipbuilding industry. Nevertheless, this episode was undertaken at a critical period for the future of the industry, and if discovered would have inevitably have led to considerable embarrassment to Sir James and Henry Lithgow in their homeland. In the interim, however, Sir James had already embarked upon his most controversial action to date as chairman of NSS.

National Shipbuilders Security Limited.

Sir James Lithgow's involvement in the Shipbuilding Conference and his wide-ranging contacts in banking, finance, government and industry made him the ideal person to negotiate and take forward the concept of a rationalisation company to deal with excess-capacity in the British shipbuilding industry. Desirous of keeping government involvement to a minimum, the Conference first approved the creation of a separate company before enlisting the commercial help of the Bank of England. The Bank's Governor, Montagu Norman, primed by Lithgow's long-term confidante, Sir Andrew Duncan, was equally desirous of keeping government at arms length, and insisted that any capital provided should be issued strictly on commercial merits, although any subsequent scheme would need the tacit approval of government. [78]

During the protracted negotiations with the Bank of England, NSS was formed by the Shipbuilding Conference on 27 February 1930, with Sir James Lithgow as chairman. Subsequently, with Bank of England assistance, a successful issue of one million five per cent first mortgage debenture stocks at £95 redeemable after thirty years at par, or after five years at a premium of £103 ensured that initial funds were available to purchase yards. Additionally, a levy was placed on member firms of one per cent of the contract or sale price of vessels laid down after 1 November 1930. [79] As was the case with the formation of the Shipbuilding Conference, the major firms in the industry subscribed to NSS. [80] As the depression in shipbuilding demand

continued virtually unabated, any pretence that the shipbuilders would use NSS as a vehicle to concentrate the industry through amalgamations and mergers had been abandoned. The first three years of NSS existence coincided, as Jones has noted, 'with the worst depression the shipbuilding industry had ever experienced'. [81]

The aim of NSS, nevertheless remained that by strategic acquisitions, capacity would be brought into line with anticipated future demand, competition would be reduced, and prices would, therefore, rise accordingly. Initially, NSS was used as a vehicle to purchase yards by negotiation, and thereafter to sterilise excess berth capacity by placing a restrictive covenant against any return to shipbuilding for up to forty years. Owners, whether they were shipbuilders, banks (certainly the Bank of England did in the case of Beardmore's Dalmuir yard) or finance houses, who took advantage of NSS, in all likelihood got substantially more for their yards than their break-up value if they had gone bust. [82] The vast majority of their former yard employees, however, received no compensation whatsoever. As the majority of NSS inspired closures took place in a period of domestic political upheaval in the midst of a worldwide trade depression, this caused considerable hardship to shipyard workers and their families, many of whom were located in areas where little alternative employment existed. Despite this localised misery, Sir James Lithgow firmly believed that a leaner and fitter industry would emerge that would in the longer-term provide more job opportunities by improving the profit potential of the industry.[83] NSS activities were, however, carried through with the full knowledge of successive governments. Ministers in Parliament were able to fend off calls for the company to be brought to account by pointing out that its activities were of a purely private nature, and thus were not the province of government sanction.[84] Publicly, NSS, was an attempt by the industry, when more than half of its berths lay empty, to bring capacity, which had stood at 3,051,000 gross tons in 1914, and which by 1920 had been increased by forty per cent to 4,286,000 more into line with anticipated future demand. [85]

NSS, with Sir James in the vanguard as its chairman began its initial rationalisation

on the Clyde with the purchase of the William Beardmore shipbuilding facilities at Dalmuir at a cost of £209,000. [86] This purchase proved to be the most expensive made by NSS, and was completed with the active encouragement of the Bank of England and its industrial rationalisation vehicles, Securities Management Trust and the Bankers Industrial Development Company. Moreover, as Slaven has noted, the purchase of the Dalmuir naval yard was agreed by the NSS Board nine months before it had raised the necessary debenture capital to finance its acquisitions. [87] The Bank of England envisaged that the Beardmore conglomerate, in which it held a substantial stake, should be broken up, and that the remaining rump should be concentrated at the company's Parkhead Works. Through his close links with the Bank, Sir James Lithgow would eventually take centre stage in the attainment of this long-term objective.[88] Beginning with Beardmore, NSS went on to purchase, sterilise or partly eliminate sixty berths in eleven shipyards on the Clyde and on the Ayrshire coast, and five berths on Tayside. Accordingly, by March 1937, NSS had eliminated just over thirty per cent of Scottish berth capacity. [89]

Sir James Lithgow as Slaven has noted, was not constrained by his chairmanship of NSS and used the company to rationalise his own shipbuilding interests. [90] This was, in effect, a recognition that the Lithgow-owned yards were not immune to the general conditions pertaining to the industry, and also kept competitors, if any were so rash as to enter the industry at this difficult period, out of the district. As the depression took hold Sir James closed the East yard of Robert Duncan in 1931 with a tanker, *Valdemosa,* for Gow, Harrison of Glasgow, on the stocks, that was subsequently completed in 1935. The Lithgow brothers voluntarily liquidated Robert Duncan and Company in 1937, and reopened the East yard that year under the Lithgow banner. The Glen yard of William Hamilton was also closed for a four-year period with a tanker, *Valverde,* present that was subsequently completed in November 1934. Lithgows flagship Kingston yard had lain empty since the early months of 1931 after the launch of a reefer, the *Jamaica Pioneer*, for the Jamaica Banana Producers Association (a co-operative of penny shareholders). The Kingston berths remained vacant until November of that year when a series of twelve vessels

for J. & C. Harrison of London, was undertaken at a loss, but nonetheless provided for continuity of employment. [91]

Throughout the interwar period the Lithgow brothers maintained their numerous shipowning interests, such as the Walmar Steamship Company, which was formed in partnership with Kaye, Son of London, who also managed tramp ships on Lithgows behalf. Lithgows also continued their special relationship with the Lyle Shipping Company Limited of Greenock, who likewise managed ships on their behalf. The Lyle connection had also resulted in the formation of another shipping company, the Cape York Motorship Company Limited. Lithgows continued to part-finance Lyle vessels, and in 1934 advanced Lyle's a loan of £50,000 to purchase four Lithgow built steamers completed in 1929 and 1930, which due to receivership had been returned to the Port Glasgow firm. [92]

Tramp ships, mostly for local owners, formed the bulk of Lithgows output in the interwar period, but the firm also built cargo liners, tankers and pilgrim carriers for overseas customers. In difficult trading conditions, joint ventures with shipping companies, not declaring dividends, and the ability to undercut competitors by using accumulated financial resources served the firm well. From 1920 to 1930 inclusive, although profits were small in 1924 and 1926, Lithgows continued to make profits averaging just over ten per cent, on the costs of vessels completed. [93] In 1929, the firm launched eighteen vessels of 91,327 gross tons, its greatest tonnage to date. [94] However, in the almost entirely depressed eight years from 1931 to 1938, profits on costs of completed vessels averaged 3.6 per cent, and the firm made small losses in only two years, 1933 and 1935. [95] In the years 1919 to 1929, Lithgows built on average 1.8 per cent of world tonnage, a percentage exceeded during the slump between 1932 and 1934, when the Port Glasgow firm built on average over five per cent of world tonnage in the three years. Remarkably, this was almost one in every sixteen new vessels launched in the world, and in 1932, Lithgows output was an unprecedented 61.8 per cent of all vessels built on the Clyde.[96]

Despite occasional lack of work, Lithgows core Kingston yard survived the

depression years, aided by the Harrison twelve ship orders. And in 1933, as Campbell has noted, 'only five firms in the world launched vessels of more than 20,000 gross tons in total', and Lithgows, 'was the only British yard among them'. [97] That year the redundant four berths Inch yard of Dunlop Bremner that had not launched a ship since 1926 was sold to NSS, and the site sterilised. This was followed by the sale to NSS of the six berths Ayrshire Dockyard at Irvine, although the firm did continue in business under Lithgow control as a ship repairer and fabricator. The Ayrshire Dockyard sterilisation cost NSS £17,000, the value placed on the shipyard by John Barr pending an Agreement, and Disposition of the entire lands of the Feu Contract concerning the yard. [98] Since taking over the Dockyard in 1928, James and Henry Lithgow, as was their practice, used the firm to effect inter company transfers of shares, which again made it extremely difficult for any outside company to fathom the Port Glasgow firm's affairs. [99] Lithgows subsequently closed the original Russell and Company Bay yard late in 1935, and then demolished it: again, the wheel had indeed turned full circle.

By this stage, however, NSS had also sterilised the insolvent shipyard of the Warship Group member; Palmer's of Jarrow, which to this day remains the most controversial of NSS purchases. Sir James Lithgow bore stoically much the personal and political odium that rained upon him, particularly from the Member of Parliament for Jarrow, Ellen Wilkinson. Wilkinson, who had been an MP for Middlesborough before winning the Jarrow seat, was at least aware of the problems of the north east of England, but, in common with politicians of all political parties, had no concrete proposals to rectify them. Her displeasure with NSS, and with Sir James Lithgow in particular, over the Jarrow closure continued apace, and in 1939 she penned a book with the famous title: *The Town that was Murdered.* [100] Although Wilkinson did not actually refer to Sir James as the chief murderer of Jarrow, she nonetheless apportioned a large amount of blame for the downfall of the shipyard on him alone. In this regard, Wilkinson was particularly adept at using Sir James public utterances on a wide variety of subjects to construct a case against him. In one paragraph, she made a rather unfortunate comparison between Sir James and Adolf

Hitler by stating that: 'Hitler at least claims to regulate the lives of working men in the interests of the nation. Lithgow considers that they should be regulated for the benefit of industry'. In another, she stated the blindingly obvious that, 'Lithgow stands for capitalism, and for the maintenance of private profit making', but added, 'with no apology for the results. To him the man who can make profit is the only factor worth considering in national life'. [101]

Nevertheless, when not being vitriolic to Sir James Lithgow, Ellen Wilkinson made a number of telling points on NSS in general. She pointed out that Palmer's workforce, unlike the Banks and shareholders were not tired of the struggle, and cited a shipowner's unease at the curtailment of competition, and the fear that the levy would undoubtedly be passed on in the final price of the ship.[102] Moreover, Wilkinson identified that what had taken place under NSS was faux rationalisation. To back up her contention, she cited a Director of NSS, F. C. Pyman, of the Hartlepools shipbuilder, William Gray, who had stated that, 'I suppose that true Rationalisation would not stop at the adjustment of capacity to demand.' [103] The closure of Palmer's in the summer of 1934 had a significant effect on local rates of unemployment, which by the last recorded figure before the Jarrow Labour Exchange was amalgamated with that of nearby Hebburn, stood at 72.9 per cent in September 1935. [104]

NSS had been formed primarily to reduce significantly the capacity of the British shipbuilding industry, and by 1939, 216 berths suitable for building sea-going tonnage in thirty-eight shipyards with a capacity of 1,411,500 gross tons had been sterilised. This was done at a net cost of £1,330,000 and resulted in a reduction of overall capacity of around one third. [105] Nevertheless, the establishment of NSS, its continued operation and success, by its own lights, has to be set against other measures instituted by the industry as a whole. It is likely that the NSS levy on new construction increased rather than reduced the final costs of vessels, but as so many variables are involved one cannot state this with absolute certainty. However, even when the substantial increase in naval demand due to rearmament is taken into

account during the 1930s, the British shipbuilding industry at the peak of demand in 1937 could only work at sixty-four per cent of its available capacity. Although, as Sir James Lithgow somewhat disingenuously pointed out, had the sterilised yards remained in business, then the industry's workload would have utilised less than half its capacity. More to the point, due to concentration by NSS, the volume of work in progress, in the average case, was about fifty per cent greater than it would have been had it been shared among the original number of units.[106] Plainly, NSS, by the removal of excess capacity did increase the workload of the remaining firms, and the one per cent levy on new construction was easily borne in these circumstances. Even with the reduction in overheads due to the later sterilisation of berths rather than entire yards, it is likely that any savings in particular firms were negated by increases in power charges, and in plant, machinery and labour costs, particularly as rearmament took hold. As price improvement, a euphemism for increased profit, was a declared aim of the Conference, only a dramatic reduction in costs would in theory keep increases in the price of ships to reasonable levels. It is a moot point, but had not NSS existed, then a reduction in capacity would most likely have occurred in any event, particularly among the smaller tramp ship builders who had been hit hard by the depression in trade.

Other shipbuilding industry efforts to reduce costs.

Whilst NSS activity improved the prospects for the industry at home, it remains difficult to state with any degree of certainty whether that activity enabled the industry to become more competitive in the international market for ships. The industry, through the Conference did attempt to put measures in place to reduce costs, however, reductions in capacity was not enough to eliminate competition for orders. Moreover, as an assembly industry, shipbuilding was dependent to a large extent on outside suppliers and sub contractors. Its control over costs, therefore, and over the final price of a ship was accordingly diminished. Price improvement was, in essence, contradictory, as a rise in home prices would tend to increase the existing price differential between British and her continental competitors, and would also penalise home shipping firms. However, as the bulk of the industry's output was for

the bespoke home market. it could at least contain the effect of owners ordering abroad if price rises were kept to acceptable levels. Price alone, is not the only determinant of the decision to order a ship, as delivery within the stipulated period of the contract is equally important. In this regard, with rearmament proceeding apace, and costs of materials rising accordingly, the mixed naval and mercantile yards tended to concentrate on naval rather than on mercantile construction. This at least gave the purely mercantile yards less domestic competition than otherwise would have been the case.

NSS apart, the Conference did attempt other measures to improve competitiveness. A Special Fund, not to exceed £500,000 was established in April 1934 to meet foreign competition, and was financed by a further levy of half per cent of the sale price of all ships coming within the scope of the Conference. When fully operational this fund allowed Conference members to reduce prices in order to tender at the levels of continental builders.[107] In August 1935, a Tendering Expenses Scheme, voluntarily undertaken since 1928, was formalised. Under this Scheme, approximately one per cent of the contract price of vessels at a minimum price of £3,000 and upwards would be included for tendering expenses to be divided among successful and unsuccessful tenderers alike on an agreed scale. [108] Price improvement was further enhanced by the introduction in December1936 of a Cargo Vessels Price Scheme. This Scheme allowed for minimum lump sum margins for establishment charges, depreciation and profit, and thus gave firms less incentive to bid for work by undercutting their domestic competitors at prices which often included no margin for profit. [109] Taken together these attempts at reducing domestic competition and improving prices, which were subject to periodic variations in terms and conditions, do show a level of hitherto unknown co-operation among the majority of firms in the industry.

For the majority of the interwar period, however, the Government had stood on the sidelines as the shipbuilding industry attempted measures of self-help of which the Conference and NSS were the major examples. As Jones has noted, 'with the exception of the financial guarantees provided under the terms of the Trade Facilities

Acts, the loans to the Cunard Company in 1902, and the arrangements made by the Government to finance the completion of the *Queen Mary*, neither shipping or shipbuilding received any form of direct operating, or construction subsidies'.[110] However, the greater strength of shipping interests eventually told, and from 1934 onwards, the Board of Trade weighed up the pros and cons of intervention and eventually decided to give an indirect form of assistance to tramp shipping companies, through a 'Scrap and Build' Scheme. Financial assistance was in the form of loans for new construction and the modernisation of existing tonnage, conditional on scrapping two gross tons for each gross ton of new build vessels, or on a one-for-one basis on modernised vessels. These proposals were incorporated in the British Shipping (Assistance) Act, 1935, which ran for two years from the passing of the Act on 25 February 1935. This Act resulted in fifty vessels being built of approximately 186,000 gross tons, at an estimated cost of £3,664,360, with total advances to shipowners amounting to £3,548,125. [111]

Although the subsidy was of help to some tramp ship builders, particularly on the hard-pressed North East Coast District, its scope was rather limited and the Conference continued to seek price improvement through co-operative measures. By October1937, the Conference Special Fund Committee was further empowered to make grants of up to five per cent on vessels costing £100,000 or more to enable member firms to gain contracts at the expense of non-members and foreign competitors. [112] In addition, from November 1938, a Segregation Scheme functioned on a voluntary basis by which member firms specialised on particular vessels and withdrew from building other types. This particular scheme should have reduced estimating and design costs by allowing firms to concentrate their production, again, however, it is unlikely that this resulted in a reduction in the selling price of ships. A widespread segregation scheme could have been a prelude to further concentration in the industry, but for the gloomy international situation. In attempting to judge the effectiveness of the various Conference inspired schemes, we can say with some certainty that the Tendering Expenses Scheme was by far the most important. Though consistently modified, the scheme by deleting the lowest uneconomic price

and adjusting upwards the price of the remaining tenders did fulfil the aim of price improvement, and of restricting competition. Of course a good deal of tenders did not result in orders. For example at the year ending 30 April 1936, 165 conferences were held in respect of 245 vessels on which £305,080 in tendering expenses was provided. Orders were subsequently placed in respect of 141 vessels representing £225,885, which included scale amounts as from August 1935. [113]

There is little doubt, NSS apart, that the tendering expenses scheme and other price improvement schemes such as those extended to cargo and fishing vessels, segregation, and the Warship Group 'ring' were easily the most successful of the Conference's initiatives. In contrast, the Special Fund, a subsidy to improve performance against foreign competition was less significant, particularly in light of rearmament. On foreign competition, the Conference Continental Co-operation Committee noted that in the past decade on average just seventeen per cent of the industry's output was for foreign account. A comparison with the ten immediate pre-war years, revealed that on average about 78,000 gross tons per annum had been lost to foreign competition. Comparisons between the industry's export performance in the past decade with that of Denmark (average of 52 per cent for export), Germany (37 per cent), and Sweden (63 per cent), revealed that all three countries had gained a considerable amount of work at Britain's expense. [114] Although other factors necessarily impinged such as subsidies, flag discrimination, and competitive devaluation's, as a whole, those firms in the British shipbuilding who had always exported tonnage were failing the acid test of international competitiveness. Price improvement schemes exacerbated this failure as by their very nature they were unlikely to result in a reduction in the selling price of ships.

Lithgows enter the warship market

In his evidence to the Commercial Committee of the House of Commons in 1925, James Lithgow had declared, inter alia, that, 'we have no rings of any kind in shipbuilding'. [115] Had Lithgows Limited remained a tramp, tanker and cargo liner builder throughout the interwar period the firm would have missed out substantially

to the mixed naval and mercantile yards due to rearmament. Moreover, profitable naval work could also be used to partially subsidise less profitable mercantile contracts. Factors, which no doubt encouraged Sir James and Henry Lithgow to purchase and save in 1935 the bulk of the technically insolvent Warship Group member, the Fairfield Shipbuilding and Engineering Company at Govan from closure. An acquisition made easier by the fact that Sir James and Henry Lithgow already held a substantial stake in the company. [116] The Fairfield purchase brought Lithgows into the Warship Group 'ring' by giving Sir James what he had hitherto lacked, a company with the capacity to build large tankers, passenger liners, and of more pressing importance, large warships. Moreover, the purchase of the Govan yard also had the advantage of being cloaked in the national interest in the preservation of naval building capacity. A consideration which evidently did not apply to the NSS inspired closures of two other Warship Group members, Beardmore and Palmer's. However, a year before the Lithgow acquisition of Fairfield, NSS had in fact sterilised four berths at the Govan firm's West yard, which were suitable for liner and warship construction. Sir James Lithgow's intimate involvement with NSS and his links with the Bank of England once again proved crucial to the saving of Fairfield. Although, as Peebles notes, it is doubtful whether Sir James would have bought the yard had he not already known that rearmament was about to take place. [117]

From December 1933, Lithgow had been a member of the Advisory Panel of Industrialists to the Committee of Imperial Defence, Principal Supply Officers Committee with Lord Weir of Eastwood and Sir Alfred Balfour. [118] Lord Weir had been a long-term friend and confidant who exercised considerable influence in government and in the economy of the West of Scotland. Weir's opinion on rearmament was a practical one borne of experience, he thought that firms should be selected in peacetime and told to organise for shell making. He was also prepared to advise on which firms would be most suitable, and intoned that; 'approaches should only be made to the big firms and the big men'. [119] Lord Weir and Sir James Lithgow evidently belonged in these categories, which was precisely why they were

invited on to the Panel in the first instance. Sir James must also have been aware that by this stage that the shipbuilding industry, which NSS had continued to denude of capacity would have been extremely unlikely to meet the considerable demands placed upon it in the event of an extended war. However, rearmament, with the Admiralty on the whole being unable to accurately estimate the true costs incurred by members of the Warship Group ring, and therefore their profit margins, promised a bonanza. So it proved, and, as Peebles again noted, four contracts taken on in 1937 at Fairfield yielded an average of thirty-three per cent in contributions to overheads and profit.[120]

It is common historical currency that Lithgows Limited saved Fairfield, indeed this is substantially true, but the vehicle used to purchase the bulk of the ordinary shares in the Govan firm was in fact the Lithgow brothers investment arm, the Kingston Investment Company. [121] However, this was kept within the strict confines of the firm on a need to know basis, and is again indicative of the secretive nature of much of Lithgow purchases. As late as 1952, even the Fairfield Company Secretary, Mr. D. McPhie had to be told by Alex White, then Lithgows Managing Director, that, 'I should make it perfectly clear that the Kingston Investment Company is not the Holding Company of Lithgows Limited. The Kingston Company's two Subsidiaries are your own Company and the North British Electric Welding Company. I think I have said enough when I tell you this'. [122]

After the purchase of the bulk of the ordinary shares in Fairfield, Henry Lithgow continued to purchase blocks of preference shares as and when they became available, and at February 1937 he had purchased nine hundred and sixty-five of the latter. These shares were placed in the name of a Nominee Company of the Commercial Bank of Scotland as arranged. This type of transaction was typical of Lithgows approach to business, which was to gain, as much control over all of the shares of a particular firm as was possible, and to transfer them either to family trusts or to nominees. Alike his brother, Henry, Sir James was also prone to transfer blocks of shares for tactical reasons, such as his holding of 42,250 Ordinary Shares

in William Hamilton, to nominees for his wife in August 1930. [123] Nevertheless, the Fairfield crisis brought about in part through a culmination of diminishing reserves, and by a lack of liquidity exacerbated by the receivership of the Anchor Line was not an easy matter to resolve. The Govan firm, which was registered in London, not Glasgow, also owed its bankers £316,064 at 30 June 1935. This and a provision of £145,000 due to Anchor Line defaulting on Bills, and over a five-year period, the non payment of Preference and Ordinary dividends, with no provision for depreciation completed the less than rosy picture that confronted Sir James and Henry Lithgow. [124] Three years earlier, the Bank of Scotland had refused to extend by another £200,000 the existing overdraft facilities at Fairfield, which at that stage stood at £280,000 outstanding. [125] Fairfield, in urgent need of liquidity to keep their works going, in turn asked the Bank of England to extend the necessary cash credit. The Bank agreed to do so to the extent of £150,000 on the basis that that it would require the security of a prior charge over the firm's heritable property. The acceptance of this offer hinged on obtaining the permission of the existing debenture holders to forego their prior charges against Fairfield on the basis that a proportion of their outstanding loans was repaid. This was achieved by raising the necessary cash from the sterilisation by NSS of the firm's four-berth West yard in 1934. [126] Clearly, Sir James Lithgow, as chairman of NSS, and through his intimate contacts at the highest level within the Bank of England was fully aware of the intricacies of the Fairfield position. Moreover, if Fairfield was to be regarded as a national asset, despite the loss of four liner and warship berths, then some sort of rescue package would be needed to assuage the firm's creditors until rearmament was in full swing. The Bank of England did, however, hedge its bets by obtaining an undertaking from Sir James that if the liquidation of Fairfield ensued, then NSS would purchase the yard on terms no less favourable to the Bank than in the Beardmore transaction of 1930. [127]

First as a director then chairman of Fairfield, Sir James Lithgow applied his tried and trusted business methods to the running of the firm, reserves, contingency and general, were built up steadily and depreciation once again provided for. By 30 June

1939, preference dividends for that year and for the years 1932 and 1933 were paid. and £150,000 was transferred to reserves. [128] Irrespective of whatever motive that encouraged Sir James and Henry Lithgow to purchase and save a technically insolvent firm, their actions ultimately saved thousands of jobs in Govan and put their own fortunes at some risk. Due to the deteriorating international climate, however, the preservation of warship capacity and its implications for the future employment of skilled labour could hardly have met with anything less than overt approval by government. [129]

The Long Game: Lithgows Limited and the Scottish Steel Industry.

Thus far I have concentrated on the shipbuilding activities of James and Henry Lithgow and on James Lithgow's wider role in the shipbuilding industry and its attempts at rationalisation and in improving its profits potential. In this section, however, I consider at some length the Lithgow involvement in the related sectors of coal, iron and steel, with emphasis on the latter. Sir James Lithgow's contribution to the rationalisation of the Scottish steel industry in the 1930s did not, however, engender the opprobrium that had plagued his involvement with NSS. Nevertheless. James and Henry Lithgow's involvement in steel serves to illustrate the widespread power and influence that they brought to bear on any particular sector of the Scottish economy within their purview. Their contribution to the rationalisation of the bulk of the Scottish iron and steel industry was pursued with a determination, not only to derive the maximum benefit for their own particular company, but also in the long run to attempt to achieve an overall solution to the industry's ills.

As Russell and Company, the firm had taken shares in Baldwins steelworks at Port Talbot, Wales in 1907, and relied on the Greenock steel merchants and stockholders. Peter MacCallum & Sons to secure supplies at peak times from Port Talbot.[130] Lithgows entered the steel industry directly in 1920 by purchasing almost all of the Ordinary shares in the Lanarkshire coal, iron and steel firm of James Dunlop and Company Limited late in 1919. This strategic move which other shipbuilders followed was ostensibly made to secure supplies of steel plate for their shipyards. [131]

However, the Lithgow brothers hedged their bets by also increasing their stake in Baldwins late in 1919.[132] This was done in all likelihood to take advantage of any speculative bid for the Port Talbot firm, whilst simultaneously ensuring through the purchase of James Dunlop that it would be beyond the reach of a speculative combine such as the Sperling Group. Another cogent motive was to take advantage of any subsequent fall in local prices against those pertaining from other regular suppliers from outwith the district. Overall, the acquisition of Dunlop gave Lithgows more market power than hitherto. Few, if any commentators, however, could have foreseen that the Dunlop purchase would eventually give the Lithgow brothers a pivotal role in the future rationalisation of the Scottish steel industry.

Where Lithgows led, others followed, and by March 1920, the Belfast shipbuilding and engineering firm of Harland & Wolff had purchased the bulk of the Ordinary shares of the Lanarkshire steelmakers, David Colville & Sons. That year, another Belfast shipbuilding firm, Workman Clark, a subsidiary of the Sperling Combine's speculative venture, the Northumberland Shipbuilding Group, acquired the Lanarkshire Steel Company. [133] At this stage, the Beardmore conglomerate, which had naturally gravitated into primary steel production far earlier than had Lithgows, increased its presence in the sector by combining with the Tyne shipbuilders, Swan Hunter & Wigham Richardson to purchase the Glasgow Iron and Steel Company at Wishaw. Not to be left behind, in April 1920 a consortium of mainly Clyde based shipbuilders and shipping interests purchased the Steel Company of Scotland, which then came under the chairmanship of Fred J. Stephen of the Linthouse shipbuilders and engineers, Alex Stephen & Sons Limited. [134] As a result of this remarkable burst of acquisitions, Peter Payne noted that with the exception of Stewarts & Lloyds, shipbuilders now owned the steel-making capacity of Scotland. [135] However, these somewhat unholy alliances would almost certainly mean that any future attempt to consolidate and rationalise the sector, whilst not insurmountable, would founder upon fundamental divergences of interests.

At 1918, Dunlop's authorised share capital amounted to £550,000 in shares of £1,

£300,000 being in 6% cumulative preference having also a priority as to capital, and £250,000 in ordinary, all of which were fully paid up.[136] Late in 1919, Lithgows offered to acquire the ordinary shares at £2 each, which was subsequently accepted. However, the offer was conditional upon the purchasers supporting alterations to the company's articles of association. Providing: 'That no dividend would be paid on the ordinary shares of the company as long as the reserve fund for securing the rights of the preference shareholders to their preferential dividends amounts to less than £50,000. [And]: That holders of preference shares shall have right to attend and vote at all general meetings of the company if and so long as the preference dividend is in arrears'.[137] James and Henry Lithgow split the purchase between themselves personally, and through Lithgows Limited, Robert Duncan and Company and the Kingston Investment Company. As a result, by 22 July 1920, James and Henry Lithgow held just under 45,000 ordinary shares between them, nominees held 100,000 ordinary shares on behalf of Lithgows Limited, and Robert Duncan and KIC held 45,000 ordinary shares respectively.[138] Before the Dunlop purchase, however, Lithgows had joined with MacCallum's to purchase over the following year 16,201 tons of American steel plate for merchanting at the height of the postwar boom. Subsequently, by April 1921, the partners had made a profit of £26,000 on initial outlay of just over £270,000. [139] Despite owning their own steel firm, Lithgows priority remained dedicated to obtaining the cheapest price for steel plates. In 1922, the firm purchased through MacCallum's 7,600 tons of German steel, and in 1924 bought a further 22,300 tons of continental steel from the same source. The latter deal, at £8 10s a ton was considerably cheaper than the price quoted by James Dunlop of £9 15s a ton. [140]

Under Lithgow control, Dunlop's net profit for the year ending 31 December 1920 amounted to £102,726 13s 10d. However, the firm's directors recommended that, 'in view of the unsettled condition of trade and the grave outlook for the future no Dividend on Ordinary shares be paid this year'. This was a prescient warning as in the following year the firm had posted a loss of £87,241 13s 11d. This loss had resulted from an industrial dispute by the miners and the depression in trade consequent upon the ending of the postwar boom, which had led to a severe fall in

prices. Dunlop's met the loss by a transfer from reserves and gave up Hallside and Newton Collieries and took steps to realise the value of the plant. [141]

With the end of the postwar boom, however, the bulk of the Scottish steel makers, hit hard by the collapse in price of steel plates were in financial trouble and none more so than Beardmore. This led William Beardmore, now Lord Invernairn, to attempt to bring the various producers together in January 1923 in order to discuss the future rationalisation of the industry. Initially, this was inconclusive, although Invernairn did have the support of the Lanarkshire Steel Company. However, owing to the parlous state of his own company finances, Invernairn was hardly in a position of strength from which to convince the bulk of a sceptical industry to change. This proved to be the case, and James Dunlop, represented by Henry Lithgow and R. M. Donaldson, intimated at a future meeting that were not prepared to consider a merger, nor any similar arrangement which did not guarantee Lithgows a supply of ship plates. Such was the animosity towards Invernairn's scheme that representatives of the Steel Company of Scotland did not deign to attend. [142]

In the following years various schemes were proposed, however, it was not until November 1926, that Colvilles, through John Craig, the dominant firm in the industry, were again approached by Beardmore, the Steel Company of Scotland and representatives of Lanarkshire Steel to consider some form of amalgamation. However, these initiatives, which included selling steelworks outright to Colvilles, came to naught. By this stage, Lord Invernairn had approached the Government with proposals to assist in the financial reconstruction of his company by postponing liens held on certain of its assets, and by guaranteeing further working capital. Churchill, in consultation with the President of the Board of Trade concluded in December that the Government would not be justified in agreeing to either request. [143] By June 1929, however, the Bank of England had intervened to save the core of the Beardmore Empire, and in November, its Governor, Montagu Norman had undertaken to arrange the sale of Beardmore's Dalmuir yard to a company to be formed by the Shipbuilding Conference, subsequently NSS. Thereafter, an agreement in principle had been reached by March 1930 with Sir James Lithgow to

purchase the yard. [144]

Earlier, in February 1929, Lord Weir, Sir James Lithgow, and John Craig of Colvilles had met with representatives of other iron and steel concerns and agreed to consider the creation of a rationalised single company responsible for iron and steel production in Scotland. As a result of this meeting, Lord Weir was authorised to commission the Chicago firm of consulting engineers, H. A. Brassert, to undertake a comprehensive survey of the industry. Brassert laid bare the fundamental inadequacies of the industry, and, as Payne notes, the subsequent report concluded that, 'only' the creation of a fully integrated concern with suitably located dock and ore processing facilities, would enable costs to be cut and combativeness to be restored.[145] By October, given the radical nature of the proposals, no agreement on the Brassert proposals had been reached, By this stage, however, Colvilles had began negotiations with Dunlop's on closer co-operation between the two companies. This, to a large extent, stymied the root and branch reform predicated by Brassert. However, a merger of Colville and Dunlop could open up the route to a wider solution of the industry's ills, and there is reason to believe that Sir James Lithgow and John Craig had this particular end in sight. That aside, we can also attribute to these individuals a rationale to consolidation in the industry, based on hard-headed business acumen. How altruistic their motives in general were remains open to interpretation? Sceptics will undoubtedly consider that altruism and business are strange bedfellows, and rightly so. However, altruism, ex post facto, can be an alluring motive in attempting to explain business behaviour, especially in the absence of primary evidence to either support or reject it. Moreover, too much reliance can be placed upon second hand accounts, usually from close friends of a subject, in an attempt to explain from a mass of conflicting material the underlying motive of that behaviour.[146] In the later purchase by Lithgows of the technically insolvent Fairfield Shipbuilding & Engineering Company Limited, Sir James Lithgow's long-time confidante, Sir Andrew Simpson Macharg, found his motive for so doing, 'a little bit too altruistic'.[147] Despite this, however, there is little doubt that Sir James Lithgow had the long-term future of the Scottish economy, and

particularly that of his native Port Glasgow, very much in mind. Throughout the protracted negotiations of the 1920s, the Lithgow brothers had played a long end game, and had the advantage of a clear company strategy, which was essentially pragmatic. Unlike, for example, The Steel Company of Scotland, James and Henry Lithgow did not have a multitude of competing interests to satisfy.

Setting aside the Brassert proposals, 1929 proved to be a record year for Lithgows Kingston and East yards, where eighteen vessels of 91,327 gross tons were launched. Since 1919 Lithgows had topped the Clyde yearly launching output table in 1926, 1927, 1928 and 1929 and had been second on two occasions in 1919 and 1924. By 1931, however, the worldwide collapse in shipbuilding demand was particularly evident, and only two vessels of 7,809 gross tons were built. [148] Accordingly, by this stage the steel sector had suffered from the lack of demand for shipbuilding plate. In this scenario Lithgows pragmatic approach, based on solid financial strength, to local, regional and national problems was undoubtedly the correct one in which to ride out the effects of the depression in trade. Shipping firms, however, had been among the first to feel its effects, and in 1929, the leviathan of the shipping industry, Lord Kylsant's Royal Mail Group had spectacularly hit the rocks.[149] Kylsant's empire, he effectively controlled one hundred and forty companies, included Elder Dempster, which owned twelve per cent of Harland & Wolff, who in turn had held ninety-five per cent of the ordinary shares in David Colville & Sons from 1920. [150] Thereafter, Sir James Lithgow as an advisor to a major creditor, the Midland Bank, and to Government was privy to the many twists and turns of the Royal Mail Group`s collapse. [151] His involvement was all the more pertinent as the collapse could have serious repercussions for a future Dunlop/Colville merger. As Kylsant's empire unravelled, and a spiral of financial irregularities came to light, the Treasury appointed a Special Committee, which led to the appointment of three trustees with voting control over the affairs of the Royal Mail Group. Colvilles, at this stage still owed an outstanding debt to the Treasury, and needed that department`s approval if a Colville/Dunlop merger was to proceed. It is likely that had not the merger negotiations been at an advanced stage and

agreement forthcoming, then in the event the trustees may not have agreed to it. Indeed, as Payne further notes, Sir William McLintock, a voting trustee, had distinct reservations in regard to the over-capitalisation of the proposed company, as did John Craig over the disproportionate nature of the Cumulative Preference Shares in it. It is also clear that the Lithgow brothers were insistent that the basic capital structure should be maintained. As one of the larger consumers of steel plate in Scotland, and with the support of the Bank of England, Lithgows were in a very strong position, and a revised deal was later accepted. [152] On 10 October 1930, the respective boards of Colvilles and Dunlop's reached complete agreement, and by the end of the month, the voting trustees had given their consent. The new company, Colvilles Limited, subsequently incorporated on 1 January 1931, would acquire the Clydebridge, Dalzell and Glengarnock works from David Colville and Sons and the Clyde Iron Works, Calderbank steel works, and associated collieries from Dunlop's. David Colville and Sons, who by this stage had severe problems with their cash creditors, subsequently ameliorated by a moratorium, continued as a holding company. [153]

The Lithgow brothers' strategic investment in James Dunlop, and their determination to maximise their influence upon the future course of the sector, even though losses were sustained is clear. Beforehand, in June 1930, Dunlop's outstanding Preference share interest incurred was £107,000 and the company was indebted to Lithgows to the tune of £350,000. [154] Clearly, the Lithgow brothers had an all or nothing strategy and continued to waive the interest due on their loans, and at the year-end just before the merger, Dunlop's reserve fund stood at just £11,000.[155] The Colville/Dunlop merger precipitated the closure of the latter's uneconomic steel works at Calderbank, and in Colvilles, the Port Glasgow firm now had an alternative supplier of steel plate. These factors were just as conducive to Colvilles as they were to Lithgows whose influence, as John Craig of Colvilles acknowledged, was the principal attraction of the merger. [156] It was precisely this influence, which would eventually prove to be decisive during the subsequent merger negotiations between the steelmasters.

Sir James Lithgow's chairmanship of NSS inevitably meant that he was at the heart of Beardmore's dénouement as a naval builder, and was also involved in the subsequent reconstruction of that company's myriad interests. In addition to his seat on the board of Colvilles, Sir James had become a director of Beardmore in 1932, became chairman in 1936, and had gained overall voting control over the company's affairs in 1938. [157] However, the long game on a future merger of steel interests in Scotland still had to be won, and given the intransigence of the Steel Company of Scotland, this was no easy task. A task all the more difficult as John Craig, now chairman of the newly formed Colvilles Limited refused to pay over the odds for Steel Company stock. Craig's position, given the collapse of demand for steel in the early 1930s following on from the disastrous decade of the 1920s was understandable. Moreover, there was little use in trying to run before Colvilles Limited could walk. In the event, Craig's intransigence matched that of the Steel Company, and did not look like diminishing. Given this, therefore, the impulsive side of Sir James Lithgow's personality was likely to come to the fore sooner rather than later, and he was far more likely to broker a deal with the shipbuilders on the Board of the Steel Company of Scotland than Craig was. However, Sir James Lithgow's involvement in turning around the fortunes of William Beardmore promised to be a challenging task. By the year ending 31 December 1933 the company accounts showed a net loss of £164,024, in addition, depreciation had not been provided for, and interest charged on First Mortgage Debenture Stock amounting to £54,543 had not been paid owing to the introduction of a Moratorium Scheme. [158]

The failure of the Scottish steel masters to amalgamate their interests in the wake of the Brassert Report of January 1930 has to be seen against a background of increasing governmental disillusionment with the industry on a national scale. The closure of Beardmore's Dalmuir yard by NSS had been of considerable relief to the Bank of England, and enabled it to offload a considerable liability. The Bank through its subsidiaries the Securities Management Trust (SMT) and the Bankers

Industrial Development Company was an enthusiastic supporter of rationalisation in the steel industry in Scotland, and had the tacit support of government. Although Craig desired an eventual merger, given Colvilles strength in relation to its competitors, he was not prepared to suffer any marked diminution in Colvilles share of any subsequent amalgamation. Indeed, failed attempts by Sir William McLintock, and C. Bruce Gardner of SMT testified to this. It was Craig; however, who broke the impasse when he brokered a deal with Stewarts and Lloyds (who had made the initial move in November 1932) to supply that company's steel plate in Scotland, and abroad. Craig's deal essentially froze out the hitherto recalcitrant Steel Company of Scotland, and by April 1934 he had refused all entreaties to reconsider his position. [159] Moreover, his stance was apparently strengthened by the purchase in April 1934 of Beardmore's Mossend Works for £100,000. However, Sir James Lithgow's friend, Sir Andrew Duncan had proposed this sale in a secret memorandum to Montagu Norman, and had recommended the sale of Beardmore's Parkhead wheel and axle factory, and its diesel engine business to Lithgow, and the sale of the Dalmuir engine works to Fairfield. [160] Owing to the hostility of other Admiralty contractors to the proposed Fairfield-Dalmuir engine works amalgamation, this deal fell through. Subsequently, Sir James offered to arrange the sale of the goodwill of the Dalmuir business to those contractors, and then sterilised the engine works under the auspices of NSS. [161]

Throughout his chairmanship of NSS Sir James Lithgow had been frustrated by the lack of co-operation over rationalisation shown by the Belfast shipbuilders and engineers, Harland & Wolff. The Belfast firm in addition to owning the almost all of the ordinary shares in Colvilles, also had control over four Clyde yards, Caird at Greenock, D & W Henderson at Meadowside, A & J Inglis at Pointhouse, and Harland & Wolff at Govan. Owing to the financial reconstruction of Harland & Wolff in the wake of the Royal Mail Group collapse, the Belfast firm had continued to be subject to a moratorium on its debts, and as such was under the effective control of voting trustees. With the firm's principal creditor, and the exchequer bank of the Northern Ireland Government, the Midland Bank, in the forefront, a search

had been undertaken to find a suitable candidate of sufficient gravitas to chair the ailing Belfast firm. To this end, the trustees canvassed Sir James Lithgow to fill the vacant chair, however, it was apparently discovered that Sir James would only be interested in the Belfast firm to further his interests in the rationalisation scheme for the industry, and the offer was withdrawn in July 1930. As Hume and Moss noted, Sir James, 'never forgave them for robbing him of this opportunity, and for the rest of his life remained critical of the Harland & Wolff management'.[162] In the event, before F.E. Rebbeck took the job, he completed a review of the firm's operations in conjunction with James Gray, Harland's director responsible for ship repair, which, inter alia, recommended the permanent closure of Caird at Greenock.[163] By December, Harland's were in deep financial trouble and had decided to approach NSS over the sterilisation of the Greenock yard. However, owing to the inadequate fitting out facilities at their Govan subsidiary, it was decided to retain the Meadowside and Pointhouse yards. The Belfast firm's precarious financial position continued and by June 1931, the Board agreed that the Caird yard should be sold to NSS, but owing to difficulties with the Greenock Harbour Trust, Harland's closed the Greenock yard. By July 1932, the Belfast yards were put on a care and maintenance basis, leading to heavy localised unemployment. In the interim the three Upper Clyde yards continued to produce small ships, however, the Pointhouse yard had more or less closed by March 1933, and Govan and Meadowside continued on in the hope of an upswing in trade, and the Belfast yard re-opened in the autumn of 1933.[164] By this stage, however, the Shipbuilding Conference had become increasingly concerned that Harland & Wolf, owing to the support of the Northern Ireland Government were tendering for vessels at less than cost. In this respect both A. Murray Stephen and Sir James Lithgow made their displeasure known to the President of the Board of Trade as they had no doubt that the Belfast firm, where John Craig of Colvilles sat on the Board, was engaging in unfair competition through receipt of subsidies.[165] Lithgow met the President in October 1933 and pointed out that NSS had not been able to scrap a single berth in Belfast, whilst substantial sterilisation has already occurred in England and Scotland.[166]

By March 1935, it had become apparent that neither the British Linen or Clydesdale banks were prepared to further finance. D & W Henderson, the owners of the Meadowside yard, and were eager that the yard be sold to NSS. By April, the Meadowside yard had been placed into liquidation, and Sir James Lithgow's friend and financial adviser, Sir Andrew Macharg had been appointed liquidator. He continued to sanction construction until a deal on sterilisation of the yard by NSS was worked out. By this stage, however, NSS had purchased Workman Clark in Belfast and a deal had been made in which Harland & Wolff took over Workman's Victoria shipyard and Engine Works in exchange for the Harland shareholding in the Meadowside yard. By June the deal had been finalised, which included the sale of Caird to NSS. [167]

As chairman of NSS, Sir James Lithgow had been privy to the negotiations from the outset and had been concerned that Harland & Wolff should aid rather than impair the shipbuilding industry in its attempts at rationalisation, if he was to help the firm to repair its finances. In this, as always, Sir James could easily marry his own interests with that of the industry as a whole. As Tolliday noted, Sir James wanted Harland's to "lop off" all but the repair functions at Meadowside and to sterilise the Pointhouse yard against any return to shipbuilding. And that Harland's would have to agree not to build vessels below a certain size (in practice, tramp ships, a Lithgow speciality) at its Govan or Belfast yards. Moreover, Sir James Lithgow's condition of assent to a 'Colville scheme' was, 'a pact of non-aggression', with the Belfast firm, which included an agreement not to compete with each other. Harland's would have a clear field on warships and passenger liners, and Lithgows on all other types of ships. [168]

By March 1935, however, Sir James Lithgow had, with the support of the Bank of England formulated a new plan to amalgamate the Steel Company of Scotland; Beardmore's Parkhead Works, and other similar works into one operating company, (Colvilles Limited). Subsequently, in July, Lithgow broke the impasse by purchasing the ordinary shares of the Steel Company of Scotland, and presented his coup as a

fait accompli to the Colvilles board, but offered to part with the shares at par whenever Colvilles Limited wished to purchase them. Lithgow, not Craig, was now firmly in the driving seat, his agreement to take ships plates from Colvilles expired in 1938; and thus he was able to insist that a renewed effort be made to purchase the Lanarkshire Iron and Steel Company. However, it has remained unclear just how Sir James and Henry Lithgow financed the acquisition of the shares of the Steel Company of Scotland. The sum of £672,975 was a large one, and it is generally assumed that it could only have been done with the aid of the Bank of England. [169] It has recently come to light, however, that Sir James Lithgow on behalf of Lithgows Limited arranged with the Commercial Bank of Scotland for an advance on security of the shares acquired. An account was opened at the London offices of the bank styled 'Steel Company Account' with the provision that the said account be overdrawn to the extent of £575,000. (The aggregate par value of the shares purchased plus a sum of £76,500). Interest on the overdraft was to be at Bank Rate with a minimum of three and one half per cent. [170]

Nonetheless, the overall picture soon became clearer when David Colville and Sons, whose cash lenders moratorium on the payment of interest and capital owed had expired in December 1933, but had been extended by another year, restructured its capital base. This was eventually achieved in October 1934 by a successful public offer of sale of newly issued cumulative preference shares in Colvilles Limited. [171] With the burden of debt now lifted from David Colville and Sons, the path to consolidation had opened up. Subsequently, the Royal Mail Group voting trustees who held the vast majority of Ordinary shares in David Colville and Sons proposed to increase the Ordinary share capital of Colvilles Limited. This rested upon a public flotation of the shares, whose proceeds would enable the purchase of David Colville's subsidiary companies; the Steel Company of Scotland from Lithgows and, eventually, Lanarkshire Steel. However, Sir James and Henry Lithgow, wary of any diminution of their ability to influence the future course of Colvilles Limited policy, apparently preferred an issue of Debenture stock. John Craig, who saw the difficulty of a company burdened by large amounts of prior charge securities, resisted this. In

the event, the Lithgow brothers consented to the creation of an additional tranche of Ordinary shares and the public sale of over three million Ordinary shares in Colvilles Limited in March 1936. The purchases of Colville's subsidiary companies and the Steel Company of Scotland were accomplished, and that of Lanarkshire Steel soon followed at a reduced price.[172] However, before agreeing to the re-sale of the Steel Company of Scotland shares, Sir James Lithgow had received assurance from Harland & Wolff that it would not sell its shares in Colvilles for the next two years without his consent, and thereafter he should have first option on the sale of any Harland shares. [173] The Lithgow brothers made a substantial profit of £283,775 on the sale of the Steel Company shares; however, in later years Sir James anonymously donated in excess of this sum to a number of religious bodies in Scotland. [174] The process began by Invernairn in 1923 and carried on by John Craig and by Sir James Lithgow had finally come to fruition and the bulk of Scotland's iron and steel industry had been consolidated. Lithgows, as proprietors of James Dunlop went on to form a holding company with Colvilles Limited to merge the coal interests of Dunlop with that of James Nimmo and Company, to form Nimmo and Dunlop, in which Lithgows had voting control. [175]

That this consolidation of the iron and steel industry in Scotland occurred, given individual enmities and the labyrinthine nature of the financial structures of the companies involved has to be seen as a considerable achievement. Although a truly integrated iron and steelworks with ready access to deep-water facilities, arguably what was really needed to keep the Scottish industry competitive, did not ensue. Throughout the process, however, Sir James Lithgow in conjunction with the Bank of England had the inside track and was ruthless enough to drive the process through. Craig and the other steelmasters all recognised this fact, however, in the end a solution of sorts had been found, and Sir James Lithgow's reputation as the dominant industrial figure in Scotland had been cemented. Indeed, such was Sir James Lithgow's standing that by January 1936, Montagu Norman, with the acquiescence of Sir Andrew Duncan, and the Securities Management Trust, despite counter offers from John Brown, and Vickers Armstrong had agreed to sell off the

Bank's first mortgage debenture stock in Beardmore to him. Subsequently, Lithgow was elected chairman of Beardmore at Board meeting held at the Bank of England on 26 February. [176] However, Sir James and Henry Lithgow did not gain full control of Beardmore until June 1938. And then only after an agreed scheme of reconstruction of the firm's finances had taken place, which had gained the acceptance of the Voting Control Committee established by the firm's creditors. [177]

By July 1938, with the likelihood of a European war increasing, the prospects for demand on the mercantile side of the shipbuilding industry had begun to worry the Shipbuilding Conference who submitted a memorandum to the Board of Trade bemoaning the industry's plight.[178] At the heart of the industry's concern was the resurgence in foreign competition, despite its attempts at self help through NSS and through other various schemes of co-operation mounted by the Conference. Work in hand at the end of 1938 would only be half of that at the end of the previous year, whereas continental competitors had no shortage of work. The industry again pointed out the high level of costs in the UK, particularly on sub-contracted items, and that those vessels under construction for British owners in continental yards had a value of around £5 million. Moreover, a provision of £1million would have been needed to bridge the price differential in tenders to compensate for the loss of these orders. If this was not enough to grab the attention of politicians, the industry, without a trace of irony regarding the NSS closures of Beardmore and Palmer's felt that it had to raise its concerns on grounds of national defence. [179] As is the nature of special pleading, what had suited the industry in the past, was now, due to a change in circumstances, no longer appropriate. By December, however, the Emergency Committee of the Conference, including Sir James Lithgow, had met the President of the Board of Trade on an informal basis to voice its concerns. However, the meeting was inconclusive as it was decided to await a report from the Chamber of Shipping, which was subsequently circulated in January 1939. This report proposed a system of operating and fighting fund subsidies, subject to vessels being built and repaired in the UK. At a later meeting of the Shipbuilding Council, these proposals and a raft of other suggestions were agreed. [180] The Government, in line with the

deteriorating international situation was more inclined to listen than in more normal times and in March 1939 proposed a number of initiatives, which included a further tramp ship subsidy linked to freight rates. The proposals also included a £10 million-loan scheme to encourage new construction over a two-year period of tramp ships. cargo liners and coasting vessels. Additionally, a sum of £2million was to be provided for vessels to be held as national reserve tonnage. This government initiative resulted in over 700,000 gross tons of shipping being ordered, which to a large extent relieved the perceived lack of mercantile demand, and also offered suitable vessels for potential use in a national emergency. [181] Moreover, shipbuilders and shipowners had now apparently gained what they had hitherto vehemently opposed in regard to the continental maritime industries, state subsidies. Although these proposals were never formally enacted in Parliament due to the outbreak of the Second World War, as Jones noted, it was clear from their nature that they were, 'intended primarily as a contribution to a national defence programme, and not as a means of improving the efficiency of the maritime industries'. [182]

Nevertheless, the impending war, and the boost to order books consequent upon it, masked the utter failure of the industry as a whole to compete in the international market for ships. Sir James Lithgow recognised more than most of his contemporaries the importance of competing internationally for the long-term health of the industry. In July 1939, in his capacity as chairman of NSS, he reviewed the present position of the industry and its development in the past decade. Before, the establishment of the Shipbuilding Conference he noted that only the Shipbuilding Employers Federation had represented the industry's interests. However, with the growth of the Conference and NSS, he observed that a, 'considerable degree of public confidence and esteem had been secured'. NSS had by this stage paid off the bulk of its debt, and total repayment was in sight. Sir James, however, repeated his familiar refrain that high social costs had placed considerable burdens on the industry. He acknowledged that subsidies to shipowners were now established, and hoped that future assistance to the shipping sector would be conditional on an obligation for owners to place their orders in home yards, and advocated the

establishment of a fighting fund as a means to recapture the export trade. In all, Sir James hoped that a reorganised industry based firmly on principles of mutual trust would emerge, and through unity would be better able to negotiate with Government, shipping interests and suppliers. [183] In a sense his was a valedictory message as he had presided over an unprecedented decade of co-operation in an industry that had hitherto been a bastion of rampant individualism. What was absent in all this, was a recognition that if the industry was to remain truly competitive in the international market for ships, then some root and branch reform remained necessary.

Lithgows and the Second World War

At the outbreak of war the Lithgow brothers wholly owned and controlled their East and Kingston yards, and part owned the Glen yard of William Hamilton in Port Glasgow. They owned and controlled the Fairfield Shipbuilding and Engineering Company Limited at Govan and its subsidiaries in Glasgow and at Chepstow, and the Ayrshire Dockyard at Irvine. The Port Glasgow firm also owned and controlled Beardmore's Parkhead works and it's various subsidiaries. In tandem with their considerable interests in coal, iron and steel, marine engineering and engine building, ship owning and management, and their influential contacts in business, banking and government this gave the Lithgow brothers a hitherto unparalleled power base in the economy of the west of Scotland.

During the 1920s and 1930s Sir James Lithgow's considerable energies had been taken up with national problems in shipbuilding and steel and in turning around the fortunes of Beardmore and Fairfield. However, Henry Lithgow also played a significant, albeit a background role in these matters. This dual concentration of effort by the Lithgow brothers in the public and private spheres inevitably impacted on the core Port Glasgow yards, which, although productive, still did not embrace the latest trends in modernisation. As the descent to war gathered pace it was likely that Sir James Lithgow's public role would increase, leaving Henry Lithgow to bear the brunt of wartime reorganisation of production at the core Lithgow yards.

Through his membership of Government committees, and his wide-ranging domestic and international contacts, Sir James could have had little doubt that war was imminent. However, he had never hidden his reservations over its implications for Britain and her Empire, and supported Chamberlain and the Munich Pact. The coming war, with its inevitable pressure on extant productive resources, would further curtail any wholesale modernisation programme at the heart of the Lithgow Empire. [184]

Sir James Lithgow's opposition to war was not founded upon insularity: after all he had fought in one already. His knowledge of heavy industry was perhaps unrivalled. He had been the driving force in the shipbuilding industry in the interwar period and had held the highest office in its organisations over two decades. In the wider industrial scene he had been chairman of the Federation of British Industries, and on two separate occasion's been the British employers delegate at the International Labour Organisation in Geneva. If this were not enough, Sir James had also been instrumental in setting up the Scottish National Development Council, and continued to serve that body and its committees throughout the 1930s.[185] In short, Sir James Lithgow had an unshakeable belief that industrialists were beholden to put something back into the community in which they had prospered. [186] When the call came from Churchill, he again served his country with distinction as Controller of Merchant Shipbuilding and Repair (CMSR) at the Admiralty from February 1940. Characteristically, Sir James refused to take a salary for his efforts, and despite the evident need for wholesale modernisation of plant and equipment in British yards, his position was such, that any overt modernisation in his own yards could have been seen to be an exercise of undue influence. [187] However, Sir James continued as chairman of Beardmore as this was deemed to be in the national interest, but stepped down temporarily from the chair at Fairfield. Again, as he did for part of the Great War, Henry Lithgow shouldered much of the day-to-day responsibility of running the shipyards and looking after the family's many interests. NSS, however, was never far in the background and in the same month as Sir James had been appointed CSMR, Ellen Wilkinson again attacked his role in it. She stated: 'If this war could

be lost-and I don't think that it will be-the fault would have been that of James Lithgow, a dour Scots shipowner and shipbuilder who formed in 1931, NSS Ltd., which cut down shipbuilding's facilities by a one-third'.[188] Wilkinson. although continuing her personal vendetta against Sir James, had publicly voiced what many people, particularly those in trade union circles privately thought, namely, that the activities of NSS had undermined Britain's capacity to sustain a long campaign. Moreover, Sir James Lithgow's forthright views on the labour question in shipbuilding had hardly endeared him to the same trade union leaders who, due to the national emergency had a much more inclusive and participate role in industry than hitherto.

Lithgows contribution to the Second World War was however, immense. From 1940 to 1945 inclusive, the East and Kingston yards completed a total of eighty-two vessels of 538,600 gross tons for private owners, the Ministry of War Transport and the Admiralty. [189] The part owned, but Lithgow controlled Glen yard of Wm. Hamilton completed seventeen vessels of an estimated 130,000 gross tons, including five cargo liners for the yard's half-owners, Brocklebanks. [190] The larger Fairfield shipyard and engine works at Govan concentrated solely on warship construction. From September 1939 to August 1945 the yard completed an aircraft carrier, two cruisers, seventeen destroyers and two sloops, and a number of tank landing craft and tank landing ships. Fairfield also built another cruiser that was not launched until the end of 1945 and a second aircraft carrier, which was not commissioned until 1946. Excluding these two warships, Fairfield war output totalled 113,738 standard displacement tons. All the ships were engined by the yard's engine shop with output totalling 1,460,000 S.H.P.[191] Moreover, Lithgows subsidiary companies, notably Beardmore, also made a huge contribution to the war effort in coal, steel and armaments.

The Lithgow brothers had first consolidated then expanded the shipbuilding legacy of their father. Sir James accepted, in Alexander Belch's words, 'his semi-feudal responsibilities with his brother Henry to Port Glasgow'.[192] Those duties to the town included resisting successfully the attempt of the larger neighbouring burgh of

Greenock to devour it. [193] Throughout the depression years the Lithgow brothers continued their core shipbuilding activity in a business that had always been particularly subject to the vagaries of the trade cycle, ship owners paranoia over downturns in freight rates, and periodic inflationary spirals. The industry, primarily located in areas of relatively high unemployment, was a prime example of an area of economic activity where unemployment and job insecurity were all too often par for the course. Moreover, it was also a highly casualised industry where mistrust between individual unions, management and men was endemic. Sir James Lithgow's involvement in NSS, however, given his standing in the industry was understandable. No sensible person could disagree that capacity in the shipbuilding industry in the 1920s and early to mid 1930s by far exceeded demand. However, the establishment of the Shipbuilding Conference and later that of NSS financed by a levy on tonnage, proved that co-operation and industrial self-preservation, rather than individual annihilation, were mutually compatible positions for the larger firms in the industry. The loss of two huge naval yards in Beardmore and Palmer's aided the warship and liner sector's survival and eventual return to profitability. After the years of famine that characterised the bulk of the interwar period in shipbuilding coal and steel came the feast of rearmament. Profits from coal, steel, armaments, and warship and engine building at associated companies gave Lithgows, a company that had always operated on tight margins at their core Port Glasgow yards, a substantial injection of funds.

As the war progressed, Sir James Lithgow's role in the direction and organisation of production in the mercantile sector increased and from 1942 onwards he was intimately involved in implementing may of the recommendations of the Barlow and Bentham Committee reports into the shipbuilding industry. Tensions, however, were apt to rise to the surface, and criticism of NSS contained in the minority report attached to that of the Barlow Committee, authored by Gavin Martin, of the Confederation of Shipbuilding and Engineering Unions, prompted Sir James to complain about its contents to the First Lord of the Admiralty. Again, Martin`s criticisms echoed those of Wilkinson, that NSS had deliberately lowered the

building capacity of the industry without regard to the nation's needs. In light of this criticism, Sir James called upon Martin to either substantiate his allegations or withdraw them, and accused the latter of reckless ignorance of the subject. Through the offices of the Financial Secretary to the Admiralty, George Hall, Martin assured Sir James that he had neither singled him or Sir Amos Ayre out for personal criticism, and the matter was therefore dropped. [194] Nevertheless, as chairman of the Shipyard Development Committee at the Admiralty, Sir James oversaw what Barnett has noted was 'a remarkable feat of re-equipment in the middle of a world war'. [195]

Even when this is taken into account, however, there still remained within the industry, as the Cabinet Reconstruction Committee later noted: 'A tendency to the fossilisation of inefficiency'. [196] Given the depression years, this conclusion was hardly surprising. Although the Shipbuilding Conference had recognised the impact of foreign competition in 1938, only in late 1944 did it attempt to combat it in future by establishing a committee, a principal sub-committee and four sub-committees to increase the postwar competitiveness of the industry. This resulted in an interim report by the chairman of the Conference, Sir Amos Ayre, which to a large extent mirrored the memorandum handed to the Board of Trade in 1938. [197] However, although there was a general recognition within the industry that change was essential, the will to confront that change head on was lacking. Thereafter, in the temporary absence of effective international competition, the postwar rush to reconvert to mercantile construction and to rebuild the British mercantile marine gathered pace. The majority of British shipbuilding yards had full order books, and all of the industry sub-committees on increasing competitiveness, lapsed, and with it the industry's opportunity to regroup and modernise before the inevitable intensification of foreign competition returned as continental yards were rebuilt.

Perhaps, had Sir James Lithgow been a younger man, then by force of personality and industrial and financial muscle he may have made a contribution to the industry's postwar outlook by strengthening the powers of the Shipbuilding

Conference. At heart, however, it primarily remained a price protective organisation. The Shipbuilding Employers Federation, composed of basically the same people, hardly changed its attitude on labour either. Throughout the late 1920s and 1930s despite Sir James Lithgow's' warnings on the dangers of foreign competition encroaching on the domestic market, and to some extent because of them, the industry always knew what was good for it. However, what was good for the shipbuilding industry as it increased its profit potential in the short-term was not necessarily good for it over the long run. The tendency toward higher prices for ships without corresponding increases in efficiency to keep the industry competitive had the stamp of inevitability about it. Moreover, such a blinkered attitude would play into the hands of more capital intensive continental yards when they had re-equipped. Although the Lithgows brothers had made a major contribution to the preservation of the economy of the West of Scotland, the direction and strategy of their Port Glasgow based Empire ultimately rested upon the shoulders of two people whose schedules would surely have taxed much younger men. The demands placed upon them in wartime were considerable, and the coming peace would seemingly offer little respite.

Endnotes: Chapter II

[1] As previously stated in the introduction to this thesis, there is no official company history of Lithgows Limited, suffice that there is an authorised biography of Sir James Lithgow. Reid, *Sir James Lithgow,* and some personal papers of Sir James are held in the DC35 classification at the University of Glasgow Archives, Thurso Street, Glasgow. However, for a searching analysis of the career of W. T. Lithgow, to which I am indebted, see M. Moss, 'William Todd Lithgow-Founder of a Fortune', pp. 49-50. Moss informs that of the three experienced shipbuilders, of which the twenty-one year old Lithgow who had trained as a draughtsman was the youngest, Russell (41) contributed £5,000, Rodger (31) £1,000 and Lithgow an inheritance from his father of £1,000. See also M. Moss entries on Joseph Russell and W. T. Lithgow and A. Slaven's entry on Sir James Lithgow in the *DSBB*

[2] W. F. Macarthur, *History of Port Glasgow* (Glasgow, 1932), p.105.

[3] Slaven, *Development of the West of Scotland,* p.127. Slaven highlights an almost tenfold expansion in the Clyde output of steam powered tonnage from 81,400 tons in 1941-1850 to 798,400 tons in 1860-1870.

[4] *Two Hundred and Fifty Years of Shipbuilding*, p.15.

[5] Moss, 'William Todd Lithgow-Founder of a Fortune', p.53, notes that of 39 vessels built from 1880 to 1882, 26 were of the standard type.

[6] Ibid., pp.54-55.

[7] GD 319/25/2/1 *Scott Lithgow House Magazine*, spring 1969.

[8] DC 35/90 Letter from R. J. Wilson to Mr. Cunningham, 6 November 1951.

[9] Moss, 'William Todd Lithgow-Founder of a Fortune', p.57.

[10] Slaven, *Development of the West of Scotland*, p.11, steel tonnage represented ten per cent of Clyde launchings in 1879. *The Lithgow Journal*, spring 1952, p.18, from 1882 to 1892 Russell and Company launched 271 ships, grossing 456,566 tons.

[11] *Glasgow Herald Shipbuilding and Engineering Supplement*, published annually in December. In 1890 Russell and Company output comprised 26 sailing ships of 50,634 gross tons and 8 steamships of 19,736 gross tons.

[12] DC 35/90 Excerpt from the *Edinburgh Gazette*, 30 November 1891.

[13] Moss, Entry on William Todd Lithgow, *DSBB* p.228.

[14] Moss, 'William Todd Lithgow-Founder of a Fortune', p.64. GD320/4/1/16 to GD320/4/1/32 Balance Sheet etc., 1893-1908. Russell had loaned Lithgow the sum of £107,000, which by the latter's death, had been reduced to £3,500.

[15] *The Lithgow Journal, spring* 1952, p.19.

[16] Moss, 'William Todd Lithgow-Founder of a Fortune', p.64.

[17] DC 35/90 Letter from Wilson to Cunningham, 6 November 1951. James Lithgow began his apprenticeship with the Modelmakers, then went on to train in the Plumbing and Plating departments

before joining his father in the office. Henry Lithgow began his apprenticeship in the Drawing Office. under the supervision of the Chief Draughtsman, Mr. Hutchinson

[18] GD 320/3/156 Contract of Partnership between William Todd Lithgow. James Lithgow and Henry Lithgow, Shipbuilders, Port Glasgow (Russell and Company) 1907.

[19] Scottish Record Office, (hereafter, SRO) SRO SC 58/46/69 Inventory of the Estate of William Todd Lithgow. This valued Lithgow's share of the business at £848,754 and his total estate at £1,000,237 with a liability to the Crown in Death Duties of £101,457. Moss, 'William Todd Lithgow-Founder of a Fortune', pp.69-70 points out that Lithgow had withdrawn £1,239,272 from the business, which he utilised, inter alia, to establish a sizeable portfolio of shipping investments and also to make sizeable gifts inter vivo, to his two sons and one daughter. These gifts were tax-free on the proviso that they were made twelve months before the donor's death.

[20] Moss, 'William Todd Lithgow-Founder of a Fortune', p.47. Moss highlights that the value of estates at death must also be seen in the light of the deceased drawings from the business, trade investments and property transactions inter vivo. This supplementary approach through business records, combined with probate details gives the researcher a clearer understanding of an individual's wealth over his or her Business career. Indeed, this approach may also highlight that the transfers of ownership of assets to children inter vivo, leads to a reduction in the headcount of millionaires when probate figures alone are considered.

[21] Reid, *James Lithgow*, pp.41-43. Reid's biography was written with the full co-operation of the Lithgow family and friends.

[22] GD 320/2/3/1 KIC Minute Book, the company was incorporated in Scotland as a private limited company on 24 October 1911, with James and Henry Lithgow holding one shares each.

[23] Ibid., Minute of a Meeting of Directors of KIC, 17 November 1911.

[24] GD 320/2/3/6 Annual Return of KIC, 9 January 1957.

[25] GD 320/2/3/1 Minute Book of KIC, Lithgows policy on dwelling house purchases is confirmed by a Minute of a Meeting of Directors of KIC on 9 September 1952.

[26] GD 320/4/1/32 Balance Sheet etc, at 30 November 1908, and GD320/4/1/33 to GD320/4/1/38 Balance Sheets 30 November 1909-30 November 1914.

[27] GD 320/4/1/42 Balance Sheet, 30 November 1918.

[28] For James Lithgow's war service and tenure as Director of Merchant Shipbuilding, see Reid, *James Lithgow*, pp.45-69. Major James Lithgow was awarded the MC in January 1917 and reached the rank of Brevet Lieutenant Colonel.

[29] Green & Moss, *A Business of National Importance*, p.39. Green and Moss inform that the subsequent gains in productivity from standardisation were 'remarkable' and by the time that the Armistice had been signed in November 1918, 289 Standard Ships were on the stocks.

[30] GD 320/2/28/1 and GD 320/2/28/2 Robert Duncan & Co. Ltd. Preference Share Book, 1908-1915 and Ordinary Share Book 1908-1939. GD 320/2/28/4 Correspondence including offer to purchase firm.

[31] DC 35/20 Notes by Mr. Belch on the life of Sir James Lithgow. Rowan's was purchased on a train from Sir William Rowan-Thompson who died shortly after parting with his business.

[32] GD 320 List of Ships Built by Russell and Company and Lithgows Limited, during the war years. Russell's completed one 'H' type War Standard ship and one 'Z' type tanker in 1918, followed by four of the latter for the Shipping Controller in 1919.

[33] The share capital of Lithgows Limited comprised 50,000 6% Cumulative Participating Preference Shares of £1 each and 19,500 Ordinary Shares of £100 each, totalling £2,000,000. Of this total, the issued share capital amounted to £1,028,260 comprised of 48,260 6% Cumulative Participating Preference Shares and 9,800 Ordinary Shares.

[34] *Glasgow Herald Shipbuilding and Engineering Supplements*, December 1885 to December 1918.

[35] DC 35/20 Dunlop Bremner was purchased at a high price to protect it from the predatory Amalgamated Industrials Group headed by a Member of Parliament, John Slater, and to, 'protect uniformity of labour and conditions in the area'.

[36] GD 320/2/30/3 Dunlop Bremner, Register of Shareholders.

[37] GD 320/30/2/16 Cash Credit Bonds.

[38] GD 320/2/30/2 Dunlop Bremner Minute Book no. 1, 1st AGM, 12 January 1912 and 4th AGM, 16 March 1916.

[39] Ibid., 4th AGM, miscellaneous papers appended.

[40] GD 320/2/30/6 Dunlop Bremner Annual Accounts, 1912-1915.

[41] GD 320/2/30/2 Minutes of 5th AGM of Dunlop Bremner, 21 March 1917 and 6th AGM, 8 March 1918.

[42] Ibid., Meeting of Directors, 16 April 1918 and EGM of preference shareholders, 20 May 1918.

[43] GD 320/2/30/17 Dunlop Bremner, 1918-1925, letter from Neil Clerk and Murray W.S. to Henry Lithgow, 24 May 1918.

[44] Ibid., Minute of a Directors Meeting, 28 November 1918.

[45] Ibid., Minute of a Directors Meeting, 17 June 1919.

[46] Ibid., 7th AGM of Dunlop Bremner, 10 November 1920.

[47] P. L. Payne, *Colvilles and the Scottish Steel Industry* (Oxford, 1979) p.118. I am indebted to Professor Payne for much of the information used in this chapter on the structure and rationalisation of the steel industry and its relationship with shipbuilding in Scotland. See also, D. L. Burn, *The Economic History of Steel Making, 1867-1939* (Cambridge, 1940) and by the same author, *The Steel Industry, 1939-1959* (Cambridge, 1961). See also, I. F. Gibson, 'The Establishment of the Scottish Steel Industry', *Scottish Journal of Political Economy*, V (1958), and S. Tolliday, *Business, Banking and Government: The British Steel Industry in the Interwar Years* (Cambridge, Mass, 1987), D. Heal, *The Steel Industry in Post War Britain* (Newton Abbot, 1974), and K. Warren, 'Locational Problems of the Scottish Iron and Steel Industries since 1760', *Scottish Geographical Magazine*, April and December 1965.

[48] Committee on Industry and Trade: Survey of the Metal Industries (1928) Appendix III, p.404. A. Slaven, 'British Shipbuilders: market trends and order book patterns between the wars', *Journal of Transport History*, Third series, Vol. 2/3 1981-82, p.87, also makes this point.

[49] Jones, *Shipbuilding in Britain*, p.28. The author of this groundbreaking book on the interwar period gives a full account of the myriad factors, domestic and international, that affected the industry.

[50] Ibid.

[51] A. Slaven, 'Self Liquidation: The National Shipbuilders Security Limited and British Shipbuilding in the 1930s', in S. Palmer and G. Williams (eds.) *Charted and Uncharted Waters: Proceeding of a Conference on British Maritime History* (London, 1981), p.126. Slaven notes that tramp ship freight rates from a base of 100 in 1913, peaked at 439 in 1920 before collapsing to 158 in 1921.

[52] GD 320/4/1/44 Balance Sheet etc., 30 November 1920.

[53] Ibid.

[54] GD 320/4/1/44 to GD 320/4/1/57 Balance Sheets etc., 1920-1933.

[55] GD 320/2/3/17 to GD 320/2/3/36 KIC Profit and Loss Accounts, Balance Sheets, 1920-1939.

[56] GD 320/4/1/48 Balance Sheet etc., 30 November 1924, Lithgows had £300,000 on special deposit with the Union Bank, Cornhill, London, until January-April 1925.

[57] J. R. Hume & M. S. Moss, *A Bed of Nails: The History of P. MacCallum & Sons Limited of Greenock, 1981-1981, a study in survival* (Greenock, 1981). Hume and Moss inform that James and Henry Lithgow were members of a very large marine underwriting syndicate.

[58] GD 320/4/6/1 Lithgows Ltd., Summary of Margins, 1911-1938.

[59] Shields, *Clyde Built,* p.136. Rankin and Blackmore are credited with building the first set of triple expansion engines for a twin screw steamer.

[60] At this stage there remained three other shipbuilding concerns in Port Glasgow, all of which were purchased by the London firm of John Slater Limited in 1919. These were the Brown Street yard of Murdoch & Murray Limited; Ferguson Brothers Limited at Newark, and the adjoining Castle yard of the Clyde Shipbuilding Company Limited. On the collapse of the Slater Group, Murdoch and Murray closed in 1927, Ferguson Brothers reverted back to family control in 1929, and Clyde Shipbuilding was eventually sold to the Greenock shiprepairing company of James Lamont.

[61] Reid, *James Lithgow*, pp.79-84. Reid extensively quotes from the *Glasgow Herald Annual Trade Review*, 20 December 1921.

[62] Ibid., p.83.

[63] *Journal of Commerce*, Shipbuilding and Engineering Edition, 23 February 1939, Labour Grading in Shipbuilding', Presidential Address by Sir James Lithgow to the Institute of Welding, Scottish Branch. See also, Proceedings of the Royal Philosophical Society of Glasgow, 126th Session, 1927-1928 Vol., LVI, Sir James Lithgow, 'The Economic Position of the Shipbuilding Industry', Proceedings of the Institute of Engineers and Shipbuilders in Scotland, Session 1929-1930, Presidential Address by Colonel Sir James Lithgow.

[64] Reid, *James Lithgow*, p.88.

[65] Ibid., pp.89-92.

[66] GD 320/2/30/2 Dunlop Bremner Minute Book, 1911-1925. Minute of EGM, 28 February 1925.

[67] PRO CAB 58/9 Committee of Civil Research Memoranda, 29 June 1925 to 18 March 1926. Memo from Sir James Lithgow to Sir Sidney Chapman.

[68] Reid, *James Lithgow*, p.98, Reid informs that James Lithgow received notification of this honour in April 1925 while on ILO business in Geneva, Switzerland.

[69] National Maritime Museum, Shipbuilders and Repairers National Association Papers, hereafter SRNA, SRNA 4/S50 Papers Prior to the Formation of the Shipbuilding Conference. The figure of £300,000 for the Furness Withy vessels is taken from The Committee on Industry and Trade, Survey of the Metal Industries, 1928.

[70] SRNA F1-Foreign Competition, Report of a Joint Inquiry into Foreign Competition in the Shipbuilding Industry, June 1926.

[71] SRNA 4/S50 the decision to form the Shipbuilding Conference was officially taken at a meeting in the Hotel Cecil in London on 19 April 1928.

[72] Jones, *Shipbuilding in Britain*, p.134. Jones cites A.F. Lucas, 'Bankers Industrial Development Company', *Harvard Business Review* Vol. XI, 1930 as authority for the W.G. Armstrong figures.

[73] SRNA 4/S50 Note of a Meeting in the North British Hotel, Edinburgh, 13 February 1928.

[74] Ibid., Minute of a Committee Meeting held in the Boardroom of the Federation of Shipbuilding Employers, 10 May 1928.

[75] GD 320/2/55/1 Milford Securities Limited, Memoranda, Minutes, Balance Sheets etc.

[76] Ibid., 1932-1935 Minutes of Meetings, Balance Sheets etc.

[77] Ibid., Letter from Macharg to Sir James Lithgow, 16 June 1930 and letter from Sir James to A.R. Roberts, Union Bank of Scotland, 24 June 1930.

[78] Slaven, 'Self Liquidation', pp.127-129. NSS was formed with an authorised capital of £10,000 with 4,700 issued £1 shares fully paid, and with borrowing powers of £3,000,000.

[79] Ibid., p.30.

[80] Jones, *Shipbuilding in Britain*, p.134. Jones notes that 47 companies who in 1930 built 93 per cent of tonnage and a higher percentage of tonnage over 300 feet in length launched in Great Britain all subscribed to NSS.

[81] Ibid., p.135.

[82] Slaven, 'Self Liquidation', p.135, Slaven notes that John Barr valued the Dalmuir yard at £30,000 for scrap purposes. Although the price paid to the Bank of England remained the highest paid by NSS, future purchases were less generous.

[83] A. Slaven's entry on Sir James Lithgow in *DSBB*, p.225.

[84] House of Commons Official Reports, Vol., 246, cols.. 808-9, 15 December 1930. The Parliamentary Secretary to the Board of Trade, W.R. Smith, in reply to a question by a an MP who wished to prevent NSS taking any further action that had rendered certain districts, 'derelict and almost hopeless', stated that, 'I do not think that the Government have any power to intervene'. This remained the policy of successive governments and by 1934 the policy was again confirmed by Walter Runciman, the President of the Board of Trade, who stated (Official Report, Vol., 286, cols.

168-9, 20 February 1934) that NSS, 'is a private undertaking and government approval of its plans is not required.

[85] NMM SRNA, Shipbuilding Conference Statistics Series.

[86] For the history of Beardmore see, Hume &. Moss, *Beardmore,* and Johnston, *Beardmore Built.*

[87] Slaven, 'Self Liquidation', p.135. For Montague Norman, see Sir Henry Clay, *Lord Norman,* (London, 1957. The official history of the Bank of England of England in three volumes, R.S. Sayers, *The Bank of England, 1891-1944* (Cambridge, 1976) is particularly instructive on the Bank's attempts at industrial rationalisation in the interwar period through its Securities Management Trust and Bankers Industrial Development subsidiaries. See also, A.F. Lucas, *Industrial Reconstruction and the Control of Competition* (London, 1937).

[88] Hume & Moss, *Beardmore,* p.244, Sir James had to wait to June 1938 until a suitable scheme of reconstruction of Beardmore's finances took place, after which he took sole charge of the company.

[89] Slaven, 'Self Liquidation', pp.144-146.

[90] Ibid., p.133.

[91] *Greenock Telegraph,* 13 June 1980, Interview with Sir William Lithgow.

[92] J. Orbell (with E. Green & M.S. Moss) *From Cape to Cape. The History of the Lyle Shipping Company* (Edinburgh, 1978), pp.69-92. For a truncated version of the history of Lyle Shipping see also, the *Lithgow Journal,* spring, 1965.

[93] GD 320/4/6/1 Lithgows Limited, Summary of Margins.

[94] *Glasgow Herald Annual Trade Review.*

[95] GD 320/4/6/1 Lithgows Limited, Summary of Margins.

[96] Reid, *James Lithgow*, p.142.

[97] R.H. Campbell, *Scotland Since 1707, The Rise of an Industrial Society* (Oxford, 1971), p.260.

[98] GD 320/2/6/3 Letters from Inglis Glen & Co., to Henry Lithgow, 10 and 13 July 1933.

[99] GD 320/2/2/1 Investment Book of Henry Lithgow, Henry Lithgow transferred 12,900 Ordinary Shares of £10 each in David Rowan & Company to the Ayrshire Dockyard on 20 February 1930. GD320/2/6/3 Henry Lithgow also used the tactic of placing shares with other individuals in proxy. For example, James Napier of the Ayrshire Dockyard held 113 Ordinary Shares in his own name, but wrote to Lithgow to confirm that, 'the same are your property and are held by me on your behoof and to your order'.

[100] E.C. Wilkinson, *The Town that was Murdered. The Life Story of Jarrow* (London, 1939).

[101] Ibid., p.146.

[102] ibid., p.154, citing John Greig, President of the Clyde Steamship Owners Association.

[103] Ibid., p.161.

[104] ibid., p.259.

[105] Slaven, 'Self Liquidation' pp.132 and 144.

[106] SRNA Shipbuilding Conference General Meeting Reports, Minutes of AGM, 4 November 1937, reference was made to Sir James Lithgow's comments at the AGM of NSS earlier that year..

[107] Ibid., Minutes of a Special General Meeting, 12 April 1934.

[108] Ibid., Minutes of a Special General Meeting, 30 May 1935.

[109] SRNA Shipbuilding Conference Executive Board Reports, Minutes of Meeting of Executive Board, 29 October 1937.

[110] Jones, *Shipbuilding in Britain*, p.141.

[111] Report of the Ships Replacement Committee, Cmd. 5459, 1937. This is also cited in Jones, Shipbuilding in Britain, where the reader is directed for a fuller discussion of the Scrap and Build Scheme.

[112] SRNA Shipbuilding Conference General Meeting Reports, Minutes of AGM, 4 November 1937.

[113] Ibid., Minutes of a Special General Meeting, 16 April 1936, and Minutes of AGM, 4 November 1936.

[114] Ibid., Extracts from Minutes of Meeting of the Continental Co-operation Committee, 28 July 1936.

[115] Reid, *James Lithgow*, p.105.

[116] Hume & Moss, *Beardmore*, p.236.

[117] Peebles, *Warshipbuilding on the Clyde*, p.143.

[118] DC 35/31 Committee of Imperial Defence, Principal Supply Officers Committee, Co-operation with Industry, Note of a Meeting, 19 December 1933.

[119] Ibid.

[120] Peebles, *Warshipbuilding on the Clyde*, pp. 141-142.

[121] GD 320/2/3/1 KIC Investment Book, Minute of a Meeting of Directors, 11 November 1935. KIC purchased 24,760 Ordinary Shares in Fairfield at £10 each fully paid in the name of Sir Alexander Kennedy, from the Shipbuilders Investment Company Limited.

[122] GD 320/2/31/7 General Correspondence, Fairfield, 1952-1953, letter from A.H. White to McPhie, Company Secretary.

[123] GD 320/2/2/1 Investment Books of James and Henry Lithgow.

[124] GD 320/2/31/1 Fairfield Annual Reports and Accounts, 1930-1939.

[125] Ibid.

[126] Peebles, *Warshipbuilding on the Clyde*, p. 130.

[127] Slaven, 'Self Liquidation', pp. 133-134.

[128] GD 320/2/31/1 Fairfield Annual Reports and Accounts, 1930-1939.

[129] For the early history of Fairfield, see *The Fairfield Shipbuilding & Engineering Works: History of the Company; Review of its Productions, and Description of its Works* (London, 1909), and subsequently, see the firm's centenary souvenir book, *Fairfield Shipbuilding & Engineering Company Limited, 1860-1960* (Glasgow, 1960). The bulk of the records of Fairfield are held at the City of Glasgow Archives, Mitchell Library, Glasgow.

[130] Hume & Moss, *A Bed of Nails*, pp.36-41.

[131] Reid, *James Lithgow*, p.76.

[132] Hume & Moss, *A Bed of Nails*, p.69.

[133]Payne, *Colvilles*, pp.146-147.

[134] J.L. Carvel, *Stephen of Linthouse: A Record of Two Hundred Years of Shipbuilding, 1750-1950* (Glasgow, 1950) p.116.

[135] Payne, *Colvilles*, pp.144-150. Inclusive of Stephen's, the consortium that acquired the Steel Company of Scotland comprised, Blythswood Shipbuilding, a subsidiary of Swan Hunter, at Whiteinch, Yarrow at Scotstoun; Lloyd Royal Belge (GB) Glasgow; James Little & Company, Glasgow; The Greenock Dockyard Company at Cartsdyke, Ardrossan Shipbuilding, and Campbeltown Shipbuilding in Kintyre.

[136] *Stock Exchange Yearbook*, 1918.

[137] GD 320/2/29/3 1920 Correspondence concerning purchase of shares in James Dunlop and register of shareholders accepting. Stock Exchange Yearbook, various years.

[138] GD 320/2/29/3 Letter from the Union Bank to the Secretary of Lithgows Limited, 22 July 1920..

[139] Hume & Moss, *A Bed of Nails*, p.68.

[140] ibid., pp.68 and 73.

[141] GD320/2/29/1 James Dunlop, Report of Directors, 13 April 1921 and 10 April 1922.

[142] Payne, *Colvilles*, pp.151-158.

[143] PRO T 175/10 Letter from W.S. Churchill to Lord Invernairn, 15 December 1926.

[144] Hume & Moss, *Beardmore*, pp.215-216.

[145] Payne, *Colvilles*, p.174.

[146] The consensus view that the financially secure James Lithgow had throughout his notable life a higher duty to his church, town and to his country over and above mere business gain as portrayed by Reid, has largely been followed by other authors such as Hume & Moss, Payne, and Slaven.

[147] Hume & Moss, *Beardmore*, p.236.

[148] *Glasgow Herald Annual Trade Review*, various years.

[149] For the Royal Mail Group, see Green & Moss, *A Business of National Importance.*

[150] Ibid., pp.223-226. See also, P.N. Davies, *The Trade Makers. Elder Dempster in West Africa, 1852-1972* (London, 1972), pp.251-260, and P.N. Davies & A.M. Bourn, 'Lord Kylsant and the Royal Mail', *Business History,* XIV, No.2 (July 1972). For the history of Harland and Wolff, see J.R. Hume & M.S. Moss, *Shipbuilders to the World, 125 Years of Harland and Wolff Ltd.*, (Belfast, 1986).

[151] Hume & Moss, *Beardmore*, p.230.

[152] Payne, *Colvilles*, pp.186-188.

[153] GD 320/2/29/1 James Dunlop, 31st AGM, 29 July 1931, by resolution the shareholders at a meeting held on 5 December 1930 agreed to sell the iron and steel properties and certain other assets of the Company shown on the Balance Sheet to Colvilles (Limited). Payne, *Colvilles*, pp.189-192.

[154] Payne, *Colvilles*, p.192, Payne garnered this information from *The Economist*, 6 December 1930.

[155] GD 320/1/29/1 James Dunlop 31st AGM, 31 July 1931.

[156] Payne, *Colvilles,* p.180 Payne cites a letter from Craig to Sir William McLintock that supports this assertion.

[157] Hume & Moss, *Beardmore*, p.6.

[158] GD 320/2/10/1 William Beardmore, Directors Report, 16 April 1934.

[159] Payne, *Colvilles,* pp.194-210.

[160] Hume & Moss, *Beardmore*, p.234

[161] ibid., pp.234-235.

[162] Hume & Moss, *Shipbuilders to the World,* p.285.

[163] ibid., p.287.

[164] ibid.,pp.292-302.

[165] PRO MT9/2560 Board of Trade Mercantile Marine Department, Unfair Competition of Northern Ireland Shipyards, subsidised in various ways by the Northern Ireland Government. Letters from A.M. Stephen to Hynard, Board of Trade, 1,4, 19 September and 5 October 1933 and note of a call by Sir James Lithgow to the President of the Board of Trade, 17 October 933.

[166] Ibid., Lithgow call to President of Board of Trade.

[167] Hume & Moss, *Shipbuilders to the World*, pp.306-7.

[168] Tolliday, *Business, Banking and Government*, p.119.

[169] Payne, Colvilles, p.209, fn.51, C. Bruce Gardner had agreed in principle to help Lithgows obtain £650,000 by the end of July 1934 in order to complete the purchase.

[170] GD 320/2/84/2 Lithgows Limited, Meeting of the Board of Directors, 23 July 1934.

[171] Payne, *Colvilles*, pp.211-213.

[172] Ibid., pp.213-215.

[173] Tolliday, *Business, Banking and Government*, p.120.

[174] Reid, *James Lithgow*, pp.217 & 232.

[175] Payne, *Colvilles*, pp.233-234, fn.30.

[176] Hume & Moss, *Beardmore*, pp. 237-239.

[177] Ibid., p.6.

[178] SRNA F1 Foreign Competition, Shipbuilding Conference, Memorandum on the Condition of the Shipbuilding Industry submitted to HM Government through the President of the Board of Trade. 11 July 1938.

[179] Ibid.

[180] SRNA General Meeting Reports, Shipbuilding Conference, Report of a General Meeting. 10 February 1939.

[181] Jones, *Shipbuilding in Britain*, pp.156-157.

[182] Ibid., p.157.

[183] SRNA General Meeting Reports, Shipbuilding Conference, Report of a General Meeting, 6 July 1939.

[184] Reid, *James Lithgow*, pp.186-188, Reid outlines Sir James Lithgow's 'strenuous' support of Chamberlain and the Munich Pact.

[185] Reid, passim.

[186] Slaven, entry on Sir James Lithgow in *DSBB*, p.225.

[187] DC 35/27 Letter from Sir James Lithgow to Sir R.H.A. Carter at the Admiralty, 15 February 1940, wherein Sir James refused to accept a salary.

[188] DC 35/75 Excerpt from the *Sunday Post*, 18 February 1940.

[189] GD 320 List of Ships Built by Lithgows Limited.

[190] Ibid., List of Ships Built, William Hamilton.

[191] *Fairfield Shipbuilding & Engineering Co., Ltd., 1860-1960* (Glasgow, 1960) unpaginated.

[192] DC 35/20 A. Belch, Notes on the Life of Sir James Lithgow.

[193] Reid, *James Lithgow,* for this episode, see, pp.113-122.

[194] DC 35/59 Barlow Committee, Letter from Sir James Lithgow to the First Lord, 24 August 1942, and letter in reply from Hall, 3 September 1942.

[195] C. Barnett, *The Audit of War*, 1996 edition, (London, 1996) p.119.

[196] ibid., p.123.

[197] SRNA 4/P11/1 Committee on Improved Shipbuilding Practice, Interim Report from the Sub-Committee on Methods of Shipbuilding Construction, March 1945.

Chapter III: Scotts' Shipbuilding & Engineering, 1945-1965

The prospect of a diminution in warship work after Scotts' had cleared its war backlog, gave the firm a number of problems. First, as a result of its concentration on this type of work, Scotts' would necessarily have to re-orientate its productive resources to take advantage of an upturn in demand in the mercantile sector. Second, beyond the replacement of war losses for the mercantile marine, it was by no means certain how long the demand for merchant vessels would last. In this light, therefore, the firm had to preserve its naval capability to take advantage of any future upturn in naval work. Indeed, these factors were equally applicable to all other mixed mercantile and naval builders, as by definition these firms had also to preserve their naval capability. It was also by no means certain, in the wake of the experience of the interwar period, that any future attempt at a contra cyclical ordering strategy on the part of the Admiralty could or would be undertaken to even out the demand cycle in the industry. Indeed, as the Cold War developed and intensified, the old certainties and priorities that had informed Admiralty policy shifted in response to rapid technological and strategic change in a nuclear era. [1]

In shipbuilding, market states rarely coincided, and no guarantee existed that any future downturn in mercantile activity would be compensated for by a corresponding upturn in naval construction. Conditioned to a large extent by a boom slump mentality borne of the interwar years, shipbuilders were aware of these constraints. What changed perceptions and the pattern of activity in the shipbuilding industry in the immediate post-war period, however, in stark contrast to most of the interwar period, was the largely unforeseen longevity of the growth in mercantile demand. After the restoration of the mercantile marine, in what was in effect a protected market, and with most of the industry's major competitors in disarray, British shipbuilding benefited from a period of sustained growth in the pattern of world trade. This period usually characterised as the 'Long Boom', witnessed a hitherto unprecedented sellers market for mercantile tonnage, a market that the British shipbuilding and marine engine building industries did not fully exploit.[2] Even the prospect of full order books and maintenance of employment in the industry did not lead the industries to expand capacity. Neither did it lead the Admiralty, in light of reduced post war circumstances to take a stand and attempt to rationalise the bloated

warship building sector, a decision that would have been better made then rather than later.

In the immediate aftermath of war, Scotts' concentrated on clearing its backlog of naval work. Beforehand, in October 1944, however. the Admiralty had instructed the firm to suspend work on some of its contracts and later to cancel orders for three submarines and three destroyers and in some cases to slow down its rate of construction. [3] By this stage, Scotts' had obtained a licence from Doxford to build the latter's opposed piston oil engine for a fee of £10,000. Authority had also been granted to extend the firm's welding facilities and enlarge its cranage by the purchase of two twenty-ton tower cranes, on the anticipation that the Admiralty would meet part of the cost.[4] With a view to the future development of its engine works in a northerly direction the firm had also agreed to purchase land to in effect close a local street. [5] In the light of an earlier report of a Committee on Advanced Steam Conditions, however, the Admiralty Engineer-in-Chief had noted that the present procedures regarding turbine design in Warship Group firms was unlikely to meet the future requirements of the Royal Navy. Furthermore, he also noted that his department had not taken sufficient advantage of the wealth of experience of land-based turbine manufacturers. To rectify this he suggested that various designs should be submitted from Metropolitan-Vickers, British Thomson-Houston and English Electric.[6] Clearly, if the adoption of these designs were taken up leading to manufacture of marine turbines by these firms, then this had serious implications for Warship Group firms in general. In this light it was subsequently agreed that, 'unless some very strong action was taken by the Marine Engineers at once, there was a serious danger that they would come under the technical control of the Electrical Industry'. Warship Group discussion on the future protection of the industry centred on two alternatives. Either to cut out the Parsons Marine Steam Turbine Company and set up a Central Research and Development Department of the Marine Turbine Engineering Industry. Or to obtain financial control over Parsons in order to dictate the future policy of that company to pursue progressive design and development of marine turbines in return for payments to it. Subsequently, the second alternative, but only in part, was pursued and it was decided to form a research and development association in the name of The Parsons and Marine Engineering Turbine Research

and Development Association (Pametrada). The new association would be controlled by a Representative Council of Directors, employ a full-time Research Director, expert designers and would also be assisted by a Consultative Technical Committee drawn from the principal marine engineering technicians in the industry. Pametrada, despite being in part funded by the Admiralty and the Department of Scientific and Industrial Research (DSIR) through grants would operate on a non-profit basis and Scotts' proposed to contribute £5,000 from an initial fund of £75,000. Annual expenditure was estimated at £43,000 to be met by a fixed annual contribution from member firms and by a levy on turbine output.

In the event, although industry wide co-operation was better than atomistic competition, this was a somewhat *ersatz* solution. On the shipbuilding side, the industry through the Shipbuilding Conference had discussed from May 1943 the formation of its own research organisation, the British Shipbuilding Research Association (BSRA).[8] By April 1944, BSRA had received a licence from the Board of Trade to incorporate as a research organisation, and had a constitution similar to that of twenty-five other industrial research organisations such as the British Welding Association and the British Iron and Steel Research Association. Alike the latter associations, BSRA was also in receipt of funding from the DSIR, but remained under the management control of a Council appointed by the Shipbuilding Conference. By September, BSRA had its own Director of Research, S. Livingston Smith, and had a wide-ranging remit, which included research into hydrodynamics, propellers, ships structures, vibration, and main propelling machinery.[9] Accordingly, given this wide remit, BSRA research in the long run would inevitably overlap that of Pametrada. Moreover, State funding in part would allow the DSIR to investigate and evaluate from time to time whether or not BSRA was in fact working to its maximum potential. However, in the case of Pametrada, the marine engine builders co-operative research and design organisation for marine turbines the sums involved were pretty small beer in relation to the resources that were likely to be put into marine turbine development by the larger land-based turbine firms.

In the wake of both the interwar and wartime experience, the Government in an attempt to avoid what the First Lord of the Admiralty, A.V. Alexander had termed

the 'chaotic conditions of the past' looked to provide a partial remedy for the industry's perceived ills. Both Alexander and the Minister for War Transport, Lord Leathers had deemed that some form of non-rigid state control of the shipbuilding industry was necessary after the transition period from a war economy. Accordingly, some form of permanent body was needed to plan the long-term future of the industry, and by June 1946 a Shipbuilding Advisory Committee (SAC) had been formed under the independent chairmanship of Sir Graham Cunningham. As Johnman has noted, however, the SAC, comprised of shipbuilders, shipowners and trade unionists, 'quickly became little better than a talking shop'. Moreover, rather than operating on the terms envisaged by Alexander as a body to plan for the future, the SAC 'rapidly degenerated into a forum for the airing of vested interests'. [10]

In the interim, Scotts' continued to clear its wartime backlog of warship work, and two destroyers, *HMS Cromwell* and *HMS Crown* were delivered in 1946 and 1947 respectively, but were renamed *Bergen* and *Oslo* after being transferred to the Royal Norwegian Navy. In addition, two submarines, *HMS Artemis* and *HMS Artful* were delivered to the Royal Navy by 1948; each had a surface speed of nineteen knots with a submerged speed of eight knots.[11] Throughout the latter part of the war the repercussions in the wake of the exposure of gross profiteering by the three private submarine builders, Vickers, Cammell Laird and Scotts' continued to affect the firm. From 1943 onwards, the Admiralty had requested that the submarine builders provide a breakdown of the costs involved in building submarine engines and in the volume of work subcontracted. A course of action which raised a considerable amount of suspicion on the part of K.E. Greig of Scotts' that profits would be under threat, as was also the case if an increase in Admiralty supplied items were to be allowed. [12] In reply to a letter from Greig, the chairman of the Warship Group, Sir Charles Craven suggested that it was time the builders got together and refused to comply with the Admiralty, a course of action agreed by Sir Robert Johnson of Cammell Laird. [13] Again, this was yet another example of collusion over the maintenance of profit margins and evidence that the private builders still had much to hide from the Admiralty. In the immediate post-war period, however, in addition to the completion of two destroyers and two submarines, two fleet replenishment ships, *RFA Retainer* and *RFA Resurgent* were completed in 1950 and 1951

respectively. [14] The firm's submarine capability was thereafter sustained by a number submarine refits for the Admiralty between 1946 and 1951 and a submarine order in April 1951, for delivery in December 1954. [15]

On the mercantile side, Scotts' bespoke linkages with Holt and Swire were quickly re-established. From the end of 1944 negotiations had been undertaken with Alfred Holt to build and engine two cargo and passenger liners, which were originally meant for the Ocean Steamship Company but were subsequently allocated to China Mutual Steam Navigation. [16] In addition, by June 1945 John Swire and Sons, as managers of the China Navigation Company had also ordered a single screw cargo and passenger vessel, which was subsequently launched in February 1946 as *Sinkiang*. The latter was Scotts' first post-war merchant ship, powered by the first Scott-built Doxford engine. [17] By April 1946, Scotts' had agreed to build, but not engine another two vessels for Alfred Holt on a fixed price basis. The firm's accounts for the year ended 31 December 1945, after various provisions amounting to over £300,000 for depreciation; tax and writing off assets showed a profit of £36,319.[18] Wartime profits had not been extensive, but have to be seen in the light of Scotts' practice of allocating profit only after the delivery of vessels. By the end of 1947 two more cargo and passenger vessels had been handed over, however, in following years to 1950 two sister ships for Holt and two for Elder Dempster were completed in 1948, with another three for China Navigation and one for Furness Withy in 1949. [19]

Overall, Scotts' normal capacity was six hulls per annum absorbing around 22,000 tons of structural steel, but owing to the continuing control over steel allocations; the firm was receiving only 9,000 tons. With orders already won for four 16,500-deadweight ton tankers, and with the first to be delivered in mid 1950, the firm voiced its displeasure to the Admiralty throughout 1948, and not for the first time pointed out the employment implications if its steel allocation was not to be increased. In this case, if no increase in steel was forthcoming then this would result in, 'the wholesale dismissal of employees in the Shipyard and practically complete stoppage in the Engine Works'.[20] By then Scotts' had converted its shipyard administration offices into a head office building embracing director's rooms, a

boardroom, the Secretary's department, and accounting. buying. costing. and estimating departments. A new building was also erected to house the shipyard time office, manager's office, ambulance room, conference room. and a new apprentice training centre had been established. The firm also kept detailed costing records and maintained chemical and physical laboratories and a mechanical testing department. However, the office restoration programme was not completed until 1957 with the erection of the engine works administration building and design and drawing office buildings. Both the shipyard and engine works had their respective drawing offices on the broad principle that all details must be shown on blueprints provided and that no work could be undertaken without prior Drawing Office approval. [21]

Earlier in July 1950, Scotts' had delivered its first oil tanker since 1931. the *Busen Rollo* for the Star Whaling Company.[22] By this stage. an extension to the firm's Boiler Shop at an estimated cost of £24.150 to provide increased welding facilities was also proceeding. The licence application had been made to the Admiralty on 31 August 1949 as most of the firm's heavy welding of Doxford engine frames took place in its Boiler Shop in cramped conditions, a factor that prevented Scotts' from building its own boilers. Another complicating factor was that the height of the Boiler Shop was insufficient to allow the firm to handle the large and heavy parts involved, and cranage was also inadequate.[23] By May 1951. however. Scotts' had won its first post-war warship order, a *Type 41*anti-aircraft frigate, *HMS Puma*. and also an order to convert a destroyer, *HMS Wakeful* into an anti-submarine frigate. It had also been decided to meet the increasing demand for welded construction by building a new Welding Shop in the shipyard at a cost of £125,000. [24] With these orders, the firm had once again a diverse order book ranging from warships to tankers, and continued to upgrade its plant and equipment accordingly. Net profits for the year ended 31 December 1950, after depreciation, and taxation in the sum of £164,000 had been met, amounted to £94.182. To this was added the balance carried forward from the previous year of £117.280 and a sum to account of taxation over-provided for in previous years of £125,000. From this £185,000 was transferred to General Reserve, which now stood at £650.000.[25]

By this stage, however, the Admiralty had reached some conclusions regarding the future of research and development of main propulsion machinery. However. the 'urgent need to economise in National expenditure' meant that only a small number of ships could be built in the next few years that embodied advanced design and machinery. In a letter to let all firms know in which general direction Admiralty policy was moving, it was stated that design emphasis would be placed upon greater reduction of space and weight in order to carry more weaponry and fuel. In this regard the progress of the United States Navy had been well and duly noted. progress which had resulted in American warships having machinery that gave at war cruising speeds, 'nearly twice the endurance of Royal Naval contemporary designs'. Indeed as a result of a direct comparison in 1944 between the two navies. *Daring* class destroyers were designed to use similar machinery to that fitted in US Navy ships. Despite this, however, Britain would be, 'twelve years behind current American practice by the time that the first *Daring* class destroyer gets to sea'.[26]

At a meeting of interested firms convened a few days later to discuss the implications of the Admiralty policy, it was stated that a firm which got a contract to build the hull of the ship would not necessarily get the order to supply the main turbines. In any case the latter would be ordered long before the hull, and orders would be placed with relatively few firms. It was hardly surprising therefore: that Warship Group firms disagreed on splitting the contract for the ship and machinery. First, it would upset the balance between shipyard and engine works with the resultant effect on employment, and second, to enhance war potential it was important that as many firms as possible received orders to 'educate them'. To this. the Engineer-in-Chief, Vice Admiral Denys Ford gave an assurance that vessels of destroyer size and above would normally be made by the usual marine engineering firms, however, a prototype would be ordered from the designing firm and tested ashore. Ford also emphasised that only a small amount of building could be expected in the next five to ten years, and added to the general gloom by informing the Group that the Pametrada design for the turbines for an anti submarine frigate had proved to be the least attractive. Ford also re-emphasised that Britain was twelve years behind America in matters of efficiency, weight and space. but did acknowledge that the Admiralty was in some degree, culpable. However, with the Admiralty obtaining

turbine designs from land-based firms, English Electric, and gearing from David Brown, the future for both Pametrada and other marine firms in this market was not good. Moreover, owing to present commitments, six firms, Hawthorn Leslie, Vickers Armstrong, Harland & Wolff, Fairfield, Stephen and Scotts' were not in a position to accept orders. [27] At a later meeting five Clyde firms including Scotts' declined to be considered for a main engine contract for the second rate frigate. [28] In this regard, it was hardly surprising that the Admiralty found it necessary to go outside the marine industry for the best designs

By June 1951 the order for the *Leopard* class anti-aircraft frigate, *HMS Puma* had been confirmed, with Scotts' being responsible for the installation of, but not the building of the main engine with completion required by March 1954.[29] With this order, which required an all-welded hull and the many orders received for tankers, it was apt that Scotts' had already received a licence for the construction of a new Welding Shop in their shipyard at a total cost not exceeding £95,000. Problems persisted, however, with the newly completed welding shop in the Engine Works. The shop remained temporarily unoccupied owing to the excessive flexibility of the structure erected by the Glasgow Steel Roofing Company on the operation of the overhead travelling cranes. Scotts' had nevertheless, somewhat belatedly embraced welded construction, but steel allocations continued to be problematic. [30]

By this stage, however, the Controller of the Navy, Michael Denny was seriously concerned with certain aspects of the naval programme, in particular carriers, submarines at Barrow, coastal minesweepers, and the slow progress in the *Daring* class. Denny noted in a letter to the Warship Group Chairman, Murray Stephen, that the total labour force on naval new construction and conversions in private yards, 'was now some thousands below the figure appropriate to the timely completion of the Naval Rearmament Plan'.[31] By February 1952, Stephen had forwarded a Warship Group memorandum to the Admiralty bemoaning the increase in Admiralty Free Issues, [equipment supplied by the Admiralty, which was not the responsibility of the shipbuilder to procure] which it was observed now went down to the smallest items and equipment never in the past contemplated as being Admiralty supply. [32] Again the maintenance of profit margins was at the heart of this concern. At a later

meeting, Alexander Belch, on behalf of the Shipbuilding Conference quoted overall statistics to show that the Admiralty was in fact. 'a minority user' of private shipbuilding capacity. Belch noted that in 1947, less than six per cent of the available workforce was employed on naval work. By the following year this had dropped to three per cent, before rising to no more than five per cent in 1949. And in the following two years the figure had hovered between five and eight per cent before rising to between eight and ten per cent in 1952. [33] With the increased time now being spent on complicated naval construction, the mixed builders made better profits on commercial work. It did not necessarily follow, however. that this would always be the case, as oil companies could easily switch tanker construction to continental shipbuilding firms.

Although Scotts' had received three and seven cargo liner orders from Holt's Blue Funnel Line and Swire's China Navigation respectively up to 1951. and five orders from the Holt subsidiary, Elder Dempster to 1952. the latter would be the firm's main customer from that point onwards. By 20 February 1953, however. the nexus between Holt Swire and Scotts' was brought sharply into focus when Alfred Holt made an offer on behalf of the Ocean Steamship Company and China Mutual Steam Navigation to sell their Ordinary shares in the Greenock firm at specified prices. It will be recalled that Ocean and China Mutual held 9,166 ordinary shares between them, one third of Scotts' share capital. Of the 9,166 shares held, 8,400 were offered for sale at £20 per share with the remaining 766 at £22 per share. with the proviso that any unsold shares should be sold to the Taikoo Dockyard and Engineering Company of Hong Kong at the prices stated. Whilst Scotts' chairman, Douglas Phillips explained that the procedure leading up to the offer was. 'highly irregular'. the circumstances were also 'exceptional'. John Swire & Sons acting on behalf of the Taikoo Dockyard desired to secure a 'lock up investment' in Britain for some of its funds. In this regard they had approached Phillips to enquire if the Scotts' Board would consider favourably the purchase by them of the shares of Messrs Holt's two companies in the Greenock firm. This was subject to a satisfactory agreement on price. and as Phillips noted these companies were 'old friends' then there seemed no good reason to oppose the transfer of shares. However. Scotts' were still a private company. and any suggested transfer had to be viewed with the contingency of

nationalisation in mind, and moreover, the firm would probably seek a Stock Exchange quote in the near future. Phillips further explained that it was the intention of John Swire & Sons to form a United Kingdom Trust in order to hold the Ocean and China Mutual shares for the Taikoo Dockyard. This would be done on the basis that, 'should Hong Kong or the Taikoo Dockyard or its Board fall under Chinese control, the Directors should thereafter hold the shares in trust for the shareholders registered immediately prior to that happening'. The vehicle for this would be a nominee company of the National Provincial Bank. With the Board now in full possession of the facts surrounding the Holt/Swire deal, it was unanimously agreed to accept the offer, even though the offer price was considered low. The way was now clear for Swire's to progress a 'lock up' investment of one third of the Ordinary shares of Scotts'. However, this was subject to the proviso (subsequently altered) that if a future majority of shareholders desired that the firm should convert from a private to a public company then Swire would support that application. [34] Although, with Swire holding one third of the shares of Scotts' as a contingency, the requisite majority was unlikely to be attained. [35] Two days later, Scotts' called an EGM of the shareholders and passed a Special Resolution that authorised the Directors to examine and to report to the shareholders on the prospects of conversion to a public company. In response to this mandate an approach was made to a London firm to investigate a Stock Exchange quotation, which led to a further EGM on conversion in February 1953, where a stalemate ensued. Nonetheless, the shareholders present authorised the Board to keep the situation under review.[36]

Contemporaneously, the question of more technical representation at Board level had been under serious consideration for some time, and in light of this it was decided to appoint a Shipbuilding Director and an Engineering Director to the Board. [37] By June 1953, the conversion of *HMS Wakeful* had been completed and an order from the Burntisland Shipbuilding Company had been accepted for Scotts' to supply the Fife firm with a set of engines. [38] Although Scotts' preferred to design, build and engine its own vessels, the trend to Admiralty free issue of engines could lead to gaps in the Engine Works programme if the proper balance between mercantile and naval contracts was upset. In this regard orders from other shipbuilding and engineering firms filled gaps, kept establishment charges

reasonable and allowed a fuller recovery of overheads. By this stage, however, the Admiralty had gone some way to alleviating the Warship Group's concerns, and a rota system of ordering had been established. Scotts' proposed allocation of work, under which the firm was to be given orders was one frigate, one *Porpoise* Class submarine to be laid down in 1954 for delivery in 1957, and two submarines and one cruiser of a new design to be delivered around 1960. The latter orders were of course subject to change as strategic priorities altered or political and economic factors intervened. With one *Porpoise* class submarine already under construction, which had been ordered in April 1951, another was ordered in May 1954.[39]

With a number of refits also in train, submarine work kept the firm's specialist teams busy. However, submarines by their nature did not offer a great deal of work to the hull trades, being much more in the province of the Engine Works department, and attendant fitting out trades. Conversely, tanker construction demanded little from the latter, but did keep the firm's hull trades in work. Another consideration was to ensure that only engines, which the firm already had a sub-licence to produce, were placed in the majority of vessels built-a stance that could mean taking a fixed price on a contract. A good example of this tendency was a 10,000 deadweight ton cargo liner for Elder Dempster ordered in November 1954 at the fixed price, which included a Scott-Doxford main engine instead of a Burmeister & Wain engine originally preferred, at a combined cost of £1.212,190. Not only did this order fill a gap in the programme caused by the cancellation of a ship by the Athol Line; it also preserved the connection with Elder Dempster and allowed Scotts' to build the engine of its choice. As a result the fixed price left little margin for profit, if any, despite making a reserve of £80.000 from the Athol cancellation fee. Similarly in January 1955, Scotts' had won three fixed priced orders for two Scott-Doxford engines for Rankin and Blackmore and one for the Caledon Shipbuilding Company of Dundee. [40] That these contracts were taken on this basis, indicated that compensation had to be found to balance out the building programme, in that the Admiralty contracts for the newly launched frigate, and two submarines did not require Scotts' to provide the main engines

Throughout this period the issue of conversion to a public company had been kept under review and by December 1955. Scotts' directors had yet another report on conversion before them. What had changed in the interim was that the price that could be obtained for the firm's shares on the Stock Exchange on conversion was now much more favourable at around £25 for each £10 ordinary share. In light of this Scotts' chairman, Douglas Phillips thought that the time had again come to put the matter to the firm's shareholders, and called for the views of each director on conversion. Whilst regretting the loss of family control in the firm, and the possibility that another shipbuilding firm might take it over. Ronal Brown could not imagine a better time for conversion, owing to Scotts' past record and full order book. Cedric Sinclair Scott, however, stuck to the family line that if family control was lost; this would prevent succeeding generations, 'carrying on the great traditions of the company'. A view echoed by Michael Sinclair Scott and the Engineering Director, J.R. Duncan, although they did not definitely argue against conversion. The firm's Shipbuilding Director, George Hilton, although regretful over the loss of family control could foresee that, 'financial conditions might possibly enforce the position during the next five to ten years'. John Swire Scott to some extent agreed with Hilton that conversion was bound to come, 'sooner or later' particularly if government policy, 'made the continued existence of large Private Companies in family control, well nigh impossible'. However, whilst acknowledging that now was a propitious time to convert, he did not have the power to speak on behalf of the Taikoo Dockyard who now owned one third of the ordinary shares. Nevertheless, as long as he and John Swire were alive that lock-up investment would support the Scott family. Phillips then summed up by saying that as there was so much family tradition at stake then the matter should once again be put in front of all the shareholders to decide on whether or not to convert to a public company. [41] Accordingly, by September 1956, twenty-one of the twenty-two Members of the Company had expressed their opinion on conversion, of which eight holding just under forty-two per cent of the shares voted for conversion, with thirteen members, holding just under fifty-seven per cent against. As the necessary consent of seventy-five per cent of the members had not been obtained, then the matter was left in abeyance with the position to be kept under review. [42] Clearly the lock-up investment of the Taikoo Dockyard had been crucial to the outcome, and family

tradition had won out. The firm had remained private, at a stage when the long post-war sellers market in shipbuilding was about to turn.

By this stage, however, Admiralty policy on submarines had definitely shifted. although no firm decisions had been arrived at, it had nevertheless become clear that, 'the present building programme (eight *Porpoise* class building with four more to commence) was no longer in step with requirements'. The Admiralty was now pressing ahead with ideas to produce Britain's first nuclear-powered submarine, and in this regard it had to make up its minds on future submarine requirements. [43] By June 1956, Scotts' Deputy Chairman and Managing Director, Ronal Brown had received a letter from the Director of Naval Construction, at the Admiralty, Sir Victor Shepheard regarding a new class of submarine to succeed the *Porpoise* class. The new submarine would have a maximum pressure hull diameter of twenty-five feet, with T-bar framing, with a length of about 210 feet and a maximum beam of thirty feet. Accordingly, Shepheard asked Brown to comment on the adequacy of his existing plant to work the plating and on the adequacy of existing cranage to lift the fabricated sections and berths to contain a submarine of this size.[44] Brown replied that the existing *Porpoise* class had already caused some concern, and the subject of its successor class, 'bristled with difficulties'. There would be no difficulty with the existing plant if the plates did not exceed twenty-four feet in length; however, accurate rolling might prove difficult in that circularity tolerances might be too tight to achieve. Indeed, fabrication of the T-bars would also present problems, with the firm much preferring a rolled bar instead. Moreover, if the length of the sections were around twenty-four feet, this would give a section weight of around eighty tons, double the maximum weight carried by the cranage in the Welding Shop. Altogether, Brown was of the opinion that, 'the construction of submarines of the dimensions and weight proposed [was] not a practical proposition for us as we are at present equipped'. Indeed, to build such submarines, 'in a proper and economical manner, i.e., entirely under cover, would require a very large capital expenditure solely for this purpose, and this would be an outlay we could not face, especially with the small amount of Admiralty work we have in view'. Furthermore, the firm's experience in building the *Porpoise* class submarines thus far had taken up around one-quarter of its welding shop space, which had a serious effect on its mercantile

output, which formed the major portion of the work-in-hand. The *Porpoise* class, therefore, had put, 'a severe strain on our resources'. [45]

Clearly, by this stage, the firm's lack of drive to develop a credible design and expansion orientated submarine strategy had taken its toll, and moreover, the consistent failure to go public to inject new capital into the business hardly aided the overall position. Although any new nuclear-powered submarine was unlikely to be commissioned into the Royal Navy as an operational unit until 1968, the Flag Officer (submarines) at the Admiralty noted that in regard to the ageing fleet, that the present rate of replacement would create a crisis between the years 1965-1972. As a result, it was now 'imperative' that the building rate had to be increased to compensate. He recommended that the continued development of nuclear propulsion should proceed at, 'maximum intensity, making the best possible use of American experience', and that the *Porpoise* design would suffice as the basis for a patrol type submarine until nuclear submarines became available. Therefore, he proposed to lay down strike *Porpoise* submarines only from 1958 to 1964, by which stage he estimated nuclear submarines, could be ordered. [46] By October, the Controller of the Navy had agreed with the Flag Officer's plans to persist with an improved *Porpoise* class submarine, however, the development of a nuclear submarine, whose power unit would be a national and not purely naval asset, had priority over all other submarine developments. [47]

Meanwhile, at Scotts' problems persisted on submarine construction, and during a visit by the Controller to Greenock in December 1956, Ronal Brown had admitted that one reason for the slow progress on the *Porpoise* class was, 'lack of know how in hull construction'. This was an acknowledgement that difficulties had arisen for all three private builders (Scotts', Vickers, and Cammell Laird) and the Admiralty design staff in hull construction, and that information on overcoming difficulties was slow in coming from the latter and from the builders themselves. Indeed the Warship Superintendent based at Glasgow, S.R. Cannon, acknowledged that problems in hull construction had been a feature of this class of submarine. He was, nevertheless, concerned that the Controller might have been given the impression that Admiralty overseers may not have been pulling their weight, and demanded an assurance,

which was later given that this was not the case. [48] All things considered these revelations would have hardly have convinced an impartial observer to give even a lukewarm endorsement of British technical ability in submarine construction at this stage in what was admittedly a new learning curve. The move to a nuclear-powered submarine fleet, however, did have serious repercussions for Scotts' in the long-term. The Greenock firm remained by far the smallest of the three private submarine builders, a position that was unlikely to change owing to the failure to convert to a public company.

From 1951, the firm's tanker programme had given it sufficient impetus to more fully adopt welding as its principal method of metal joining, and to construct a new welding shed at the east end of the shipyard and a welding shop in its Engine Works. However, it was not until 1956, that Scotts' had finally completed its first all-welded tanker, *Caltex Edinburgh*. By this stage, Douglas Phillips had intimated his willingness to retire, and from 1 January 1957, Michael Sinclair Scott had become the seventh generation family member to succeed to the chair of the firm. With a younger generation family member now in control, Cedric Sinclair Scott duly retired in May 1957.[49] That year, Scotts' *Leopard* class frigate, *HMS Puma*, which had been launched in 1954, was finally handed over to the Royal Navy. [50] With the prospect of a fall in Admiralty orders, it was patently clear that some modernisation of Scotts' shipyard and Engine Works was necessary if the firm was to keep up with modern practice and developments. In this regard it was felt that in order to keep abreast of the latest trends the firm had to increase production, reduce costs and maintain its competitive position. To this end George Hilton had produced a plan to meet these demands, and simultaneously, 'leave a certain flexibility in the choice of ships to be built'. Hilton's plan envisaged new cranage, the extension of the present and the construction of a new welding shed with suitable cranage and various alterations to existing plant and buildings at a total cost of £492,000. With regard to the Engine Works J.R. Duncan, inter alia, proposed that a new Boiler Shop should be built with suitable cranage, and that the fitting shop should be extended. It was accepted, however, that this would have to be achieved in stages and authority was given to proceed with modernisation in cranage and welding in the shipyard and on the erection of one bay, an overhead crane and a railway track in the new Boiler Shop.

Both Cedric and John Scott signified their agreement to the scheme in principle.[51] With the amount of naval work in hand, no strategic provision had yet been made to become a real player in any future market for nuclear-powered submarines. By December 1957, however, a new Flag Officer (submarines) at the Admiralty, was convinced that:

> A force of nuclear-propelled submarines capable of launching Intermediate Range Ballistic Missiles will, in due course, offer the Royal Navy the only means of making a significant contribution to the Nuclear Deterrent which can be adequately supported by the country's economy.

Presciently, the Flag Officer also noted that a nuclear submarine could be built in Britain 'before a suitable Intermediate Range Ballistic Missile of native design could be produced in adequate numbers'. In this regard he urged the procurement of Polaris missiles from the USA to be placed in British-built submarines. Not only did he believe that in the long run this would be more economical, but it would also promote interchangeability with the United States Navy, and enhance operational readiness and flexibility. Despite the fact that she was built primarily to prove the effectiveness of nuclear propulsion, the USN *Nautilus* had proven herself to be, 'a first class submarine killer'. For this reason, Rear Admiral Woods had earlier urged the Admiralty to regard *Dreadnought* (to be built by Vickers at Barrow) as the first of her class and to, 'plan to order at least four similar vessels'.[52] With Vickers unlikely to be in a position to build all four, therefore, it would eventually come down to a choice between the publicly quoted Cammell Laird and the still, private, Scotts' as to which firm had the capability to build these sophisticated vessels.

A month earlier in October 1957, the authorised and issued share capital of Scotts' was raised to £850,000 by the creation of 550,000 ordinary shares of £1 each. This issue reflected the fact that the share capital of the firm had remained at £300,000 since the turn of the century, and did not reflect the true worth of the assets already employed in the business. An important factor in that issued share capital was often seen as an indicator of a company's financial strength. The new tranche of shares was allotted and issued as a free bonus out of the firm's Capital and General

Reserves. Contemporaneously, the existing 27,500 ordinary shares of £10 each were divided into 275,000 shares of £1 each, with the 2,500 preference shares of £10 each also being divided into 25,000 ordinary shares of £1 each. In effect, each existing Ordinary Share of £10 each would now be converted in thirty shares of £1 each. No change in the composition of the shareholders had occurred as a result of this new capitalisation, with Taikoo still holding one third of the shares of the company. A month earlier, Ronal Brown had died, and as a result George Hilton had succeeded him as Managing Director. With limited modernisation already in train, the firm's general reserve, less the amount capitalised at October, now stood at £512,283: however, this was compensated for by a Reserve for increased cost of replacement of Fixed Assets of £1,250,000 [53]

Scotts' modernisation scheme, alike many other similar schemes industry-wide was essentially funded from reserves built up for the purpose, and was undertaken with existing production in mind. However, by April 1958, on the advice of consultants, a modified scheme of shipyard modernisation, which included extended berths to take tankers of up to 24,000 deadweight tons, and 40,000 deadweight tons, or alternatively, two at 20,000 deadweight tons had been finally agreed. By June 1959, expenditure incurred on modernisation had reached £112,755 on the shipyard, and £54,041 on the Engine Works. By this stage, however, George Hilton had returned from a tour of continental shipyards where considerable developments had already taken place in plating shops in the field of automatic profiling machinery, high efficiency overhead magnetic travelling shop cranes, and mechanical conveyor gear. Hilton noted that this, hardly surprisingly, had led to considerable savings in labour costs and in the speed of production. He further explained that firms on the continent had little or no obstruction from trade unions, however, 'it was impossible to forecast whether or not British trade unions would co-operate to the same extent'. He explained that the Wear shipbuilder, Bartram, had already introduced a Shicau-Monopol plate cutting machine with optical marking at a cost of around £55,000 together with a shot blasting plant for plate cleaning costing a further £28,000. Moreover, other Tyne and Clyde firms were considering similar purchases, even now; however, the Bartram machine was already out of date. It was further noted that magnetic cranes of ten tons capacity were generally being installed, and that in

future if Scotts' were favoured with an order for a nuclear submarine. 'provision might be made in the plating sheds and stockyard to handle plates up to ten tons in weight'. In view of the considerable expense involved, however, it was proposed limiting the firm's cranage in the interim to five to six tons. Michael Sinclair Scott summed up the reports on the development plans and noted that the new Boiler Shop when completed would be capable of any requirements, 'even in the realms of nuclear propulsion, given the addition of any necessary machines'. By this stage the estimated cost of the development schemes in the shipyard now stood at £677,000 and in the Engine Works £259,000. Despite earlier reservations on the building of a successor submarine to the *Porpoise* class, Scotts' had by this stage received an order from the Admiralty for the successor to the *Porpoise* class, in effect a modified version of the former, an *Oberon* class submarine.[54]

During 1958 and 1959 the buyers market in shipbuilding had arrived with a vengeance. Given this, in response to a question on the outlook for future orders, Michael Sinclair Scott replied that, 'at present the market for new orders was practically non-existent, [and that] every possibility of an order, however remote, was actively pursued both in Greenock and in London'. Nevertheless, in light of the general situation in shipbuilding and marine engineering, which was, 'if anything worse than last year, it was essential to proceed with modernisation'. Moreover, 'it was becoming more and more apparent every day that the costs of production must be reduced in the highly competitive days which were now here'. [55] This was not only a localised problem for Scotts' as the British shipbuilding industry buoyed by years of profitable terms on largely bespoke contracts, now faced the more capital-intensive competition of continental and Japanese yards. In a buyers market, fixed priced contracts now predominated, with little or no margin for profit. Clearly, controls on production planning and work organisation and material flows all had to be tightened to prevent losses. Indeed, capital-intensive modernisation was a necessity just to survive in the market. When finished, these facilities had to be fully utilised to justify the considerable outlay of funds needed to ensure efficient operation. With the mercantile sector now in a depressed state, naval orders again assumed a renewed importance for the firm. The mine-laying submarine, *HMS Cachalot* had at last been delivered in September 1959, the construction and fitting

out of which had been extended over eight years, and with one *Oberon* submarine ordered from June, a further order had been placed in February 1960. Scotts' had, throughout the 1950s remained profitable, and from the year ended 31 December 1950 to 31 December 1959 annual profits after depreciation but before taxation had averaged £374,033. Dividends of fifteen per cent exclusive of tax were posted for five years and one each of twenty and twenty-five per cent in another two, only in the remaining three years post the increase in the firm's capitalisation, were dividends pegged at ten per cent. [56] Despite the rather dire market situation, Scotts' profit before tax for the year ended 31 December 1959, was £640,763. [57] On the surface, this was remarkably good; however, the three merchant vessels delivered in the year had all been ordered at the top of the sellers market, and with the profit from *HMS Cachalot* had resulted in a record year. This was in line with Scotts' accounting practice that profit accruing on contracts was not credited until after delivery.

By this stage, however, the industry had been rocked by a damning draft report on Research and Development Requirements of the Shipbuilding and Marine Engineering Industries by the Department of Scientific and Industrial Research (DSIR), which had been leaked to the national *Times* newspaper in October 1960. [58] According to the leaked draft the British shipbuilding and marine engineering industries suffered from technical backwardness at almost every level in the production process. However, the DSIR draft's sharpest criticism was reserved for Pametrada, which was deemed to be 'unnecessary' and 'detrimental to the national interest'. In this regard it was recommended that an independent study should be undertaken to investigate the marine turbine industry as a whole, and whether Government funding for Pametrada should be withdrawn. The draft report also noted that continental marine engine builders had already overtaken their fragmented British counterparts and also criticised the industry's labour relations, demarcation, quality of management, the atomistic nature of firms and the lack of standardisation of ships and parts. [59]

Predictably, this induced nothing short of a state of apoplexy on the part of the Shipbuilding Conference. Subsequently, by the time that a meeting of the

Shipbuilding Advisory Committee had been arranged under the chairmanship of Sir James Dunnett who had succeeded Sir Graham Cunningham to the post after the latter had resigned due to the lack of co-operation from shipbuilders. much of the Report had been sanitised. [60] With further amendments. and its publication agreed by the shipbuilders, the Report was finally published on 15 December. [61] Despite this. however, the DSIR study concluded that world shipbuilding was facing a major recession, and that apart from its large domestic market. British shipbuilding had no marked technical or economic advantage over its competitors. Moreover. the industry's research and development efforts in shipbuilding and marine engine building were inadequate, and no organised research effort had been made to investigate production and management problems with the aim of increasing productivity of labour and capital and reducing costs. [62] On the latter point, shortly before the publication of the DSIR Report, the Shipbuilding Conference had formed a committee under the chairmanship of James Patton, `to examine the problems related to productivity and research in the shipbuilding industry`. Patton reported in February 1962 and predictably found that numerous British yards had failed to keep up to date, but did recommend a number of measures to improve production planning and productivity. As a result of the combined efforts to improve the industry's technological efficiency. BSRA was merged with the research and development departments of Pametrada in May 1962 to produce a stronger across the board central research organisation than hitherto. Accordingly. the DSIR also provided greater financial provision than before amounting to fifty per cent for every £1 spent on BSRA by the industry. provided the latter spent more than £600,000 per annum. subject to a maximum DSIR grant of £500,000. To encourage participation from shipowners. DSIR agreed to provide £1 on a like for like basis. subject to a maximum grant of £200,000. However, as a consequence of merging research into ship operation, shipbuilding and marine engineering. the acronym BSRA was retained. but the title was altered to the British Ship Research Association. [63] Nevertheless. research whether on industrial or scientific matters, by its very nature is not amenable to quick fix solutions. No doubt the added financial incentives were welcome. however. the belated acceptance of the need to put research at the heart of the industry`s efforts to remain competitive indicated the importance of the research function to the industry up to that point.

By April 1960, eight months before the publication of the DSIR Report, Scotts' had brokered a licence agreement with Sulzer Brothers of Winterthur, Switzerland to manufacture the latter's marine diesel engines. Both Michael Scott and George Hilton had been made aware by shipowners that Doxford engines were losing favour, not least because Doxford were at a less advanced stage of development of marine diesels in the higher power range. The switch to Sulzer had, however, been mainly determined by the preference expressed by Scotts' major bespoke customer Elder Dempster for the Swiss engines. After a visit to Winterthur a licence agreement had been signed by April at a price of 245,000 Swiss francs, with a royalty to be paid on each engine manufactured by Scotts'. By this stage, however, the Greenock firm's late decision to switch its engine production to a continental design of marine diesel had been already emulated by ten other principal Doxford licensees. [64] This decision had to be taken according to commercial reality. Burmeister & Wain, Sulzer, Gotaverken, and MAN diesel engines, especially those manufactured by and under licence to the first two, held the vast majority of the market. In contrast, by 1964, Doxford slow speed diesels held only 1.5 per cent of the world market in terms of horsepower, earlier in 1951, the firm had led the world. [65]

Although this move by Scotts' had been sensible given the trend towards larger ship sizes, which demanded suitable engines of higher powers, engine orders remained difficult to obtain. Earlier in January 1960, fifty men had been paid off in Scotts' Engine Works. A week later, Greenock had its highest jobless total for the past nine years, resulting in the town having the highest percentage of unemployed men in Scotland. Moreover, shipbuilding and repair workers formed the largest single part of the local jobless total, which did not count the fifty men dismissed from the Engine Works.[66]

The vast majority of shipyard and engineering establishments on the Clyde were unionised and subject to 'closed shop' rules, which effectively meant that any person who was not a union member, could not get a job. Mobility of labour between the Lower and Upper Clyde, particularly in the iron trades, was also hampered by arcane

rules. It was a long established rule of the Boilermakers Society that any member seeking employment in a district other than in which he was registered had to get permission from the Area Delegate in the area to which he wished to transfer. Although labour was transferred between certain firms, for example between Lithgows and Fairfield, when the time came to be paid off, Govan delegates of the Society would insist that their Lower Clyde brethren were paid off first, or else. [67] All things considered there was no love lost between the workforces on the lower and upper reaches of the river, a situation that mirrored the age-old antipathy between Greenock and Glasgow.

Restrictive practices apart, the outlook for shipbuilding was hardly better and Michael Scott had noted by June 1960 that the situation, 'was very depressing. There was a world surplus of both ships and shipbuilding capacity...and it is apparent that prices quoted contain no profit element'. With this in mind and in respect of the commitment to capital expenditure to remain competitive, and in the hope of continuing to pay a dividend for a year or two, the Board was of the opinion that cash resources should be conserved. [68] At the beginning of the year, the firm's General Reserve stood at £850,000 and the Reserve for the increased cost of replacement of Fixed Assets at £1,300,000. [69] By the year end, however, the firm's new orders consisted of one *Oberon* class submarine ordered in February, two fixed price cargo liners for Elder Dempster ordered in April, and one Type 12 *Leander* class frigate ordered in December 1960. The latter had apparently been 'won' in the face of competition from twelve Warship Group firms for the three orders placed by the Admiralty for this class of ship. By May 1961, Scotts' had under construction or in hand three cargo liners for Elder Dempster and one ore carrier for Vallum Shipping. Of these, Scott-Doxford engines propelled two, with the two others being propelled by a newly licensed Scott-Sulzer engine, and a Sulzer engine built in Winterthur. On the naval side the firm now had one *Porpoise* and two *Oberon* class submarines, none of which would be engined by Scotts' and one frigate. [70] In the latter case in order to build and engine the frigate, Scotts' had taken out a licence from English Electric in January 1961 to build Yarrow 100 machinery for the Admiralty, and the governments of Australia or Canada for a fee of £2,500. [71] Nevertheless, the generally bad situation in shipbuilding continued and by the end of

the first quarter of 1961. British firms had fewer ships under construction than at any time since 1945.[72]

By June 1961, Scotts' had not received an order since December 1960, and had delivered one cargo liner for Elder Dempster, one ore carrier for Vallum, and its second post-war *Porpoise* class submarine, *HMS Walrus*. This left a total of five ships under construction, but only two sets of engines, and the keel of the last merchant ship had been laid. Expenditure on modernisation had reached the sum of £792,000 out of an approved total of £965,000 and was virtually complete. [73] However, profits after depreciation and excluding taxation for the year ended 31 December 1960 at £462,012 again reflected contracts taken on at favourable prices. With only five vessels to deliver, and whilst many of the firm's competitors were in a less favourable position, the Board remained, 'very concerned' and were making every effort to, 'obtain contracts in order to retain our workmen and staff'. Nevertheless, there was 'very little chance of obtaining a remunerative contract under the present competitive position in world shipbuilding'. [74] By this stage, Michael Scott and George Hilton had returned from a world tour, first to Hong Kong to visit the Taikoo Dockyard and then on to Japan where they visited five main shipyards before travelling on to the USA where they visited one yard and met a number of shipowners. As a result of these visits it was concluded that Scotts' 'had modernised and re-equipped the shipyard in the best possible manner within the capacity of the company, and that [It] was comparable at least with anything that had been visited'. [75] This heavily qualified view was of course highly subjective. Elder Dempster apart, by this stage it was clear that the bespoke linkages, which had sustained Scotts' in the past, could no longer be relied upon to sustain it in future.

Meanwhile the situation regarding the future composition and balance of the Royal Navy's submarine fleet had undergone a major change. Until recently the policy had been to continue to build conventional submarines at an average of two starts per year to at least 1969. Now, however, the policy was to stop building conventional submarines altogether and go nuclear, after two more *Oberon* submarines had been ordered in 1961. Indeed, the Flag Officer had gone so far as to state that he would not be concerned if the latter two were not ordered at all. In Admiralty arguments

special emphasis had been put on ordering these two conventional submarines in 1961/62 for, 'production reasons', a decision that was likely to be challenged by the Treasury. Bearing the change in strategy in mind, the Head of the Military Branch at the Admiralty noted in a memorandum to the First Sea Lord that a building programme of one nuclear submarine per year, 'will not call for keeping alive four building yards (or perhaps even three?), and if the writing is on the wall, why order two conventional submarines this year to keep them all going a little bit longer'? This was potentially a devastating blow to Scotts' as if the two orders were not placed, the Admiralty would, 'risk putting Scotts' out of the submarine business soon after the middle of next year, or losing the Chatham Dockyard submarine capacity even sooner'. [76] In the event, it was decided that it would be particularly undesirable at this stage to allow Scotts' to lose its capacity for this work, thus an order was placed with the Greenock yard for one more *Oberon* submarine.[77] In all likelihood, employment implications also played a part in this decision

By October 1961, however, Scotts' position was strengthened when an old customer, Professor Stratis G. Andreadis placed an order for a 28,000 deadweight ton bulk carrier for one of his many companies, Virgo Steamship Company, SA of Panama. This vessel was however, to be paid for on deferred terms, the fixed price being £1,352,700 twenty per cent of which was to be paid on delivery with the remaining eighty per cent in fourteen half-yearly instalments spread over seven years from the date of delivery. In security for these deferred terms Scotts' had been granted a first mortgage over another Andreadis ship, and on delivery of the Virgo vessel a first mortgage over it too. The Andreadis order was followed in December by the promised order from the Admiralty for an *Oberon* class submarine at a contract price of £1,895,000.[78]

Scotts' had by this stage officially celebrated its two hundred and fiftieth anniversary as the world's senior shipyard, and was still under family control. Modernisation of the shipyard and Engine Works had been all but completed at a cost of about £1,000,000. The plan for the shipyard whose boundaries were rigidly defined by the River Clyde cut the berths available from eight to four, three of which were served by forty-ton travelling cranes with the other reserved for Admiralty work. Any

attempt to have an integrated flow of work from its stockyard, in a parallel fashion to its plating and fabrication sheds and from there to the welding shed and then to the berth by mechanised means was stifled by the limited width of the yard. Consequently, a new sections stockyard with shot blasting equipment was placed at the west end of the yard, and from there sections were conveyed by crane through the bays of the 400 feet long section working shed, whose equipment included a cold frame bender. From there the completed sections were conveyed to the welding shop where they were linked up with the prepared plate work. The latter had been initially conveyed from the plate stockyard at the east end of the yard, equipped with a six-ton magnetic crane, and after loading on to conveyors the plates passed through heavy duty plate manglers and then on to a moving table through shot blasting to the plating shed. There, a second magnetic crane transferred the plates to various plates working machines, including a Shicau Monopol optical burning machine. From there the plates were transported to the adjoining welding shed where both the plates and sections were assembled and welded together as fabricated units. Completed sections were then transported to the berths by bogey to berth cranes for erection, and engines were installed before launching in what was probably the best channel of depth and width for doing so on the Clyde. Modernisation of the Engine Works was not completed until 1962 and had been undertaken with the aim of building a boiler and fabrication shop of a large size, which was capable of dealing with the largest boilers and engine welded structures then foreseen.[79]

The dawn of 1962 seemingly offered little respite to the British shipbuilding industry as its share of world launching output continued its steady post-war fall from thirty-eight per cent in 1950 to fifteen per cent in 1961. Overall launching output at between 1,250,000 gross tons and 1,500,000 gross tons per annum did, however, reflect available capacity, which had barely changed since the war. The bald fact was that other nations had increased their capacity and their share of world output whilst the British shipbuilding industry, with its abhorrence of excess capacity had not been able to achieve either. Two years earlier in 1960 the outlook for the industry had looked highly uncertain as British launching output had dipped below 1,250,000 gross tons for the first time since 1948. Moreover, the downward trend continued, and by the end of the second quarter of 1962, Britain's share of world

tonnage was the lowest post-war, and for the first time, Japan had more work in hand. [80] By this stage Scotts' had only one new mercantile order, a bulk carrier, *Simandou* for the Republic of Guinea. This order had resulted from an invitation from Lithgows to co-operate with them in negotiations to build two ships for the African nation, but had come to Scotts' because of earlier delivery. In the Engine Works an order had been secured for a Scott-Sulzer engine for the Burntisland Shipbuilding Company at a fixed price of £105,580. In order to obtain this order Scotts' had to offer credit on the basis of forty per cent of the fixed price being paid on delivery, with the remainder being paid in sixteen half-yearly instalments spread over eight years from the date of delivery. However, experience of the modernisation scheme to date had been favourable and had resulted in considerable economies in labour costs, leading the Board to authorise a further expenditure of £126,012 on plant and machinery for the following year. [81]

By October 1962, Michael Scott, who was also chairman of the Warship Group had used the occasion of a launch speech, with the Flag Officer (submarines) Rear Admiral H.S. Mckenzie in attendance, for the *Oberon* submarine *HMS Otus* to plead for acceleration in the country's naval programme. Scott reflected on:

> 'A double tragedy-A Navy striving to exist on by far the smallest share of the Defence Vote and a shipbuilding industry which has ploughed £150,000,000 into its own modernisation, hamstrung, at least in part, by national neglect and by financial arrangements which make it positively paying for British shipowners to build abroad.

Scott went on to state that since the war no less than twelve per cent of new work completed in British shipyards had been built to Admiralty account. Moreover, the thirteen warship-building firms now employed between them almost half of the total of the skilled shipbuilding and marine engineering workforces. [82] It was patently clear, however, that by this stage the collapse in mercantile demand could only be compensated for either by measures instituted by government to stimulate it, or by a contra cyclical increase in naval building, which would by definition only help the mixed builders. Nevertheless, with the end of conventional submarine building for

the Royal Navy in sight, Scotts' now had a renewed interest in any subsequent orders for nuclear submarines. Consequently, by January 1963, the Greenock firm had publicly confirmed that they would be delighted to build these vessels. With the Greenock jobless total now at 3,021, the highest since 1953, it would seem that employment considerations would be material in any future allocation of naval work.[83] Contemporaneously, Michael Scott wrote to Sir Alfred Sims to request a meeting to discuss how Scotts' could re-equip and re-organise in order to build nuclear submarines. [84]

By February 1963, however, it was already clear that the Admiralty favoured the Birkenhead firm of Cammell Laird over Scotts'. Nevertheless, Sir Alfred Sims thought that Scotts' should be given a chance to bid in parallel with the Mersey firm, 'out of courtesy if for no other reason'. However, if this were done it would inevitably lead to delay, and for this reason it was decided to approach the Birkenhead firm in the first place with Scotts' in reserve if the former's bid proved to be unsatisfactory. It was also decided to inform the Warship Group, and by association, Michael Scott, of this course of action. [85] By March, at an Economic Policy Committee of the Cabinet, a confidential memorandum by the First Lord of the Admiralty on the choice of building yards for the Polaris submarine programme was considered. Therein, Scotts' prospects were directly compared with the second largest shipyard in the United Kingdom, Cammell Laird. The latter were deemed to be large and well equipped, and had spent money in recent years with nuclear submarine construction in mind. On the debit side, the Birkenhead firm's management, 'was not outstandingly good, and on past experience they may be reluctant to accept the close price control upon which we must insist'. On the other hand, Scotts' had a good record in recent years on conventional submarines, but they were small, 'and have not the resources to cope by themselves with the giant task of building Polaris submarines'. In this regard the Greenock firm would need the help of one of the larger Clyde firms, such as John Brown or Fairfield, however, 'it was not out of the question that they would be willing and able to arrange this at short notice'. In this light, it was accordingly decided to open discussions with Cammell Laird and Scotts'. [86] However, as a revised but undated secret memorandum showed, Vickers had claimed that they were able to build all four Polaris submarines within

the allotted time scale. Nonetheless, it was not recommended that the entire order should be entrusted to the Barrow firm, as this would cause, 'a major political storm'. Moreover, if negotiations broke down with Cammell Laird, the Admiralty would be forced to turn to Scotts' or Swan Hunter, or Harland & Wolff, or John Brown. Each firm was located in areas of relatively heavy unemployment, 'and to that extent the placing of orders with them would be popular, but none of them could be expected to carry out the programme within the time available'. [87]

With Michael Scott in attendance, it was announced in the House of Commons on 11 March that the first two Polaris submarines would almost certainly be ordered from Vickers, and the second two from either Cammell Laird or Scotts'. [88] With time the all important factor in building a credible submarine-based nuclear deterrent, Scotts' were informed at a meeting on 22 March in London that the Admiralty would write to request them to formally state how they in fact intended to carry out the building of the Polaris submarines. This letter would be in Scotts' hands by 26 March, from which date two weeks only would be allowed for reply. The Controller of the Navy also made it clear that the Admiralty would insist that any bid by Scotts' must be made in association with a larger firm. From the outset it was made clear that the Admiralty thought Scotts' to be too small, and that they had insufficient labour and top management for the job. A position that Scotts' 'naturally did not agree with as the firm was still inclined to go it alone. However, the firm was so concerned with the Admiralty's rather vague description of method in forming a consortium with either John Brown or Fairfield, that it sent George Hilton to meet Sir Alfred Sims to clarify the position. Sir Alfred explained that Vickers with 5,000 men found difficulty in building nuclear submarines and that Scotts' with 2,500 men was therefore too small. Hilton stated that if Scotts' were the principal contractor they would have to satisfy themselves that their partner's work was up to scratch. Moreover, Scotts' had proved that their standard of work was better than John Brown, Fairfield or Cammell Laird, and that the Greenock firm's record on delivery was also superior. Sims [aware of the Glasgow effect] then stated that an award of two Polaris submarines to Scotts' alone would make them the biggest firm on the river, and that this would be, 'bad politically'. He again insisted that any bid must be on a consortium basis, and that if Scotts' went it alone then this would weigh heavily

against them. Hilton then asked Sir Alfred about the possibility of building submarines for the Royal Australian Navy, and whether firms chosen for Polaris work would be allowed to bid for them? Sims replied that there would have to be competition among the three private submarine builders, and that there would be little room for manoeuvre as the Australians would vet the tenders. [89]

In the interim, Scotts' had received the Admiralty letter as promised on 26 March, which insisted on a consortium arrangement and a report on the provision of plant and other facilities and a proposed lump sum for profit in relation to capital employed. At a meeting held to discuss this, Michael Scott dolefully commented that, 'the Admiralty had put us in a position of being unable to withdraw even if we wanted to and that we must therefore go forward to bring this important work to the Clyde'. Scott added the rider that, 'although if we got the job it. it might well embarrass us even with our Consortium'. Additionally, Scott also felt that costs would rise for future mercantile work, and if the nuclear programme fell through or was completed without any follow-on work, his firm would be left with redundant buildings and a team of highly paid individuals. He then informed the meeting that he had in fact contacted John Brown and Fairfield and stressed to both firms that they would be in direct competition with each other. Thereafter. it was unanimously agreed that the firm should go forward on a consortium basis with either yard on the following broad basis. First, a company should be formed with a nominal share capital with Scotts' owning fifty-one per cent of the shares. Second, Scotts' would nominate Michael Scott as Chairman and George Hilton as a Director. but that either John Brown or Fairfield would nominate the Managing Director who would also be the Chief Polaris Executive, together with one other Director. Whilst the Scotts' Board were unanimous in agreeing that capital expenditure on a defence project of this nature was 'unwarranted', they had to be prepared to show some willingness to do so. It was then decided that the maximum commitment should be the purchase by Scotts' of the heavy rolls already ordered at a cost of £125,000 and possibly the construction of a new welding shed as these were the only items which might be of use to the firm in the mercantile field in the future. On profit. whilst this was extremely difficult to calculate, it might be in the region of £2.750.000 over six

years at a rate of £450,000 per annum. It was decided to bear this in mind pending the negotiations with John Brown and Fairfield. [90]

Separate meetings were then held with John Brown and Fairfield on 5 April, wherein Scotts' laid down the conditions pertaining to the proposed company, which would agree to deliver both submarines before July 1969. The first would be built and be entirely completed by Scotts', and the second built and fitted out by either John Brown or Fairfield, but would then need to be sent to Scotts' for the nuclear installation and final fitting out to be supervised on a joint basis. After various other details had been explained, Lenaghan on behalf of Fairfield stated that the lump sum for profit that his firm would require would be £1,500,000 and that they would be prepared to pay £250,000 towards capital expenditure. Dr. John Brown, on behalf of John Brown was prepared to accept a lump sum for profit of £1,250,000 and to contribute £350,000 to capital expenditure. Michael Scott, hardly surprisingly, accepted the latter offer and submitted the joint Scott-Brown consortium proposal to the Director of Naval Contracts on the same day. The offer was made on the basis of joint capital expenditure amounting to £475,000 with a fixed lump sum for profit of £3,550,000 which excluded the handling charge on the amount paid to the reactor consortium and on the cost of separately paid for auxiliaries. [91] Scotts' had therefore managed within an incredibly short period of time to at least post a credible bid, it remained to be seen, however, if a somewhat reluctant Admiralty would entertain it.

Throughout the process, however, the portents had not been good, Vickers and Cammell Laird were at least in the same geographical area of the country, and had been preferred from the start of the process. The Clyde was already the locus of an American Polaris base and would also be the location for any British based submarine deterrent. Moreover, the entire process had reeked of political expediency from the beginning. Michael Scott and George Hilton then attended a meeting held at the Admiralty on 8 May where they were informed by the Controller of the Navy that Cammell Laird would be the follow on builder to Vickers for two Polaris submarines. Inter alia, the Birkenhead firm was larger, had rather better capital and facilities, and had offered better financial terms. [92] There ended Scotts' brief

flirtation with nuclear submarine construction, a month after Britain's first nuclear powered submarine, *Dreadnought* had been commissioned into the Royal Navy. [93]

The failure to secure nuclear submarine work left the firm to concentrate on its existing naval work and to again attempt to secure mercantile work to balance out its building programme. Earlier in April, Scotts' had opened a new Welfare Block to meet Factory Act legislation, and the shot blasting plant introduced as part of the modernisation scheme had proved to be of great value. However, the general experience gained as a result of the programme of modernisation in the Engine Works had highlighted the need for, 'a more comprehensive production planning organisation'. Advice from consultants was sought and as a result it was proposed that a Planning Department be established to, 'co-ordinate, direct, and develop the technical, planning and production control functions and embracing all work from the start of a contract until the vessel is handed over to owners'. As a corollary to this the consultants also recommended that management organisation should be revised to, 'provide a complimentary structure of production services as help and guidance to Shop Management'. Moreover, the present machinery on account of advanced age and inaccuracy was not suited to advanced techniques, therefore the introduction of new machinery in conjunction with a planned maintenance programme would enable the Engine Works to become a more modern production unit, and enable it to undertake more diverse activities. Having regard to continuing in the engineering field it was felt that the firm must be highly competitive, and to this end further expenditure of £250,000 was authorised for the re-tooling and re-equipment of the Engine Works and fitting out department. This would bring the total estimated cost of the Engine Works Development Scheme to £509,000 of which £223,564 had already been expended.[94]

With the crisis in mercantile demand continuing unabated, Scotts' launched in June 1963 their sixth warship since the war, the anti submarine frigate *HMS Euryalus*, this left the firm with one *Oberon* class submarine, *HMS Opportune* still building. For the past two years the response of the Shipbuilding Conference to the collapse in mercantile demand had been to recommend another version of NSS to further reduce capacity by a quarter on a voluntary basis. The resultant unemployment through

redundancies and compensation would be left to individual yards: however, the plan ran into difficulty on two points, first, taxation, and second, on the Government's reluctance to accede to such an open-ended scheme where it had very little control over events. In the event the Conservative government whilst recognising that some form of contraction in the industry in the face of excess world capacity was inevitable, could not support the scheme, but did nevertheless grant the industry a temporary subsidy to increase demand. [95] Accordingly, by the end of July, Scotts' became the first Clyde yard to win an order as a result of the Ministry of Transport's temporary one-year Shipbuilding Credit Scheme. [96] The vessel *Craigwerdd*, a bulk carrier of 28,500 deadweight tons at a fixed price of £1,255,000 for the Craig Shipping Company of Cardiff would also be engined by Scotts' with the Ministry granting the owners a loan of fifty per cent of the cost of the vessel.[97] In addition, Scotts' also financed the building of a bulk carrier, *British Monarch* on its own account by a £690,000 loan on security of the vessel under the Credit Scheme. [98] The Scheme, originally financed to a limit of £30,000,000 was subsequently raised twice in one year to a limit of £75,000,000, including a loan for a new Cunarder, and was fully subscribed to by October 1964 with sixty-seven vessels totalling 892,000 gross registered tons on order. [99]

In the interim Scotts' had also competitively tendered at a price of over £5,000,000 for an order for two *Oberon* submarines for the Royal Australian Navy. However, at that stage, in view of existing commitments wherein no guarantee of the delivery of four vessels at ten monthly intervals could be given, the firm did not wish to commit to tendering to build the third and fourth vessels wanted by the Australians. [100] By August 1963, however, the Greenock firm had won, at a price of £5,785,742 subject to a price variation clause, its costliest order to date from the Admiralty for a fleet replenishment ship, *RFA Resource*. [101] At 19,000 gross tons, *Resource* was Scotts' largest ship for over fifty years since *HMS Colossus* and *HMS Ajax* were delivered in 1910 and 1912 respectively.[102] This good news was followed by more as the firm also secured the order for two *Oberon* class submarines for the Royal Australian Navy. This order kept Scotts' in the conventional submarine export market, and was compensation for the failure to secure a nuclear order. [103] With Cammell Laird and Vickers otherwise engaged on Polaris submarine construction, this was all well and

good, but Scotts' future in the submarine market, dependent as it was upon the Admiralty for design, was effectively limited to export orders for Oberon class submarines. A future that was all but confirmed at a Warship Group meeting with the Admiralty in October, where it was emphasised that. 'prospects were not good of continuing conventional submarine orders for the Royal Navy, as distinct from the Commonwealth'. [104]

In January 1964 Scotts' again increased its share capital to £1,500,000 by issuing 650,000 ordinary shares of £1 each credited as fully paid up by capitalising £650,000 from the firm's Reserve for increased cost of replacement of Fixed Assets. Such shares would rank for dividend and in all other respects *pari passu* with the existing shares. In less than a decade then, the firm had increased its authorised and issued share capital by transfers from reserves totalling £1,200,000. [105] This not only brought the firm's share capital more into line with its fixed assets, but also gave its small coterie of shareholders, much of whose shares were held in trust, increased dividend payments. That month, the Minister of Transport, Ernest Marples had called yet another meeting with the Shipbuilding Conference on the long-term future of the industry in the wake of the Shipbuilding Credit Scheme and a report by the consultants, Peat Marwick and Mitchell, on shipbuilding orders placed abroad. [106] Marples opened the meeting by stating that with a General Election looming, it would be impracticable to introduce any new measures to help the industry. However, although the Credit Scheme had provided, 'a useful breathing space' he saw, 'real dangers ahead' for the industry unless plans were made in advance to meet the situation once the effect of orders made under the Scheme had worn off. Marples praised the effect of the Credit Scheme, the increased aid to BSRA, which he believed was the largest single grant commitment made to any industry by the DSIR, and noted the effect of an acceleration in Admiralty orders to shipyards. Moreover, Export Credit Guarantee Department facilities had now been extended to ensure, 'competitive credit terms for foreign orders' and overseas aid under Section 3 loans had been granted covering orders from 'emergent' countries. On the Peat Marwick study, Marples noted that two main conclusions stood out; first, industry capacity would exceed demand for the foreseeable future and second, most orders taken by British shipbuilders would result in losses. The industry was not

competitive with Japan or Sweden, and with the recent granting of a wages award and reduction in hours, this would raise labour costs and, 'worsen the position'. Marples concluded [albeit in similar terms to Sir James Lithgow many years earlier] that unless the industry could substantially reduce its costs, 'then its future would be poor indeed, unless a direct subsidy was granted'. He hinted that if Labour came to power, then nationalisation of the industry could occur, however, with an election looming, he stated that, at this stage, 'the initiative must lie squarely with the industry itself'. In reply, the President of the Conference, A.J. Marr was rather upbeat on a number of fronts, but did admit that modernisation was a continuing process, and that in the near future some of the weaker firms in the industry would go to the wall. Marples concurred, but indicated that, 'the pace was too slow in relation to the dangers ahead', and that in his opinion labour costs were probably, 'the largest single factor influencing shipbuilding competitiveness'. However, [with an election looming] 'he would be prepared to consider any suggestions, should the industry wish a "show down" with the Unions'. No response to this offer was recorded; but Marples did seem to favour concentration of both the shipbuilding and marine engineering industries into larger units. Tellingly, he again reiterated his belief that costs had to be reduced, but that no further measures could be expected during the lifetime of the present Parliament. In summation he stated that, 'the ball was now fairly and squarely in the Industry's court'. [107]

The increased importance of naval orders was re-confirmed a month later when it was announced that Scotts' had also won an order worth £300,000 to build two diesel engines for its Australian submarine orders. By July, the firm had won a repeat order from Australia for a further two *Oberon* class submarines, bringing the amount on order to four and keeping Scotts' submarine workforce busy until 1969. A month later Scotts' also tendered to build two County class guided missile destroyers and two Leander class anti-submarine frigates at a total cost of £45,000,000. [108] However, hardly surprisingly given its size, the firm was not successful, and in September its second and last frigate since the war, *HMS Eurydalus* was commissioned into the Royal Navy, followed by its fifth submarine, *HMS Opportune* in December. The latter would subsequently prove to be the thirty-fifth and last ever submarine that Scotts' would build for the Royal Navy. By this stage a

record of two frigates and five submarines built since the war hardly augured well for Scotts' future as a warship builder for the Royal Navy.

With the election of a new Labour Government in October 1964 faced with a shipbuilding industry whose share of world output had fallen by a third in under a decade, the formation of an independent committee of inquiry had been announced in November. In this case, for the first time since the war it seemed that government had finally learned that a fairer view could be obtained of the industry by an impartial group of people who were not shipowners, shipbuilders or trade unionists. By 2 February 1965 the terms of reference of what would become known as the Shipbuilding Inquiry Committee (SIC) under the chairmanship of Reay Geddes had been announced. The SIC was to establish what overall changes were necessary to make the industry more competitive in world markets, and also to establish how to reduce costs of large marine engines. It would also recommend to all parties how these changes could in fact be brought about in shipyards and marine engine building works primarily building and supplying engines for vessels of 5,000 gross tons and over. [109]

As a medium sized firm in an increasingly competitive market, Scotts', alike most other firms in the industry if government aid was to play a part in its recovery, was to a large extent dependent on what particular course of action the S I C would in fact recommend. The SIC Report, however, would not be made public to at least the spring of 1966. In the interim, Scotts' looked to expand its shipbuilding output on the Clyde. First, by an agreed take-over of the small, unrelated shipyard, of Scott & Sons (Bowling) Limited on the north bank of the Clyde, and second by entering into negotiations to take over the neighbouring Klondike yard of the Greenock Dockyard Company at Cartsdyke. On Bowling, Michael Scott had been alerted in February 1963 that Carl Scott wished to sell his business, as he had no one to take it over. After various trips to Bowling and perusal of accounts, the net assets of Scott & Sons at 31 March 1964 amounted to £77,097 giving a book value of per £1 share of 38s 7d. The Bowling yard had concentrated on shiprepairing and the building of small tugs and coasters, and had two berths for vessels up to 1,500 deadweight tons, two slipways, and a labour force of two hundred men. Overall, the Bowling yard

was profitable and had excellent connections with small shipowners on the Clyde in new construction and repairs. With the estimated profit for the year ended 31 March 1965 being £50,000 Michael Scott had offered Carl Scott £63,500 for the business. which he accepted. To preserve bespoke linkages, Carl Scott remained as Managing Director for a further two years at an annual salary of £1.500 per annum. On the formal acceptance of the offer it was also agreed that W.A. Livsey. late of the Blythswood Shipbuilding Company would join as General Manager and Deputy to Carl Scott. [110] Earlier in March, a representative of British & Commonwealth Shipping Company Limited, the owners of the Greenock Dockyard Company. had approached Michael Scott about the possible purchase of the fixed assets of the latter. The Klondike yard had almost exclusively concentrated on refrigerated cargo vessels for the Clan Line, a subsidiary of British & Commonwealth. Negotiations, however, dragged on for nearly a year and were not concluded until March 1966. [111] In the case of the Bowling yard, Scotts' aimed for a monopoly of small shiprepairing on the Clyde, however, the shipyard was in need of some modernisation and by December it had been agreed that yard development was in order to the tune of £30,000. This sum covered the purchase of a second hand plating shed, its extension, a second hand crane, excavation and building, and welding equipment. [112]

Clearly, by this stage, Michael Scott was positioning his firm to best exploit any suggested changes proposed by the SIC. As chairman of the Warship Group, and from November 1965 as the newly elected President of the Shipbuilding Conference, Scott was at the very heart of the industry's discussions and presentations to the SIC. In tandem with his managing director. George Hilton, who was also elected as President of the Shipbuilding Employers Federation this gave Scotts' a vital perspective into the likely direction of SIC policy. In the current climate, however. the difficult trading conditions in the mercantile side of the industry were likely to persist in fixed price contracts overriding the benefits obtained from orders under the temporary Shipbuilding Credit Scheme. Ominously, several British shipping firms who had not previously ordered abroad, including Alfred Holt. had by this stage done so. In 1964, Holt had ordered two cargo liners from Japan. where prices were twenty per cent lower. with delivery being around half that of comparable UK yards. Such was the deplorable state of the industry at present in terms of price. delivery

and management, that Holt's could, 'conceive of virtually no circumstances in which [they] would place an order with a British yard'. Moreover, in relation to British shipyards, it was 'disastrous' to have an engine works attached, 'in the modern world'. [113] Both Peninsular & Oriental and British Petroleum did not go so far, but the former now preferred Japanese yards at the expense of British in terms of price, delivery and quality. Whereas BP pointed to the better performance of Swedish yards at all levels when compared to British yards. [114] Perhaps the most prescient observation, however, came from Shaw Savill & Albion, where again it was noted that price, delivery and quality were now at a premium in the international market for ships. With Britain unable to come up to scratch on these fundamentals, then what had sustained the industry in the past, its bespoke linkages with indigenous shipping firms was beginning to unravel. [115]

As a harbinger of the future, therefore, the incidence of major British firms ordering abroad was likely to increase rather than contract. With the industry share of world tonnage now at ten per cent, and approaching the point where it would be two thirds less than it had been a decade before, Scotts' future as a builder for the Admiralty was of critical importance to the firm's long-term profitability. The naval dimension, which had often sustained the firm in the past, was given added importance in that, despite the demise of two Warship Group firms, Denny, and J. Samuel White, too many firms were still competing for a relatively small amount of work. This was a factor that the SIC, in conjunction with the Admiralty's successor department, the Ministry of Defence was bound to deliberate upon in an attempt to bring supply more into line with anticipated future demand. With Scotts' still under family control, the coming years would test the firm to the limit.

Endnotes: Chapter III.

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[1] The arrival of the nuclear age transformed strategic thinking at the Admiralty on the balance of nuclear and conventional responses to perceived threats. For an in depth discussion of the various elements of Admiralty policy in this period, including measures to counteract and to exploit the potentially crucial role of the submarine in naval warfare, see, E.J. Grove, *Vanguard to Trident: British Naval Policy Since World War II* (Annapolis, 1987). See also, A. Gorst & L. Johnman, 'British Naval Procurement and Shipbuilding, 1945-1964' in D. Starkey & A. Jamieson (eds.) *Exploiting the Sea* (Exeter, 1998).

[2] The world mercantile fleet almost doubled in gross registered tonnage from 80,291,593 grt in 1948 to 160,391,504 grt in 1965. In the same period world shipbuilding launches increased sixfold, largely as a result of the growth and size of tanker tonnage from 2,093,000 grt to 12,216,000 grt. However, the tonnage of the British Mercantile Marine over this period only increased by 16 per cent, and output remained virtually static with tonnage launched averaging 1,167,142 grt per annum. Source: *Lloyd's Register of Shipping Annual Returns*.

[3] GD 319/1/1/3 Minute of Directors Meeting, 25 June 1945.

[4] Ibid., Minute of Directors Meeting, 27 June 1944.

[5] Ibid.

[6] ibid.

[7] ibid.

[8] NMM SRNA 4, Shipbuilding Conference Executive Board Reports, 13 July 1943.

[9] Ibid., Executive Board Reports, 4 May, 22 June & 27 September 1944.

[10] L. Johnman, 'British Shipbuilding and the State', *Research Papers in the History of British Shipbuilding, Research Monograph No. 4, The Centre for Business History in Scotland, University of Glasgow* (Glasgow, 1998).

[11] *Two Hundred and Fifty years of Shipbuilding*, p.130.

[12] GD 319/12/7/17 Letters from K.E. Greig to Sir Charles Craven and to Sir Robin Johnson, 14 May 1943.

[13] Ibid., Letters to Greig from Craven and Johnson, 18 and 24 May 1943.

[14] GD 319 List of Ships Built.

[15] *Two Hundred and Fifty Years of Shipbuilding*, p.130. GD 319/1/1/4 Minute of Directors Meeting, 28 May 1951.

[16] GD 319/1/1/3 Minute of Directors Meeting, 25 June 1945.

[17] Ibid., Minutes of Directors Meetings, 14 December 1945 and 2 April 1946.

[18] Ibid., Minute of Directors Meeting, 20 June 1946.

[19] *Two Hundred and Fifty Years of Shipbuilding*, pp.160-163.

[20] GD 319/12/2/50 Letters to S.A. McCarthy, Director of Merchant Shipbuilding and Repairs, Admiralty, 23 April, 13 July and 19 November 1948.

[21] *Two Hundred and Fifty Years of Shipbuilding*, pp.219-223.

[22] GD 319/1/1/4 Minute of Directors Meeting, 12 October 1950.

[23] GD 319/12/2/77 Letter to Admiral Wilkinson, Admiralty Regional Office, Glasgow, 5 January 1950.

[24] GD 319/1/1/4 Minute of Directors Meeting, 28 May 1951.

[25] GD 319/5/2/84 Reports, Balance Sheets etc. for year ended 31 December 1950.

[26] GD 319/12/2/89 Secret Memorandum from Engineer-in-Chief to Warship Main Machinery Contractors, 18 January 1950.

[27] Ibid., Note of a Meeting at the Admiralty, 20 January 1950 on Main Turbines and Condensers for all Anti Submarine frigates.

[28] Ibid., Meeting to discuss Engineer in Chief's policy for the development and construction of Steam Propulsion Machinery, 22 June 1950.

[29] GD 319/1/1/4 Minute of Directors Meeting, 30 May 1952.

[30] Ibid.

[31] GD 319/12/2/292 Letter from Michael Denny to Sir Murray Stephen, 18 January 1952.

[32] Ibid., Letter from Sir Murray Stephen to Sir John Lang, Secretary to the Admiralty, 14 February 1952.

[33] Ibid., Note of a Meeting of Warship Group and Admiralty on Daring Class Destroyers Profit Settlement, 6 November 1952.

[34] GD 319/1/1/4 Minute of Directors Meeting, 20 February 1953.

[35] Ibid., Minute of Directors Meeting, 9 April 1953. By this stage Swire had withdrawn its original promise, re if the majority of shareholders wished to convert, then Swire would act accordingly, this was changed to read, 'the majority of all the shareholders'.

[36] Ibid., Minute of Directors Meeting, 9 December 1955, Chairman's recollection.

[37] Ibid., Minute of Directors Meeting, 9 April 1953.

[38] Ibid., Minute of Directors Meeting, 5 June 1953.

[39] Ibid., Minute of Directors Meeting, 31 May 1954.

[40] Ibid., Minute of Directors Meeting, 3 June 1955.

[41] Ibid., Minute of Directors Meeting, 9 December 1955

[42] GD 319/1/1/4 Directors Minute Book, Conversion of the Company to a Public Company, 21 September 1956.

[43] PRO ADM 1/27479: The Role of the Submarine. Note of a Conference held by the First Sea Lord on Submarine Policy, 2 February 1956.

[44] GD 319/12/2/145 Letter from DNC to Ronal Brown, 7 March 1956.

[45] Ibid., Letter from Brown to DNC, 23 March 1956.

[46] PRO ADM 1/27479 Flag Officer (submarines) Rear Admiral W.J. Woods, memorandum to Secretary of Admiralty, 11 August 1956.

[47] Ibid., Note of a Meeting in First Sea Lord's Room, 8 October 1956.

[48] GD 319/12/2/145 Letter from Cannon to Brown 18 December 1956, and letter in reply from Brown to Cannon, 20 December 1956.

[49] GD 319/5/2/90 Report and Accounts for the year ended 31 December 1956.

[50] *Two Hundred and Fifty Years of Shipbuilding*, p.133.

[51] GD 319/1/1/4 Minute of Directors Meeting, 31 May 1957.

[52] ADM 1/27479 Letter from Flag Officer (submarines) to the Secretary of the Admiralty, 20 December 1957.

[53] GD 319/5/2/91 Report and Accounts, year ended 31 December 1957.

[54] GD 319/1/1/5 Minute of Directors Meeting, 1 June 1959.

[55] Ibid., Minute of Directors Meeting, 25 June 1959.

[56] GD 319/5/2/84 to GD319/5/2/93 Reports, Accounts, Balance Sheets etc., years ended 31 December 1950 to 31 December 1959.

[57] GD 319/5/2/93 Report and accounts for the year ended 31 December 1959.

[58] *The Times*, 8 October 1960.

[59] Ibid.

[60] PRO DSIR 17/800 Note of a Meeting held at the Ministry of Transport on 1 December 1960 to discuss revised draft of the DSIR Report.

[61] *The Times*, 16 September 1960.

[62] PRO DSIR 17/800 Research and Development Requirements of the Shipbuilding and Marine Engineering Industries, p.17.

[63] Shipbuilding Inquiry Committee 1965-1966 Report (hereafter referred to as SIC Report 1965-1966) Cmnd.2937 (London, HMSO) 1966, paras. 463-472.

[64] GD 319/1/1/5 Minute of Directors Meeting, 30 May 1960.

[65] SIC Report 1965-1966, para184-192.

[66] *Greenock Telegraph*, 16 & 21 January 1960.

[67] Clyde Shipbuilders Association Papers, TD241/1/54 Special General Meeting, 30 May 1961, Restrictions Imposed by Boilermakers Society, and Executive Committee Meeting, 4 August 1961, citing Murray, the Boilermakers District Delegate for the Govan and Renfrew area.

[68] GD 319/1/1/5 Directors Meeting 23 June 1960.

[69] GD 319/5/2/93 Report & Accounts, year ended 31 December 1959.

[70] GD 319/1/1/5 Minute of Directors Meeting, 26 May 1961.

[71] Ibid., Minute of Directors Meeting, 2 June 1961.

[72] *Lloyd's Register*, Shipbuilding Returns, First Quarter 1961.

[73] GD 319/1/1/5 Minute of Directors Meeting, 27 June 1961.

[74] Ibid.

[75] GD 319/1/1/5 Minute of Directors Meeting, 2 June 1961.

[76] PRO ADM 1/27872 The Naval Programme: Frigates and Submarines. Memorandum from K.T. Nash, Head of Military Branch 1 to First Sea Lord, 26 May 1961.

[77] ibid., Cabinet Defence Committee, Extract from Minutes of Meeting held at Admiralty House SW1 ON 31 May 1961.

[78] GD 319/1/1/5 Minute of Directors Meeting, 1 June 1962.

[79] *Two Hundred and Fifty Years of Shipbuilding*, pp.235-255. *Greenock Telegraph*, 4 October 1961.

[80] Lloyd's Register, first and second quarters, 1962.

[81] GD 319/1/1/5 Minute of Directors Meeting, 1 June 1962.

[82] *Greenock Telegraph*, 16 October 1962.

[83] Ibid., 3 and 22 January 1963.

[84] GD 319/12/7/31 Letter from Michael Scott to Sir Alfred Sims, 9 January 1963.

[85] PRO ADM 1/29356 Polaris Submarine Programme, Choice of Yards, Minute Sheet No.1 8 February 1963.

[86] Ibid., Extract from Minute of Meeting of EPC held on 7 March 1963. Cabinet Document EA(63) 12TH Item.

[87] Ibid., Secret Revised Memorandum, undated, Choice of Building Yards.

[88] GD 319/1/1/5 Minute of a Meeting of Directors, 31 May 1963.

[89] Ibid.

[90] ibid.

[91] ibid.

[92] ibid.

[93] *Greenock Telegraph*, 17 April 1963.

[94] GD 319/1/15 Minute of Directors Meeting, 31 May 1963.

[95] For discussion of these events in greater detail see, L. Johnman, 'British Shipbuilding and the State', pp.9-12, and B. Hogwood, *Government and Shipbuilding: The Politics of Industrial Change* (Farnborough, 1979) pp.59-63.

[96] *Greenock Telegraph*, 30 July 1963

[97] GD 319/1/1/5 Minute of Directors Meeting, 29 May 1964.

[98] GD 319/1/15/2 (2) Annexe A of Report dated 10 February 1957.

[99] Johnman, 'British Shipbuilding and the State', p.11.

[100] PRO ADM 1/28444 Australian Oberon Submarines Order, Letter from Michael Scott to R.J. Digby, Director of Naval Contracts, Eastleigh, 22 July 1963.

[101] GD 319/1/1/5 Minute of Directors Meeting, 29 May 1964.

[102] *Greenock Telegraph*, 14 August 1963.

[103] Ibid., 11 January 1964, refers to order won in September 1963.

[104] UCS 3/2/19 Correspondence 1963 Admiralty Programme, Note of a Meeting held at the Admiralty, 21 October 1963.

[105] GD 319/1/1/5 Minute of Directors Meeting, 24 January 1964.

[106] NMM SRNA 8 S42/10 Shipbuilding Conference, Note of a Meeting with the Minister of Transport, 9 January 1964.

[107] Ibid., see also, Shipbuilding Orders Placed Abroad by British Shipowners. Report to Minister of Transport by Messrs Peat, Marwick, Mitchell & Company (London, HMSO) 1961. The Peat Marwick study covered orders placed between the beginning of 1959 and the end of July 1961.

[108] *Greenock Telegraph*, 3 February, 20 July, 28 August 1964.

[109] House of Commons, Official Report, Vol., 705, cols., 272-3, 2 February 1965.

[110] GD 319/1/1/5 Minute of Directors Meeting, 7 May 1965.

[111] Ibid., Minute of Directors Meeting, 25 March 1966.

[112] GD 319/12/1/69 Letter from Carl Scott to Michael Sinclair Scott, 9 December 1965 and reply from the latter, 10 December 1965.

[113] PRO BT 186/32 Letter from Alfred Holt & Company to the SIC, 10 August 1965.

[114] PRO BT 186/21 P & 0 Evidence to SIC, August 1965 and BP Tanker Company Completed Questionnaire to SIC, undated but August/September 1965.

[115] PRO BT 186/32 Reply to Questionnaire by Shaw Saville and Albion, October 1965.

Chapter IV: Lithgows Limited, 1945-1965

Lithgows contribution to the war effort through its Port Glasgow yards and its subsidiary shipbuilding, marine engine building and heavy engineering companies was immense. In shipbuilding alone, taking the entirely naval Fairfield output measured in standard displacement tons and somewhat artificially converting it by a factor of three to gross tons, then the claimed combined output of the Lithgow Kingston and East shipyards and the Fairfield shipyard amounted to over 800,000 gross tons.[1] Throughout the war, Sir James Lithgow had been indefatigable in his role as Controller of Merchant Shipbuilding and Repair at the Admiralty and for a short period he had also been Controller of Tanks.[2] In the national interest he had remained chairman of Beardmore, and later in the war he again took up the chair at Fairfield. At Beardmore he had continued his tried and trusted policy of building up substantial reserves, however, Fairfield was, in many respects, a more difficult task.[3] For his part, Henry Lithgow, with the aid of John Muirhead who retired in 1946 as Lithgows managing director, tirelessly supervised war production at the East and Kingston yards, and oversaw production at the many Lithgow subsidiary companies. Lithgows war output had, however, not been complicated by any naval work, and concentration on volume tramp ship construction had led to sustained profitability. With the likelihood of a post-war boom in mercantile construction ahead, the future of the firm seemed assured.[4]

The immediate post-war history of the Port Glasgow firm was, however, to be dominated by the death of Henry Lithgow on 23 May 1948 at the age of sixty-one. and by the failing health of Sir James Lithgow, who had suffered a thrombosis later in that year from which he did not fully recover. Before his death in February 1952, however, Sir James Lithgow had realised much of his previous investments and the remaining family holdings in William Beardmore and Colvilles were sold at a considerable profit.[5] The proceeds of these sales were split between a number of family trusts (in Sir James case, by way of a Deed of Provision in 1937, and again in 1946), to benefit his two daughters, Margaret and Ann, and his son, William. [6] These arrangements and the complexities consequent upon them gave the Lithgow enterprise a dual character for much of the postwar period. Trustees, often members

of subsidiary firms, acted for the beneficiary interest of the Lithgow siblings and were consulted on business decisions that affected the Group as a whole.[7] How far this situation acted as a brake on the ambitions and strategy of the firm under Sir James Lithgow's control is open to question, but after the demise of the Lithgow brothers the need to consult trustees could not have led to quick decision making.

Henry Lithgow's death was not only a severe personal blow to Sir James and the Lithgow family, not least for the loss of his talent and experience, but was also a heavy burden for Lithgows Limited due to the substantial death duties incurred on his demise. A blow compounded further by the death at the age of sixty-nine in February 1952 of the firm's driving force, Sir James Lithgow. These two deaths in such a relatively short space of time left a void at the heart of the firm that could hardly be adequately filled. Sir James Lithgow's life's work, in particular, had left an indelible mark on the history of Port Glasgow and beyond that marked him out as a colossus of the Scottish industrial scene. On her husband's death, Lady Lithgow took over the chair of the family firm as an interim measure until her son; Sir William Lithgow could replace her. Whatever their ambitions for the future growth of the company were, however, there realisation was severely curtailed by the substantial death duties amounting to £1,421,569 on Net Estate Duty Paid already incurred on Henry Lithgow's estate. Indeed, as Reid has pointed out, a Cheque for £2,000,000 had been lodged with the Inland Revenue on account soon after Henry Lithgow's demise. [8] This Cheque was in fact paid on 4 June and by 12 January 1950 money lodged on account with the Inland Revenue had been further augmented by additional sums totalling £790,910. In total, £1,935,000 had been raised from Lithgows Limited, the Kingston Investment Company, Vallejo Steamship, Wm. Hamilton and Lyle Shipping to supplement funds already in hand at the date of Henry Lithgow's death by the Lithgow Trustees by way of interest bearing loans, with the exception of Lyle. By 31 March 1950, these loans, amounting to £780,000 by the four Lithgows subsidiaries had been repaid, but Lithgows Limited had been repaid by just under £345,000 from its initial loan of £1,155,000 [9] However, before the death of Sir James Lithgow, it seems that the testamentary lesson had been

learned. How otherwise are we to believe that perhaps one of the wealthiest men in Scotland had left less in his will than he had received in his father's will over four decades earlier? [10]

The demise of Sir James Lithgow, nevertheless, marked a watershed in the history of Lithgows Limited, and heralded a deluge of press tributes to a man whose life was in every respect remarkable. Despite his record of service to his country, Sir James had refused to be recommended for a peerage after the war. [11] For over forty years he had been the prime mover behind his firm's expansion, and at his death Lithgows Limited remained the largest shipbuilding concern in the world in private hands. An obituary in the *Glasgow Herald* evoked the Norse belief of Valhalla when it stated that, "not requiescat but a blazing long-ship should be the last tribute not to an industrialist, but to a last chief of Dalriada". A theme continued in the *Greenock Telegraph* whose editor referred to Sir James as an industrial king of Scotland, as well as being the first and only Freeman of Port Glasgow. In another vein, the populist Dundee-based *Sunday Post* headlined, "A schoolboy inherits an industrial empire", the mantle of Sir James had now passed to his son, William, who at that stage was enrolled at Winchester Public School.[12]

In the round, the magnanimity of the tributes to Sir James Lithgow rightly praised his considerable abilities and his contribution to the economy of the West of Scotland, and to the nation at large in wartime. However, it still remains to be asked whether in fact Sir James and his handful of industrial and banking friends positively affected the pattern of industrial development in the shipbuilding and steel sectors? In the former, although the larger firms still dominated the industry in terms of value of product and in tonnage produced, the industry remained atomistic. In the latter, where Sir James Lithgow brought his great financial strength and purchasing power to bear in conjunction with the Bank of England, there was little real opposition to consolidation as a precondition to the survival of an industry, which had lost most of its natural advantages in Scotland. In this he was ruthless. After the Dunlop/Colville merger Sir James closed down Dunlop's Calderbank steel works, and as Tolliday

has noted, he continued to purchase half of his steel from England and the rest from the continent, because, 'as he said, other people were stupid enough to be willing to make it for him in this country'. [13] As in shipbuilding, we can say that the rationalisation in steel that did take place, which to a large extent took so long because individual companies stuck with it in the hope of obtaining a better price than break-up value, might have occurred in any event without it. Like shipbuilding, the steel sector in Scotland suffered from congested sites, and in the absence of truly integrated iron and steel works with ready access to deep water facilities, much of the development that accrued was of an ersatz character. As Warren has noted, the developments in iron and steel in Scotland in the 1930s, 'perhaps more clearly than anywhere else in Britain...compromised the expansion to be followed over the next forty years, through to the 1980s'. [14] With the advantage of later perspective, Warren has a valid point; however, the question posed at the beginning of this paragraph, to a large extent remains moot. Nevertheless, James Lithgow had in his approach to business and wider industrial matters, a quality of ruthlessness and single-mindedness that would prove difficult, if not well nigh impossible to replace.

Clearly, William, now Sir William Lithgow, needed more experience before assuming control of the family firm and in the interim his mother, Lady Gwendolyn Lithgow assumed the chair of Lithgows Limited. Her immediate task was one of consolidation to counter the debilitating effects of the heavy death duties already incurred on Henry Lithgow's estate. In this light, the later view of Alex White, the managing director of Lithgows, is instructive. White reflected on how the business world at the time wondered how Lithgows could survive Henry Lithgow's 'crippling death duties' and its 'amazement' that the firm had remained a family concern. Moreover, on Sir James Lithgow's death, 'important business interests considered a sale of the family interests inevitable to finance further heavy death duties. Once again the burden was carried successfully, but it would be idle to deny that we had suffered a severe blow'.[15] The blow was, however, as previously stated, considerably softened by the realisation of family investments before Sir James Lithgow's death. In 1950, combined with the first, a sale of a second tranche of

118,832 ordinary shares in Beardmore to Morgan Nominees Limited, a subsidiary of the London merchant banking firm of Morgan Grenfell, realised a total of £1,046,576. As Hume and Moss inform, Morgan Nominees were to hold the stock until the payment of compensation on nationalisation by the Iron and Steel Board.[16] Sir James Lithgow had remained throughout his life a committed opponent of nationalised industry, and was firmly of the belief that private capital was infinitely superior.

The Lithgow Group.

Before Sir James Lithgow's death, Lithgows Limited had acquired a number of subsidiary firms, nevertheless, the core shipbuilding business at Port Glasgow remained at the heart of the Lithgow Empire. Throughout their long careers the Lithgow brothers never made any move to increase the share capital of Lithgows Limited, which since incorporation in 1918 had remained at £2,000,000, with £1,028,260 issued fully paid up. However, Sir James Lithgow had always understood the need for liquidity in shipbuilding, and had built up substantial cash reserves. Surplus money was left in deposit accounts with banks in preference to investing in short-dated securities. This was done for the sound financial reason that banks in future were far more likely to lend to the company, or partly finance certain projects, on the collateral of substantial balances held by them on Lithgows account.[17] Lithgows Limited was, in effect, given its control of numerous subsidiaries, a holding company, but was not incorporated as such. Indeed, for much of the postwar period the term, 'Lithgow Group' became universally accepted, although it had no formal corporate identity, as convenient shorthand to separate the subsidiary and associated companies of Lithgows Limited, from its core shipbuilding activities at Port Glasgow. Superficially, the nature and structure of the Lithgow Group had a number of apparent advantages. The limited liability of constituent companies allowed an appearance of independence, and gave local management the opportunity to retain and to build up the goodwill associated with each company's name. In the case of William Hamilton's Glen shipyard, it also allowed Lithgows to compare

costs, building times, and methods of construction with their East and Kingston yards.[18] However, the position of the firm's warship yard, Fairfield, was complicated in that it was a publicly quoted company registered in England, with a Head Office in London. Lithgows shipbuilding, shipping and marine engineering interests also theoretically allowed some economies of scale in the buying and selling of equipment and materials. But, as individual companies were allowed a measure of managerial autonomy from the centre, as long as their individual performance held up, central purchasing of equipment and raw materials did not take place. Nevertheless, the group concept, with its interlocking strands, gave individual firm's within it the opportunity, in some instances, to take heed of each other's policies and changes of direction. Fairfield apart, the private nature of the Group's companies made financial scrutiny from non-family interests extremely difficult. In accordance with Sir James Lithgow's longstanding policy, the firm's trade investments and ownership of subsidiary companies gave it a wide-ranging interest in the economy of the West of Scotland and beyond. With the post-war nationalisation of coal, iron and steel, however, impartial observers could have expected the firm to concentrate its efforts primarily on its shipbuilding and marine engineering interests. Nonetheless, a number of companies in the Group were hangovers from Sir James Lithgow's involvement in the rationalisation of the Scottish coal, iron and steel industries, and from his days as chairman of Beardmore. In 1947, Sir James had purchased the Beardmore subsidiaries, British Ljungstrom Marine Turbine Company, the Manchester-based, Dowson and Mason Gas Plant Company, the Mansfield-based Stokes Castings Limited and the remaining Beardmore interests in the Glasgow Iron and Steel Company. [19] Sir James involvement in the break-up of Beardmore was as Hume and Moss noted in all likelihood due to the avowed policy of the then Labour Government, to which he was implacably opposed, to nationalise the iron and steel sector.[20] Under Sir James Lithgow, Beardmore had become the second largest producer of armour plate in Britain, but from 1946 Sir James had resigned from some of his steel directorships, and took a lesser part than hitherto in employers organisations.[21] Accordingly, Lithgow's influence in the Shipbuilding Conference where he had been the prime mover of many of that organisation's policies waned.

After the war, yard reconstruction of Lithgows nine berth Kingston yard and six berth East yard was funded by £700,000 set aside as a reserve for the purpose from 1940 onwards. The Kingston yard was the first to be partly modernised, and by November 1949, £146,000 had been spent on a hydraulic riveting shed and plant, and on plant for a welding bay and on mobile cranes. Reconstruction of the East yard was held back on the basis that the improvements at Kingston, which had a full order book until 1951, would in time give greater economy in production costs. In this light, and in line with future market projections, a decision on whether to go ahead with reconstruction at the East yard was deferred until the end of 1950.[22] By this stage, however, it had rather belatedly been decided at Board level that financial reports from subsidiary companies should be submitted at future meetings. [23] Nevertheless, by March 1950, plans had been submitted and accepted to extend the Kingston berths, not only in anticipation of larger vessels being ordered but also because the extant system of building was such that work on the stern was restricted by tides.[24] By May 1950, however, wartime conditions of buying had been ameliorated and Lithgows had reverted to normal practice by ordering at the cheapest prices subject to quality, and by insisting on sub-contractors guarantees for at least one year. Moreover, the firm, due no doubt to an increase in competition was now quoting fixed prices for practically all of its work.[25] In the interim, to meet its 1950 programme, work on tankers in the Kingston yard continued by the emergency method of building in two sections, a method of building which it was anticipated would continue for a further eighteen months. [26] By September, Sir James Lithgow had suggested that Sir John Duncanson, already a director should be appointed deputy chairman of Lithgows Limited and that Mr A. H. White should be appointed as managing director, both suggestions were approved unanimously.[27]

Post-war, Lithgows had continued with their staple product mix of tramp ships, cargo liners and tankers, and had retained most of its client base, in particular its Norwegian customers. During this period the firm was, nevertheless, anxious to check out work practices in other countries. Consequently, J. F. Morton of Lithgows,

and Jack Barr of Fairfield visited a number of Swedish shipyards in January 1951. They noted that on tanker construction, longitudinal framing had been universally adopted there, and that together with the use of corrugated bulkheads this was reputed to save 250 tons of material on a 16,000-deadweight ton tanker. It was subsequently accepted to investigate the longitudinal framing method further, and also to recommend the adoption of automatic welding machines.[28] Beforehand, Sir John Duncanson had presciently warned that steel supplies would in all likelihood be in short supply for the next year or two, and that the firm should therefore increase its purchases of steel.[29] Despite, this however, steel supplies proved difficult to obtain, and a considerable shortfall resulted. In August 1951, Alex. White reported that present supplies of steel were inadequate to meet Lithgows building programme and delays in the present programme at Kingston could reach six months. This prompted Sir James Lithgow to state that this news had come as a great shock to him, and that a meeting should be convened as soon as possible to discuss the whole position of labour and steel supplies. [30] This was particularly important, as Lithgows had entered into a partnership with J. & J. Denholm, Clarkson & Company and Charles Connell & Sons to form Scottish Ore Carriers with a capital of £900,000. Denholm's would manage the vessels on behalf of the other shareholders, and Lithgows and Connell's would each build two vessels. [31] A meeting was then convened with Sir John Duncanson in the chair. Duncanson reiterated the proposal regarding the ore carriers, which was that the Iron and Steel Federation had agreed that on condition that delivery was accepted it would provide a separate allocation of steel necessary to build the vessels. After a lengthy discussion, it was agreed that the Federation's offer was acceptable, and that construction of the two ore carriers, the first to be delivered with a contract date of January 1953 and the second in April of 1953, should be commenced. [32]

Yard reconstruction continued apace, yet Sir James Lithgow, in his last Board meeting before his death, remained anxious over the rate of steel deliveries and the pressure that this put on delivery dates. He then expressed his extreme dissatisfaction over internal delays in presenting costs of vessels under

construction.[33] By this stage it was abundantly clear that increasing ill health had kept Sir James away from the day-to-day running of his firm. Moreover, his reactions to the stewardship of his firm in his absence did not augur well for its future without him. After his death in February 1952, it remained an open question as to whether Lithgows Limited would develop or retrench in the coming years? In the first Board meeting in the wake of Sir James Lithgow's demise, Sir John Duncanson moved that Lady Gwendolyn Lithgow, and Jackson Millar of Fairfield be appointed to the Board of Lithgows Limited. This was carried unanimously and both then joined the meeting, whereupon Sir John asked Lady Lithgow to accept the office of Chairman of her family firm, which she did to unanimous approval. [34]

Lithgows Limited 1952-1958.

When Lady Lithgow succeeded her husband as chair of Lithgows Limited, the Lithgow Group comprised some twenty-six companies.[35] Clearly, Lady Lithgow had no experience of running such a major enterprise as Lithgows Limited and was to a large extent reliant upon experienced managers and her husband's trusted advisers to conduct the day-to-day dealings of the company and to keep the business intact. Moreover, the informal nature of the Lithgow Group had led a committee of trustees to monitor, in tandem with the Board of Lithgows the numerous concerns in which the family had interests on behalf of the Lithgow beneficiaries. It would be a mistake; however, to assume that Lady Lithgow was a mere figurehead. It soon became clear that she had her own ideas on how the company was to be run under her stewardship, and three senior resignations, one of which was definitely forced, later ensued. The three, Sir John Duncanson, deputy chairman of Lithgows Limited, Jackson Millar the chairman of Fairfield, and Lord Elgin, the Govan firm's vice chairman, had all been appointed by her husband, Sir James Lithgow.

The question of reconstruction of Lithgows East yard remained to be confirmed, and by September 1952, J.F. Morton had submitted a preliminary report on a prefabrication scheme, which was deemed important enough to be the subject of a

later special meeting. It was also noted, however. that although the firm had set aside £700,000 for reconstruction of the Kingston and East yards, total expenditure on both yards would approximately be half of the sum set aside for the purpose.[36] At a later meeting regarding yard reconstruction, Lady Lithgow proposed that adequate facilities for lavatories and wash rooms should be provided. before they were statutorily required do to so. The firm's financial adviser, Sir Andrew Macharg then commented on the firm's Draft Balance Sheet and Accounts for the year ending 31 December 1951 by stressing that difficult times lay ahead. He suggested that the firm's General Reserve, which stood at £468,848, 5s 6d should be brought up to £700,000 by an appropriation from Profit and Loss Account of £231,151, 14s 6d, and this was agreed to. Jackson Millar then informed the Board that because of a possible delay of a Thor Thoresen ship at Fairfield, 'certain financial arrangements which he had entered into were in danger of being cancelled'. It was agreed that as a 'last resort' Lithgows might lend Fairfield the £450,600 to finance Thoresen for a limited period. Macharg, on behalf of the Lithgow trustees, intimated that Denis Bates of Brocklebanks had agreed that Alex White be appointed to the Board of William Hamilton as their representative. Macharg, again on behalf of the trustees then announced the purchase of 21,250 shares in Rankin and Blackmore from the Ayrshire Dockyard Company at a price of 12s 6d per share.[37]

Again, this confirmed the duality of decision making of Lithgows Limited, a duality reaffirmed a month later when the Board considered the scheme for reconstruction of Lithgows East yard at a cost of £128,668 and agreed to it subject to the approval of the Advisory Committee of Trustees. The report on East yard reconstruction authored by Pearson Lobnitz was hardly revolutionary. He proposed a new pre-fabrication shop, the updating of an existing shed, the provision of crane tracks and roads, and the purchase of three 25-ton cranes. Lobnitz considered that the erection of a pre-fabrication shop was essential, however, the present proposal was to use the shop for hydraulic riveting, as hydraulic power and machines were available. Nevertheless, Lobnitz thought that the future lay in all-welded units, but the general layout of the shop was suitable for both methods of construction. [38] The Lithgow

trustees subsequently approved the Lobnitz scheme, and sanctioned expenditure up to £140,000 on it. [39] By this stage, however, Lady Lithgow had finally decided to stamp her authority on her firm by writing to her deputy chairman, Sir John Duncanson, to express her dissatisfaction with the latter's services as a member of the Board. She gave Duncanson six months notice that his salary from Lithgows should be £2,000 and informed him that she wished that he would no longer procure or purchase steel for her firm. Lady Lithgow also warned Duncanson that he should no longer entertain on the firm's behalf, as she considered his expenses during the year to be in excess of their value, and that in future she would scrutinise those expenses personally every month. Later, in the presence of Sir John, Lady Lithgow raised the content of the letter at a Board meeting in December 1952, whereupon Sir John replied that this was strictly a matter for the Board as a whole. With the exception of Sir John, every member of the Board, and Lithgows Financial Adviser, Sir Andrew Macharg agreed with the terms of Lady Lithgow's letter. Sir John then intimated that he would consult his legal advisers and opined that his continued presence at the meeting would be an embarrassment to all concerned. He then left the meeting, but did not resign. [40] Legal negotiations ensued; and by April 1953, Duncanson had resigned on terms approved by the solicitors for the Lithgow Trustees Advisory Committee, which gave him a payment of £7,500 as compensation for loss of office. The Board also resolved to pay Sir John a pension of £2,212 per annum from April 1953 to December 1961. [41]

After this rather extraordinary episode, the Lithgow board moved to try and cut back the numbers of the companies in the Lithgow Group. In June 1953, Alex White began negotiations to sell the Dowson & Mason Gas Plant Company, which it had been agreed, did not form an integral part of the Lithgow Group. It was also reported that the Norwegian shipping firm of A.F. Klaveness had made an advance payment of £509,000 in lieu of future currency difficulties and in the knowledge that it would help the Lithgow finances. The Lithgow finances, however, were further augmented by a sale by the Dornoch Shipping Company of the *Coulgorm* to Lambert Brothers for £200,000.[42] However, delays in construction continued, with the Anglo Saxon

Petroleum Company expressing grave concern at the serious delay of a tanker at the Kingston yard, a delay ostensibly due to shortages of steel.[43] The situation on steel deliveries was somewhat obviated by the purchase of 2,000 tons of German steel for a Klaveness vessel, however, deliveries from Colvilles were around 500 tons short of that already promised by them.[44]

From December 1953, Lithgows began to consider the possibility of building tankers up to 32,000 deadweight tons. Alex White, however, stated that the likely future requirements for this class of vessel were likely to be in the region of 40,000 deadweight tons. In this regard, White agreed to have further talks with owners and to report back. By this stage it had become generally accepted that welding and pre-fabrication of sections were suitable methods for large tanker construction, as savings in weight allow a higher volume of cargo to be carried than would be the case of a riveted tanker of the same size. However, welded construction of tankers did pose problems to Lithgows over labour organisation, and productivity. In the opinion of J.F. Morton, welding of tankers for Anglo Saxon Petroleum would result in a twenty-five per cent reduction in output. He resolved to begin talks with the firm's boilermakers to obtain their agreement to redundant riveters being employed as tack welders and platers. It was also likely that in future other owners would insist that tankers were of all welded construction, but this was not discussed at this stage. Lithgows Norwegian clients had, however, for some time been aided by financial assistance through Hambros Bank in London, and in recognition of this, and in light of the chairman of Hambros wish that Lithgows open an account there, it was decided to transfer £250,000 to that bank on deposit account.[45]

For the past seven years, Lithgows average rate of annual output averaged 67,000 gross tons, and at February 1954 the firm had four years work in hand, but had not received a new order for the past year. [46] It followed that if a general rise in the size of tankers would ensue, then the firm could ill afford to be left behind in the market. In this scenario there was a very real danger of underestimating future trends, a danger that yard reconstruction thus far had not accounted for. To build tankers of

increasing size would not only require longer berths, larger pre-fabrication sheds. improved stockholding facilities and cranes capable of handling heavier plates and fabricated sections, but would also require a whole hearted commitment to welding. Lithgows did, however, begin the rationalisation of the Group's foundry operations, a course of action that had been considered and agreed to in principle by the Lithgow trustees. This led Alex White to propose that Lithgows Limited should purchase from British Polar Engines, the foundry of its subsidiary, G.M. Hay. The offer, however, would be conditional on two other Lithgow subsidiaries, David Rowan, and Rankin and Blackmore closing their foundries, and placing future orders for castings with Hay. This course of action was agreed, and by April 1954, Lithgows Limited had purchased the share capital of G.M. Hay for £99,000 with James Ferrier of Rankin & Blackmore remaining as chairman and Ewen Smith of David Rowan as a director. Contemporaneously, it was reported that reconstruction of the East yard, save for some cranage, was almost complete, and that it had been agreed in principle to purchase a one-third interest in the Port Glasgow shipbuilding firm of Ferguson Brothers. A move, according to Lady Lithgow, which had the approval of her son, and was also entirely in keeping with the policy of her late husband. [47]

Fairfield: Part I

By this stage, however, Lady Lithgow's dissatisfaction over unfolding events at Boardroom level at Fairfield was evident. Since Sir James and Henry Lithgow had saved the firm in 1935, Fairfield still belonged to, but had only partly recovered its position as one of the elite 'big six' British shipyards, all of whom were mixed naval and mercantile builders and members of the Warship Group.[48] The Govan firm had built exclusively for the Admiralty during the war and its net profits over the years from 1939 to 1945 averaged £128,777. [49] This was hardly a sparkling performance for a warship yard, albeit one that was in need of modernisation. Again, as in the case of the Port Glasgow yards, this modernisation would have to be funded from Fairfield's contingency reserve, which at December 1945 with Sir James having

resumed his duties as chair from October 1944, stood at £650,000. [50] As a member of the Warship Group, Fairfield routinely invited retired naval personnel, normally of rear admiral rank, to be board members because of their close personal contacts with the Admiralty. In February 1939, however, the firm's deputy chairman, Rear-Admiral Sir Douglas Brownrigg, who was based at its London office, died. Sir James Lithgow then invited his friend, Lord Elgin, of the Scottish Council on Development and Industry to become a director, and subsequently, deputy chairman of Fairfield. Lithgow believed that there ought to be someone of sufficient standing who was not thought to be under his direct orders. Moreover, Sir James was of the opinion that Lord Elgin's 'usefulness in public and other capabilities would be further enhanced by such a direct industrial contact'. Elgin's duties would include attendance at monthly meetings, launch ceremonies and occasional trial trips.[51] For the duration of the war, Fairfield did not appoint another former naval officer to the Board, but by 1946 the firm had appointed Rear-Admiral Arthur Read as its resident director in London.[52]

Post-war, Fairfield had re-orientated its output towards mercantile construction and made reasonable profits. Owing to illness, however, Sir James Lithgow had scaled down his commitments at the firm, and by 1951 he had resigned the chair to be succeeded by Jackson Millar. That year, George Barr, who had joined the firm in 1933, also resigned as managing director.[53] By 1954, however, tensions at Board level had become apparent, and Lady Lithgow had confessed to Lord Elgin that she was, 'a little bewildered at the unfolding events'. She nevertheless thanked Lord Elgin for his offer to assume the chair at Fairfield had she been compelled to ask the Lithgow trustees to fill a vacancy. Her concern centred on the performance of Fairfield's Managing Director, Vice-Admiral Longley-Cook, whose position had at one stage looked to be untenable. According to the Fairfield chairman, Jackson Millar, Longley-Cook was, 'stupid, and said and did some stupid things, and had not the confidence of certain clients'. Two other Fairfield directors were a little less damning. Pearson Lobnitz considered him, 'a lightweight', and Horace Willson had never approved of his appointment in the first place. Lady Lithgow then went on to

state that there might be something in these allegations, but in her opinion, the Admiral's intelligence was much higher than any other member of the Executive Board. Furthermore, his demeanour commanded respect and his lack of shipbuilding knowledge was no worse than that of the Chairman. Moreover, Longley-Cook had admitted to Lady Lithgow that when he had first arrived at Govan he was made unwelcome by the firm's junior executives and by the Chairman himself. In Lady Lithgow's opinion, therefore, this behaviour would not have lived up to her late husband's expectations. Moreover, Jackson Millar's 'willingness to run the risk of Fairfield being struck off the Admiralty List was wildly rash'. Lady Lithgow, did, however, reserve her greatest wrath for the Fairfield Secretary, D. McPhie, whose pressure had 'panicked' the Chairman into dismissing Longley Cook, and who had 'undoubtedly been making mischief' even in Sir James Lithgow's time. Clearly Lady Lithgow was of a mind to reinstate the Admiral forthwith and sack McPhie. Nevertheless, Millar did not resign the chair when Lady Lithgow asked him to take the advice of Lord Elgin and Alex White, rather than that of Lobnitz and Willson. Thereafter, Lady Lithgow hoped that Millar would be willing to, 'accept and work with the man who is ready and willing to work with him, and save the good name of Fairfield which is already sadly tarnished by the ill-judged decision taken when [the deputy chairman, Lord Elgin was) abroad'.[54] This quite extraordinary series of events at one of Britain's premier shipyards led to Millar eventually tendering his resignation from the boards' of Fairfield and Lithgows Limited with effect from November 1954. Lady Lithgow, in her role as chairman of the Kingston Investment Company, who owned the Ordinary shares of Fairfield, recommended, in line with the advice of the Lithgow Trustees, that Millar should be succeeded as chairman by Lord Elgin. And that Horace Willson is appointed deputy chairman, with Longley-Cook remaining in his present position. In addition, it was also agreed that the leading banker, Sir John Erskine, should be appointed to the position of financial adviser. [55] That this sorry episode had arisen at all was indicative that the somewhat arms length control of Fairfield had led to some serious misunderstanding on Lithgow Group policy. As Fairfield was the only warship yard in the Group, its importance in times of slack mercantile demand could not be vouchsafed. As such,

the firm's retention of its place on the Admiralty List of approved naval contractors was paramount, not only for prestige, but also for the retention of skilled labour and for the maintenance of profits. Moreover, the existing heavy programme of construction had put a considerable strain on the liquid resources of the firm, and no ordinary dividends had been paid from 1952 to 1954, and an extensive postwar modernisation of the Fairfield facilities had not yet begun in earnest. [56]

In the interim, Lithgows Limited attempted to divest the Group of certain companies to increase liquidity. It was reported in May 1954 that the Incandescent Heat Company had offered to purchase Dowson and Mason for £100,000 but this had been turned down, as it turned out, rightly, as United Gas Industries made an offer of £140,000 which was immediately accepted. This sale was welcome, as it was noted that the increase in prefabrication in the early stages of construction in the Lithgow yards had entailed spending more money, before the firm was in a position to claim the first instalment on contracts. It was then agreed to look at the whole financial position to ensure that in future, contract instalments should be more in line with expenditure on hulls and machinery. [57] In regard to the latter, Lithgows was committed to build two vessels for Klaveness, which were payable on delivery. This was of some concern to D.B. Cunningham who noted that the position at the end of April was that the firm had spent £350,000 more than it had received. Compounding this, Sir Andrew Macharg referred to the 'uncertainties of the future' and that the reserves of the firm should be conserved to meet future contingencies. Accordingly, it was therefore decided to transfer £201,753 to General Reserve, bringing it up to £900,000, the Board, however, agreed to pay a dividend for 1953 of fifteen per cent less tax on both preference and ordinary shares amounting to £84,831 net.[58] By August, John Morton had intimated his intention to retire on medical advice from the active management of the Lithgow yards, and it was unanimously agreed to appoint Mr A. Ross Belch as a director and general manager of the company from that date. Belch had trained as a naval architect and was the son of Sir James Lithgow's long time friend and leading official in the Shipbuilding Conference, Alexander Belch. Belch junior noted, in what was to become too familiar a refrain that Sir William

Arrol and Company had been late in delivering cranes to the yard. [59]

Given that Sir James Lithgow had been in favour of attracting new industries to the West of Scotland, the Lithgow Board's reaction to the news that an American firm wished to open a new company based at an industrial estate in Port Glasgow was scathing. It was noted that this would affect the already dwindling shipbuilding labour supply in the district, and that an official protest might be made about the opening of the factory. [60] By April 1955, however, delays in delivery had persisted. with vessel 1081 for Shell Bermuda Overseas anticipated to be thirteen months late. Moreover, the twelve vessels in the Kingston yard's building programme were on average anticipated to be eight months late, and a similar position pertained at the East yard.[61] In this light it was later decided to record the firm's 'great dissatisfaction' with the progress of machinery and time of fitting out of vessels engined by David Rowan. Accordingly, it was further decided to inform the Lithgow Trustees of the situation and to recommend that Alex White and W.S. Wilson should be invited to join the Rowan Board to remedy the position.[62] Nevertheless. relations with the firm's longstanding Norwegian owners continued to be good, and by August 1955, Lithgows had agreed to advance Sigval Bergeson an unsecured loan of £200,000 repayable over four years from the delivery of vessel 1087. A month later. Lithgows increased the Bergeson loan to £250,000 and extended the repayment period to five years. [63]

By June 1956, however, the Board of the Kingston Investment Company had been considering the granting of finance to enable Rankin and Blackmore to develop a free piston engine, but had decided that this was more in the purview of Lithgows Limited. Alex White then stated that consideration was being given to the installation of this type of engine in a vessel under construction for Scottish Ore Carriers. A course of action in which Sir William Lithgow, who attended the Board meeting, concurred. It was further agreed after a discussion had taken place on the building up of a reserve for future yard reconstruction. that reserves would have to be carefully augmented out of future profits, 'bearing in mind the requirements of

shareholders as regards dividend'. However, ten days later. the firm had agreed a provision for expenditure of up to £500,000 to extend and deepen its Kingston fitting out basin. [64] By November, yet another link with Sir James Lithgow had ended when Sir Andrew Macharg intimated his intention to resign as the Lithgow Group's financial adviser. [65] In January 1957, discussions centred on the construction of a large building berth at the Kingston yard, which could accommodate tankers of 35,000 and 60,000 deadweight tons respectively. However, it was decided, somewhat timidly, that the proposed building berth should in the first instance be made suitable for vessels of 35,000 deadweight tons. and in the light of experience be extended for larger vessels. [66] By October, however. Lady Lithgow had announced her intention to resign the chair of the company. which she had held since her husband's death in February 1952. and was succeeded by her son. Sir William Lithgow. [67]

During the last year of Lady Lithgow's period at the helm of Lithgows Limited, the hitherto unprecedented post-war sellers market in shipbuilding had ended, and Japan and then West Germany had overtaken Britain for the first time as the world's premier exporters of ships. To many British shipbuilding firms who. unlike Lithgows, had remained wholly wedded to bespoke construction for domestic owners this was not too disturbing in the short-term at least. But for Lithgows. a firm that had always exported a substantial amount of its tonnage to foreign owners the implications in both the short and the long-term of increased foreign competition was particularly acute. Accordingly, by June 1959. the Lithgow board had considered it that it was 'absolutely vital' to their interests that, 'adequate provision should be made for [yard] reconstruction and that the scheme should be completed as soon as possible in order to meet the very severe competition then prevailing'. Indeed, 'bearing this in mind, and also the equally vital factor of as much liquidity as possible', the Board recommended that it should increase its provision for yard reconstruction at Kingston by £200.000 up to £1.500,000. [68] Underpinning the urgency of the position was the fact that to retain much of its overseas client base in Norway. the firm had to increasingly look to offer competitive medium term credit

at advantageous rates of interest. In so doing, the old system of stage payments, which in the past had injected cash into the business at regular intervals, had to a large extent to be abandoned. A state of affairs, which demanded as much liquidity as possible be kept in the business in order to overcome short-term cash flow problems that could threaten the firm as a whole. Lithgows chosen route on credit was to set up a finance company in conjunction with Hambros Bank, with an authorised share capital off £1,000,000, in shares of £1, of which £500,000 would be issued in the ratio of two thirds to Lithgows, and with borrowing powers of up to £10,0000. It was hoped that the latter sum would be made available to the extent of £2,000,000 each from Lloyd's Bank, Westminster Bank, Bank of Scotland, and the Commercial Bank of Scotland. And that the remaining balance could, 'in an indefinable way to be borrowed from Hambros or Lithgows as and when the need arose'. [69] Throughout the process, Sir John Erskine was authorised to continue negotiations to that effect.

Earlier in August, Sir William Lithgow had reported that David Rowan & Company had made an offer to purchase the share capital of Rankin and Blackmore at a price of 19s per ordinary share. However, it transpired that the Ferrier family who owned a sizeable proportion of the shares in Rankin and Blackmore objected strongly to the terms of the offer, which included the deferred payment of the purchase price by Rowan. [70] Thereafter, negotiations with the banks on the proposed finance company continued, but by January 1960, Alex White reported that, 'following the difficulties experienced with regard to the participation of the English banks, he had further talks with the Treasurer of the Bank of Scotland, William Watson'. Watson had suggested that it might not be necessary to form a finance company, and that financial assistance could come directly from the Bank of Scotland alone. To this, Sir William Lithgow wisely stated that, 'from the shareholders (in effect him and his family) point of view this was unacceptable. It was desirable to isolate the management of credit and have the liability limited separately from the company'. After discussion, 'as a matter of extreme urgency' it was agreed to press ahead with the formation of a finance company. Moreover, Alex White and Sir John Erskine

would liaise with William Watson to that effect, and that the Bank of Scotland should be in the managers of the proposed company. It was also reported that David Rowan and Company had accepted the Lithgow offer of its 105,640-£1 shares in Rankin and Blackmore, at the price of 19s a share. However, payment to Lithgows was deferred for a period not exceeding fifteen years, interest payable half-yearly on the balance outstanding at a half per cent over Bank Rate. In the interim, the William Hamilton arm had agreed to finance a contract, in conjunction with the Bank of Scotland, by lending Simonsen and Astrup £400,000 each. [71] In the same month, it was reported that Rowan's had finally taken over Rankin and Blackmore. A move that the managing director of Rowan, T.W. Abell, (who was also a director of the Lithgow Power Development Company) had stated had been made under a rationalisation policy within the Lithgow Group. Abell somewhat nebulously commented that, 'the whole idea is that through closer integration we will be able to employ improved production methods. Instead of both firms doing the same thing, one can concentrate on one thing and the other firm on another'. [72]

Rankin and Blackmore

The Ferrier family had held the controlling interest in the Eagle Foundry and Engine Works of Rankin and Blackmore until 1952, when Lithgows became the majority shareholders in the firm by purchasing 21,250 shares at 12s and 6d each in Rankin's from another subsidiary, the Ayrshire Dockyard Company. Lithgows allowed Rankin's to be run by the same management as before.[73] It soon became clear, however, that the firm was undercapitalised and by September1954 Rankin's authorised share capital of £85,000 of £1 ordinary shares fully paid, was raised to £255,000 by the creation of 170,000 ordinary shares of £1 each. Additionally, the issued share capital of the firm was increased from £85,000 to £170,000 by the issue of the new ordinary shares to rank *pari passu* with the existing shares by capitalising £85,000 from the firm's General Reserve and issuing 85,000 ordinary shares of £1 each.[74] In the same year, the firm's Eagle Foundry was closed down, and thereafter, Rankin's bought their castings from the foundry of Lithgows old Beardmore

subsidiary, G.M. Hay and Company.[75]

Rankin and Blackmore, David Rowan, and Fairfield Engineering comprised the marine engine building side of the Lithgow group of subsidiary companies. Of the three, the Greenock firm was by far the smallest, and had concentrated on the building and installation of steam reciprocating engines for Lithgows, and the installation of diesel engines bought from other concerns. Fairfield Engineering served the Fairfield shipyard by building engines for naval, passenger and merchant vessels, and had a world-class gearing facility. Rowan's was independent of any shipyard management, but supplied around half of Lithgows engines, with its remaining output for other Clyde yards. Due to their separate spheres of influence there was little tendency for these interests to overlap. However, post-war trends, particularly the development of the modern diesel engine, meant that the steam reciprocating engine had had its day. Indeed, in the Annual Report of Rankin and Blackmore for 1957 it was noted that orders for steam reciprocating machinery, 'were conspicuous by their absence', and that net losses for the year amounted to £32,376. [76] By this stage, however, the Lithgow Trustees had expressed their dissatisfaction over the running of the company, and had invited another Greenock engine builder, Kincaid, in which Lithgows also had an interest, to take it over, but were rebuffed. [77] Rankin and Blackmore's best hope lay in the further development of an exhaust gas turbine, which Lithgows had backed as a fair risk by ensuring that it was installed in a Scottish Ore Carriers, vessel, *Morar*. [78] However, this was subject to a guarantee to remove the engine and install geared twin diesel engines if the project was not satisfactory. [79]

Clearly, by this stage, Sir William Lithgow was determined to oversee the sale of Rankin and Blackmore to David Rowan as a group rationalisation would allow any gains in the further development of turbine machinery to be reaped. [80] Ostensibly, this would also allow a saving in overheads by allowing Rankin's boiler-work to be done at Rowan's and by using the Greenock facility for storage, installation and repair of engines for lower reaches firms. It would also enable Lithgows to rid

themselves of the present management and the Ferrier family interests, and improve. up to that date, Rankin's dire prospects by making it an associated company of David Rowan. Clearly in the light of the Greenock firm's past performance and future prospects, short of liquidation, it would have been ludicrous to have expected Rowan's to denude their liquid assets by purchasing the issued share capital of the former at par or just below. Hence Lithgows loaned Rowan's the necessary sum to purchase the Lithgow shareholding at 19s per share in Rankin's repayable over a fifteen-year period. Subsequent negotiations saw the Ferrier family relinquish their interest with James Ferrier resigning from the board on 14 December 1959. as did Lithgows representative, Alex White after the formal acceptance of the Rowan offer for Rankin and Blackmore on 22 January 1960. Under new management. Rowan's moved quickly to alter Rankin and Blackmore's Articles of Association, so that, *inter alia,* no transfer of shares could be sanctioned without their permission.[81]

By September 1960, however. after utilising the firm's reserves to balance out its losses for the year, in what appeared to be an extraordinary *volte-face,* the directors noted that Rowan's were now negotiating to take over the entire share capital of Rankin and Blackmore, and that those negotiations would be concluded in the near future. [82] No better explanation can be given as to the labyrinthine nature of much of the Lithgow transactions than this, as by December, Lithgows had become the majority shareholder in David Rowan by purchasing the Brocklebank shareholding in the Glasgow firm for £310,000. [83] Earlier, in January it had also been noted that Scottish Ore Carriers had made a trading loss for the year ended 30 August 1959, and that as other similar ventures had apparently made profits. then enquiries would be made of the managers to voice Lithgows concerns. [84] The generally uncertain trading conditions in shipping had adversely affected the Lithgow shipping investments, and by March, the firm had agreed to make a subvention payment in respect of losses sustained by its Dornoch Shipping subsidiary of £117,000. Moreover, the firm agreed to a proposal by Iain Harrison to form a new company to take over its Monarch Steamship Company, and that Lithgows should invest £50,000 in the venture. These substantial outlays were recouped when it was

subsequently agreed to sell the Walmar Steamship Company for £275.000. and the sale of the Lithgow interest was completed by September.[85]

From November 1959, it had been agreed that because of the nature of confidential matters discussed in management meetings, full minutes would not be compiled. and thereafter, these would be, 'confined merely to decisions taken and those requiring further action'. [86] Earlier in October, the first meeting of the Management Committee, composed of the principal executives of the firm, was held in Lithgows boardroom. Sir William Lithgow explained that the Board wished to provide an opportunity for its senior managers to learn how the affairs of his firm were progressing. This would create a closer interest and stimulate, 'new thoughts and ideas'; meetings would thereafter be held at fortnightly intervals. By 1960, Lithgows had decided to form a nominee company to formalise the term 'Lithgow Group'. In effect, this company replaced the committee of trustees, which had hitherto monitored the performance of the many subsidiary concerns in which the Lithgow family had an interest. By December, draft rules of procedure regarding the establishment of a Lithgow Group Managing Directors Committee stated that the committee should be called twice a year, and be chaired by either Sir William Lithgow, W. S. Wilson or G. Rickman. Moreover, unanimous decisions, 'which Managing Directors were able to deal with' would have immediate effect without reference to individual boards. [87] That this was established is indicative. that the old system of supervision by trustees, and placing Lithgow directors on individual boards had to an extent had its day. Theoretically, at least, this would enable individual firms to co-operate to some extent in dovetailing their policies and to benefit in some measure from economies of scale. Two meetings per year. however. hardly qualified as over-supervision.

William Hamilton, and David Rowan.

By December 1960, Lithgows had secured an acceptance from Brocklebanks over the acquisition of that company's interests in William Hamilton and in David Rowan

and Company at a price of £565,000 and £310,000 respectively. Ostensibly this would give Lithgows total control of their neighbouring shipyard in Port Glasgow. and of a major engine building firm in Glasgow. In the latter case, the thrust of Lithgow policy had been to consolidate some of its marine engineering and foundry interests around Rowan's, although Fairfield continued to build engines, and had a separate foundry. The motive for the purchase of the Brocklebank interest in William Hamilton, on the other hand, is less clear. Disillusionment with Brocklebanks over duality of control, direction and future modernisation of the Glen yard was obviously a factor, as was the desire to single-handedly control the destiny of the firm. However, the drain on liquidity placed on Lithgows by the not inconsiderable price of these acquisitions at a time of market uncertainty when the firm was already committed to the modernisation of its flagship Kingston yard was inherently risky.

Kingston Financial Services (Clyde) Limited.

Contemporaneously, Lithgows attempts to form a finance company had at last been boosted when Sir John Erskine informed the Lithgow Board in November 1960 that the Bank of Scotland agreed to its formation in principle.[88] Subsequently, by March 1961 negotiations had reached the stage whereby it had been tentatively agreed that the share capital fully paid up should be £100,000 and that additional security by way of bank guarantees should be borne by the provision of £400,000 each from Lithgows Limited and Fairfield respectively. [89] By this stage, the need for such a company was particularly evident if Lithgows and Fairfield were to retain their overseas clients. Ross Belch had returned from a trip to Norway, and had noted that although Norwegian owners had ordered a large number of vessels recently, he had been informed that, 'because of uncompetitive prices and late deliveries, none of them had been ordered from the UK'. Moreover, very few enquiries for tonnage had been circulated there. Belch further noted that the majority of the work placed had been secured on extended credit terms such as eighty per cent payable over eight years, with the repayment rate being speeded up in the last years of the agreement. [90]

By May, it had been agreed, on the advice of Sir John Erskine, that the liability of Lithgows and Fairfield under Bank Guarantee, should be limited to £700,000 and on 29 May the first meeting of Kingston Financial Services (Clyde) Limited (KFS) had been held. [91] KFS had been formed with a nominal capital of £1,500,000 and the company could call on £7,500,000 beyond the facilities already extended by the Bank of Scotland to Lithgows and Fairfield. [92] Just how sensitive Lithgows were in regard to their Norwegian clients was brought home by Sir William Lithgow, when he explained that it had been necessary to provide 'certain financial arrangements regarding a vessel building at the Glen yard'. The owner was building another vessel in Bergen, and a comparison of costs was likely to be made, which might entail the need to make a gesture in the form of a refund. In this light it was pre-emptively agreed to arrange a comparison of costs of both vessels in due course, 'with a view to a decision being made regarding a refund'. [93]

Fairfield: Part II.

From November 1954, Lord Elgin had become chairman of Fairfield, and a year later he had restored an ordinary dividend. This prompted Lady Lithgow to write to express her thanks, and state that she was sure that, 'it is time that is known abroad that Fairfield is set fair, and the prophets of doom will be confounded'! [94] In declaring a dividend, Elgin had been aided by the finalisation of the firm's Excess Profit Tax liability, which made it possible to transfer a further sum of £240,000 from the Provision for Taxation that was no longer required to the Balance of the firm's Profit and Loss Account. And in tandem with substantial profits this had also allowed £382,662 to be transferred to Reserve for Contingencies, leaving a balance carried forward of £246,758. [95] In the interim, a scheme for modernising the shipyard facilities, which had begun in 1954 with the reorganisation and modernisation of the yard's main fitting out shops, had progressed satisfactorily. [96] By June 1956, it had been noted that the second stage of modernisation work on berths and cranes would be completed before the end of the year. [97] That year, Sir John Erskine had been elected a director, and eventually succeeded the seventy-five

year old, Lord Elgin as chairman. [98] The second stage of modernisation involved the reorganisation of the firm's building berths from six to five, with forty feet concrete roadways between them to allow travelling cranes to lift prefabricated sections of up to eighty tons. The three main berths were large enough to take vessels from 800 to 1,000 feet in length, with beams from 90 to 115 feet.[99]

As this somewhat lengthy scheme of modernisation proceeded, trading results had improved in line with the firm's plans in ploughing back profits to enable the maximum benefit to be obtained from improvements in plant and technology. By 1959, the firm had ploughed another tranche of profits, amounting to £369,870 into its Reserve for Development and Contingencies. During the year, Vice Admiral Longley-Cook had resigned as managing director to assume the position of the firm's London Director, and was replaced by James Lenaghan. [100] The firm, under the respective chairmanships of Lord Elgin and Sir John Erskine, had, up to 1960, spent some £3,000,000 on modernisation. In that year, however, Fairfield had declared a record trading profit of £1,043,781. [101] By this point, the third stage of modernisation had begun to completely replace the firm's steel fabrication shops, with the main shop anticipated to be 90 feet from floor to roof, which would stretch from one end of the berths to the other, a distance of almost 1,000 feet. [102] Consequently, by 1961, the third stage of the firm's modernisation programme was estimated to cost £1,000,000, a sum covered by a reserve of £1,900,000. Throughout the programme of modernisation Fairfield had (as had, Lithgows) attempted to minimise its effect on shipbuilding production, in order to finance the scheme through profits. Clearly, in the light of increasing competition it would have been advisable to modernise earlier. However, despite reasonable trading profits, the firm remained in a vulnerable position in that investment in modernisation had already consumed a large part of its liquidity. Shipbuilding contracts could easily go wrong for a wide variety of reasons, and could also result in litigation and the award of substantial damages. In tandem with a decline in profits, or substantial losses, whether from a main or subsidiary activity, and the need to part-finance ship construction by the provision of credit to owners, this could affect the viability of the

firm itself. This Damoclean scenario, although it was not suspected at that time, was to hit Fairfield hard, and in large part, it occurred as a result of the rationalisation of the Lithgow engine building interests.

By April 1960, the Fairfield Board had approved the re-tooling of the firm's engine works in four phases in order to maintain its competitive position, at a total cost in each phase of around £100,000 per annum.[103] However, by October 1961, whilst noting that David Rowan had loaned the firm £60,000 with another £40,000 on the way, it was also noted that the number of employees in the shipyard, 'was now at a very low level'. Furthermore, the Secretary reported that, 'acceptance of 10,500 shares in David Rowan & Co., Ltd., had been received from the present holders, [and] that the consideration involved was £323,400, [and] this amount would require to be paid in the near future'.[104] Again, this was indicative of Lithgows intra-firm share transfer policy, and in effect gave Fairfield control over Rowan's. Lenaghan had, however, noted that a substantial loss would be made on vessel no. 800, but he felt that, 'any loss should be borne by David Rowan'. Nevertheless, with the completion of the cruiser, *HMS Blake*, which Longley-Cook had earlier referred to, 'as probably the last gun ship to leave the Clyde', the firm had secured another Admiralty order for a guided missile destroyer.[105] By June 1962, Fairfield was still tendering for large passenger liners. Nonetheless, the firm was in need of funds to finance its wide and varied current contracts, and to this end an application was made to KFS for an advance of £1,000,000 on the security of mortgages held on two Turkish ferries, and on Promissory Notes held in Escrow.[106] Fairfield again used this facility in October 1963 when the firm applied to KFS to borrow a further £1,000,000 against the security of Turkish Bills, as the balance of the first sum borrowed had now been reduced to £544,699. A month later, the loan had been received from KFS, after due consultation with the Treasurer of the Bank of Scotland. [107]

Fairfield-Rowan, Limited

Although Rowan's had in effect been a subsidiary of Fairfield since October 1961, it was not until February 1963, that Lithgows made the decision to form Fairfield-Rowan Limited. As the *Lithgow Journal* later informed, 'Rowans bought the engine department from Fairfield in return for an issue of shares, changed their name, and a new company was born'. Indeed, the *Journal* saw a promising future ahead for this, 'lusty baby'. In a fit of hyperbole, however, it noted, that gathered in the firm's new headquarters at the Fairfield works, 'is one of the most high-powered teams of its kind in the land, planning the company afresh on up-to-the-minute lines'. However, the works remained separated by the river Clyde, and Sir William Lithgow had been appointed Executive Chairman of the new firm. Lithgow, had, 'been living, sleeping and breathing Fairfield-Rowan since February'. Sir William, continuing the upbeat assessment of the merged firm's prospects went on to state that, 'we are building a modern company, a growth company, the kind of place that does not just sit and hope that times will get better but goes flat out to make them better'. [108] However, although the "new" enterprise had been almost a year in planning, it still had to complete the existing work in hand, which had been taken on at keen prices. Moreover, the same management and workforces remained in situ. Before Rowan had been taken over, orders had been accepted at 'optimistic prices without experience of building Sulzer engines. [And] the *Thorshammer* engine price had been the result of a gross over estimate'. To this news, Lenaghan, who had enough of a job in running the shipbuilding side of the business, requested, *inter alia*, a report every month on the company. [109] Just how serious the situation on these contracts were, was evidenced by losses sustained at Rowan's to June 1963, when the balance for the year at debit of the Consolidated Profit and Loss Account to subsidiary companies was over £400,000. And, in the next financial year to June 1964, a group loss of £500,000 had been incurred. [110]

On the shipbuilding side, Fairfield had already taken on what would prove to be, given its troubles with its engineering subsidiary, a disastrous contract for a

passenger-car ferry, *Nili*, for Israeli owners, Nili Somerfin S.A. This contract had been financed, not through KFS, but through the Bank of Scotland and the Insurance Export Finance Company Limited, on advantageous terms. [111] Problems, nevertheless, persisted with the Export Credit Guarantee Department (ECGD), the Bank of Scotland, Nili Somerfin and the Israeli government over terms of a financial agreement, and by June 1964, a compromise agreement had been sent of to the Israeli owners and government for approval. Thereafter, all documents were signed on 16 October, which meant that the first two instalments on the contract were due by the end of the month.[112] By this stage, however, it was already apparent that the delivery of the *Nili* would be late, a situation not aided by constant alterations by the owners, which had led to serious delays and whose business methods left a lot to be desired.[113]

Lithgows Limited

Lithgows had finally completed the modernisation of its Kingston yard at a cost of over £3,000,000 in June 1961, and the new facilities had been opened by the then Minister for Transport, Ernest Marples. [114] The project had begun with the building of a new administration and drawing office block and then the re-piling, extension and deepening of the yard's fitting out basin. A building berth capable of taking large tankers with a 60 ton lift, hammerhead crane, 200 feet high and weighing over 400 tons, and a large fabrication hall, with suitable cranage were completed. In addition to investment in up-to-date plant and cranage, thoughtful planning enhanced the yard space. Much of the sub-contract work had been undertaken by the many subsidiary companies in the Lithgow Group. The firm did, however, retain its mould loft, but did purchase a modern Messer Sicomat photo-electric eye, one-tenth scale flame cutting machine, for its platers shop. Sir William Lithgow used the occasion to announce that his firm intended to amalgamate the East yard with the Glen yard of William Hamilton into 'one single super yard' with three berths costing around £1,500,000. Kingston would concentrate on oil tankers and ore carriers, whilst the new yard would be specially designed for the construction of cargo liners.

passenger ships and similar types.[115] However, much of this was for public consumption, and expenditure up to a sum of £600,000 on the Glen/East yard was to be treated as the first phase in a long-term plan, the completion of which would be subject to circumstances then prevailing. [116] A week after the official opening of Kingston, however, Jim Lenaghan, who was also a member of the Lithgow board, warned in the light of the dreary economic outlook for shipbuilding, that the firm should exercise, 'extreme caution before spending any more of its liquid resources on capital reconstruction'. [117] A caution repeated in October by another director, Ambrose Hunter, who stated that he was still not satisfied as to the advisability of further capital expenditure on the Glen/East yard. In the light of both these directors reservations it was decided to re-appraise the whole position, including that of Kingston, as early as possible after Sir William Lithgow had returned from abroad. By this stage, Scottish Ore Carriers had formally agreed to a proposed settlement of £80,000 relieving Lithgows of its obligation to re-engine the *Morar*, which it will be recalled had been fitted with Rankin and Blackmore's experimental engine.[118]

In a later discussion on modernisation, it was noted that one of the major problems was that, 'the Glen yard's steel wages costs were not competitive with today's market'. Three alternatives were put forward: first, close the Glen yard [after spending over £500,000 to purchase control over it] and carry on production at Kingston and East yards. Second, concentrate production at Kingston and close the Glen/East yards, and last, integrate the Glen and East yards by improving facilities in a combined yard, and simultaneously take steps to examine how production at Kingston could be stepped up. In the latter case, after modernisation, the yard had three berths, one capable of building vessels up to 18,000 tons, another for 35,000 tons, and the new building berth, which was originally envisaged to take tankers up to 70,000 deadweight tons, but had been curtailed to 55,000, with the probability of later extension in mind. After a very full debate on the advantages and disadvantages of each alternative, it was decided to integrate Glen/East after all. Essentially the scheme was to extend the facilities, practices and capacity of the East yard, by combining with the Glen yard. Redundant departments would be shut down, and the

facilities properly adapted to the construction of welded ships. It was then agreed that a sum of £254,000 (under half that proposed in May) should be expended, as this was deemed to be the maximum expenditure permissible, and that further capital expenditure would not be sanctioned under present trading conditions. [119]

By December 1961, however, funds were nonetheless, enhanced, as Hunter had made arrangements with Fairfield for the £300,000 due from the Govan firm in respect of the Rowan shares to be paid. [120] With so many contracts from overseas owners taken on credit terms, however, in addition to those financed by KFS, which, it will be recalled was subject to an upper limit of £7,000,000 between Lithgows and Fairfield, liquidity remained the fundamental problem to be faced. A fact acknowledged by Lithgows Annual Report, which revealed that during recent years orders had been taken to keep the firm's facilities fully employed, at or below cash costs, and that the situation was likely to persist, hence it had to face a steady drain on its liquid resources. Lithgows, however, had nevertheless decided to lay down a second large berth at Kingston to eventually effect a reduction in building costs, and it was hoped that the balance of the firm's liquid resources, would allow it to continue to trade until profitable contracts could again be taken on. The gloomy tone continued over to the next Annual Report for the year ended 31 December 1962, where it was noted that although the Conservative Government credit scheme had helped orders temporarily, the steady drain on the firm's liquid resources had continued. [121]

The Labour question on the lower reaches of the Clyde.

Throughout the post-war period, shipbuilding employers continued to lay off men in times of low demand, and during breaks in the production process. Conversely, workmen were more likely to secure wage increases when production was high to keep to delivery dates. By October 1959, however, a Clyde lower reaches committee of local shipbuilding and marine-engineering employers had their own local association to facilitate the quick resolution of local claims. [122] All the local

shipbuilding firms were, in turn, affiliated at the district level to the Clyde Shipbuilders Association (CSA). And, to complete the circle, the CSA was affiliated to the national Shipbuilding Employers Federation, based in London. As in the past, the local employers' policy on the settlement of stoppages of work and withdrawals of labour was to demand a return to work before any negotiations on pay or conditions could be undertaken. Eventually the men, hit hard in the pocket, would return, normally on district or national union advice. By late 1959, however, the employers position had hardened, and Ross Belch had stated that, 'any local claims for increases were being turned down due to the serious condition of the industry'. Belch further noted that the local committee of employers was, 'not likely to take heed of the upper reaches differential argument [parity of wages for lower reaches workers] which was constantly being used'.[123]

By late 1960, however, an apparent break in a hitherto unbreakable cycle of short-term reactions and responses to industrial disputes had occurred on the Lower Clyde. Nevertheless, the year had got off to an inauspicious start, when Scotts' Engine Works had laid off fifty-one men in January, and by March most of the local apprentices were on unofficial strike over a pay claim. Later that month, the longest running sore on the Lower Clyde, parity of wages with the Upper Clyde yards, raised its head, when 500 shipwrights in the Greenock and Port Glasgow yards imposed an overtime ban. The men clamed earnings were on average 4d an hour less than the upriver counterparts. By 21 April, 8,000 men and youths in six local yards had been laid off as a result of the apprentices action, whilst only Scotts' remained open, despite their apprentices being on strike. The apprentices had in the interim began to picket most of the major works in the district, but eventually returned to work on 16 May. However, by mid September the district's shipyard burners had also gone on strike, again over a parity claim with the Upper Clyde. Consequently, by the end of the month, two-thirds of shipyard workers in the Lower Clyde district were out of work. [124] A dire situation, which would inevitably push back delivery dates for all firms in the district.

Despite the dire state of industrial relations, the district's employment prospects was given a boost when it was finally announced on 16 October, that a Government loan of £2,850,000 had been granted to the Firth of Clyde Dry Dock Company.[125] This, in conjunction with other sources of finance, allowed the firm, after what had seemed to be an interminable period of gestation, to put out to tender the construction of a giant graving dock, and attendant facilities at Inchgreen, in Greenock. When built, this would be the sixth largest dock of its kind in the world, and would allow tankers and other large vessels, which hitherto had to be repaired elsewhere due to the restrictions of the river Clyde's upper reaches, to be repaired locally. Both Scotts' and Lithgows, in tandem with the majority of the upper Clyde yards, including Fairfield, had equity stakes in the enterprise. [126]

By 20 October, however, George Morrison of the local employers association had informed the Ministry of Labour that his association was unable to accept arbitration in the shipwrights' parity dispute. Four days later, this prompted the Shipwrights National Secretary, Arthur Williams, to accuse the employers of, 'deriving their experience from the past, and thinking in terms of master and slave' and to further comment that, 'obviously the winds of change have not blown through their offices'. However, two days later talks had begun, but with the majority of men in local yards still idle, no apparent resolution was in sight. By 8 November, however Sir William Lithgow had entered the fray, by stating that the local employers could not afford parity claims because of the level of foreign competition. A week later the shipwrights returned to work, and a contract system giving a rise of 2d per hour had been extended to all shipwrights across the district. By this stage, the burners who had sparked the laying off of other shipyard workers, and who had been out for two months had also returned to work. [127]

For a substantial part of the year, therefore, industrial strife had a deleterious effect on shipyard production, and had damaged the reputation at home and abroad of the district's companies. However, the parity question was one on which the employers would not budge, even it seems, if it meant permanent closure. After a nine week

strike, with Ross Belch to the fore, the district employers extracted a two-year no strikes guarantee from the burners, on the back of pay rises of 2d and 3d an hour, against the burners claim of 10d and parity. This deal was the first of its kind on the Clyde.[128] There was no question of parity with the Upper Clyde yards being conceded, as logically, this would have to be conceded across the board to all the trades in the shipyards. With the signing of the peace pact with the burners, however, other similar agreements had been signed in the coming months with caulkers, drillers, platers and welders, and by July 1963, Lithgows had secured another eighteen-month peace pact with their boilermaking trades.[129] These deals were a recognition that the boilermaking trades in particular had to be dealt with as a whole if any peace deal was to have a chance of succeeding. However, at other periods in the history of the firm, the parity question would again be confronted.

Lithgows Limited, 1963-1965

On the back of two gloomy annual reports for 1961 and 1962 respectively, there was no change in 1963, when the accounts, which were incidentally not signed until February 1965, showed a net loss for the year of £30,414. A transfer from General Reserve of £200,000 was made; out of which £150,000 was appropriated for provision for fixed price contracts. Again, these contracts were still being taken on at unremunerative prices due to fierce competition for orders, as a result the steady drain on liquid resources, which were not 'unlimited', continued. [130]. By April 1963, it was reported that Ross Belch was threatening a four-day week as three one day token strikes by 250 welders had already taken place. In a meeting on 12 April with union officials, which the Boilermakers national leader, Dan McGarvey also attended, Lithgows threatened to close down their three yards unless restrictive practices were stopped. Three days later the welders went back to work, and also lifted their self-imposed overtime ban.[131]

Despite the grim situation in shipbuilding, which had already seen the 'Siberia' Greenock yard of George Brown (Marine) Limited, close and the world famous

Denny Brothers yard at Dumbarton go into liquidation, Lithgows acquired another shipyard in Port Glasgow. Having already secured one-third of the share capital of the Ferguson Brothers shipyard at Newark, Lithgows purchased the remaining shares in July. In addition to preventing competitors from gaining a foothold in the area, the purchase of Ferguson, a notable dredge and tug builder, could at least be viewed as being in accordance with Lithgows policy on large tanker construction. As tankers grew in size, the growth in this market would obviously require more dredges and tugs, rather than less. Nevertheless, Ferguson had been finding it difficult to get work in the face of increasing foreign competition. This, and the Ferguson family's close contact with Lithgows, persuaded the former to sell their controlling interest. However, a Ferguson official stated that his firm would be 'strengthened by the Lithgow take-over and that were satisfied and pleased that their identity is to be preserved'. He presciently noted that, 'small family firms were finding it impossible to carry on in the difficult conditions prevailing in shipbuilding today'. Ferguson, however, had almost completed its last ship contract, a diesel-electric dredge for the Clyde Navigation Trust, but had some conversion work for the latter in hand. [132] In this light, it seemed that the Lithgow take-over had occurred just in time.

Meanwhile, the integration of the Glen yard of William Hamilton with that of Lithgows East and Kingston yards took place over a fairly long period, and had been agonised over in detail by the Lithgow Board, including, 'an examination of nearly every employee's position'. The alternative, if the decision had not been made to preserve skilled labour, would have been to close the Glen yard completely, and re-engage the workforce as and when required. However, prior to integration, steel production was, 'very much reduced' with the launch of the last vessel from the Glen yard, no.1149, *Freetown* for Elder Dempster in September 1963. This rundown in production based on ironworkers wages for six months, plus National Insurance and holiday credits, cost Lithgows around £110,000. With the added effect on the fitting out trades costing around £10,000, and the instance of extra overheads of £50,000 due to the gradual rundown, the cost of integration in keeping on the

workforce was £170,000. To these costs, Lithgows added a figure for writing down of the fixed assets, most of which were only of scrap value, of the Glen yard at December 1963, of around £100,000. [133]

Earlier in July 1963, Lithgows had publicly announced the construction of another super berth capable of handling tankers of 85,000 deadweight tons at their Kingston yard at a cost of £200,000. Following this announcement, it was reported that the firm's welders had signed an eighteen-month peace pact.[134] Clearly there was little point in having a strategy based on large throughputs of steel to build large tankers, if the boilermaking trades, on which the firm had to significantly rely for the success of the venture, were not onboard. However, in the New Year, Ross Belch who had been officially appointed Lithgows Managing Director 1 January 1964, publicly highlighted the difficulties of this strategy in the light of international competition. Belch noted that the Japanese were, 'ruthlessly efficient; and noted that Lithgows could build a 55,000 deadweight ton tanker for around £2,500,000 and that a similar vessel could be obtained from Japan for £500,000 less. The magnitude of the position, however, was that even if Lithgows, 'paid out nothing in wages, [they] just could not match up to the Japanese yard'.[135] An impartial observer, on hearing this defeatist talk, would no doubt have wondered why Lithgows did not call it a day, and shut down there and then? If we can attribute a subtext to Belch's admission, if indeed there was one, short of improved management, huge gains in productivity, industrial peace, stable economic conditions, exchange rates and the full utilisation of modern plant and equipment, then it may have been a veiled plea for some form of government assistance to the industry in general. Lithgows, by this stage had reached the point of no return on their tanker strategy. Earlier in February, the firm had launched from their Kingston yard the largest vessel built on the lower reaches of the Clyde to that date, at 775 feet in length and 106 feet in beam, the 61,000 deadweight ton all-welded tanker, *Orama*, for Trident Tankers. Built by Lithgows method of first positioning the stern frame by a sixty-ton lift-crane, which straddled the berth and then adding prefabricated hull sections as it moved up the length of the berth, *Orama* had a top speed of seventeen knots. [136]

By the end of 1964, Sir William Lithgow had noted in Lithgows Annual Report, that although external conditions had led to a further deterioration in the industry's prospects, the agreement reached by the lower reaches employers with the Boilermakers Society had been of major importance. The latter, in conjunction with developments in management and in management techniques, would, it was hoped, prove significant. However, even though the shipyards had been busy, 'prudence determined that in a period of unprecedented inflation long-term contracts should only be entertained selectively'. Crucially, in the light of contracts already taken on, inflation represented, 'a continued drain on the company's liquid resources'. In order to maintain, 'a high degree of liquidity', Lithgow admitted that capital expenditure on development and on plant, 'was unreasonably restricted'. Referring to the establishment of the Geddes Committee of Inquiry into the shipbuilding industry, Sir William Lithgow hoped that it would impress upon the Government and the country that in the case of shipping and shipbuilding, 'it was not in the national interest to so weight the economy that [neither] were remunerative'. On his own company's prospects, Sir William did not anticipate, 'a rapid return to reasonable profitability'. Despite this, however, Lithgows intended, 'to stay in the shipbuilding business, [and felt that] confidence in the future [was] well justified'. [137] By the dawn of 1965, however, it was clear that there were serious problems at Fairfield and at Fairfield-Rowan.

Fairfield, Part III

Up to and including March 1965, labour shortages had been a persistent problem at Fairfield, and partly because of this, 'a very low rate of productivity' hindered progress on the *Nili*'.[138] By this stage, frustration with the Israeli owners had reached boiling point, when it was noted that Fairfield, 'had been pushed around [by them] for eighteen months.' Indeed, the owners attitude with sub-contractors was apparently little better, and as a result of their intransigence, it was noted that, 'in effect the ship had been designed three times and been built twice'. Clearly,

planning and supervision had to be overhauled if the firm was to compete in the market for sophisticated ships, as by this stage, the *Nili* was £169,000 over budget.[139] Moreover, the situation had been further compounded by problems at Fairfield-Rowan that had already reached such a stage that the new Fairfield chairman, J.E. Boyd, had asked for a report on the alternatives should the yard's engineering arm go bust.[140] By May, however, it had become clear that Fairfield's activities were, 'too extended for the slender resources at its disposal'. Accordingly, some form of financial retrenchment had to take place, and it was agreed that both the Chepstow structural steel yard, and that after a receipt of a Report from Dr. Davis, the Elliot Street Works of Fairfield-Rowan should be sold. Moreover, it was also reported that the Copper Shop at the Fairfield subsidiary, Lancefield Foundry, would also be closed down by the end of June.[141] By the end of May, however, the sale of Chepstow had been discussed with Sir Gilbert Roberts, who thought that a sale should be postponed until after the completion of the Severn and Wye bridges, which should result in good publicity for the company. Nevertheless, a sale would be difficult, 'owing to the remote location of the company'. Meanwhile, the Govan firm's shipyard manager, Derek Kimber, had pointed out that all contracts were suffering from too little information arriving too late because of Drawing Office problems, and a serious and continuing shortage of fitting-out tradesmen, which had resulted in excessive overtime costs. And, moreover, two-thirds of the labour force were not as productive as they were two years before, there was not enough men for the volume of work in progress, and that the construction of six ships, 'with a total steel labour force of 853 men was just not feasible'. Kimber further pointed out that the *Nili* had four full and two half managers, a rate of supervision one hundred per cent more than that employed on the passenger liner, *Empress of Britain*.[142]

By 12 June, however, the *Nili* had at last been handed over to its charterers, but Fairfield had sent two managers and sixty-nine men with the ship on its voyage to Helsinki to complete outstanding work. Clearly, by this stage the yard was in deep trouble. Against a background where the estimated loss on the *Nili* would be substantially exceeded, Boyd had been summoned, in company with Sir William

Lithgow to a specially convened meeting at the Bank of Scotland, where Sir William was also a director, on 15 June. There, it was agreed that advances should be made for a further four months up to a limit of £1,500,000 in the case of Fairfield, and £800,000 in the case of Fairfield-Rowan, on condition that guarantees of the beneficial owners of the ordinary shares, in effect members of the Lithgow family, should be obtained. In view, however, of a £1,000,000 advance received for the construction of a bulk carrier for Reardon Smith of Cardiff, it was proposed that this sum should be deposited with KFS, and could be drawn by Fairfield as earned. Accordingly, the maximum overdraft to Fairfield's account would be £2,500,000. The *quid pro quo* for this largesse, was the granting forthwith by Fairfield of a Floating Charge in favour of the Bank over all the assets of the former and that the Lithgow family creditors postpone their loans to the firm in favour of the Bank. Moreover, if present negotiations with A.E.I. and Hawker Siddeley over the sale of Fairfield-Rowan broke down, 'then immediate steps should be taken to run down that company'.[143] Additionally, by this stage, both Lithgows and Fairfield had agreed a Floating Charge over the whole undertaking and assets of KFS. (Clyde) Limited. The present arrangements regarding the financing of KFS had been extended for a further three years from 20 May 1964. In addition, KFS had assigned its interest in mortgages over various ships and also E.C.G.D. Insurance policies where these were held. [144] As in the initial agreement, each company's guarantee had been limited to £700,000 each, and that the limit of borrowing was not to exceed £7,000,000.[145]

By August 1965, however, the estimated loss on the *Nili* was just under £500,000 and all of the electricians on the Clyde were on strike. By this juncture it was patently obvious that both productivity and shipyard planning had gone badly awry. Kimber again repeated his earlier assertion that manpower was too thinly spread over too many ships, and that the mixture of naval and merchant building was out of balance. However, the Fairfield managing director, Jim Lenaghan did not agree on the latter point. In considering the firm's reaction to the questions of the Geddes Committee of Inquiry, Lenaghan believed that it would be necessary for Fairfield to

make it plain that no initiatives on amalgamations would take place from within the industry without, 'positive action from the Government. Moreover, 'the firm would support a scheme of total amalgamation of all the main yards on the upper reaches of the Clyde, including, if necessary, Connells, Yarrows and Barclay Curle'. [146]

By October 1965, the Fairfield position had deteriorated to such an extent that the Bank of Scotland had summoned Boyd to its offices. There, Boyd explained that his Board must soon consider whether it would be soon trading illegally, and that unless immediate action was forthcoming then liquidation would follow. He reported on meetings he had held in London with the President of the Board of Trade, Douglas Jay, Eric Drake of British Petroleum and Sir Donald Anderson of Peninsular & Oriental. The goodwill of the two businessmen was required because of the severe penalties that could be invoked in the event of Fairfield going into receivership. In this light, Boyd proposed a scheme of reconstruction whereby the existing ordinary capital of the firm was written off, that the Bank should forego part of its claim, and that BP, and P&O would put up £750,000 each. If this were agreed, a further sum of £500,000 could be raised from Lithgows, Colvilles and the Industrial and Commercial Finance Corporation. As Boyd was due to again meet Anderson and Drake, the Bank considered that if the reply was negative, as was, 'most likely,' then it would have no alternative but to appoint a receiver to protect the security of its floating charge over the assets of Fairfield and Fairfield-Rowan. [147] In the event, BP and P& O rejected Boyd's last ditch rescue plan, and the Bank duly appointed a receiver on 15 October. The Bank did, however, continue the Fairfield overdraft in order to pay wages, but the receiver, A.I. Mackenzie, calculated that the gap between income and expenditure would be £1,000,000 by March 1966. Both Mackenzie and the Bank approached the Government for aid as, 'unless financial assistance was forthcoming Fairfield must close immediately. [148]

Thereafter, an extraordinary series of events unfolded involving the Government and various departments of state, the Bank of Scotland, the Bank of England, and various businessman and trade unions, which resulted in the rescue of the shipyard, [but not Fairfield Rowan] under the new title of Fairfield (Glasgow) 1966 Limited. [149]

Earlier, on 30 October 1965, it was reported that Sir William Lithgow had called for a subsidy to help the industry, in order to give it, 'security to breathe'. In relation to Fairfield, Lithgow stated that in 1935, 'Fairfield were in trouble for reasons outwith the company's control, and that his family had rescued it. I am asked, Why not again? And I must answer, because these are very different times. Against the background of national inflation and great uncertainty the task of rescuing is not such as Lithgows could achieve alone'. [150] Nevertheless, the spectacular collapse of these two major firms belonging to the Lithgow Group of companies, and whose Boards contained directors of Lithgows Limited, has to call into question the supervision of the Lithgow Group as a whole. Control, direction, and above all initiative, had all been sadly lacking when it was most firmly needed.

With every shipbuilding firm in Britain jockeying for position pending the outcome of the Geddes Report, it would seem that the amalgamation of shipbuilding companies to make them more competitive, as already envisaged by Teddy Boyd of Fairfield was a likely outcome. Given the Lithgow Group's post-war record to date in shipbuilding and marine engineering, it is worthwhile to recall Sir William Lithgow's words on the function of the Group. 'It enabled individual companies to co-operate in both buying and selling and in some measure to dovetail their individual policies. Some of the companies were subsidiaries of others, but each had always been required to stand or fall on its own performance. There was no place for an umbilical cord in Adult life'. [151] In the cases of Rankin and Blackmore, Fairfield-Rowan and Fairfield, that umbilical cord had been duly cut.

Endnotes: Chapter IV

[1] Tonnage is normally a measure of a ship's internal cubic capacity or freight carrying capacity measured in tons. Tonnage figures, however, have to be approached with caution as changes in the form and type and construction of ships have led to different measurements of tonnage over time. Tankers, for example, are usually measured in deadweight tons, the actual weight of cargo a vessel could carry at her water line. Standard displacement tons, the actual weight of the ship measured by the volume of water it displaces, and gross tons, a method of measuring the internal volume of a vessel and dividing it by 100 to give the gross tonnage, are not comparable as it is not possible to add the two sets of figures together directly. However, as a rough guide in order to calculate the total combined output of mercantile and naval vessels in any given year one ton of standard displacement, in terms of shipbuilding and engineering work content is around the equivalent of three gross tons, the ratio in use by the Shipbuilding Conference. Dr Ian Buxton gives a ratio of five, in I. Buxton 'Warship Building and Repair During the Second World War', *Research Papers in the History of British Shipbuilding, Research Monograph No.2, 1998, Centre for Business History in Scotland, University of Glasgow*, (Glasgow, 1998) p.7. On this basis, taking into consideration Lithgow subsidiaries marine engineering output and the Fairfield output of 113,738 standard displacement tons, Lithgows total output in the war years exceeded 1,000,000 gross tons. A figure of 1,200,000 gross tons for the Lithgow yards is given by N. L. Middlemiss, *British Shipbuilding Yards, Vol. 2 Clydeside*, (South Shields, 1995) p.218, this figure is also given for the Port Glasgow yards in GD 319/25/2/1 Scott Lithgow Magazine Vol.1 No.1, Spring 1969, p.12.

[2] Reid, *James Lithgow*, pp.208-.209.

[3] GD 100/1/6/33-45 Beardmore Reports and Accounts, in 1938 Beardmore reserves totalled £286,602 and reached £1,831,706 in 1945. Up to nationalisation, reserves remained above £1,600,000. Fairfield Shipbuilding & Engineering Co. Ltd, Annual Reports and Accounts 1939-1945, Fairfield reserves at November 1939 totalled £500,000 and by June 1945 had risen to £850,000

[4] GD 320/4/1/20 Summary of Profit and Loss Accounts 1939-1945. Over these seven years Lithgows net profit after depreciation and the addition of interest, dividends and rents, and less provision for taxation averaged £129,891 per annum.

[5] GD 320/1/2/3 Lithgows Limited, Statement of Distribution of Surplus on sales of Colvilles and Beardmore Stock to date, 29 November 1949. The Lithgow family holdings in these stocks realised a surplus over their respective book values of £576,470 in the case of Beardmore, and £265,120 in the case of Colvilles.

[6] Ibid., by 1950, the Lithgow family trusts comprised Sir James Lithgow's 1937 Deed of Provision for Margaret Helen Lithgow & others, and three individual trusts set up in 1946 for Margaret, Ann and William Lithgow. Trustees also acted for Henry Lithgow's Deed of Provision and Executry. In turn, Margaret, who became Mrs M.H. Rickman and Ann, who became Mrs A. B. Wilson and William Lithgow all took similar steps to preserve the family wealth through trust deeds during their lifetimes. Margaret and William set up Deeds of Provision and Ann, an Irish Deed of Settlement

[7] GD 320/1/2/24 Minute of Adjourned 33rd AGM, 4 July 1952. For example, Alex White a Director of Lithgows Limited was also a trustee for the beneficiaries under Sir James Lithgow's 1937 Deed of Provision and Sir Andrew Macharg, the Lithgow Group's financial adviser was a trustee under Henry Lithgow's Deed of Provision.

[8] SRO SC 58/45/64 and SC58//42/164, Will and Inventory of Henry Lithgow, the residue of Henry Lithgow's estate, amounting to over £470,000 was left in trust for William James Lithgow until he attained the age of majority of 21. Reid, *James Lithgow*, p.243 relates that the Lithgow family quickly

garnered their liquid resources and within a week of Henry Lithgow's funeral, Sir James Lithgow was able to send a cheque to the Inland Revenue for £2,000,000 to meet death duties.

[9] DC 35/76 (1) Agenda for Meeting of Lithgow Trustees, 28 March 1950, Henry Lithgow Trusts. Minutes and Accounts

[10] SRO SC/58/45/16 and SC58/42/69 Will and Inventory of William Todd Lithgow. Todd Lithgow left a total estate of £1,000,237. SC58/45/79 and SC58/42/179 Will and Inventory of Sir James Lithgow, Sir James left estate with a gross value of £443,961, this was in stark contrast to his brother, Henry who left estate with a gross value of £1,906,035. The largest investments left in Sir James name were: 14,700 cumulative participating preference shares of £1 each at 21s and 3d in J.G. Kincaid and 12,948 Nimmo and Dunlop Stock Units of 13s and 4d each at 19s 6d. Loans due to the deceased included £40,077 from the Ayrshire Dockyard Co., £40,000 from the British National Electrics Company, and £40,000 from British Polar Engines. It is likely that Sir James made some substantial gifts *inter vivo* before his demise.

[11] Reid, *James Lithgow*, p.221.

[12] *Glasgow Herald*, 25 February 1952, *Greenock Telegraph*, 25 February 1952, *Sunday Post* 24 February 1952. *Port Glasgow Express*, 9 November 1951, owing to illness, Sir James Lithgow had been made the first Freeman of the Burgh of Port Glasgow on 7 November 1951 at a private ceremony at his home

[13] Tolliday, *Business, Banking and Government*, p.99, citing John Craig of Colvilles.

[14] K. Warren, 'Iron and Steel' in N.K. Buxton & D.H. Aldcroft (eds.) *British Industry between the wars: Instability and Industrial Development 1919-1939* (Scolar Press, 1979) cited in Tolliday, *Business, Banking & Government*, p.122, as is K. Warren, 'Locational problems of the Scottish Iron and Steel Industry since 1760', *Scottish Geographical Magazine*, April & December 1965.

[15] GD 320/1/2/87 Minutes of a Directors Meeting held at Kingston Shipyard, 27 October 1958.

[16] Hume and Moss, *Beardmore*, pp. 266.

[17] GD 320/1/2/64 Lithgows Ltd, Minute of a Directors Meeting, 27 July 1956. This policy was confirmed and reiterated in a Board Minute therein.

[18] GD 320/1/2/4 Lithgows Limited, Minute of a Directors Meeting, 10 January 1950. Sir James Lithgow noted that a comparison of wages costs between the Glen yard of William Hamilton and the Kingston yard showed that the latter compared favourably with the former and that the estimated saving on ironworkers wages for a full year on the basis of six ships was approximately, £9,500.

[19] DC 35/90 Letter From the Secretary of Wm. Beardmore to Sir James Lithgow, 18 July 1947, intimating that a Lithgow offer for shares in British Ljungstrom amounting to £15,000. in J. Broadfoot & Sons amounting to £40,000, in Dowson & Mason amounting to £35,000, in Glasgow Iron & Steel amounting to £241,000 and for Stokes Castings Limited amounting to £25,000 making a grand total of £356,000 had been accepted by the Beardmore Board

[20] Hume & Moss, *Beardmore*, pp.262-3.

[21] Reid, *James Lithgow*, pp.224 & 227

[22] GD 320/1/2/4 Minute of a Directors Meeting, 10 January 1950.

[23] GD 320/1/2/1 Minute of Directors Meeting, 4 October 1949.

[24] GD 320/1/2/6 Minute of Directors Meeting, 14 March 1950.

[25] GD 320/1/2/8 Note of a Meeting held by Directors of Lithgows Ltd, with its Buying Department. 12 May 1950.

[26] Ibid., Memorandum of a Meeting held on 4 May 1950.

[27] GD 320/1/2/11 Minute of a Directors Meeting, 3 September 1950.

[28] GD 320/1/2/14 Note of a Visit to Swedish Shipyards and Minute of a Directors Meeting. 13 February 1951.

[29] GD 320/1/2/13 Minute of a Directors Meeting, 5 December 1950.

[30] GD 320/1/2/17 Note of a Directors Meeting, 18 August 1951.

[31] Ibid.

[32] GD 320/1/2/18 Note of a Directors Meeting, 28 August 1951.

[33] GD 320/1/2/21 Minute of Directors Meeting, 12 February 1952.

[34] GD 320/1/2/22 Minute of Directors Meeting, 12 March 1952.

[35] *The Lithgow Journal*, The Magazine of the Lithgow Group of Companies, autumn 1952. Lithgows Limited's immediate subsidiaries were, John Broadfoot & Sons, The Dowson and Mason Gas Plant Co, Ltd, The Glasgow Iron and Steel Co. Ltd, The British Ljungstrom Marine Turbine Co, Ltd., Stokes Castings Ltd., and the Dornoch Shipping Co. Ltd. Ayrshire Dockyard Co. Ltd., and its two subsidiaries,, Metal Trim Ltd., and Lothian Structural Development Ltd. British Polar Engines Ltd., and its subsidiary, G.M. Hay & Co. Ltd. Fairfield Shipbuilding & Engineering Co. Ltd., and its subsidiary company in Wales, Fairfield (Chepstow) Ltd. William Hamilton & Co. Ltd. and its subsidiary, Caledonia Joinery Co. Ltd. North British Electric Welding Co. Ltd. and its subsidiary. The Security Patent Anchor Co. Ltd. R. Y. Pickering & Co. Ltd., Daniel Varney Ltd., British American Research Ltd. Rutherford Oil Burners Ltd., Rankin & Blackmore Ltd. And. finally, David Rowan & Co. Ltd., and its two subsidiaries, J & A Law Ltd., and Lancefield Foundry Ltd.

[36] GD 320/1/2/26 Minute of Directors Meeting, 9 September 1952.

[37] GD 320/1/2/27 Minute of Directors Meeting, 21 October 1952.

[38] GD 320/1/2/28 Minute of Directors Meeting, 11 November 1952, and Report by Mr. H. Pearson Lobnitz on the Proposed Modernisation of Lithgows East Yard .

[39] GD 320/1/2/31 Minute of Directors Meeting, 9 December 1952.

[40] Ibid.

[41] GD 320/1/2/32 Minute of Directors Meeting, 7 April 1953.

[42] GD 320/1/2/34 Minute of Directors Meeting, 23 June 1953.

[43] GD 320/1/2/35 Minute of Directors Meeting, 31 August 1953.

[44] GD 320/1/2/38 Minute of Directors Meeting, 10 November 1953.

[45] GD 320/1/2/40-1 Minutes of Directors Meetings, 12 January and 12 February 1954.

[46] GD 320/1/2/41 Minute of a Directors Meeting, 12 February 1954.

[47] GD 320/1/2/42 Minute of a Directors Meeting, 1 April 1954.

[48] The others were, Swan Hunter & Wigham Richardson, on the Tyne, Cammell Laird, on the Mersey, Vickers at Barrow, and on the Tyne, Harland & Wolff, at Belfast, and John Brown, on the Clyde.

[49] Fairfield Reports and Accounts 1939-1945, this average is based on profits for the year after provision for depreciation in 1939 and 1940, and after provision for depreciation and taxation from 1941 to 1945.

[50] Fairfield Report and Accounts, for the year ended 30 June 1945.

[51] Elgin Papers, Glasgow University, uncatalogued, letter from Sir James Lithgow to Lord Elgin, 17 February 1939.

[52] Fairfield Report and Accounts for the year ended 30 June 1946.

[53] Ibid.

[54] Elgin Papers, Letter from Lady Lithgow to Lord Elgin, 19 February 1954.

[55] Ibid., Letter from Lady Lithgow to Lord Elgin, 2 November 1954.

[56] Ibid., Letter from D. McPhie to Lord Elgin, 20 November 1952, and Fairfield Reports and Accounts, 1952-1954.

[57] GD 320/1/2/43 Minute of Directors Meeting, 6 May 1954.

[58] GD 320/1/2/44 Minute of Directors Meeting, 18 June 1954.

[59] GD 320/1/2/45 Minute of Directors Meeting, 2 August 1954.

[60] GD 320/1/2/53 Minute of Directors Meeting, 28 April 1955.

[61] Ibid., average calculated from table on building programme and progress of vessels, at 21 April 1955.

[62] GD 320/1/2/54 Minute of Directors Meeting, 23 June 1955.

[63] GD 320/1/2/56 & 57 Minutes of Directors Meetings, 22 August and 26 September 1955.

[64] GD 320/1/2/63 Minutes of Directors Meetings, 8 and 18 June 1956.

[65] GD 320/1/2/67 Minute of Directors Meeting, 19 November 1956.

[66] GD 320/1/2/69 Minute of Directors Meeting, 21 January 1957.

[67] GD 320/1/2/87 Minute of Directors Meeting, 27 October 1958.

[68] UGD 323/1/1/1 Lithgows Limited, Board Minutes, 30 June 1959.

[69] Ibid., Board Minute, 6 November 1959.

[70] Ibid., Board Minutes, 21 August 1959.

[71] Ibid., Board Minutes, 15 January 1960.

[72] *Greenock Telegraph*, 26 January 1960.

[73] GD 320/2/27 Minute of Directors Meeting, 21 October 1952.

[74] SRO 113 368 BT2/227/1968 EGM of Rankin and Blackmore, 27 September 1954.

[75] Ibid., Annual Report of Directors of Rankin and Blackmore for year ending 31 December, 1954.

[76] Ibid., Annual Report of Directors, 31 December 1957.

[77] GD 320/2/68/7 Lithgow Trusts Minutes, Excerpts regarding the position of Rankin and Blackmore at 20 January 1958.

[78] Ibid., Letter from Sir William Lithgow to Sir John Erskine, 6 August 1959.

[79] GD 320/1/2/64 Lithgows, Minute of Directors Meeting, 27 July 1956.

[80] GD 320/2/68/7 Letter from Sir William Lithgow to Sir John Erskine, 6 August 1959.

[81] SRO 113 358 BT2/327/1968 EGM of Rankin and Blackmore, 25 January 1960.

[82] Ibid., 45th OGM of Rankin and Blackmore, September 1960.

[83] UGD 323/1//1/1 Lithgows Limited, Board Minutes, 20 December 1960.

[84] Ibid., Board Minutes, 15 January 1960

[85] Ibid., 41ST AGM of Lithgows Limited, 11 March and Board Minutes of 15 August and 23 September 1960.

[86] GD 320/1/2/133 Lithgows, 1959 Agenda, minutes of meetings etc., Directors Meeting, 6 November 1959.

[87] GD 320/1/4/6 Lithgow Group (1960-1962) 1 December 1960, Managing Directors Committee.

[88] UGD 323/1/1/1. Lithgows Limited, Board Minutes, 1 November 1960.

[89] Ibid., Board Minutes, 17 March 1961.

[90] Ibid.

[91] Ibid., Board Minutes, 26 May 1961.

[92] Glasgow City Archives, Mitchell Library, Fairfield papers, (hereafter, UCS 2), UCS 2/1/8 Minute of a Meeting of Directors, Fairfield.

[93] UGD 323/1/1/1 Lithgows Limited, Board Minutes, 26 May 1961.

[94] Elgin Papers, Letter from Lady Lithgow to Lord Elgin, 18 November 1955.

[95] Fairfield Annual Report and Accounts, year ended 30 June 1955.

[96] *Fairfield: 1860-1960*, unpaginated.

[97] Fairfield Annual Report and Accounts, year ended 30 June 1956.

[98] Sir John Erskine was Lithgows preferred candidate to replace the septuagenarian Lord Elgin, but the latter had been, and was extremely reluctant to go. This state of affairs was referred to as 'Elginitis' in company circles

[99] *Fairfield: 1860-1960.*

[100] Fairfield Annual Report and Accounts, year ended, 30 June 1959.

[101] Fairfield Annual Report and Accounts, year ended, 30 June 1960.

[102] *Fairfield: 1860-1960.*

[103] UCS 2/1/8 Fairfield, Meeting of Directors, 25 April 1960.

[104] Ibid., Meeting of Directors, 16 October 1961.

[105] Ibid., and Meeting of Directors, 6 March 1961.

[106] Ibid., Meeting of Directors, 18 June 1962.

[107] Ibid., Meeting of Directors, 21 October and 25 November 1963.

[108] *Lithgow Journal*, winter, 1963.

[109] UCS 2/1/8 Fairfield, Meeting of Directors, 25 November 1963.

[110] Fairfield Annual Reports and Accounts, year ended 30 June 1963 and 30 June 1964.

[111] Bank of Scotland Archives, Edinburgh (hereafter, BS) BS 1/6/11, Board Minutes, 20 July 1963. At a cost price for the vessel of between £2,250,000/£2,500,000 finance had been advanced for eighty per cent of the cost, with half-yearly instalments over fifteen years from delivery, with the Bank providing the finance for a third of this period and Insurance Export Finance providing the balance for the succeeding period..

[112] UCS 2/1/8 Fairfield, Meeting of Directors, 24 June and 23 October, 1964.

[113] Ibid., Meeting of Directors, 23 October 1964.

[114] *Greenock Telegraph*, 15,16 & 17 June 1961, & *Glasgow Herald*, 17 June, special feature.

[115] *Greenock Telegraph*, 17 June 1961, & *Glasgow Herald*, 17 June 1961.

[116] UGD 323/1/1/1 Lithgows Limited, Board Minutes, 26 May 1961.

[117] Ibid., Board Minutes, 23 June 1961.

[118] Ibid., Board Minutes, 30 October 1961.

[119] Ibid., Board Minutes, 24 November 1961.

[120] Ibid., Board Minutes, 22 December 1961.

[121] GD 320/4/1/85-86, Lithgows Limited, Annual Report & Accounts, years ended 31 December 1961 & 1962.

[122] GD 320/1/4/7 Lithgows Senior Management Meetings, 1959-1965, Minute of Management Meeting, of 8 October 1959.

[123] Ibid., Labour: Mr. Belch.

[124] *Greenock Telegraph*, 14 January, 25 February, 24 March, 21 April, 16 May, 16 September, and 30 September 1960.

[125] Ibid., 11 October 1961.

[126] For a full analysis of the protracted rise and quick demise of this enterprise, see L. Johnman & H. Murphy, 'No Light at the end of the Dock: The Long Rise and Short Life of the Firth of Clyde Dry Dock Company'. *International Journal of Maritime History*, vol., X, No. 2, December 1998.

[127] *Greenock Telegraph*, 20, 24, 26 October and 5, 8,and 15 November 1960.

[128] Ibid., 18 November 1960.

[129] Ibid., 17 July 1963.

[130] GD 320/4/1/87 Lithgows Limited, Annual Report and Accounts, year ended 31 December 1963.

[131] *Greenock Telegraph*, 11,13,15 April 1963.

[132] *Lloyd's List*, 17 July 1963.

[133] GD 323/1/15/5 Scott Lithgow Papers, Integration of Hamilton's Yard with Kingston and East Yards, 19 January 1966.

[134] *Greenock Telegraph*, 17 & 23 July, 1963.

[135] Ibid., 27 December 1963 & 30 January 1964.

[136] Ibid., 17 February 1063.

[137] GD 320/4/1/88 Lithgows Limited, Annual Report and Accounts.

[138] UCS 2/1/8 Fairfield, Board Minutes, 29 March 1964.

[139] Ibid.

[140] ibid., Board Minutes, 25 January 1965.

[141] Ibid., Board Minutes, 29 March 1965.

[142] Ibid., Board Minutes, 31 May 1965.

[143] BS 1/6/11 ' The Fairfield Shipbuilding & Engineering Co., Ltd., Fairfield-Rowan Ltd.', Meeting of a Committee of Directors of the Bank of Scotland, 15 June and report of Assistant Treasurer thereon.

[144] Ibid., Minute, Kingston Financial Services (Clyde Ltd., 4 May 1965.

[145] Ibid.

[146] UCS 2/1/9 Fairfield, Board Minutes, 2 August 1965.

[147] BS 1/6/12 Fairfield & Fairfield-Rowan, Meeting at Bank of Scotland, 8 October 1965.

[148] R. Saville, *Bank of Scotland: A History, 1695-1995* (Edinburgh, 1996) p.653.

[149] For the Fairfield rescue, see S. Paulden & B. Hawkins, *Whatever Happened at Fairfield?* (London, 1969).

[150] *Greenock Telegraph*, 30 October 1965.

[151] Ibid.