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The employment strategies of British and French shipbuilders, 1890–1970

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Introduction

This essay traces the history of French and British shipbuilding employers' strategies in the interconnected policy areas of labour recruitment, job tenure, and training. It shows that employers in each country pursued strikingly different policies towards their workers despite sharing a common technology and often competing in the same international markets.[1]

The historical account supports the focus of a number of recent studies that have proposed explanations for international variations in methods of labour management, variations that cannot be accounted for by differences in technology or market conditions. The proposed explanations are of two basic types: those which argue that nationally specific cultural norms or beliefs propel employers into adopting particular strategies; and those which retain the assumption of rational agency and explain outcomes entirely in terms of the varying institutional constraints under which employers in different countries had to act.[2]

As an example of the first type of explanation, Ronald Dore has argued that co-operative labour–management relations in Japanese firms can be explained in part by a widespread social norm in Japanese society, the duty to exercise power with benevolence (Dore, 1987).[3] Bernard Elbaum and William Lazonick have recently proposed the second type of explanation to account for distinctive features of early twentieth century labour management in Britain. They argue that British employers were constrained by institutional structures dating to the nineteenth century from adopting modern corporate forms of management that would have allowed them to successfully compete in the mass markets of the twentieth (Elbaum and Lazonick, 1986, pp. 1–17).[4]

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[1] For an overview of European shipbuilding from 1880 to 1980 which also emphasizes national diversity in industrial relations practices and methods of labour management see Dewerpe (1991).

[2] For a more general discussion of modes of explanation in the social sciences, see Elster (1979); and Gambetta (1987).

[3] This is only part of a highly sophisticated argument developed by Dore which also relies on the way institutional arrangements interact with norms to encourage co-operative behaviour.

[4] For an overview of competing explanations for British economic decline and a critique of the approach of Elbaum and Lazonick, see Lorenz (1991, ch. 1).

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In a limiting version of the second type of argument institutional constraints do not merely narrow the range of feasible options open to employers but structurally determine the outcome, thus eliminating the element of choice or strategy in the explanation. Marc Maurice and his colleagues, for example, have argued that the peculiarities of work organisation and labour management in French companies can be explained by the way work organisation interacts with France's training and industrial relations systems to form a self-reinforcing 'system of coherence' in which choice has little or no role to play (Maurice, Sellier and Silvestre, 1986).

A serious problem with such general explanations is that they take institutions as given parts of objective reality rather than as things whose stability over time has to be explained. Historical analysis makes clear that institutions change in part as the intended and unintended consequence of the choices of the actors. For example, this essay shows how the emergence of dense local labour markets of skilled shipyard labour in Britain during the second half of the nineteenth century—an important factor in British competitive success—resulted in part as the unintended consequence of the strategies pursued by the craft unions to protect the standard of living of their membership. The essay also shows how the efforts of French shipbuilding employers to institutionalise internal labour markets after the Second World War can in part be explained as an unintended consequence of the way the industrial policies of the French State transformed local industry structure and labour supply conditions.

Institutions may appear immutable at points in time but they are human constructions, and this points to the importance of historical analysis such as presented here. Not only can history uncover the sequence of choices and events that resulted in the construction of nationally specific institutions, but, it can also provide insights into why institutions are stable at some points in time and mutable at others. It is in this light that the following historical account of British and French shipbuilding is presented.[1]

1. National patterns of labour supply: the nineteenth-century context

Comparative histories of nineteenth century industrial development in Britain and France traditionally have taken France's relative backwardness as the point of departure. Recent revisionist accounts have strongly contested this perspective. Firstly, based on revised estimates of per capita commodity production and labour productivity, it has been argued that the French economy performed comparably to the British.[2] Secondly, it has been argued that British and French industrial development took place in distinct ways involving specialisation in the production of different types of products to which techniques of production and enterprise organisation were adapted. In short, France was not the tardy emulator of Britain, but rather

[1] Tolliday and Zeitlin (1991, pp. 273–324) make a similar point in their historical analysis of international variations in labour management and employer organisation.

[2] The most careful treatment of the evidence is by O'Brien and Keyder (1978). Their empirical results have been questioned by Crafts (1984). Crafts argues that O'Brien and Keyders' use of commodity production (excluding the service sector) for a comparison of economic performance is misleading and that in terms of gross national product (including services) British performance was superior. Crafts concludes, however, that the performance of the French economy during the nineteenth century was considerably more respectable than suggested by earlier accounts stressing France's 'retardation'.

pursued a different path of development (Levy-Leboyer, 1968, pp. 281-98; Roehl, 1976; Sabel and Zeitlin, 1985).

O'Brien and Keyder, who have perhaps argued the revisionist case most systematically, have interpreted the difference between the British and French patten of industrial development as follows. In Britain, the existence of large and expanding markets at home and abroad for relatively undifferentiated products encouraged an early transition to the mechanised factory system of production. In France, the slower growth and geographical segmentation of the domestic market and the smaller proportion of output produced for export encouraged the retention of smaller-scale artisanal forms of production. Small-scale skill-intensive methods were particularly suitable for satisfying locally differentiated demands (O'Brien and Keyder, 1978, pp. 160–74; Sabel and Zeitlin, 1985).

This stark comparison of French and British economic development naturally overlooks the considerable diversity within each economy. As J. H. Clapham and more recently R. Samuel have stressed, small-scale labour-intensive methods retained considerable importance in Britain throughout the nineteenth century (Clapham, 1950, ch. 5; Samuel, 1977). On the other hand, the factory system did make inroads on the workshop sector in France, particularly from the mid-nineteenth century (Gille, 1959; Levy-Leboyer, 1964). The basic contrast, however, is not in dispute. The French 1906 industrial census presents a striking picture of the vitality of small-scale forms of production. The self-employed accounted for 71% of all industrial establishments and 27% of the industrial working population. Considering firms with employees separately, 32% employed less than ten workers (Caron, 1979, pp. 164–65).

Regionally differentiated patterns of product market demand in France can be explained by the persistence of rural society and the relatively slow pace of urbanisation. This in turn can be linked to the slow growth of population and the ability of the land to absorb additional supplies of labour throughout the nineteenth century, which limited the flow of population into the cities. The agricultural sector in France absorbed some 2·5 million additional inhabitants during the nineteenth century and as late as 1914 agriculture accounted for about 60% of the labour force engaged in commodity production. In Britain, the agriculturally employed labour force expanded slowly during the first half of the nineteenth century, reaching a peak of 2 million in 1845–54. There was a subsequent decline to 1·6 million in 1895–1904. During this same period the industrially employed workforce expanded dramatically, from some 1·6 million in 1803–12 to 7·4 million in 1895–1905. By 1914 industry accounted for over 80% of the labour force engaged in commodity production (O'Brien and Keyder, 1978, p. 94).

While an explanation of the differential rates at which agriculture and industry absorbed labour in France and Britain is beyond the scope of this paper, it is important to recognise the political dimensions of the process. Most accounts, though accepting that geographical conditions may have played a role, emphasise the importance of differences in property rights and in particular the greater success of the French peasantry in defending their rights to land (Labrousse, 1966; LeRoy Ladurie, 1973; Sargent, 1961). The origins of this difference are obscure, and arguably date to the Middle Ages and the efforts of the monarchy in France to

prevent the seigneurs from encroaching on its tax base by reinforcing the peasantry's prerogatives. Comparable efforts by the crown in Britain were ineffectual and, in general, parliament and king facilitated the process of enclosure. Regardless of origins, it is generally agreed that the French revolution, in abolishing seigneurial dues, strengthened the position of the peasantry and improved their ability to sustain themselves on small plots of land (O'Brien and Keyder, 1978, pp. 132–36; Bloc, 1967, part 2).

The viability of the small agricultural or industrial proprietorship in France during the nineteenth and early twentieth centuries resulted in labour supply problems for large industrial employers. The availability of these options in combination with slow population growth limited employers' ability to recruit and retain a large number of workers. The problem was not merely the slow growth of potential supply, but also one of preferences, preferences that small proprietors both in agriculture and industry repeatedly showed themselves capable of defending through political action. Thus differences in the wider balance of power between economic interests in each country and their relation to the state or political center contributed to structuring the supply of labour in particular ways.

1.1. Shipbuilders' employment policies, 1890–1945

One response of industrialists in France to problems of labour supply was the adoption of paternalistic policies. In such diverse sectors as textiles, machine building, steel, and paper it is easy to find examples of large employers providing a range of social services, including low-cost housing and medical services, designed to attach their workers to the factory by creating a sense of company loyalty (Levy-Leboyer, 1976, pp. 94–95; Stearns, 1978, pp. 42–48).

In the case of the shipbuilding industry during the late nineteenth and early twentieth centuries, such strategies proved impractical due to the industry's particular technical and market conditions. Ships were large and complex products built in a series of stages requiring different skills. Production began with the preparation of a set of small-scale designs showing the body plan of the vessel. These were transformed into full-scale wooden templates for later use as guides in constructing the vessel's steel hull. The work involved designing, draughting, and woodworking skills.

The preparation stage was followed by hull construction in which plates, angle bars, and other steel components were cut and bent to shape and then assembled and riveted together at the berth. A variety of metal working skills were involved, primarily plating, angle-iron smithy, riveting, and caulking skills. The final stage of fitting out the vessel required the most diverse range of aptitudes including those of the plumber, electrician, brass moulder, carpenter, and painter.[1]

These large variations in skill requirements between stages of production meant that the only way employers could hope to stabilise their demand for specialised workers was to plan carefully the sequence in which successive vessels were produced. This would allow specialised trades to be transferred from one ship to the next

[1] See Holms (1918) for a detailed description of shipbuilding technology of the era that is easily understood by the non-specialist. Also see Abell (1948); Benoist (1905); Lorenz, (1991, ch. 2); and Reid (1980, ch. 5).

without being periodically laid off. However, market constraints generally precluded this sort of scheduling. In both Britain and France between 1890 and 1945, most construction contracts were bespoke, vessels being built on demand to the precise specifications of the owner. Further, builders faced sharp fluctuations in the overall level of demand for new construction. These highly unpredictable market conditions discouraged a policy of speculative construction that would have allowed producers to anticipate and plan a yard's future labour requirements (Pollard and Robertson, 1979, pp. 6–7, 28–30, and 231–21; Reid, 1980, p. 46; Basso, 1910, pp. 88–93; and Hardy, 1951, p. 34). Given the high cost of an individual ship relative to the total value of a yard's annual production, failure to sell a single vessel produced on speculative basis might well prove financially crippling.

The contrasting employment strategies that British and French builders pursued in response to this general problem were partly determined by differences in the size and structure of the industry in each country. The British industry was divided into two major regions located on the Clyde river in Scotland and on the Tyne, Tees, and Wear rivers on the northeast coast of England. Within each region the industry was highly fragmented, output being divided among some 40 to 45 firms, the large majority of which were single-yard establishments.[1] As each producer's relative demand for particular types of skills varied over time, they would hire and lay off workers with specialised skills who continually moved among the numerous yards in a region (Price, 1981, pp. 6–8 and 12). In this manner regional pools of skilled labour were built up and maintained and in terms of the division of labour the region as a whole achieved what the individual yard could not.

The French shipbuilding industry was small in comparison to the British. Industry output in terms of tonnage launched averaged about 5% of that in Britain over the period (Lloyd's Register of Shipping, Annual Shipbuilding Returns). The three main regions located in the Loire-Inférieure, along the Seine Estuary, and on the Mediterranean coast, were composed of a comparatively few yards. The Loire-Inférieure, the largest region, consisted of five yards, three located in Nantes and two in St. Nazaire.[2]

The few yards in any one region meant that French builders as a group were not able to achieve the same continuity in demand for workers with specialised skills as their British counterparts. Due to the pervasive problem of skilled labour scarcity, however, pursuing a hire and fire policy as in Britain was precluded, if builders were to avoid a possibly permanent loss of trained labour. Responding to these constraints, French builders tended to employ their skilled workers in a less specialised manner. In this way they attempted to avoid the necessity of laying off workers with every change in demand for specialised skills (Barbance, 1948, p. 388; Bertin, 1885; Roux-Freissineng, 1929, p. 34; Pinczon, 1930; Dugas, 1930, p. 59).

[1] Pollard and Robertson (1979, pp. 58–69 and 92–102). In 1910, of the eighty-five firms in the industry, six were multi-yard enterprises. these were: Swan Hunter and Wigham Richardson, Palmers, Armstrong Whitworth, Barclay Curle, Beardmores, and the Northumberland Shipbuilding Co.

[2] In 1913 in France there were thirteen firms operating fifteen yards. In Nantes and St. Nazaire four firms operated five yards. These were the Chantiers de la Loire with a yard in Nantes and in St. Nazaire; Chantiers de l'Atlantique in St. Nazaire; and Chantiers Dubigeon and Chantiers de Bretagne located in Nantes. Chantiers de l'Atlantique also operated a yard in grand Qu villy on the site of the abandoned yard of Chantiers Normandie. See Latty (1951, p. 250); and Peuch (1969, p. 151).

The more flexible use of skilled labour in French yards responded to the problem of non-cyclical based instability in demand for specialised skills, but not to the problem of instability in overall demand for labour. The shipbuilding industry experienced severe and protracted depressions between 1890 and 1939. Laying off workers during cyclical downswings potentially posed the problem of loss of labour with shipyard skills to competing sectors, possibly offering more stable employment prospects (AREMORS, 1983, pp. 16–17; Dugas, 1930, p. 59).

British builders were clearly less concerned by this problem than their French counterparts. There is little evidence to suggest that British producers were seriously constrained by labour supply bottlenecks. This can partly be explained by the lesser severity of output fluctuations in Britain (Lorenz, 1991, chap. 1). Another factor was the role played by the well-developed system of craft unionism in British shipbuilding.

By the end of the nineteenth century a high degree of union organisation had been achieved by the skilled trades in British shipbuilding. Seventeen unions organised the majority of the skilled workers and the closed shop prevailed in the major yards. The most important numerically was the Boilermakers' Society which organised most of the hull construction trades including platers, angle-iron smiths, riveters, caulkers, and holders-up. Loftsmen and shipwrights were organised by the Associated Shipwrights' Society. Blacksmiths were organised by four competing unions prior to 1914 when a series of mergers were completed resulting in the formation of a single national union, the Associated Blacksmiths' Society (Mortimer, 1973; Dougan, 1975; and Tuckett, 1974).

The outfitting trades were organised by a diverse group of craft unions, the principle of which were the Amalgamated Society of Carpenters and Joiners, the United Operative Plumbers Association, the Electrical Trades Union, and the National Society of House and Ship Painters (Clegg, 1964, p. 47; Reid, 1980, ch. 5). Assistants and unskilled labourers, less well organised than the skilled trades, were mostly in the Tyneside and National Labourers Union and the National Union of Gas Workers and General Labourers (Clegg, 1964, pp. 25 and 38–41).

Competition among the craft unions for the control of jobs and the right to man machines frequently resulted in sectional strikes.[1] Union-imposed restrictions clearly constrained employers' ability to reorganise the division of labour and introduce new machinery. In particular, the skilled unions had considerable success in preventing the employers from exploiting possibilities that technical change offered for substituting less skilled and lower-paid workers for skilled workers (Reid, 1980, pp. 117–121; Lorenz, 1991, ch. 3; McGoldrick, 1982; and S.R.N.A. Archives, Federation Circulars, 1931–35, *passim*). Such negative effects were balanced, though, by the unions' positive role in organising the local labour market. The unions both facilitated the transfer of workers among yards in a district and by providing unemployment and sick benefits helped ensure that the workforce was retained for the industry (Lorenz and Wilkinson, 1986).

[1] Two types of strikes should be distinguished: *demarcation* strikes over the allocation of work among competing groups of skilled workers, and *dilution* strikes over the substitution of less-skilled for skilled apprenticed workers. For a general discussion on demarcation conflict during this period, see Okayama (1979); Pollard and Robertson (1979, pp. 166–69); Robertson (1975); and Reid (1980, pp. 100–103, 171–178, and 212–213).

Craft unionism in French shipbuilding was extremely weak by British standards. Archive sources show that in Nantes in 1907 fourteen craft unions organised a total of 918 workers in the shipbuilding and engineering sectors combined. In St. Nazaire at this time thirteen unions organised 1,911 workers in these sectors (Archives Nationales, Séries F7 13606, Etats des Syndicats, Nantes 1907; *ibid.*, St. Nazaire, 1907). Using figures from a number of sources giving employment levels just prior to 1914, it can be estimated that between 10 and 15% of shipyard workers were organised in Nantes and somewhat over 30% in St. Nazaire.[1]

Lacking a developed network of craft unions that might have provided social welfare benefits as in Britain, French employers sought other solutions to the problem of retaining an adequate workforce. One possible response was to shift trained labour into alternative employment. For example, in the Marseille region there is evidence that builders maintained shipyard factories (*usines navales*) in other but related branches of industry such as locomotive and boiler production. Skilled workers were transferred to these sites during periodic crises (Roux-Freissineng, 1929, p. 34).

In the case of the Loire-Inférieure there is no evidence that employers maintained *usines navales*. Rather a solution emerged involving a unique symbiosis between agriculture and industry. For some 30 to 40% of their skilled workforce, shipbuilders in St. Nazaire drew on workers who maintained a partial attachment to the land. These half peasants-half workers would return to the countryside during periodic slumps to plots maintained by their families (Barbance, 1948, pp. 367 and 493; Royal Commission on Depression in Trade, 1886, Third Report, qn. 12,013).

2. The development of internal labour markets, 1945–1970

The traditional patterns of labour mobility in British and French shipbuilding regions described above were profoundly transformed by economic and political changes after the Second World War. The State in each country intervened in the economy on an unprecedented scale, significantly altering intersectoral patterns of capital investment and labour deployment. At the regional level, industrial structure and conditions of labour supply were altered in ways that encouraged employers to pursue new strategies towards their workers.

In Britain, by the mid-1960s, competition for skilled labour from rising new industries was leading shipbuilding employers for the first time to offer their workers employment guarantees. The traditional pattern of a high degree of inter-yard mobility for occupationally specialised workers was rapidly disappearing. In

[1] In Nantes, just prior to 1914, average employment in the three main yards was about 4,500: Chantiers de la Loire (3,000); Chantiers de Bretagne (1,155); and Chantiers Dubigeon (380). See Guin (1976, p. 377). The Coueron foundry employed 800 in 1907 and the Basse Indr. Smith Works employed 800. (Thébault, 1973, pp. 74–75). The two principal engineering works were Voruz and Buissonneau, and Lotz. Including these and the various smaller engineering establishments, it is likely that the total employment of metallurgical workers in Nantes was in the range of 9,000 to 10,000 giving a percentage unionised of about 10%. In St. Nazaire Chantiers de la Loire employed between 1,200 and 1,400 at the turn of the century, while Chantiers de l'Atlantique employed 4,500 during the 1900–01 boom, but only 3,900 in 1911. See Barbance (1948, pp. 373, 386). With associated engineering works, total employment for the metal-working trades probably varied between 5,500 and 6,500, giving a percentage unionised between 30 and 35%.

France, the breakdown of the traditional symbiosis between agriculture and industry was also leaving shipyard workers increasingly dependent on individual yards for their employment prospects. In order to explain these developments the discussion turns first to the wider forces generating changes in the composition of regional labour supply.

2.1. The changing labour supply context

The immediate post-World War II years were a period of rapid industrial growth in France by historical standards. Industrial output grew at 5·3% per annum between 1949 and 1963, a rate only previously attained during the boom preceding the First World War and between 1924 and 1929 (Caron, 1979, pp. 178–180). This expansion took place in the context of a virtually stagnant working population. Between 1946 and 1962 the workforce nationally increased by a mere 1·6% from 19·4 to 19·7 millions. The labour for industrial expansion came primarily from agriculture, and also to an extent from interindustry shifts from declining to expanding sectors (Caron, 1979, pp. 190 and 230–239).

Starting in the 1920s, the rural exodus in France had begun to acquire a different character from that of the nineteenth century, affecting not only the underemployed fringes of the population who were pushed by necessity into urban employment, but also peasant producers, increasingly attracted by the higher and more stable earnings to be gained in industry. The post-World War II years, then, saw an acceleration of these trends, as the population engaged in agricultural production fell sharply from 7·04 million in 1946 to 3·82 million in 1962 or from 36 to 21% of the working population. During the same time, the industrially employed workforce increased form 5·65 to 7·45 million (Caron, 1979, p. 206).

These changes in the structure of the French economy cannot be interpreted simply as the rational outcome of producers responding to a growth in market incentives. State intervention was critical. In France the state pursued an explicit policy of industrial modernisation at the expense of traditional rural interests. Its ability to do this depended on a number of factors. Firstly, the increasing independence of the executive from parliament that came with the administrative reforms of the Fourth Republic and particularly the Fifth Republic. This tended to insulate the executive, which was dominated by the 'modernisers', from the rural and small business interests which dominated parliament (Zysman, 1984, pp. 133–135; Cohen, 1969, pp. 229–237). Secondly, the state pursued a creative policy of subsidies and credits to finesse industrial expansion. Agriculture was subsidised sufficiently to prevent major dislocations, yet not so much that incentives to invest in industry were undermined (Cohen, 1981; Zysman, 1983, pp. 133–138).

Thus the shipbuilding industry was one of the major beneficiaries of the first plan and under the 1950 Loi Deferre the industry enjoyed a generous rate of subsidy. This encouraged investment and allowed yards to offer the wages and conditions of employment that would attract the additional labour needed for expansion (Chardonnet, 1971, pp. 415–417; Domenichino, 1991; Ehrmann, 1957, pp. 245–246 and 289–90). Between 1948 and 1960 shipbuilding output in terms of tons launched increased threefold nationally. Shipyard employment in St. Nazaire rose from a pre-war peak of 7,000 to 10,000 in 1959. At the Chantiers Dubigeon in Nantes

employment increased from a little over 1,000 in 1948–49 to about 1,300 in 1955–56 (Barbance, 1948, p. 607; Archives des Chantiers Dubigeon-Normandie).

The rapid expansion of the shipbuilding industry in the Loire-Atlantique based primarily on transfers of labour from agriculture posed two interrelated labour supply problems: firstly, to train a body of agricultural labourers with little or no prior industrial experience; and secondly, to retain these workers for the firm. The strategy employers pursued to these ends was to institute a system of internal job promotion. The possibility of job promotion provided workers with an incentive to stay with the firm. It also served a training function as workers could be upgraded from less to more skilled positions as they acquired experience on the job. L. Oury in his autobiographical account of his years as a boilermaker at the Chantiers de l'Atlantique in St. Nazaire has described how the system worked in that yard.

> Semi-skilled workers (O.S.) are recruited in various ways but in general these are the lads who have just arrived from behind the plough, whose only experience with technical problems is using a tree to take a sighting to ensure the straightness of a furrow. They are hired as laborers and in a few months, after being ensured of their soberness, of their constancy at the job, and their personal qualities, they are classified O.S. with the associated relative advantages.
>
> He (the new recruit) is satisfied with his good fortune until the day when the possibility of progressing from O.S. 1 to O.S. 2 arouses his ambitions. Then he looks for a way to free himself from his machine and to acquire the boilermaker's tool box and the classification O.P. 1 (lowest skilled grade) which goes with it. Sometimes the lad will go up to O.P. 2, but that's all, the classification O.P. 3 being reserved for those skilled workers with the professional certificate of C.A.P. (certificat d'aptitude professional) and even then only after some fifteen years of experience at the job (Oury, 1973, pp. 122–123).

In the case of the British shipbuilding industry, labour supply problems had an entirely different basis. Rather than the problem of attracting additional labour for industrial growth as in France, the difficulties of British builders stemmed from increasing competition for skilled labour from rising new industries. During the 1950s, while the output of the shipbuilding industry and other traditional staples stagnated or declined, such sectors as vehicles, electronics, and chemicals expanded rapidly (Matthews, Feinstein, Odling-Smee, 1982, ch. 9; and Pollard, 1983, pp. 274–300).[1] By the mid-1960s the traditional dominance of shipbuilding and connected industries in the regional economies of Clydeside and the northeast coast of England was being progressively undermined (Johnston, Buxton, and Maire, 1971).

As in the case of France, state intervention in Britain played a role in the process of structural change. By protecting certain claims and not others, the state reshaped regional labour supply. Shortly after the war the northeast coast of England and Clydeside were designated development areas. New industries were attracted by means of investment incentives and expenditure of infrastructure. Most studies on the impact of the government's regional policy suggest that its effectiveness increased from the early 1960s (Brown, 1972, pp. 301–318; Keeble, 1976, ch. 5; Moore and Rhodes, 1973, pp. 87–110).

[1] During the 1950s shipbuilding output in terms of tons launched stagnated at about 1·3 million tons annually. During the 1960s output declined absolutely while European shipbuilding as a whole expanded at an unprecedented rate. See Lorenz (1991) for an explanation for this dramatic decline.

In the Tyne and Wear region, for example, planning proposals just after the war were based on the assumption that the traditional industries in riverside areas (shipbuilding, heavy engineering and coal) would continue to provide the bulk of employment, and provisions for housing and infrastructure were made correspondingly (Norther Region Strategy Team Working Paper, 1976). By the late 1950s, with the decline in demand for coal and the beginnings of recession in shipbuilding, the incorrectness of this vision was recognised. Planning aims were correspondingly altered towards attracting new industries to the region. During the 1960s new manufacturing employment was primarily attributable to greenfield sites located in the outer belt surrounding the riverside towns. This new employment was largely in light manufacturing, particularly light electrical and mechanical engineering. The main employment gain for the region, though, was in the service sector (Northern Region Strategy Team Working Paper. 1976, pp. 21–23; 43–50; 72–73).

In this economic context the British shipbuilding industry began to experience the problem of a net loss of skilled labour. The primary cause appears to have been the pull or attraction of new sectors offering greater security of employment (Wilkinson, 1973, pt. 6). This view is supported by the fact that the largest net loss was among apprentices who normally were not laid off during periodic slumps. During the 1967–68 period alone the industry lost 10% of its skilled apprentices. In the case of first-year apprentices the figure was closer to 20%. As the 1968 Shipbuilding Industry Training Board (SITB) report noted, this was in 'marked contrast to the increase in the volume of training received' (SITB, 1968, pp. 6 and 13).

Due to these changed conditions of labour supply, British shipbuilders for the first time became concerned to offer their workers employment guarantees or attempted to internalise them. Such a policy, however, posed the problem of leaving specialised workers periodically idle. British builders adopted a strategy comparable to that used historically by their French counterparts: they attempted to widen the range of tasks a skilled worker would perform. This aim was clearly expressed in the 1962 proposals of the Shipbuilding Employers' Federation for increased flexibility and interchangeability among the trades.

> Flexibility . . . means that the workers in each group shall be versatile in their employment and shall in the course of their work carry out any work of the group to further their job, using the tools of the group as necessary to do so.
>
> Interchangeability . . . envisages the transfer of workers from one class of work to another class of work within the same group and between groups as may be necessary.
>
> In accordance with the broad principles of flexibility and interchangeability . . . workers shall carry out other work of the group . . . either to progress their own work, or to meet *shortages* of labor or to obviate temporary *unemployment* [emphasis added] (SRNA Archives, Federation Circulars, Oct. 1962).

The aim of greater labour flexibility was incorporated into the training recommendations of the SITB after its formation in 1965. The Board's recommendations called for an initial year of 'common basic' training in which all craft workers were given a basic appreciation of all phases of ship construction, both hull construction and outfitting (SITB, August 1972). For the hull construction trades, this initial year was to be followed by a further year in which a worker became fully versatile in all aspects of hull construction including welding, burning, caulking, assembling, drilling, and

loftwork. Only at this stage, after two years of general training, would a metal-using worker specialise in one of the three basic trade groups: caulker/burner/driller/riveter combined; plater/shipwright combined; or welder (SITB, August 1972, pp. 13–16).

British and French shipbuilders in common pursued strategies of workforce internalisation after the war. Yet the differences are equally apparent. In Britain, this strategy was associated with growing flexibility and interchangeability among skilled apprenticed workers, while the traditional 'horizontal' demarcations between skilled and unskilled were rigorously maintained. In France, divisions among workers tended to be 'vertical' in character, workers being tied to a yard and moving up vertical job ladders specific to the occupational group. Critical to this difference in employment policies and the division of labour were intercountry variations in industrial structure and in industrial relations.

2.2. The importance of industrial structure

The French and British shipbuilding industries were both traditionally fragmented, output being divided among a number of yards producing on a relatively small scale. Product mix was highly diversified, most vessels being bespoke. After the Second World War the volume of production of individual French yards increased rapidly. Average output per yard rose from 10·6 thousand tons in 1950 to 120 thousand in 1970. Yard output mix became more standardised (Buret, 1960, pp. 88–91; Chardonnet, 1971, pp. 410–411; Morreaux, 1978, pp. 90–95; *Nouveautés Techniques Maritimes*, 1964). In part these changes are to be attributed to wider international market changes, in particular the comparatively rapid and stable post-war expansion in world demand for ships and the increasing acceptance of standard vessels that came with the market success of Swedish and Japanese builders (Ollson, 1980; Parkinson, 1960, pp. 150, 182–183 and 215). However, the intervention of the State helps explain French builders' ready adaptation to these particular market opportunities.

State intervention in France took place in two stages. Immediately after the war the government provided credit for the reconstruction of war-damaged yards. The 1950 Loi Deferre then established a generous system of subsidies designed to bridge the gap between French and international prices. This assisted producers in securing the home market and gaining a foothold in the expanding international market. In the second stage of intervention starting in 1960, the State selectively withdrew subsidies from firms in an effort to force a series of mergers and closures. By 1968 the industry had been reduced from sixteen to eight fairly specialised yards (Chardonnet, 1971, pp. 417–444; Domenichino, 1991; Le Commisariat Général du Plan, 'La Construction Navale', 1971; Lorenz and Wilkinson, 1986).

The larger and more stable output levels of individual French yards and their greater product standardisation provided a firmer basis for continuously employing workers with specialised skills and led to greater intra-firm division of labour than in the past. These changes in technique encouraged a shift to flow line production methods for hull construction in substitution for traditional job-ship methods in which components were produced in the sheds and then assembled piece-by-piece at the berth. The result was a division of labour based more on location in the flow of

production than general type of activity or craft (CEGOS; Lorenz, 1991, ch. 4; Ravaille, 1964, pp. 192–211; and BETURE, 1978, pp. 64 and 8).

This change in job structure in turn facilitated the process of expanding the yards' workforce by drawing on agricultural labourers. These inexperienced workers could be integrated easily into production after receiving only narrow-based training while job vacancies higher up could be filled from within through the provision of additional on-the-job training. In short a job structure emerged suitable for the institution of internal labour markets based on workers' promotion.

The structure of the British shipbuilding industry in contrast to the French remained essentially unchanged until the end of the 1960s. Average output per yard increased only marginally, from 24·1 thousand tons in 1959 to 30·9 thousand in 1970. In most cases yard output was highly diversified, the large majority of contracts bespoke as in the past (Lorenz and Wilkinson, 1986; Parkinson, 1960, pp. 139–153; and *The Shipbuilding Inquiry Committee Report*, 1966, pp. 75–76). These distinctive market and structural characteristics clearly precluded the more specialised divisions of labour emerging at the time in French yards and fully justified British employers' emphasis on flexibility and interchangeability as a prerequisite for employment continuity.

State-led restructuring of the industry came at the end of the 1960s in response to the industry's declining competitive performance. Britain's share of world export markets fell from 35% in 1948–50 to 4·5% in 1960–65. Import penetration followed closely on the heels of the loss of export markets. The percentage of ships delivered to the UK fleet built abroad increased from about 20% in 1956–60 to 74% in 1966–70. To some extent the restructuring of the industry reduced employers' need for interchangeability. The government's 1966 *Shipyard Inquiry Committee Report* (Geddes Report) recommended a regrouping of firms to form larger regional consortia with an annual capacity ranging between 400,000 and 600,000 tons and comprising four to six specialised yards. The 1967 Shipbuilding Industry Act provided financial backing for the scheme (Hogwood, 1979, pp. 87–93). During the following three years a considerable regrouping took place, though somewhat below the committee's initial expectations.[1] In the case of the larger multi-yard firms this structural change did ease the process of providing employment guarantees. These larger firms were in a position to negotiate agreement with the unions for the transfer of specialised workers among the firm's various yards to meet supply bottlenecks. In effect, as firms grew in size they were more able to achieve individually what in the past had only been possible through the workings of regional craft labour markets.

2.3. The impact of trade unionism

In order to understand the differential impact of industrial relations on British and French shipbuilding it will be necessary to go beyond our preliminary observations about differences in the organisational strength of the unions in each country. The

[1] The Committee proposed the formation of one as opposed to two groups on the Wear and suggested that Vickers, which remained independent, be attached to the combined Tyne and Tees group. The Tyne and Tees group formed around Swan Hunter was the largest of the new firms, consisting of six shipyards and twelve repair facilities. Other large firms were created on the lower Clyde through the merger of Scotts and Lithgow, and on the upper Clyde through the merger of the principal yards to form Upper Cycle Shipbuilders. Booz-Allen and Hamilton Report (1973); and *Shipbuilding Inquiry Committee Report* (1966).

very logic of trade union action in Britain and France differed in significant respects that both make direct comparisons liable to mislead and help to explain the varying response of the unions to employers' post-war strategies. In Britain, as the discussion of pre-World War II development suggested, collective action centred around the efforts of occupational-based unions to limit access to jobs and control the content of jobs. These controls began in the labour market, with apprenticeship requirements restricting entry to the skilled trades, and extended into the labour process, with detailed jurisdictional controls or demarcations over the use of machines and types of materials. By means of such restrictions the unions aimed to improve their members' earning and working conditions and protect their job opportunities on a regional and national basis.[1]

In French shipbuilding, on the other hand, there is little evidence of occupational groups trying to control the content of their jobs and access to them. Union institutional controls at the yard level were comparatively weak, and in so far as action was taken at this level it tended to have a wider basis among the workforce, rather than being exclusive to a particular trade.[2] To some extent this contrast with Britain can be explained by differences in the structure of trade unionism in the two countries. Between 1909 and 1914 in France, a series of amalgamations among the various national craft unions organising the metalworking trades took place, resulting in the formation of a national industrial federation. Mergers among the local craft unions in Nantes and St. Nazaire resulted in the formation of separate metalworkers' unions, each affiliated to the national federation. Industrial unionism subsequently may have encouraged greater solidarity among the trades.[3] As F. Blanco, Secretary of the St. Nazaire Union of Metallurgists, noted in a retrospective *mémoire* describing trade unionism prior to the amalgamations, 'Without any solidarity among the trades because there did not exist among them a trade union link, instead of struggling together for common aims, the trades fought separately and only achieved, of course, a minimum of success' (*Le Travailleur de l'Ouest*, 8 July 1922).

Another factor explaining the different nature of trade union action in France was the considerable importance of State intervention in industrial relations, with laws and decrees regulating conditions normally subject to collective bargaining at the yard level in Britain. State intervention arguably encouraged the French unions to organise at higher levels than in Britain, so as to put strategic pressure on local and national state officials. This was to the detriment of strong yard-based institutional controls (Laroque, 1935; Reynaud, 1978, pp. 116–117; Sellier, 1961).

Given the different basis for union organisations in each country, it can well be appreciated that shipbuilding employers' post-World War II employment strategies generated a differential response from the unions. In France the main thrust was to organise around the new 'vertical' job promotion ladders to the workforce's advantage, rather than attempt to restrict management's ability to make the organisational

[1] For the wider importance of these forms of trade union action in Britain prior to the First World War, see Clegg, Fox and Thompson (1964).

[2] For similar comparative observations with respect to skilled workers in the engineering industry, see Eyraud (1981, pp. 195–215). Also see Dubois and Monjardet (1979); and Gallie (1978).

[3] One justification for this argument is straightforward. Occupational-based unions have an interest in reinforcing job demarcations in order to preserve their occupational base, while industrial unions have no need for such action.

changes. The unions negotiated agreements at the district level which aimed to improve and formalise the conditions for promotion by restricting management's ability to make use of external hiring. The 1955 collective agreement for St. Nazaire specified the following conditions.

> The employers will do their best to further the promotion of workers in the enterprise by assigning, in so far as possible, to members of the existing personnel the jobs available.
>
> To this effect, the workers will have the opportunity to demonstrate their qualifications for promotion to a vacant or newly created job or their transfer to another station. Their requests will be examined and a response will be given within a one month delay (Convention Collective de la Métallurgie de St. Nazaire, 1955, pp. 12–13).

A comparative agreement was negotiated for the Nantes district in 1957 (Convention Collective de Travail des Industries Mécaniques et Navales de Nantes, 1957). With the advent of enterprise bargaining in the region, following the events of 1968, agreements over promotion became progressively more elaborate and firm-specific in their details (Accord d'Enterprise, Archives des Chantiers Dubigeon-Normandie, 1976).

By pressing for improvements in classification, regardless of the actual job performed, the unions were able substantially to alter the classification hierarchy in the yards, progressively increasing the proportion of the workforce classified as fully skilled or P3. At the Chantiers Dubigeon-Normandie in Nantes, for example, the fraction classified as skilled increased from 63% in 1953 to 96% in 1976 (Archives des Chantier Dubigeon-Normandie, Nantes). These gains both undermined the promotion system by concentrating most workers in the top categories and inflated the firm's wage bill.

In Britain, on the other hand, it can be appreciated that employers' proposals for increased flexibility and interchangeability among the trades were highly controversial. Such strategies posed a fundamental challenge to the traditional basis of trade union organisation in the industry. Despite this, starting with the Fairfields yard on the Clyde, a series of productivity deals were negotiated providing for the relaxation of demarcation rules. Issues which in the past had been claimed as the unilateral prerogatives of both sides were placed on the bargaining table for negotiation (Wilkinson, 1973; Commission on Industrial Relation, 'Shipbuilding and Shiprepairing' 1971, pp. 219–237; Eldridge, 1968; Roberts, 1967; McGoldrick, 1983).

A number of historically specific factors help account for the development of productivity bargaining at this time. The severity of the economic crisis in British shipbuilding was certainly influential, with the closure or financial collapse of a number of major yards including Wm. Denny and Bros., Wm. Hamilton, and Fairfields. Most employers saw restrictive practices, limiting the ability of a worker to progress his work or to move temporarily outside his trade boundaries as important (if not the principle) causes of low labour productivity in British shipbuilding (Federation Circulars, Oct., 1962). This was an argument that found at least a degree of acceptance among the officials of the unions, who for the first time were willing to countenance productivity bargaining at the district and yard level (Wilkinson, 1973, part. 6; Lorenz, 1991, ch. 5).

Related to changes in the attitudes of the union officials were changes in trade union structure, which altered the occupational base of unions and so the boundaries they were committed to defend. The most significant structural change was the amalgamation of the Boilermakers', Shipwrights', and Blacksmiths' Societies, bringing together the large majority of the hull construction trades in one union, the Amalgamated Society of Boilermakers, Shipwrights, Blacksmiths, and Structural Workers. From the perspective of the defence of the A.S.B.'s occupational base, rigid demarcation lines between platers and shipwrights or welders and blacksmiths, for example, were no longer necessary. This helps to account for the National Executive's generally positive support for productivity agreements, in so far as relaxation was restricted to A.S.B. member trades (Wilkinson, 1973, part. 6, pp. 22–27). Of course, for the 'shop floor' and from the perspective of individual trades, the logic of job control as a strategy to protect future job opportunities remained intact. The successful negotiation of relaxation was at once both a question of internal union politics and dependent on individual employers being able to offer a quid pro quo.

The question of firms offering a quid pro quo brings us to a third point, the importance of the formation of regional multi-yard consortia during the second half of the 1960s and the greater ability of these large firms to offer employment guarantees in exchange for relaxation. During the 1960s, the casual nature of employment in the industry became a focal point of discontent among the workers. As the 1960s progressed, this increasingly resulted in the loss of skilled labour to other sectors offering greater security of employment. By operating inter-yard mobility agreements in conjunction with interchangeability among the trades, the multi-yard firms were in a position to offer a greater degree of security of employment than in the past. To this extent, the post-1965 yard amalgamations were a necessary economic condition for the negotiation of demarcation relaxation.

3. Conclusion

History points to something more nuanced than the mutability of society. Periods of relative stability in basic social arrangements tend to be punctuated by periods of more or less far-reaching change. Thus the basic features of the British craft system of shipyard labour management remained unchanged until the crisis of the 1960s engendered a process of institutional reform. In France, the period of rapid industrial growth following World War II was the context in which shipyard employers lessened their dependence on part-time agricultural workers and pursued a new policy of workforce internalisation. What follows are the elements of an institutional approach to this problem of societal stability and change consistent with the premise that what ultimately holds social arrangements together is human will.

The starting point for this discussion is the idea that institutions, defined as rules regulating human behaviour in particular recurrent situations, imply a particular distribution of property rights, where property rights are broadly defined as rights to the benefits of productive activity. This is true whether we are thinking of industrial relations institutions which regulate access to jobs and career chances, or administrative rules inside the firm which regulate decision-making power and hence control over profits, one step removed (Stinchcombe, 1986, ch. 11).

While it is plausible to argue that the actors making an institution will see their interests as partly conflicting because of the zero-sum properties of the distribution of benefits at a point in time, it can also be argued that they will see a reason for co-operating to increase the total available for future distribution. This nuanced conception of conflicting and mutual interests leads to an understanding of institutions as compromise or truce. The basis for compromise is that, though individuals or groups have an interest in shifting the distribution of property rights to their advantage, all prefer maintaining a basis for co-operation in institutions to none at all.

Thinking of institutions as truce helps explain why adaptations to changing conditions may not easily be made and why institutional arrangements can remain relatively fixed over periods of time. How do the individuals making up the institution understand proposals for adaptations? Are they efforts by one side to shift the distribution of property rights to their advantage? Or are they proposals for legitimate and mutually advantageous change? Given the less than complete information that usually characterises such bargaining situations, and given the possibility of opportunistic behaviour, it is not surprising that proposed changes, even apparently quite easy ones, often meet with strong resistance and arouse suspicion. The result is that existing institutions become rigid, simply because no one wants to risk the consequences of breaking the truce.

For these reasons, change in basic institutional arrangements may need exceptional circumstances which encourage the actors to re-examine their long-held convictions about each other and about states of the world. In the case of the firm it may require the threat of bankruptcy or closure, which is perceived as external to the organisation. For example, the competitive decline of British shipbuilding during the 1960s was the context in which the employers accepted a State-led restructuring plan and the unions agreed to management's demand for a negotiated relaxation of restrictive labour practices. Or it may require the entrepreneurial intervention of what Selznick (1957) has termed 'institutional leadership'. In France, the launching of the first and particularly the second economic plans by the 'modernisers' within the executive arguably played a key role in enabling employers to throw off their pessimism and make the investments that transformed shipbuilding and other industrial sectors.

Here, then, is a refinement of the justification for historical analysis present in the introduction of this paper. At key moments of institutional fluidity, the choices made by the actors and the compromises they arrive at, as well as chance events, can leave a decisive imprint. And the new institutional configurations may subsequently prove self-reinforcing for the reasons outlined above.[1] History cannot substitute for a general explanation. In a world of multiple possibilities it is an essential part of understanding why we do things the way we do.

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[1] This, of course, is much the same point made by the path dependency literature associated with David (1987) and Arthur (1989). Unlike the path dependency approach, the mechanism I identify here has nothing to do with technical scale economies.

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