Relations of production and exchange in the fishing and fish processing industries of North East Scotland.

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Relations of Production and Exchange in the Fishing and Fish Processing Industries of North East Scotland

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To Robina Helen Deas

While registered as a candidate for the degree of Doctor of Philosophy I have **not** been registered for another award of the C.N.A.A. or a University.

In partial fulfilment of the requirements of the degree of Ph.D. I have undertaken a programme of advanced studies which included attendance on post-graduate courses in economics and marketing at the School of Business Management Studies R.G.I.T. I also attended post-graduate seminars in the Department of Sociology, University of Aberdeen.

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Abstract

Relations of Production and Exchange in the Fishing and Fish Processing Industries of North East Scotland

by Barrie Deas

This thesis is an attempt to develop a socio-economic model of the fish catching, marketing and processing industries of north east Scotland. It does so with particular reference to the relations of production and exchange within the different sectors of the industry, notably; inshore, trawling, fishselling, large and small processing sectors.

Despite its relatively high level of technological development, the inshore fishery exhibits a pattern of property relations akin to peasant proprietorship in agriculture. These features are explained in terms of the theory of petty commodity production. The trawling industry with different historical origins and different relations of production are more amenable to explanations based on the concepts of wage labour and industrial capital. The convergence of these two sectors, particularly evident in the 1970s is explained in terms of merchant capital, and transitional forms. The changing role of the fishselling companies and the rise of fishermen's co-operatives are placed in this theoretical context.

Particular attention has been devoted to the white fish processing sector. The post-war development of this industry has defied the expectations of informed observers within the industry and academic commentators alike. The prevailing view has been that increasing capitalization and mechanization, associated with the spread of a factory system of organization would supercede hand technologies and small scale pattern of organization in a relatively smooth, linear, unidirectional process. An empirical examination of the industry showed that this has not been the case. The core labour process, filleting, is at best unevenly mechanized. This has many ramifications for the structure and operation of the industry.

Finally, the thesis examines to what extent it is useful to examine the technology and organization of the white fish processing sector in terms of the theory of combined and uneven development, particularly as elaborated by Raphael Samuel.

Abbreviations

A.F.C.M.A.	Aberdeen Fish Curers and Merchants' Association
A.F.V.O.A.	Aberdeen Fishing Vessel Owners Association
C.P.T.	Central Pay Table
D.A.F.S.	Department of Agriculture and Fisheries of Scotland
F.C.T.S.	Fishermen's Co-operative Trading (Scotland) Limited
F.E.O.G.A.	European Agricultural Guarantee and Guidance Fund (French Initials)
F.M.A.	Fishermen's Mutual Association
H.I.B.	Herring Industry Board
H.I.D.B.	Highlands and Islands Development Board
I.Q.F.	Individually Quick Frozen
M.A.F.F.	Ministry for Agriculture Fisheries and Food
N.E.A.F.C.	North East Atlantic Fisheries Convention
P.O.	Producer Organization
S.C.W.S.	Scottish Co-operative Wholesale Society
S.F.F.	Scottish Fishermen's Federation
S.F.F.C.	Scottish Federation of Fishermen's Co-operatives
S.F.O.	Scottish Fishermen's Organization
S.F.S.T.	Sea Fisheries Statistical Tables
S.S.F.S.T.	Scottish Sea Fisheries Statistical Tables
T.A.C.	Total Allowable Catch
W.F.A.	White Fish Authority

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CHAPTER I

1.1 Introduction

A number of features of the fishing and fish processing industries in the north east of Scotland strike the casual observer as idiosyncratic. The catching side of the industry for instance is divided in two. One sector is dominated by company fleet ownership, the other consists of a multitude of vessels owned to a considerable degree by the fishermen who work them.

The processing industry too, is divided into a few large branch factories of national food processors on the one side and a large number of small firms on the other. The former deal mainly with one group of species (pelagic) the latter with a different group (demersal). In between catchers and processors lie intermediary firms called fish-selling companies who 'manage' inshore vessels without owning them.

Surprisingly, no systematic attempt has been made to understand these forms of industrial organization, although a number of writers have described aspects of them in detail. The general purpose of this thesis is to provide an explanation of production and exchange relationships in the industry in the north east of Scotland as a whole. This involves seeking explanations of the central features of each sector - inshore, trawling, large processor, small processor and fish-selling companies, and an examination of how these sectors are related to each other.

It is important to examine the fishing and fish processing industries as a whole. To examine one aspect in isolation is to miss the way

that the links between the different sectors shape and change the internal organization of each sector. For example, to examine the role of the fish-selling company in isolation from the trawling, inshore and processing sectors would obscure some of the most significant developments in the industry in the post war period. Having said this, however, the attention of this thesis is not evenly distributed throughout the fishing and fish processing/ marketing industries as a whole. Greater attention has been given to the shore based companies involved in marketing and processing than the catching sector simply because previous empirical and secondary research has tended to be disproportionatly focused on the latter.

On the catching side, the thesis has been more concerned with the interpretation of the existing evidence, while on the processing side both an adequate description of the forms of organization and the location of this information within an adequate conceptual framework, has been the aim.

Even within the processing sector, however, the focus of the thesis has not been even. The large scale pelagic processing companies are open to explanation in terms of a number of existing theories of industrial organization. The predominantly small firm units in the white fish processing industry however, prove more problematic for much of the existing literature. The differences between the two sectors are marked.

In 1977 four companies, three in Fraserburgh and one in Aberdeen, employed around two thousand workers between them, this accounting

for approximately three quarters of the pelagic processing industry's work-force.[1] In comparison, the white fish catch even in 1981 is processed in over two hundred units, one hundred and sixty of them employing less than ten workers. White fish processing is mainly located in Aberdeen.

Throughout the post war period the pelagic processing industry has been concentrated to oligopoly level. Unilever, the Imperial Group, and Christian Salveson Limited own respectively; Macfisheries, D. A. Macrae Limited and Claben Limited and British Fish Canners Limited. The pelagic processing plants are thus branch factories of wider industrial concerns. By contrast, the ownership of the white fish processing industry is highly fragmented and predominantly locally based.

Significant differences also occur in the methods and organization of production. The pelagic processing sector is highly mechanized and with unskilled or semi-skilled machine operatives as the main category of employee. Capital intensive, mass production methods have created a deskilled work force. The white fish sector by comparison is relatively labour intensive, the work-force retaining handicraft skills associated with filleting.

The high degree of capitalization in the pelagic sector is reflected in modern freezing plant, thawing, grading, filleting, splitting and heading machinery. Considerable emphasis is put on product differentiation, particularly packaging and presentation. A high proportion of output is geared to export markets and distributed through subsiduary distribution companies.[2] One aspect of capitalization, the

introduction of freezing plant, has altered the pattern of work and recruitment in the industry over the last twenty years. Supplies are now regulated by holding them frozen, in cold storage. Consequently employment patterns have become more stable giving a basis on which trade unionism has developed. All of the major plants are now unionized.[3]

Most white fish is processed by hand and roughly two thirds is sold fresh as opposed to frozen. Product differentiation in terms of packaging and presentation, at least in the case of the fish which is sold fresh, is very limited. Individually, very few small white fish merchants own their own distribution transport relying either on sub-contracted haulage or a collectively organized distribution system. Finally, with the exception of a number of larger processors the white fish processing work force is not unionized.

While interesting in their own right, the pattern of ownership, methods of production, pattern of recruitment and industrial relations in the pelagic processing sector are not dissimilar to many other capital intensive, mass production industries in contemporary Britain. Consequently the pelagic processing industry may be explained by the extension of existing theories and existing descriptions of industrial organization. This is not to argue that the definitive work on industrial organization has been written, only to point out that there is enough similarity between the pelagic processing industry in the north east of Scotland and other types of large scale capital intensive production to consider it under the mainstream of existing literature.

The same, however, cannot be said of the structure and organization of

the white fish processing industry. To highlight exactly how this sector differs from much of the mainstream literature a brief review of that literature is necessary.

1.2 The Existing Literature

While this thesis presents a certain amount of empirical material, particularly on the processing side of the industry, it also involves a reinterpretation of the existing literature on both the catching and processing sectors. The aspects of the north east fishing industry which have been studied have, without exception, been dealt with in a descriptive mode. Consequently this work is shaped to a considerable degree by implicit assumptions which have determined the choice of what is and is not worth discussing. Many of these assumptions draw on an implicit model of the nature of industrialization and economic development.

Coull, for example, stresses that the fundamental difference between the trawling and inshore sectors is that of ownership.[4] His empiricist approach however prevents him from discerning why ownership should be a significant factor. Similarly, Sheves describes the features which differentiate the two sectors of the catching industry:

> "Trawler crews are paid a basic guaranteed wage, with an additional bonus (poundage) depending on the success of the voyage. Inshore fishermen have no guaranteed income but net receipts are shared in accordance with an agreed but unwritten formula.
>
> Similarly, in the inshore sector employment is casual with no signing on procedure, whereas each employee in the trawling sector is registered. Unionization is also a feature of the trawling industry but absent in the

inshore fleet. A further significant feature of the two sectors is their respective sources of labour."[5]

He goes on to indicate that while the inshore industry recruits its members through community links, the trawling industry is dependent on the formal labour market.

This is a useful description. Without an adequate conceptual framework however, such an approach cannot explain why there are such differences in the pattern of recruitment, remuneration and industrial relations between the two sectors.

The empiricist mode is also characteristic of the literature on the marketing and processing side of the industry. Descriptions of the landing, auction and resale of fish through the white fish distribution chain are not lacking (Taylor, 1960, Bowen 1961, Cutting 1961, Palfreman 1974 and Rosson 1975). Because these writers are primarily interested in the distribution network for white fish, their attention is for the most part, focused upon the exchange relationships within the industry, in particular between port merchants, inland wholesalers, retailers and customers. This is useful in so far as it goes. This thesis will argue, however, that if the structure and organization of the industry as a whole is to be understood then the analysis must be framed to include the relations of production on which the relations of exchange are based. The different forms which the relationship between capital and labour can take are, this thesis argues, fundamental to the overall structure of the industry and relationships between its parts. An analysis which remains at the level of exchange only, will not penetrate to the factors shaping the industry.

In the few examples where writers on the subject have moved from exchange to production relationships and examined the labour process, they have approached the issue with historically specific assumptions derived from a developmentalist model of the economy.

The whole tenor of R.A. Taylor's authoritative work, "The Economics of White Fish Distribution in Great Britain"[6] is that the major trends in the U.K. economy, the substitution of capital equipment for labour and of large scale for small scale productive units, will progress evenly through the whole of the fish processing industry. The labour intensive, small scale units which characterize the fresh fish processing units in Aberdeen but also Hull, Grimsby and Fleetwood are seen as essentially anachronistic. Even in 1960 this sector was believed to be on the brink of major changes of the kind which had already affected the frozen fish industry. This latter industry, Taylor indicated, was dominated by three organizations, Birds Eye - Macfisheries, Associated Fisheries and the Ross Group. These three organizations in 1956-57 accounted for 66% of the total of quick frozen fish in Britain.

Taylor was not alone, Coull in 1969 saw,

> "the most vigorous growth in processing and marketing has come from the bigger firms."[7]

and with a clear view of how the processing industry should develop, goes on to identify some of the factors blocking this progression:

> "a particular factor working against integration and rationalization is the variety of fish both in species and size which are landed in the north east of Scotland."[8]

Both Taylor's and Coull's work exhibit the effects of an implicit commitment to a particular model of economic development and industrial organization. Partly, this is due to the historical context in which they were writing. Rationalization as a concept and practice re-emerged during the 1950s and 1960s as the key to economic regeneration in the face of increasing international competition. The central elements of rationalization had emerged during the 1920s and 1930s in a similar wave of concentration and incorporation of ownership as the 50s and 60s. Reorganization of production, paralleled changes at company level, in an attempt to introduce economies of scale in production and marketing thereby reducing competition. The means to achieve these benefits were: Standardization of product, with long production runs, mass production, substitution of capital equipment for labour (particularly skilled labour). To control these enlarged units of production, bureaucratic forms of authority were introduced.

It is not surprising that Taylor and Coull should extend these ideas to the fish processing industry, after all, certain aspects of the food industry had proved amenable to mass production methods from the start of the twentieth century, noteably the meat, chocolate and tea industries.[9] Given the general trends within the British economy as a whole at the time such projections appeared quite logical.

The subsequent history of the white fish processing industry, however, contradicts the developments anticipated by Taylor and Coull. Indeed, in some cases from the perspective of a developmentalist model the organization and methods of production

in the white fish processing industry have during the late 1970s shown signs of regression, as the sector has de-mechanized and introduced smaller units of production.

The general point which I want to make in this part of the thesis is that the process of rationalization may not simply be assumed by an extension from the major trends within the economy. The process of development is best understood as an uneven process combining old and new methods of production as particular circumstances dictate. For this reason it is vital to understand the particular labour processes involved in any given industry and in this case the fish processing industry.

1.3 The Relevance of General Theories of Industry

1. The relationship between employer and employee based around the labour contract, which characterizes British Industry today, is absent in the Scottish inshore fishing industry. This fact excludes much of the existing literature of industrial organization from having any direct relevance.

However, another field of literature, that of peasant studies and rural sociology has been able to illuminate aspects of the organization of the fishing industry in ways which industrial theory cannot. In particular, the theory of petty commodity production derived from Marx's theory of capitalism and class society but adapted by subsequent theorists has proved a powerful conceptual tool for my purposes. Closely related to this theory the concepts of merchant and industrial capital and the relationship between them

further aids the understanding of the inshore and trawling industries and fish-selling intermediaries.

2. Much of the focus of the general literature on industrial organization is on the large corporation and branch factory. Given that production in this sector of the U.K. economy accounts for 62% of turnover, 64% of capital employed and 69% of profits this is quite reasonable.[10] It does mean however, that until relatively recently the small firm sector has been relatively neglected. The existing literature, while therefore, applicable to the large scale pelagic processing companies can shed little light on the small scale white fish sector.

3. Yet another area of literature which at first sight might appear to be a fruitful source of explanation of the white fish processing sector is that on 'middlemen', merchants or wholesalers. That this is not so is mainly due to the fact that 95% of the units in the sector are not merchants but processors. In other words they are small industrial capitalists not merchant capitalists. The confusion arises due to a colloquial misnomer. These small industrial concerns are widely known both inside and outside the industry as fishmerchants.

4. An area of the general industrial literature which can shed much light on the white fish processing industry is that on the small firm. This is an area with a rapidly burgeoning literature. Care must be taken however precisely because of the range of areas covered by the literature. In general terms where this literature is useful in the present study is throwing comparative light on:

(a) the economic areas which are condusive to the growth of small firms

(b) the identification of the types of sub-contractual relationship between corporate enterprises and the small firm supplier

(c) the different forms of origin of small businesses (e.g. skilled craftsmen branching out, family firms, or businesses built up rapidly with sale or merger in mind)

(d) the different birth and death rates in industries operating at different levels of technology.

Until recently however, the empirical studies on small firms have remained disparate, predominantly descriptive, with explanatory power restricted to specific industries and regions. A seminal work by Raphael Samuel working with historical material has moved some way towards a general conceptual framework of small scale labour intensive units of production. Workshop of the World: Steam Power and hand Technology in mid-Victorian Britain is a reinterpretation of the relationship of mechanization to hand skills and labour power. It is also an examination of the role of small firms in the process of 19th century industrialization.

The present study uses the framework developed by Samuel to highlight the specific ways in which white fish processing developed in response to wider national and international developments while retaining its handicraft character and small scale structure.

Notes - Chapter 1

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PART ONE

The Catching Sector

CHAPTER 2

The Inshore Industry as Petty Commodity Production

2.1 Introduction

The catching sector of the Scottish fishing industry may be divided into two distinct sectors; the inshore[1] industry and the trawling industry. Both of these are centred on the North east of Scotland, trawling at Aberdeen and inshore at Peterhead, Fraserburgh, Buckie, Lossiemouth, Macduff and several other smaller harbours.

The pattern of employment in the trawling industry is based on wage labour and, as such conforms to the dominant mode of industrial organization in Britain and indeed all contemporary capitalist societies.

However, the pattern of employment and industrial organization in the inshore fishing industry is significantly different in a number of ways. Firstly, it is based on share fishing, i.e. the crew of a vessel receives a pre-arranged proportion of the revenue after the catch has been marketed. There is no guaranteed wage. If there is no catch or if the catch is not enough to pay costs, the crew receives nothing. For the purposes of unemployment and social security benefits the share fisherman is regarded as being self-employed. Secondly, even today, a significant proportion of the vessels in the inshore fishing industry are owned by the crew or part of the crew that work them. Ownership of the vessel is customarily divided into sixteen or sixty-four shares. The crew receives an income in proportion to the number of shares he owns, after running expenses for the vessel have been deducted.

Thirdly, recruitment to the crews is based on kin or community grounds rather than through the formal labour market.

This chapter attempts to explain the rise and persistence of this distinctive form of production through the concept of petty (or simple) commodity production. Attention is focused on inshore fishing as a form of production or form of industrial organization rather than on the distinctive cultural forms associated with the people involved in inshore fishing in Scotland, e.g. religious commitments, dialect etc.. Although these cultural aspects are intimately bound up with the form of production they deserve attention in their own right. They will not be discussed here.

2.2 Simple or Petty Commodity Production

The concept of simple commodity production in Marxist literature has been viewed in two distinct ways. Either it has been used as a logical construct used to demonstrate theoretical distinctions between commodity production and specifically capitalist production or, it has been used as a framework to explain a range of social productive forms which have a very real historical existence. It is solely in this latter sense that I will use the concept in this paper.

Simple commodity production is defined by three fundamental characteristics.

1. The direct producer owns his means of production.
2. The direct producer has no direct (non market) access to his means of subsistence.
3. Simple Commodity Production is production for exchange (it therefore assumes a certain societal division of labour mediated through the market.)

In illuminating the nature of simple commodity production, it is useful to compare its central features with those of capitalist production. For Marx, the defining feature of capitalism is that it is a mode of production in which labour power is a generalised commodity. The propertyless labourer must sell his labour power in order to attain his means of subsistence, all other routes to his means of subsistence being blocked. He is a 'free wage labourer' in the sense that he is free to sell his labour power

(his capacity to labour) to any owner of capital who will employ him. It is with the wage earned by selling his labour power that the worker can buy his means of subsistence.

Simple commodity production, by contrast is characterised by a unity of capital and labour. The direct producer owns the means of production by which he transforms nature. This includes, of course, his tools and machinery and also his raw materials, that is, the materials transformed during production. In the case of the agricultural petty commodity producer, this means ownership of tools, seed, and, minimally, rent or lease of land. The consequence of this unity of capital and labour is that there is no compulsion on the petty commodity producer to sell his labour on the labour market. True, subsistence is attained only indirectly, but it is done by producing and exchanging the product of his own labour on the market rather than selling his capacity to labour to an employer for a wage.

Compulsion to produce for the petty commodity producer comes from his need for a range of use - values not met by his own product. (If he produced the whole range of his subsistence necessities he would be a subsistence peasant rather than a petty commodity producer). Through his relationship with other producers through the medium of the market he may attain the use - values not met by his own product. He can only do this of course if he has a product to exchange in the first place.

Compare this compulsion to produce with that on the capitalist. The capitalist must produce to expand his individual capital in successive rounds of capital accumulation. The aim is an expanded

capital rather than any particular use - values. The aim is accumulation to reinvest, not production to consume.

Empirically, it is not difficult to confuse a small capitalist enterprise (particularly if family labour is involved also) and a petty commodity producer. The criterion to bear in mind is not that of ownership of capital, important though that is, but that of wage labour.

> "The employment of machinery, the specialisation of production, competition in the market or the expansion of production while possibly contributing to social change do not in themselves alone signal the transformation of one form of production to another."[2]

Wage labour - its centrality or absence must be the criterion by which petty commodity production and capitalist production must be analytically distinguished. Access to means of production is however a pre-condition for petty commodity production.

2.3 From Subsistence to Market Production

To understand the inshore fishing industry as a social productive form based on petty commodity production, it is necessary to understand the historical circumstances out of which it arose. This history is skeletal rather than comprehensive as only those features relevant to the preoccupations of this thesis are discussed.

The emergence of distinct fishing communities on the North East coast is closely bound up in the agrarian class structure from 1600 onwards. With the dissolution of the 'classic' Scottish form of feudalism - ward-holding - a peasant society came into existence based on a purely economic relationship of inferior to superior.[3] Production was for subsistence with some artisanal production based on a low level of technology. Often the proceeds made from artisanal production went to pay off external commitments - notably rent to the laird.[4]

Peasants in the coastal areas eked out their subsistence by line fishing for white fish. It has been suggested that the not infrequent famines of the period acted as a stimulus to the development of fishing as a source of subsistence.[5] However, when dried, smoked or salted, white fish was an exchangeable commodity and could take the place of artisanal productions as a subsidiary source of revenue.

The specialisation of the fishing communities and their emergence as geographical and social entities can be separated into two sides of one historical process. Firstly, as the peasant/fishers

developed their fishing skills, production moved slowly from agriculture to fishing although some retained small plots of land for cultivation right into the nineteenth century.[6] Secondly, production for exchange was a steadily growing proportion of the weeks work. Markets were found in the farming hinterland and towns. There is also some evidence of regular though sporadically developing trade with the Firth of Forth, Ireland and the Continent.

While it is not possible to give a detailed account of the social organisation of labour in the fishing communities during this period, certain features are evident. Firstly, the fishers, like the peasant society from which they had, or were, emerging, were heavily dependent on family labour. Wives and children collected bait, usually mussels, baited the many hooks, helped launch boats, landed, divided, dried and sold the catch. The whole family was an integral part of the production process. Secondly, fishing was done on a cooperative basis with the crew as the unit of production.

The boats were in an important sense owned by the crew:

> 'Landlords might put money into provision of boats but they took a fixed rent in exchange, leaving the fishermen to operate as they wished. In any case, the crews put up all the money for their lines and most of the money for their boats and were in most important respects the owners of the boats they used. Within the crews they provided roughly equal amounts and took equal profit.

> A rough equality prevailed throughout the fishing community. Each man would in due course become the holder of a full share in a boat and each family would stand in near equality with its neighbours.'[7]

It was this relationship based around the crew, that formed the core of the social relations of production in the inshore fishing industry right into the twentieth century.

Herring fishing increasingly came to dominate the lives of the existing fishing communities from 1800 onwards. Anson claims that merchant adventurers from the Clyde provided the first outlet for cured herring but it seems clear that after the initial 'take-off' the middlemen organisation was increasingly dominated by the local men, often from the fishing communities themselves.[8] This middlemen organisation was crucial to the organisation of the work as a whole, (although it must be added, not to the organisation of work at sea, as the crews continued to control this sphere of production with little interference from the curer/middlemen). The logistics of the processing, curing, marketing and acquisition of credit for the whole operation, was the realm of the curer/middlemen. The very nature of such an enterprise necessitated the geographical concentration of landings and in the North and North East of Scotland, Wick and Fraserburgh and later Peterhead, Buckie and Aberdeen became centres of curing, coopering, marketing, etc.[9]

On the catching side, a characteristic pattern of market contract evolved between the curer and the crews of the boats. Each crew would be engaged for a season by a curer:

'By such an agreement the crew had to fish from a particular station and to pass all the herring caught - up to a limit of 200 or 250 crans to the one curer, being paid for each cran at a price agreed before the beginning of the season. If the limit was not reached within a strictly defined period, the agreement was annulled, but if it was passed before the end of the season the crew was then free to negotiate a new price, or to fish an open market.'[10]

Crucial to the focus of this paper, the boats and gear remained in the hands of the fishers.

'... each full time fisherman made some contribution to the boat in which he worked; no-one outside the boat had any permanent share in its ownership or its proceeds; the whole of the physical capital employed in fishing was owned by the working fishermen themselves; and each boat was worked as a completely separate unit.'[11]

By 1870, 30,000 fishermen and approximately the same number of shoreworkers involved in gutting, curing, packing and marketing, derived their living from the herring fishing on the east coast of Scotland. By this time, the fishers were increasingly following the migratory herring shoals around the east coast, e.g. a typical pattern for a boat from Gamrie, was: Shetland or Caithness in spring; Moray Firth, Fraserburgh in summer, down to East Anglia in autumn and early winter.[12] The women from the fishing communities migrated also to provide the labour force to gut, cure and pack the fish landed.

The new pattern of fishing necessitated new and larger boats. The average keel length grew from around 25 feet in 1800 to the Zulu of the latter period of the nineteenth century with a keel length of 60 feet. The Zulu was decked and latterly used a steam capstan for hauling its nets. This development of the means of fishing was capital intensive in the sense that the usual crew of a Zulu was seven, only one more than the earlier sail drifters.

The emergence of industrial capital as an organising force in the industry, changed the fishing communities in many ways. For instance, it sounded the death knell for domestic labour as practised in the peasant or quasi-peasant fishing communities before the fishing boom. From now on, women in the fishing where herring was landed, were organised as free wage labourers, gutting, and curing fish for wages. Production was increasingly for new and distant markets, notably Northern Europe, especially Russia and Germany - a far cry from the fisherwoman selling fish from a creel on her back to the local agricultural populance or local towns.

Despite these enormous changes and the vast increase in the scale of operations, when looking at the organisation of work in the catching side of the industry after 1800, it is best seen as a quantitative rather than a qualitative change. The crew members still owned their boats. The more lucrative herring fishing provided a certain amount of savings out of which the larger and more efficient means of production could be paid for. But despite

the introduction of these new methods and means of production, the herring fishing developed within the existing organisation of work. The one important qualitative change that did come with the rise of the herring fishing was the banishment of the residual subsistence element in fishing. The separation of the fishers from the land had been taking place over the previous two centuries at least, as they produced more for local and foreign markets. As each fishing community along the east coast was incorporated into the herring fisheries, their dependence on the market was completed.

The history of the fishing industry in the North East in the early years of the twentieth century is the story of the relative and absolute decline of the herring fishing. It is also the story of the rise of the trawling industry which first began operations out of Aberdeen in 1882.[13]

The supersession of the Zulu and Fifie boats around the first years of the twentieth century by the steam drifter was to prove a challenge to the traditional patterns of ownership and control. The high initial outlay on the steam drifter meant that, more than ever, a social division grew up between those fishermen who could afford a share in the new means of fishing and those who could not.[14] This threatened to undermine the traditional form of work/ownership relationship, but was curtailed by later developments and the eventual demise of the steam drifters.

The era of the steam drifter was characterized by increasing debt

and social polarisation within the fishing communities brought about by the increased capitalization of the industry and the loss of markets. The loss of the vital Northern European markets came about in the 1914-17 war following the post revolution upheavals in Russia and the dislocation of war in Germany. After the war, depression, coal strikes and failing markets hit the industry extremely hard. Earnings from fishing often did not cover the higher costs involved and great poverty was seen in most fishing communities.

Although there was considerable migration from the fishing villages to urban centres in search of work (notably to the trawling industry in Aberdeen)[15] there was also a determination on the part of the fisher-owners to maintain their distinctive mode of existence:

> "The wage hand could drift to other work ..... but the men with an investment in boat and gear had a deeper compulsion to struggle to the end."[16]

Paradoxically, the survival of share fishing and crew ownership in the inshore industry was dependent on a reversion to white fishing. The seine net method originally a Danish concept was adopted by Lossiemouth fishermen in the 1920s. This form of fishing could be executed by relatively small vessels initially powered by paraffin, then diesel engines. Once again, fishermen by pooling their resources, could purchase their means of production. These vessels had the added advantage of versatility, being capable of conversion to participate in the summer herring season as well as white fishing during the remainder of the year.

The modern seine net and seiner-trawler fleet of the inshore industry are in direct line of descent from these proto-type seine net vessels of the 1920s. Rapid technological development post World War II has made parts of the inshore fleet of North east Scotland the most sophisticated fish catching machines in the North Atlantic, but the essential method of fishing and design of vessel is recognisably similar.

In summary, the elements of the complex and multi-faceted history of the inshore fishing industry which have been highlighted are:

1. The specialization of the fishing communities.
2. Associated with this, the seperation of the fisher/peasants from the land.
3. The progressive banishment of production directly for subsistence as;
4. Production for the market in white fish and finally herring came to dominate.
5. Throughout the great herring era into the epoch of the seine net, technological development took place within the existing relations of production.

2.4 Simple Commodity Production and the Inshore Fishing Industry

Having given an outline history of the inshore fishing industry, it is now apposite to look at some of the theoretical considerations mentioned earlier, namely, how far can the inshore industry be characterised as simple commodity production and how far does this concept help to explain its particular socio-economic characteristics.

Historical reality rarely falls neatly into the categories with which we try to understand the social world. Crew ownership of the means of production is one of these complexities. The usual simple commodity producer is normally seen as an artisan or agriculturalist working with tools and land etc. owned by himself. The balance of ownership within the crew of a fishing boat is problematic, varying regionally and through time. However, because the crew is the unit which owns the means of production, it seems reasonable to draw a direct parallel between the individual direct producer and the crew as a unit of producers. The fundamental point is that share fishing, where the crews own their own means of production, does not centrally involve wage labour. This is not to argue that there was no wage labour involved in herring fishing. West Coast and Highland men migrated seasonally to work as wage labourers on the boats. This was a vital component of the Highland economy in the nineteenth century.[17] But wage labour never became the dominant pattern of production and renumeration. It was used to supplement a crew of petty commodity producers on a seasonal basis in a way that a peasant agriculturalist might hire temporary labour for the harvest. Similarly, the engineer and fisherman, during the era of the steam drifter were typically paid wages rather than shares and rarely had a share in the ownership of the boat. But this was peripheral to the East Coast fishers mode of industrial organisation. Whenever possible the crews tended to be

slimmed down to the owner-fishers.

As was outlined earlier, the development of production for the market in the fishing communities had been developing for a considerable period of time before the rise of the herring fisheries. The herring however, can be seen as the era when production directly for subsistence ceased to play any significant role in the fishers' lives. From the middle of the nineteenth century and in some cases much earlier, production has been dominated by exchange as the fishers ceased to have any non-market access to their means of subsistence. The next point follows directly on from this. It is that lacking any direct (non-market) access to their means of subsistence, the crew must sell their product on the market. To acquire the range of commodities necessary to exist within their culture they must exchange their fish for money with which to buy these goods.

The market does not distinguish between commodities produced under capitalism and under simple commodity production. This enables us to understand how the inshore fishing industry could become integrated into a division of labour which was based primarily on capitalist relations of production. This social division of labour could absorb any form of production which produced for the market without substantially altering the relations of production <u>within</u> that productive form. The fact that the inshore fishers are independent producers rather than wage earners is of no significance to the <u>relations of exchange</u> on the market.

The ease of this integration into a social formation dominated by capitalism may be usefully contrasted with attempts at developing a

fishing industry on the west coast in the early nineteenth century, where a subsistence peasant economy persisted. Here it was recognised early on that the existing social relations of production would have to be destroyed if capitalism was to gain a toe-hold.

> '... employment was to be productive, either in industry or fishing. This involved a complete change in the organisation of Highland society, for the people were mainly self supporting and each family cultivated its own land, caught its own fish, spun its own yarn and made its own clothes. Little time was reserved for producing articles for sale. Development was therefore to be based on the building of villages in which the Highlander should live, and while they should all occupy small crofts, each must have a trade - fishing, curing, making shoes or doing carpentry. For these jobs they would be paid by their fellow villagers and when they had begun to specialise in their own crafts, merchants from the south would come to buy fish and other local produce. The essence of this scheme, then, was to collect the population in large villages in order to practise a division of labour.'[18]

Here we can see a conscious attempt by the British Fisheries Society to destroy a subsistence peasant economy and replace it with commodity production, initially simple commodity production. The introduction of merchant capital from the south would then open up the possibility of the rapid emergence of capitalist social relations of production. The east coast fishers, on the other hand, had no access to their means of subsistence other than through the market,

as they had been separated from the land to a large extent before the nineteenth century. Their form of production therefore, provided no obstacles to integration into a division of labour primarily based on capitalist social relations.

On all the criteria then, unity of capital and labour, attainment of use values indirectly through market exchange and absense of wage labour - the inshore fishing industry conforms to the theoretical concept of simple commodity production. All this however, does not explain what particular circumstances allowed simple commodity production to develop in this sphere of production.

To explain why petty commodity rather than capitalist relations of production should arise and persist in this sphere of the economy we must first look at the means of production in some detail.

Within the means of production, two elements can be distinguished: objects of labour and means of labour. The former are the producers' raw materials, the latter are the tools or implements with which he transform nature. In all hitherto existing class societies the control of one or other of these elements by a ruling class has been the basis for the extraction of surplus labour from a subordinate class. In feudalism it was one of the crucial objects of labour - land - that was monopolised. Under capitalism all significant elements of the objects and means of labour are owned by the ruling class.

> 'Wherever natural forces can be monopolised, and guarantee a surplus profit to the industrial capitalist using them, be it waterfalls, rich mines, waters teeming

with fish, or a favourably located building site, there the person who, by virtue of title to a portion of the globe has become the proprietor of these natural objects, will invest the surplus profit from functioning capital in the form of rent.'[19] (My emphasis).

In the case of the Scottish fishing industry, it is the fish that are the objects of labour transformed (albeit at a simple level) during production. Historically fish have been seen as a 'common property resource' and exempt from the rights of private property. This was a reflection of the relative inaccessability of most species of fish due to their natural habitat. Fish have proved to be one natural force exceedingly difficult to monopolise. Only the late twentieth century has provided the technological means to practically police large sea areas. Even now only nation states can muster the types and scale of resources necessary for this effort. The depletion of fish stocks due to over-fishing and the technological ability to monopolise sea areas up to 200 miles from their coasts provides the background to the politics of fish since the second world war.

Lacking the capacity to monopolise the objects of labour ruling class control of the fishing industry has, historically been based on the following,

1. The inherent limitations placed on unfree labour in the medieval period. Fishing was often physically prevented, as by providing an alternative means of subsistence, it could threaten the existing relationship between superior and inferior.[20]
2. A monopoly of market outlets by landlords or merchant capital. This is clearly demonstrated in the example

of the Shetland Haf Fishery where the total domination of all other significant aspects of the crofters' lives - land tenure, supplies from the mainland etc. - ensured the cooperation of the populace in fishing. The sole 'market' outlet for the fish was the same landlord or latterly, landowning merchant.[21]

3. Ownership of the means of labour, (boats and equipment). This will be discussed in the following section.

Thus while historically surplus labour has been extracted directly from the fishers in various parts of Scotland and the islands, this has been on the basis of means other than monopolisation of the objects of labour.

The North East fishers having broken with the land either before or during the herring era, were free from domination by landlord as well as industrial capital. The merchant / curer initially seemed likely to develop an exploitative relationship with the fishers (as they did on parts of the West Coast).[22] On the whole, however, the fishers remained independent in terms of ownership of boat and gear except in periods of poor catches when, temporarily, they fell into debt. Market relationships between fishermen and merchant were, for the most part, limited to an exchange of the products of labour rather than labour itself.

This leaves the means of labour to be considered. The most significant element in the means of labour for the fisherman was, of course, the boat. There are examples of lairds providing boats for fishers,[23] taking a straight rent in return, but often crews could provide a boat out of their shared resources and, initially anyway, their other

means of labour could be provided from their subsistence plots.[24] Later, in the herring fishing the fishermen had cash resources to buy their means of labour.

So we can see here that a coallescence of historical circumstances let the fishing crews have access to their means of production and hence let simple commodity production develop rather than capitalist production. Where one of the elements of the means of production was outwith the fishermens' capacity to acquire, capitalist production was dominant. We can see this clearly with the trawling industry based in Aberdeen. Here the initial capital costs and running costs were outwith the pockets of the inshore fishers. From the beginning, the trawling industry was organised on capitalist lines. It was Aberdeen businessmen who put up the money for the first steam trawler, in 1882. The industry has been dominated by company ownership ever since. Despite the importance of bonus in their renumeration, trawlermen have always been wage earners and are apart from the skippers and mates who have their own association, organised in the T.G.W.U.

2.5 Transitional Forms

Marx characterised all forms of simple commodity production as transitional forms. What is meant by this is not that such productive forms would inevitably pass out of existence in a mechanistic manner, but that,

> 'What determines that these forms are transitional is that they allow for a more or less direct transition to formally capitalist class relations under the pressures of production for the market.'[25]

In transitional forms there is an inherent instability which may or may not lead to the development of capitalist social relations depending on historical circumstances. But there are no fundamental barriers to the transformation of social relationships from roughly equal direct producers to those of employer and employee. Empirically, debt is a symptom of a decaying petty commodity economy, as producers try to hold onto their productive property with associated status in the community for as long as possible.

In the early years of the twentieth century and also in the contemporary period, it is possible to identify the emergence of developments which threaten the simple commodity form of the inshore industry. Both show the necessarily transitional form of petty commodity production in the industry.

The displacement of the Zulu and Fifie type of sailing craft by the steam drifter after 1900 was the first of these developments. The cost of a Zulu with gear was around £600, the cost of a drifter with gear was around £3,000. This considerable difference plus the much higher running costs of the latter was the basis of an increasing

social differentiation which was noted within the fishing communities at this time.[26] The higher costs of buying and running a steam drifter meant that many fishers could not afford any part in the ownership of the boat. For the first time, wage labour took a central role in the pattern of industrial organisation of the inshore industry.[27] Even those fishers who could muster the financial resources to buy a share in a steam trawler were forced to take on financial partners who did not work on the boat. These partners were generally from the world of finance and business. From this point it is only a short step to a boat wholly owned by a company, crewed wholly by wage labourers. The sum of these developments was the growing exclusion of many fishers from their means of production and the dependence of many of the rest of the fishermen on capital from outside their community. Although it seemed to observers at the time[28] that the demise of the petty commodity form of the industry was at hand, the transition to capitalist/class relations was blocked for specific reasons.

Firstly, as has been observed empirically and as one would expect from the theory of simple commodity production, the direct producer under simple commodity production will accept, 'extreme increases in the rate of absolute surplus value,'[29] in order to hold on to his productive property. In other words the fisher will work harder for longer in order to hold on to his property in boat or gear. (See page 25).

Secondly, the rise of seine netting in the 1920s reduced the

capital threshold, again allowing large numbers of share fishermen access to their means of production. As this gradually became more widespread before but particularly after the Second World War, deck crew had increased chances of becoming owner-fishermen. Numbers of wage labouring skippers who had drifted from the herring industry to the trawling industry during the 1930s also purchased seine net vessels in partnerships.

Finally, the government loans and grants schemes operated through the White Fish Authority and Herring Industry Board meant that fishermen who could accumulate relatively small parcels of capital could purchase modern vessels and advanced equipment.

The rapid technological development of the inshore fleet in the 1970s has been the basis of a more rigid social differentiation between owners and non-owners within the fishing communities. In many ways this social differentiation of the late 1970s parallels the move from sail powered boats to steam drifters in the period 1900-1930.

A further parallel is the dependence of many vessels in the contemporary inshore fleet on outside capital. The role of the State finance has already been mentioned but equally important is private capital, particularly that of the fish-selling companies. Chapter four discusses the critical role of these companies.

In summary, the theory of petty commodity production is a useful way to understand the pattern of property relations, recruitment

and remuneration in the inshore industry. Like any conceptual framework it highlights certain characteristics while relegating others to the shadows. The balance between owner-fishers, wage labourers and outside capital in the inshore fleet is an empirical question which cannot be answered here. The theory of petty commodity production does however illuminate the direction in which social change within the industry is likely to take. The form that these changes have and are taking are discussed in chapters three and four.

Chapter Two - Notes

1. Paradoxically, the term 'inshore' does not necessarily mean that operating distance from the shore is the main criteria involved in distinguishing this type of fishing from others. One criterion often used is that the boats of the inshore fleet are under 80 feet in length. But, in reality, 'inshore' denotes a complex of technical and socio-economic characteristics which separate this form of fishing from others such as near or middle distance trawling or distant water trawling. Size of boat, methods used, mode of recruitment and, crucially, pattern of ownership are some of the features which identify this type of fishing as 'inshore' fishing.
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25. Brenner, Robert. A Critique of Neo Smithian Marxism. pp. 52. New Left Review, 104. 1978.

26. Duncan, Joe. ibid., pp. 629.

27. Duncan, Joe. ibid., pp. 829.

28. Duncan, Joe. ibid., pp. 833.

29. Brenner, Robert. ibid., pp. 52.

CHAPTER 3

The Trawling Industry: Production based on Wage Labour

3.1 In chapter two it was found to be useful to understand the central features of the inshore industry as aspects of a transitional form, namely petty commodity production. The forms of organization in evidence in the trawling industry are based around a different relationship between the direct producer and his means of production. This relationship, that of wage labour to capital, has been the focus of much attention from Adam Smith onwards. The trawling industry therefore fits existing concepts of industrial organization much closer than the inshore industry.

The purpose of this chapter is to show how the unity of capital and labour which characterized much of the history of the inshore industry was broken in the case of the trawling industry and how this has shaped the internal organization of the trawling industry. In doing this the chapter is preparing the ground for an explanation of the relationship between the trawling industry, the inshore industry and the marketing sector, a relationship which during the 1970s has been undergoing fundamental change.

3.2 Entrepreneurial Origins - The Combination of Means of Production and Wage Labour

As was explained in chapter two both the initial capital requirement and subsequent running costs of trawling put this method of fishing beyond the resources of the inshore fishers of North east Scotland. The first steam trawler to operate out of Aberdeen was the Toiler, a converted steam tug, owned by a consortium of Aberdeen businessmen. Beginning her career in 1882:

> "Most of the proprietors were without personal knowledge of the trawling industry, being business-men who had ventured on the enterprise as a trading adventure."[1]

They included a ships chandler, a metal merchant and an auctioneer.[2]

The new industry expanded rapidly. By the end of 1883 fifteen trawlers were operating out of Aberdeen and landings were supplemented by English registered trawlers who had begun operations at North Shields in 1877 and Scarborough in 1880.[3] The first expansion of the trawling industry was fueled by entrepreneurs, risking their capital in an unproven industry. Their lack of knowledge on the practicalities of trawling left opportunities for English trawlowners to become involved in the Aberdeen industry.[4] (See Table 1)

By 1910 the Aberdeen fleet had grown to 217 steam trawlers and 53 steam liners.[5] The entrepreneurial origins of the industry were reflected in the pattern of ownership, with a proliferation

Table 1

Steam Trawlers landing Fish at Aberdeen		
	English	Scottish (including Aberdeen)
1885	29	18
1886	29	13
1887	38	10
1888	42	18
1889	53	20
1890	47	31
1891	58	37
1892	73	47
	Source Whinnyfold pp. 66	

of small firms owning less than five boats.[6]

From its genesis the trawling industry was characterized by a separation between capital and labour, between those who owned the vessels and gear and those who crewed them. It is this feature rather than mode of fishing, location of fishing ground or species caught that distinguished the trawling from the inshore industry.

3.3 White Fishers: From Petty Commodity Production to Wage Labour

The size of the capital needed to purchase and operate a trawler was central to the exclusion of inshore fishermen from this method of fishing as owners. However large numbers of white fishermen were drawn to work in the Aberdeen trawling industry as wage labourers, as their form of production was undermined by the revolutionary new methods of fishing. This migration depopulated scores of villages along the north east coast.

White fishing had previously been carried out from every possible creek around the north east coast by petty commodity producers. The fish was caught by small and great line and sold fresh and smoked to the agricultural hinterland. The massively increased landings from the new trawling industry saturated this market with cheaper and often superior white fish.[9] (See Table 2)

The earliest trawlers were crewed mainly by English fishermen:

> "When the industry was established none of the local fishermen were then skilled in the methods of trawling; in fact they were hostile to its introduction. Fishermen from the various trawling centres in England, therefore, found a new field of employment. They then came to Aberdeen in considerable numbers and settled there. This influx of population has, no doubt, been one of the influences at work at bringing about the great expansion of the Granite City, especially on the south side of the River Dee."[8]

The traditional line fishers over these years were fighting a

Table 2

White Fish Landings at Aberdeen 1885 - 1892	
1885	70,741 cwts.
1886	93,976 cwts.
1887	127,718 cwts.
1888	126,455 cwts.
1889	137,193 cwts.
1890	172,175 cwts.
1891	198,988 cwts.
1892	245,684 cwts.
	Source Whinnyfold pp. 68

bitter rearguard action against the new methods and in defence of their form of production. This defence took several forms; from mass meetings, lobbying of government to stoning trawlers.[9] Much of their effort however was centred on proving the erroneous belief that trawling destroyed fish spawn.

> "Any reasonable man would say that all spawn goes to the bottom and lies there till it comes to maturity."
>
> "I count the trawl an infernal machine for stealing lines, small fish and spawn and tearing up the bottom."[10]

A government commission was set up in 1883, reporting in 1885. Its enquiries into the effects of trawling recommended the closing off of certain sea areas (notably the Moray Firth) to trawlers, but did nothing to hinder the general development of the new industry.[11]

Throughout this period trawlowners found it impossible to recruit the desired numbers of Scottish fishermen to crew the trawlers because of:

> "The essentially Scotch difficulty that fishermen were not willing to sail on any vessel of which they were not the owners."[12]

By the beginning of the 1890s however the combination of a saturated local market and growing employment opportunities in Aberdeen made the transition from the old form of production to trawling seem increasingly inevitable. Only those fishermen with shares in a herring boat or prospects of an inheritance of a

share could continue as petty commodity producers.

While Aberdeen had started out as one of a number of Scottish trawling ports, by the early 1890s its proximity to the fishing grounds, its supply and marketing ancilliaries but above all its rail links had made it undisputed white fish landing port in Scotland. Not only was trawling concentrated on Aberdeen but white fishing per se also.

While relatively few fishermen had broken ranks and migrated to work in the new trawling industry before 1890, once the new regime was seen as inevitable, the tempo of migration and consequently the move from petty commodity production to wage labour increased. From the 1870s the population of Aberdeen had been swollen by herring and white fishing:

> "With the rise of the herring and white fishing industries in the last thirty years of the century, there was a new wave of migration resulting in a decennial increase of almost 20%."[13]

Most of the fish labouring population was concentrated on Torry.

> "Between 1881 and 1891 the population of Torry increased from 1,117 to 2,933. Between 1891 and 1901 it increased to 9,386."[14]

Most of the initial wave were east coast English trawlermen and their families but the subsequent waves were drawn from the fishing villages.

> "The influx of fishermen from the coastal villages

both before and after the rise of trawling is evidenced by many of the surnames - Buthlay, Caie, Shand, Baxter, Craig, Robertson, Bruce are all names of north eastern origin."[15]

What this migration means for thousands of inshore white fishers was that their days as "peasant proprietors of the sea"[16] were over. From then on they would be bound to production by the cash nexus and the labour market. Although most of them found work in the trawling industry the years 1880-1900 were a period of general expansion of industry and population in the city of Aberdeen. Granite, papermaking, textiles all competed for their labour. Other workers expelled from an increasingly capitalized capitalist agriculture sector competed for available jobs. The net result was that the fishermen became part of an urban working class working in an industry shaped by the relationship between capital and labour.

3.4 Capital and Ownership

The origin of the trawling industry in 'venture' capital and wage labour has been described above. Here it is appropriate to discuss how the relations of production in the trawling industry have shaped its internal organization, in this way highlighting the differences between the development of the trawling and inshore industries.

A tendency long observed in industries and economies based on wage labour is a long term movement towards concentration and incorporation.[17] Recent empirical research, specifically on the Scottish economy has strengthened the view that in all of the main industrial sectors there has been a general move towards oligopoly and monopoly from entrepreneurial or family origins.[18]

In the Scottish (in effect Aberdeen) trawling industry the pattern of ownership seems to indicate that after an initial concentration of ownership in the hands of the first innovators and their colleagues, the spread of ownership widened. This was particularly the case after 1900. Gray notes the growing significance of limited liability companies:

> "By 1913" he states, "just under half of the fleet can be found in company ownership."[19]

This pattern, with a fairly wide spread of ownership proved very resilient towards the general tendency towards concentration. In 1951 there were still over 105 trawling companies operating out of Aberdeen and 67 of these only operated one vessel.[20]

Table 3 illustrates this relatively diffuse pattern of ownership.

The post-war period however saw a rapid quickening of concentration of ownership and by 1976 the seven largest fishing groups owned 80% of the Aberdeen Trawler fleet.[21]

Even at its most diffuse however the pattern of ownership exhibited a clear break between those who owned the boats and those who crewed them. In the early days:

> "Some skippers obtained an owner's share as the price of their services and a very few eventually became owners of the vessels in which they sailed; but in the main the trawling fleet was owned by landsmen."[22]

Even by 1913 Gray can discern only five skipper owners in the Aberdeen fleet although some others were involved in, "some form of direct participative share along with share owners."[23]

Horizontal integration, as we have seen, quickened in tempo after 1945 as rising costs and reduced profitability forced obsolete trawlers out of operation. (See Table 4) As the technology of fish production became more sophisticated the catching power of the fleet increased although the number of vessels decreased. The obsolescence of many pre-war trawlers in the fleet and increasingly pressurized fish stock reduced many of the smaller operators' capacity to survive.

Table 3

Ownership of Aberdeen Trawlers (1951)

Concerns Owning	No. of Concerns	No. of Trawlers
10 vessels or more	2	27
from 5 to 9 vessels	4	25
4 vessels	4	16
3 vessels	7	21
2 vessels	21	42
1 vessel	67	67
Totals	105	198

Source: Adapted from Scottish Council (Development and Industry) 1951

Table 4

"Big Seven" Trawling Companies in Aberdeen - 1980	
Company	Location
John Wood Group	Aberdeen
J. Marr	National
George Craig & Sons	Aberdeen
George Wood	Aberdeen
British United Trawlers	National
Richard Irvin and Sons	National
Bruce Wood	Aberdeen

When we turn to the question of vertical integration one very striking feature is evident. While from an early date there have been strong linkages between trawling companies and their suppliers, historically very few trawling companies have had substantial interests on the processing side of the industry. The quayside represents (both historically and today) a definite break in the pattern of ownership in the industry.

Ancilliary industries such as ice manufacture, net making, fuel supply, marine engineering and chandlry tended to have close ownership links with the trawl companies.[24] While in the Hull fishing industry this took the form of trawlowners cooperatives, in Aberdeen a complex system of interlocking directorships developed.[25] As the horizontal integration of the industry proceeded in the post-war period, however, direct ownership of subsidiaries has tended to replace interlocking directoships as the main form of control, particularly in marine engineering. The tightly interlocking interests between the trawling companies and their suppliers has often meant that trawling companies have been run at a loss while overall group operations were profitable. Vertical integration between trawling supply and particularly marine engineering has therefore been a long established feature of the organization of the Aberdeen trawling industry.

3.5 The features of industrial organization based on wage labour and capital are those associated with, depending within which theoretical framework one is operating, modern industrial society or capitalist society. The most crucial of these features are the concentration of the means of production in a few hands, a market in labour as well as the whole range of other commodities produced in that society, and some form of combination of wage earners to alter their conditions of employment - generally trade unions. The conditions of existence for these features lie in the conditions of existence of wage labour itself. These, in summary are:

1) the direct producer is dependent on the wage as his or her main or only source of income
2) the direct producer owns no productive property other than his or her labour power
3) consequently, the direct producer must sell his or her labour power for wages in order to subsist
4) the product of this labour is owned by the buyer of labour power as are the means of production

I have shown that these conditions, although absent in the inshore industry were present from the very origins of the trawling industry. In theoretical terms, therefore, the concentration of capital, recruitment to the industry through the labour market and the rise of a trade union organization may be anticipated before we turn to the empirical evidence.

The forms of organization of labour generally associated with production based on wage labour emerged very soon after trawling became established. The trawlermen who had previously been petty

commodity line fishers had no experience of trade union organization nor indeed of employers or employment in any regular sense. From petty commodity producers selling the product of their own labour they became proletarians selling only their labour.

> "Most of them became wage earners, paid largely on a time basis with a very small addition related to the size of the catch. At first these wages were the subject of individual bargaining between particular owners and their crews, but by the 1890's crew members were acting to obtain a general wage agreement."[26]

In doing so the trawlermen were reacting to their new class position as employees. Although a threat to strike was recorded in 1903, deck-hands found it difficult to form a permanent association.[27] By this time however, the trawler engineers were already unionized.

A much more rigid hierarchy of control existed in the trawling industry than the inshore industry reflecting the different patterns of ownership in the two sectors. While deck-hands were hired for one trip only the skippers and mates had:

> "a much more permanent involvement in the operation of one boat, with a critical interest in the size of the catch and with a standard of earnings well above that of the deck-hands. Their reward was a share in the profits of each particular voyage."[28]

Incentives for one section of the crew thus ensured that maximum effort could be ensured from the crew as a whole.

Out of these beginnings emerged the patterns of recruitment, control, renumeration and industrial relations which characterized the trawling

industry into the 1980s. The casual system of employment where the deck-hand is hired by the trip has persisted despite attempts to both decasualize the industry and the introduction of limited 'shore pay'. Trade unionism established itself firmly after a rapid but faltering start. Between 70% and 90% membership density has been achieved, a higher level than any other British trawl fleet.

Reflecting the strategy of control in the industry the skippers and mates set up their own protective association, the Aberdeen Trawl Skippers and Mates Guild. The remuneration patterns in the industry are still basic wage plus poundage, although poundage (payment by results) has played a more important role latterly. Recruitment of deck-hands is generally from unskilled labouring segments of the labour market. Alcorn[29] has indicated the ways in which the specific division of labour on a trawler determines the areas of the labour market from which trawling companies recruit labour.

These forms of industrial organization are evidently different from the inshore industry being a reflection of the different relations of production in existence within the two sectors.

3.6 Decline

The decline of the Aberdeen Trawler fleet has been dramatic. In 1970, 104 trawlers operated from the port employing the majority of the 1301 fishermen registered at the port. By 1980 the trawler fleet has been reduced to around 30 operational trawlers and 600 fishermen.[30] Landings of fish had decreased from 116,33980 M. Tons in 1976 to 50,525.4 M. Tons landed in 1979.[31] One major trawl owning company (J. Marr) terminated trawler operations at the port completely while others severely reduced the numbers of their operational trawlers.

Aberdeen's decline as a trawling port has been part of a general decline of the British trawling industry. Because, however, the U.K. trawling industry is differentiated regionally by fishing grounds, size and type of vessel and predominant species landed, the decline has been unevenly distributed throughout the industry in time and severity. (See figs. 1, 2 and 3) Hull was almost wholly dependent on distant water fishing grounds, for most of its history as a fishing port. Grimsby and Fleetwood, too, relied heavily on distant water fishing grounds. Aberdeen on the other hand avoided direct competition with these ports by concentrating their effort on middle distance waters off the Faeroes and near waters of the North Sea, West Coast and Shetland. The distant water fishing grounds were affected to a much greater degree and earlier than the middle and near water grounds by international system of access to fishing grounds after 1974.

Concentration on distant water fishing grounds with high yields but greater costs, due to the distances involved had, by the 1960s led to the building of large freezer trawlers. By freezing their catch at sea, freezer trawlers preserved the value of the catch by retaining its quality. They also allowed flexibility, enabling fishing at the grounds to continue until the vessel's fish-room was full. Wet fish trawlers' fishing time is limited by the perishability of the catch. By 1974, 61% of all demersal landings at Hull were frozen at sea. Grimsby relied to a greater extent on the distant water wet fish trawler but still 14% of Grimsby's landings in 1974 were from freezer-trawlers.[32] By 1976, 90% of Britain's distant water fleet (consisting of 100 vessels, both freezer and conventional wet fish) were based at Hull and Grimsby.[33]

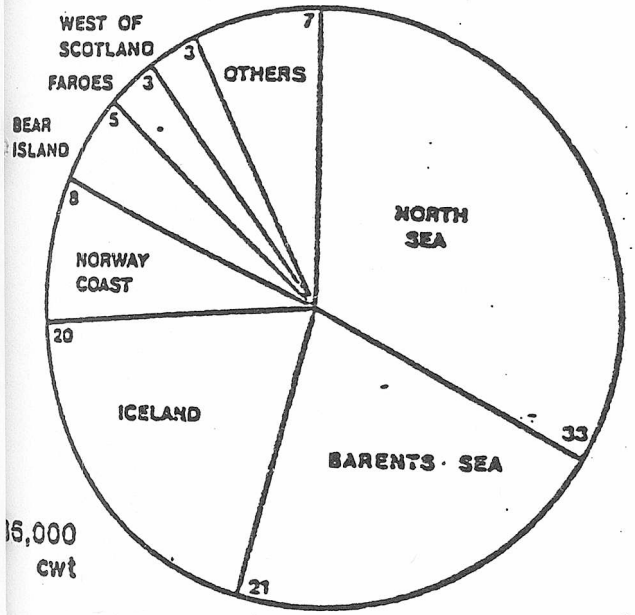
The effects of this concentration were seen when Iceland unilaterally declared a 200 mile economic zone by which access to foreign fishing vessels was restricted. Iceland's action had been a precipitated response to the dependence of her own economy on fishing, pressure on fish stocks and her strategic position in the N.A.T.O. alliance.[34]

Hull and Grimsbys' dependence on the distant water grounds and the denial of access to those grounds has led to a catastrophic decline in this, the most capital intensive, of the U.K. fleet. (See figs. 1, 2 and 3) Although many of the wet fish distant water trawlers were approaching obsolescence, most investment

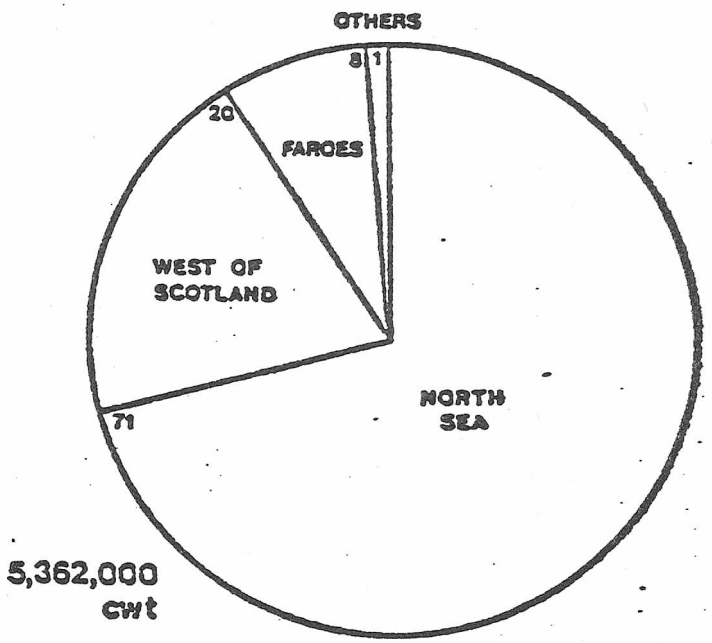
FIGURE 1

British Demersal Fish Landings by Region of Capture 1976. (as a percentage of total)

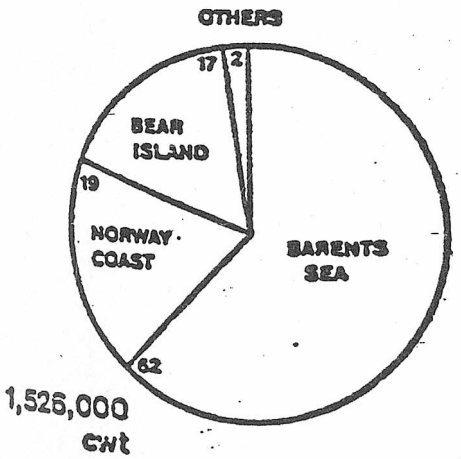
ENGLAND AND WALES



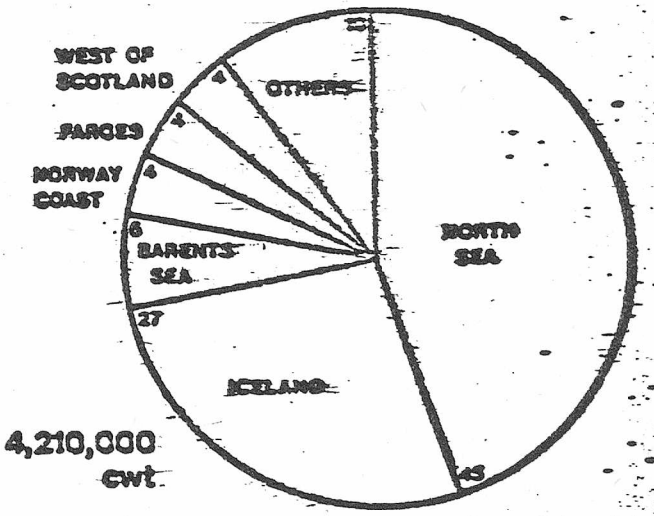
SCOTLAND



FROZEN



FRESH



Source: Yorkshire and Humberside Regional Office and M.A.F.F.

FIGURE 2

U.K. Fish Landings (Demersal Species) 1964 - 1980

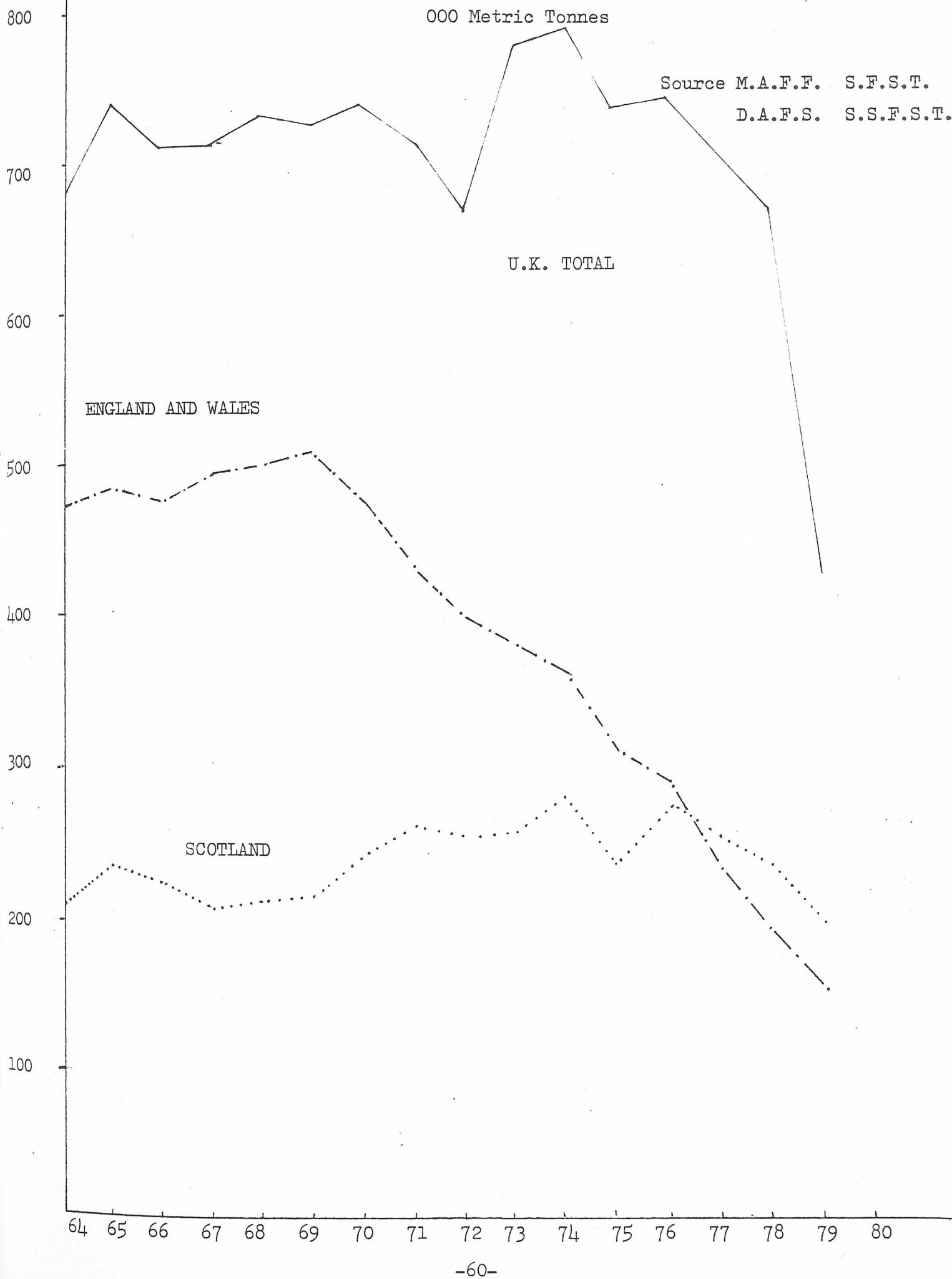
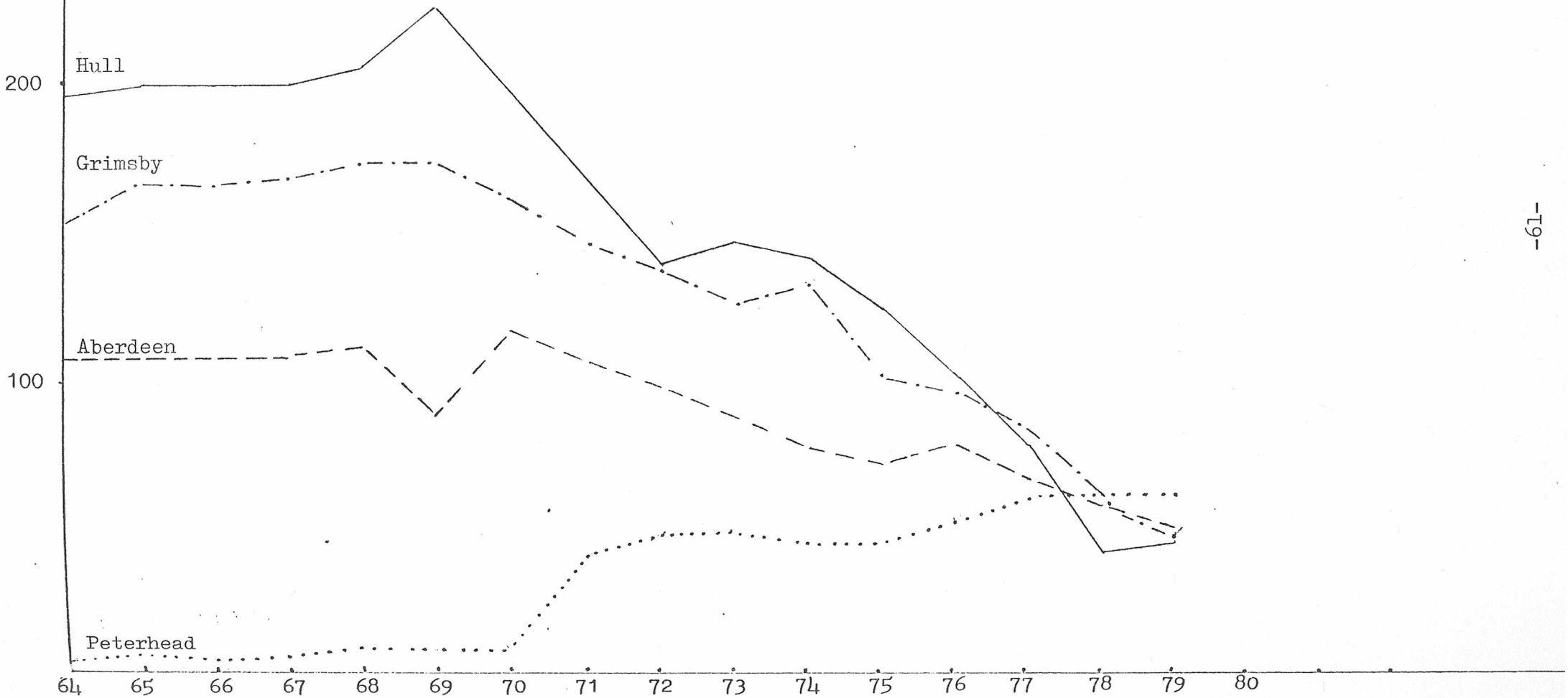


FIGURE 3

Fish Landings at Main Fish Landing Ports in England and Scotland 1964 - 1980

(Demersal Species Only)

000 Metric Tonnes



Source: M.A.F.F.S. S.F.S.T.
D.A.F.S. S.S.F.S.T.

since 1960 had gone into the freezer trawlers. Hull had declined from Britain's premier fish landing port to the status of an inland wholesale market dependent on overland supplies and occasional Icelandic trawlers for fish.[35] Grimsby had a more diversified fleet than Hull, including a number of middle distance trawlers. Consequently, the decline at Grimsby was less dramatic, as distant water landings decreased an expansion of seine net and pair trawling in near waters took place.[36] These landings were supplemented by overland suppliers to the Grimsby fishmarket.

Aberdeen for the most part escaped the fate of Hull and Grimsby, at least initially. The decline in Aberdeen came later, and was caused by a more varied set of interdependent circumstances. These in summary were:

1. Overfished stocks of the main commercial species and consequent U.K. government quota restrictions.
2. Restricted access to customary fishing grounds.
3. The changing political context - the Common Fisheries Policy.
4. Rising costs and falling quayside prices.

3.7 Fish Stocks and Political Restrictions: The Material Context. Fisheries economists, following Gordon 1954 generally agree that maximum sustainable yield of commercial species is reached before optimum profitability under competitive conditions.[37] In short, what this means is that where catchers form units which are in competition with each other there is an inherent tendency to over-fish stocks of commercial species. This is a consequence of fish being a "common property resource" and access to fisheries being historically characterized by unrestricted access. Over capitalization in terms of excess numbers of men and boats functioning at a given level of technology is thus an inherent feature of fishing under competitive conditions. This in itself leads to over-fishing but the trend is intensified as the technological capacity to catch fish is increased.

Intervention

The limitation of the economic forces which lead to over-fishing has been dependent on the political intervention of national governments. Until World War II this political intervention had been limited to particular fisheries in specific areas, e.g. the closure of the Moray Firth to trawlers in 1892.[38] These exceptions underlined the general rule that unrestricted access has been the norm.

Accumulated evidence by fisheries scientists and the experience of gluts after 1918 and 1945, after fishing operations had been limited by war made it very clear that most commercial species were over-fished and ended the illusion that fish was an infinite resource, unaffected by the level of fishing effort. Accelerated technological innovation after World War II, particularly in pelagic fishing methods

pushed the position to a critical stage. Nation states with fishing industries on the North Atlantic Continental shelf set up the North East Atlantic Fisheries Commission (N.E.A.F.C.) in 1963 to establish ways of limiting fishing effort.[39] It was not until 1974, however, that N.E.A.F.C. was authorized by its member states to recommend Total Allowable Catch quotas (T.A.C.S.) to its members. Lacking the means to police its T.A.C.S. (each member state policed its own quotas) N.E.A.F.C. was relatively ineffectual but was in any case overtaken by events.[40]

Iceland's unilateral decision to extend its fishing limits from 50 to 200 miles began a chain of events which altered the political economy of fishing on the North Atlantic shelf from one based on unrestricted access and common property resource to one based on restricted access and fisheries management policy.

Iceland's claim to legitimate authority within her 200 mile limit provided the political basis for her fisheries management policy - conversation, expulsion of foreign vessels and restricted access. Norway, Canada and the U.S.A. followed suit in 1977 firmly establishing the fact that the fishing industry of the North Atlantic region was in future to be based on the coastal fisheries of nations with a coastline. Distant water fleets like the English, Portuguese and Spanish trawler fleets found access to their customary fisheries blocked.

The transition from open access/common property regime to restricted access/fisheries management policy framework in Britain's case was

complicated by the fact that membership of the E.E.C. took the move from free access to nation state control, one step further to supra state agency control. The historical accident of the coincidence of the ending of open access fisheries with British membership of the E.E.C. has telescoped events, creating a confusing set of cross currents which are only in the process of being resolved.

E.E.C.

When the British government were negotiating access to the E.E.C. the fishing industry was not high on their list of priorities. This is understandable given that the fishing industry contributes less than 5% of the U.K. annual agricultural product[41] and employed only 16,523 people in 1975 directly as fishermen.[42] In addition the notoriously fragmented structure of the fishing industry weakened its voice and overall significance. The forces of change which brought the E.E.C. into existence and Britain's eventual membership did not emanate from the fishing industry or any other industry with similar industrial structure.

> "The European Economic Community did not come into existence because of a sudden access of Smithian economic enlightenment after the second world war; it came into existence because modern corporate and multinational organizations had made the old boundaries and barriers obsolete. European farmers, with their different and earlier and essentially classic economic structure, would never have created the Common Market. They are now the source of most of its disputes, nearly all of its crises and all of its unfavourable notices."[43]

Much the same can now be said of the fishing industry.

Immediately before the treaty of Rome was signed the original six members of the E.E.C. formulated a Common Fisheries Policy in which the ruling principle was that there should be equal access for all members to a 200 mile E.E.C. "pond". In face of these conditions Norway declined to enter the E.E.C. Britain with other,more significant industrial interests,signed the treaty on the understanding that the Common Fisheries Policy could be re-negotiated. These re-negotiations have so far taken seven years with no agreed C.F.P. That the British government under both Labour and Conservative administrations have proved so resistent in their negotiations is due to two factors. Firstly the fishing industry has for the most part formed a solid front despite the fragmented structure of the industry. Secondly, the political significance far outweighs its economic importance. The fishing vote holds the key to three marginal constituencies in Scotland representing much of the Conservative party's hold in Scotland.

On the grounds that any E.E.C. C.F.P. should reflect the fact that Britain contributes approximately 60% of the resources in the E.E.C. 'fish pond' the U.K. minister has refused to sign the final policy.

The long delay in achieving agreement on a Common Fisheries Policy and the independent changes in the international fisheries regime have affected the British fishing industry in a number of ways. While these factors affect the British fishing as a whole, the following paragraphs only indicate their impact on the north east of Scotland.

The Aberdeen Trawler fleet has had its profitability reduced by three

main factors.

1. Overfishing and quotas on catches.
2. Rising costs.
3. Falling quayside prices.

Overfishing and Quotas

It is not my intention to enter the complex area of diminishing fish stocks, excess catching capacity and the political response to the diminishing resource base. It is sufficient for my purposes to recognize that different commercial species have been reduced at different rates and that for contingent reasons the political response differs from state to state within and outside the E.E.C.. For the British government, conservation measures have a dual role as part of an interim policy of fisheries management but also as a political card (of moral authority) in the negotiations over a Common Fisheries Policy. Quota limits have been set by the U.K. government (policed by the Ministry and Department of Agriculture and Fisheries) since 1977 on all major commercial species. By limiting the catch either on a per man or per vessel basis, the margins of profit on inshore vessels and trawlers alike are cut. Further restrictions affecting vessels from the North east of Scotland come from the fisheries management policies of the Faeroes and Norway. The Aberdeen middle distance trawler fleet was heavily dependent on the Faeroes fishing grounds. From 1977 the Faeroese progressively introduced restrictions on size, species and area of capture of the catch severely reducing the profitability of this source of fish. Table 5 indicates the scale of this decline.

Table 5

British Trawlers. (predominantly Aberdeen Based) Trips to Faeroes Fishing Grounds 1974 - 1979		
1974	520	20,911.8
1975	508	18,344.0
1976	1002	19,429.2
1977	305	12,145.7
1978	108	2,939.1
1979	45	1,102.7

Source S.S.F.S.T.

Although Norway introduced fisheries management policies from 1975 they were not as uniformly detrimental to the U.K. fishing industry as the Icelandic and Faeroes restrictions were. Substantial quantities of fish, mainly cod and haddock are taken on licence by the Scottish inshore fleet particularly in the winter months. Where fishing was restricted here, it was generally because of the complexities of negotiating access with "third countries" through the E.E.C..

Overall, while all sections of the Scottish fishing industry were detrimentally affected by conservation restrictions, the impact was uneven through the fleet. The pelagic catches were undoubtedly the most severly affected, the total ban on herring catching, forcing them to fish a restricted mackerel fishery off West Scotland and South west England. Faeroes restrictions had the effect of drastically reducing the Aberdeen trawling fleet although in a less spectacular fashion than the Humberside distant water fleet while the inshore fleet was only slightly affected.

Rising Costs

Because fishing is an energy intensive industry costs have risen at a faster rate than the general level of inflation in the British economy. Apart from higher fuel, many of the means of production in fishing are derived from oil based products, e.g. terylene ropes and nets.

O.P.E.C's decisions in 1975 and 1978 to raise the price of crude oil affected the fishing industry differentially. For this reason the French and Dutch governments introduced a fuel subsidy for fishing vessels, the French one accounting for £52 million in 1980.

Trawling as a method of fishing is particularly energy intensive. Approximately, one ton of fuel is consumed to produce one ton of fish, and the 74% increase in fuel costs between 1979 and 1980 was a key component in the decision of Aberdeen trawlowners to lay up their least profitable vessels.[44] Fuel costs has been the main force behind the widespread introduction of pair trawling, a method previously used only by inshore light trawlers. (See appendix B)

Falling Quayside Prices

Rising fuel prices would not have had such an impact on the fishing industry had there not been a dramatic and prolonged fall in quayside prices during 1980-81.

While always subject to short term fluctuations, quayside prices have shown an upward trend in line with other foods since 1945.

> "But after 1969, an important change took place. Fish prices then rose much more rapidly - more rapidly than meat prices and more rapidly than other food prices." [45]

Reduced landings of commercial species, initially more due to over fishing than to political restrictions, accounts for this acceleration in the price of fish. With short term evening-out this trend continued until 1979. In the Winter of 1979 and Spring 1980 there was a major price collapse on the quayside of all major British white fish ports. The central reason for this collapse was the importation of large quantities of cod, haddock and plaice from both E.E.C. and non E.E.C. countries under advantageous international exchange rates.[46] In the first quarter of 1980 fish imports had risen by 60% on the previous year, fresh fish by 38% and frozen by 81%.[47] The main source of this fish was Denmark, Iceland, Netherlands and Eire.[48]

While quayside prices retained an upward trend the rising costs of fishing did not have serious ramifications. On the reversal of the price trend in 1980 the full effect of the rising price of oil was felt by both the trawling and inshore industries. Trawling with its higher energy consumption felt the effect the hardest.

Limitation of catching opportunities, rising costs and falling quayside prices have made near water and middle distance chronically unprofitable. From the late 1960s building of replacement trawlers in Aberdeen slowed as revenue failed to provide funds large enough to finance new vessels, even with aid from the White Fish Authority. The following section discusses the ways in which the trawler companies reacted to the impasse faced by the trawling industry.

3.8 Trawl Owning Companies Response' to Decline

Faced with the changing political economy of fishing, quotas, rising fuel costs, reduced fish stocks and falling quayside prices the trawlowners have responded in three ways:

1. Restructure
2. Cost Reduction
3. Diversification

Restructure

It is generally recognized that to suit the changed political, technological and ecological circumstances in which the British fishing industry finds itself, the U.K. fleet will have to be restructured from one predominantly based on middle and distant water trawling to one geared to a managed coastal fishery with only limited fishing opportunities outside U.K. or E.E.C. Waters (approximately 60% of E.E.C. fish stocks are currently within U.K. jurisdiction).[49] Restructuring will involve a reduction of catching power and probably numbers of vessels and fishermen also, as well as changes in the method and size of vessel.

The optimum size of vessel and method of fishing which suits the new regime is much closer to the 80 ft. seiner-trawler of the Scottish inshore fleet than the 130 ft. middle distance trawler of the Aberdeen fleet or 220 ft. freezer-trawler of the Hull fleet. Restructuring would therefore mean the scrapping of many vessels in the company fleets in Britain, including Aberdeen. A high proportion of the Aberdeen trawler fleet are nearing the end of their operational lives anyway, due to the restricted investment in new vessels during the 1970s. The actual form

which a restructuring programme would take and the proportion of U.K. government or E.E.C. funds which would finance it are closely related to whatever Common Fisheries Policy is eventually agreed upon. The decline of the Aberdeen trawling fleet has meant that "restructuring" has proceded spontaneously due to chronic unprofitability.

Cost Reduction

In the interim between loss of profitable fishing opportunities and the restructuring of the U.K. catching industry, the Aberdeen trawlowners have tried to reduce costs as far as possible. Pair trawling, as discussed above, has been one such attempt. The introduction of a "share" system of remuneration has been another.[50] The concomitant of a share of the proceeds of the sale of the catch in periods of poor catches and low prices is, no fish - no pay. The crewmen rejected this attempt, noting that they had not been invited to partake in a share system when profits had been high in the 1960s and early 1970s.[51] Their weak employment situation however led them to accept a standstill on wage increases for one year, in effect a wage cut.

The strength of their union organization, backed by the dock labour legislation of 1968, prevented similar cost cutting exercises being visited upon the fish market porters despite the reduction in fish landings at the port. The A.F.V.O.A. had sought to reduce their numbers in proportion to the fall in landings. (See Appendix A)[52]

outlet had been geared only to fishing vessels but expanded into the supply of rig support vessels and general shipping as oil related activities around Aberdeen harbour increased.

The historical 'accident' of the coincidence of an expansion of oil related activites with the decline of the trawling sector in Aberdeen is seen more directly in the conversion of laid up trawlers to use as rig stand-by vessels. These vessels are chartered by the oil majors or drilling sub-contractors to provide safety support for drilling rigs and production platforms in the North Sea. Both capital and labour expelled from the trawling industry have been absorbed into this new activity (see Table 6). These statistics should be seen against the fact that in March 1981 only 18 trawlers operated through the A.F.V.O.A. and another half a dozen vessels were operated by independent owners and skippers.

2. Diversification into the inshore fishing sector. For the purposes of this thesis the movement of capital and labour away from trawling into oil related activites is less significant than the movement of Trawl Capital into the inshore fishing industry. Because of the fishing restrictions discussed earlier some Trawl Companies have been forced to fish inshore and near waters with vessels

Table 6

Aberdeen Trawler Companies operating Oil Platform Stand-by Vessels in 1980.	
Company	No. of Stand-by Vessels
Richard Irvin	3
John Wood Group	5) Stand-by vessel
George Craig	17) Partnership
British United Trawlers	6

Source: Press and Journal

designed for different types of fishing. The Hull based freezer-trawlers currently fishing the mackerel shoals off the West Coast of Scotland and South west Coast of England, are the most extreme example of this readjustment. Some Aberdeen trawlowners are in a similar position with modern stern trawling vessels. The mackerel fishing has however a short season and has to support the whole of the Scottish pelagic fleet for as long as the herring ban is in force, as well as displaced trawlers. It is really a short term, makeshift diversification. Of more lasting significance in the direct investment in inshore vessels through their fish selling subsidiaries. The importance of this capital movement is that it affects property relations in the inshore fleet. This will be examined in the following chapter.

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PART TWO

The Fish Marketing Sector

CHAPTER 4

Merchant to Industrial Capital: Fish-selling Companies and Fishermen's Cooperatives

4.1 Introduction

In chapters two and three the discussion centered on the relations of production in the inshore and trawling industries. At the end of chapter three the pressures on the traditional trawling companies to diversify out of trawling were discussed. Finally, one form of diversification, investment directly into the inshore industry was introduced.

The thesis is now in a position to examine the role of the fish-selling companies and fishermen's cooperatives. This was not possible without the foregoing discussion because as this chapter will argue the fish-selling companies and fishermen's cooperatives are predicated by the different relations of production existing in the inshore and trawling industries.

4.2 Fish-selling Companies

As their name suggests the primary role of the fish-selling company is to sell fish. To be more precise, the fish salesman auctions fish on behalf of the fishermen or trawling company. Although, primary, this role is only one of a number of what may be called "management" services to the boats of the inshore fleet. These include the increasingly complex accounting aspects of running a modern inshore boat, arranging grants and loans from statutory bodies like the White Fish Authority, Herring Industry Board, Highland and Islands Development Board, F.E.O.G.A., and the commercial banks. The "management" of fishing vessels not owned by them involves the fish-selling companies in fuelling, repairing and supplying the boats with food, nets, boxes, chandlery and ice.

These "management" aspects have developed from agreements made between inshore vessels and particular fish-selling companies for the former to sell their catches solely through that particular agency. These agreements are generally long term and it is generally recognised that each vessel "belongs" to a particular fish-selling agency. However no matter how wide or sophisticated the range of services provided by the fish-selling companies for the inshore vessels, the basis of the relationship is that the fish-selling company is an intermediary between catcher and fish-buyer.

Fish-selling Companies as Merchant Capital

The strategic position of the fish-selling company between producer

and consumer (in this case the fish processor) identifies the fish-selling company as merchant capital. The defining features of merchant capital are:

(a) that it has no direct control over production, unlike industrial capital which coordinates and controls production and;

(b) that it derives its profit from the process of exchange (unlike industrial capital which derives profit from the process of production itself.)[1]

Merchant capital has long ceased to exist as an independent entity.[2] It was the first form of capital, mediating between regionally separate, direct producers. As commodity exchange expanded, merchants controlled the flow of commodities from one area to another and from one producer to another. The great trading nations of Venice, the Netherlands and Genoa in the 17th and 18th centuries are the best known of the merchant capitalists. Merchant capital, deriving profit by trading between regionally differentiated price structures had no revolutionary impact on the organization of production of the producers it traded with.[3] The internal relations of production of a producing unit had no significance to merchant capital whether the direct producers were feudal serfs, petty commodity producers, wage labourers or slaves.[4]

Merchant capital ceased to exist as an independent entity as industrial capital rose to become the ruling form of capital.[5] Industrial capital, based on the organization and exploitation

of a class of free wage labourers, came to dominance in the early 19th century.

> "In Britain merchant capital as an independent form of capital, retained its power for almost a hundred years after the rise of industrial capital, until it was fatally undermined by the Parliamentary reforms of the 1830s amd finally smashed by the repeal of the Corn Laws in the 1840s."[6]

Thenceforward in Britain merchant capital operated only as an agent or aspect of industrial capital either in a directly subordinate role or subcontracted a function which industrial capital did not need to control directly.

On this basis, it is useful to understand the fish-selling companies in terms of merchant capital and trawling companies in terms of industrial capital. The former derive their profit from their strategic position in the exchange process between catcher and buyer. The latter, accumulate capital through hiring labour to produce commodities which are then sold.

One aspect of the fish-salesman's role, however, fits uneasily into the category of merchant capitalist. The merchants equation, buying cheap and selling dear, is only partially fulfilled. The fish-salesman acts only as an agent on a commission basis, being in legal possession of the fish but not ownership. The salesman

derives profit from selling dear but is precluded from buying cheap by the nature of his relationship with the fisherman.

Part of the reason for this 'stunted' merchant's equation lies in the material nature of the commodity in question. It is in the interest of both fisherman and fish-salesman to sell the fish as rapidly as possible. The fish is therefore "in the hands of" the fish-selling company for a very short time, only as long as it is on the fishmarket floor.

Another way of looking at this question is to see the fish-selling company as subcontracted by the fisherman, the fish remaining the property of the fisherman throughout. This, although legally true, obscures more than it illuminates. The most helpful way of understanding the relationship of independent fisherman to fish-selling companies is to see it as one in which the circuits of merchant capital and independent commodity producer intersect, but also one which is adapted to meet the peculiar material conditions of fish production and exchange.

Kay succinctly describes the essential relationship of petty commodity producer to merchant capitalist and of industrial capitalist to wage labourer:

> "The whole difference between simple commodity and capitalist production pivots on this single point. In both cases the circuit of the direct producer must pass through the circuit of capital: but whereas the

circuits of the independent producer and merchant capital intersect only in the market, those of the wage labourer and the industrial capitalist converge in the sphere of production."[7]

So far, in this chapter I have assumed that the fish-selling companies deal only with independent fishermen, petty commodity producers. This is not quite true. Fish-selling companies also auction the fish landed by company owned trawlers. The difference in the two relationships emerges clearly when the patterns of ownership in the industry are examined. Trawling companies sell their fish through fish-selling companies which are wholly owned subsidiaries of the parent trawling company. In effect the fish-selling company, in these cases, is simply a division or department of the trawling company. Merchant capital is not involved here at all except in so far as the fish-selling subsidiary also deals with non-company inshore vessels, which is the case with a number of firms. The growing involvement of trawling companies in fish-selling is the key to understanding the movement from merchant to industrial capitalism in this sector. The interconnections between trawling, fish-selling and inshore sectors, however, calls for a brief historical review of the role of the fish-salesman.

Unlike the classic merchant capitalist who traded between regionally differentiated price structures the fish-salesman operates within an economic rather than a geographical space. This space is dependent on the auction system of exchange and first came

into existence with the demise of the old system of contracts between fishermen and herring curers.

> "The profession of fish salesmen had been created when the old system of engagements to curers had collapsed in the crisis of the late eighties. Fishermen now required agents to act for them in the daily auctions at which their catches were sold and normally a crew would make a long term arrangement with a salesman who would dispose of their entire landings at a commission of 5%."[8]

From the beginning, these merchant capitalists became a powerful pivotal group:

> "the wealthiest and most influential within an increasingly complicated industry, almost entirely displacing the curers as the main source of funds for the various needs of the industry."[9]

The fish-selling companies were the most important group in the growing financial groups holding capital directly in the inshore industry.

> "For the first time in herring fishing a substantial direct share in fishing boats was held by non-fishermen and, moreover, by enterprises whose interests spread over many fishing units. The particular ownership structures of the drifters ranged from complete ownership by fishermen to the situation where landsmen owned the boats and put in hired men as crews."[10]

Thus, the familiar mosaic of ownership in the inshore industry

emerged around 1911, with fish-salesmen as a group holding considerable financial interests in many vessels. Although, as was shown in chapter two, seine net fishing limited the progression towards company ownership and hired labour, fish-selling companies retained interests in a considerable number of vessels right into the 1970s.

The trawling industry adopted the auction system from its very early days but from these early days showed a disposition to incorporate fish-selling companies as subsidiaries.[11] This reduced costs by retaining the 5% commission normally paid to the fish-salesmen. Independent fish-selling companies continued to exist (and exist today) but there was also a close intermeshing of trawling companies and fish-selling companies in terms of ownership and personnel.[12]

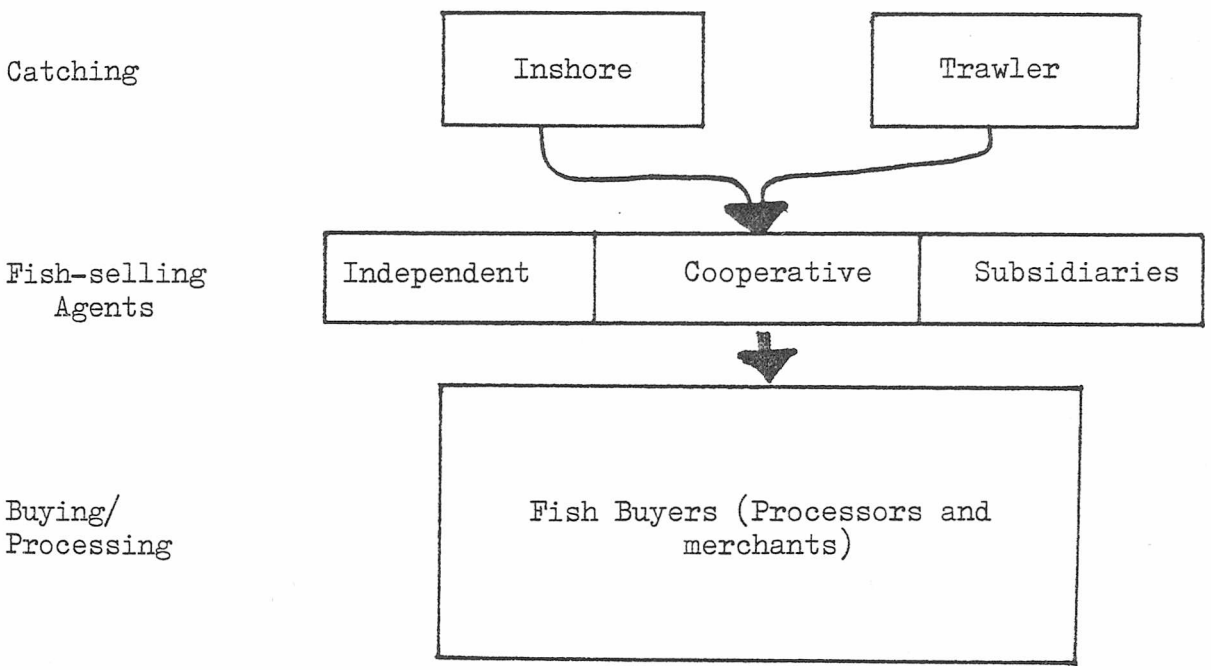
These fish-selling companies no longer had an independent existence as merchant capital but formed only an 'aspect' or department of industrial capital.

During the inter-war period and after 1945 many boats in the inshore fleet became linked indirectly to trawling companies by selling their fish through a subsidiary fish-selling company. Fish-selling companies, both independent and trawler owned, vied with each other to attract unattached inshore boats to their particular office. The concentration of ownership seen in the trawling industry particularly after 1945 was also in evidence in the fish-

selling company sector. Consequently, the trawler owned fish-selling companies had come by 1970 to play a much more significant role than previously, being agents for most of the Scottish inshore fleet. The strategic position of the fish-selling agent is illustrated in figure 5.

Figure 5

Strategic Position of the Fish-selling Role



4.3 Fish-selling, Finance and Ownership Patterns: The Changing Mosaic of Ownership

Chapter two described the precarious position of the petty commodity form of the inshore industry as a transitional form. In reality today the Scottish inshore fleet is a mosaic of ownership patterns comprising of petty commodity producers, small industrial capitalists and large scale, shore based industrial conglomerates.

The tempo of the transition from petty commodity production to capitalism has proceeded at a different pace at different periods and in different regions of the Scottish coast. Progress in this direction has not been unilinear, as evidenced by the retention of the old patterns with the rise of the seine net vessel. Parts of the Shetland fishing fleet conform wholly to the traditional mode of crew ownership while sections of the Peterhead fleet are wholly owned by shore based companies and crewed by hired labour. On the whole however, the pattern of ownership has edged closer to the capitalist end of the continuum and away from independent commodity production. "Share fishing" today is often a shorthand for the way the proceeds of the catch are divided after sale, rather than for crew ownership. This is only the husk of the petty commodity form of the industry. Indeed this form of "share" fishing has been a method used by trawlowners to force wage cuts on their crews by linking wages to output during a period in which the industry is chronically unprofitably.[13]

The 1970s, however, have seen a steep increase in the tempo at which the penetration of the inshore industry by large scale capital has proceeded. The fish-selling companies have played a pivotal role in this process by funneling investment from their parent companies into individual vessels. The pressures behind the increase in tempo of direct investment in the inshore fleet by fish-selling companies will be examined later, here I will only indicate the effect of this investment on the fish-selling companies themselves.

This process not only transforms the inshore fleet from its petty commodity form to a capitalist form of production but also transforms the fish-selling companies from merchant to industrial capital. Investment in the inshore fleet where boats are wholly owned by the fish-selling company (albeit within the 'husk' of share fishing) transforms the fish-selling companies into <u>direct employers</u>. Certain anomalies remain, the crews are for instance in legal terms self-employed and the employer still does not directly control the labour process. Skippers are left to fish where and when they please. A series of material and psychological incentives combined with the ultimate sanction of dismissal are enforced to ensure the maximum effort from the skippers. These features are also to be found in the trawling industry. As such, they are a method of controlling production in specifically maritime circumstances:- small production units, spatially separate from direct control by management.

The general point however still holds - that fish-selling companies which invest directly in inshore vessels transform themselves from an 'aspect' or department of industrial capital to industrial capital itself (see appendix C).

The dynamics behind the increase in direct investment by these companies in the 1970s lie in two main areas.

Firstly, the limitation of profitable fishing areas and related problems of rising costs have forced the parent trawling companies to look for new areas of operation. The inshore sector is the only mode of fishing which is likely to be remotely compatible with the new political economy of fishing. So, as outlined in chapter three, the trawling companies have been forced to diversify out of trawling and inshore fishing has been one direction which this diversification has taken.

Secondly, the increasing complexity and speed of technical change in the industry has made the inshore fisherman increasingly dependent on outside sources of capital. A seine net motor vessel cost around £1,400 in 1930. In 1980 a typical seiner-trawler costs approximately £400,000 to £500,000. This dramatic capitalization of the inshore industry has gathered in intensity since the end of World War II. The typical vessel in the inshore fleet has become a sophisticated catching machine with an array of navigation and fish locating electronic aids with hydraulic labour saving winches on deck.

The effect of this capitalization has been to push the initial purchase cost of a vessel out of the reach of many fishermen who would historically have expected to become a vessel owner or part owner, through work and saving and/or inheritance. Recognizing this fact in the 1950s the Government introduced a loans and grants scheme which aided working fishermen (and under capitalized companies) to purchase new vessels. Even with these schemes channelled through the White Fish Authority and Herring Industry Board many fishermen became dependent on outside sources of capital. The fish-selling companies with capital to invest and close relationships to the fishermen were in a pivotal position between capital starved fishermen and trawling companies seeking new investment outlets. The scale and timing of this movement of capital may be illustrated by one example. The Aberdeen company, John Wood Group, originally a trawling and marine engineering company, as part of a pattern of wide diversification, reorganized its fishing operations between November 1973 and April 1974.[14] A new coastal fishing division was set up and £2½ million was invested in new vessels. Of this £1½ million was invested in twenty inshore vessels to operate from Aberdeen, Peterhead, Macduff, Wick, Thurso and Kinlochbervie. In addition, five dual purpose pocket trawlers were commissioned. Capable of fishing for both pelagic and demersal species, these vessels reflected the new political conditions in the fishing industry where flexibility of operation is paramount. In April 1974 a further £3½ million was invested partly to purchase seven vessels

outright but also to purchase shares in a further ten inshore vessels. Thus in six months, the Wood Group had invested £5 million in the inshore sector. Similar transfers of capital were made by J. Marr through their fish-selling subsidiary, P. and J. Johnstone, Associated Fisheries through their subsidiary, Caley Fisheries, Richard Irvin and Sons directly. Christian Salvesons, with no trawling interests but substantial fish processing and fish-selling subsidiaries, also invested heavily during this period.

Where the John Wood Group strategy differed from the others, was in buying vessels outright and crewing them wholly with hired labour. This overt break with the tradition of share fishing was justified by the Wood Group at the time by pointing out that in this way young skippers with little capital would otherwise have failed to attain a command of their own. Other corporate investors adopted a different strategy. By taking a part share in a vessel, usually between 25% and 50% they retained some of the advantages of the earlier system, commitment to the boat and gear, and pressure to maintain large landings of quality fish. Typically, however, these arrangements are made with only one or two members of the crew, the remainder having no share in the ownership of the boat. The net result has, therefore, similar to the strategy of outright ownership, the creation of a class of hired labour, generally the deck crew.

A consciousness of the social differentiation between owners and

non-owners in the inshore industry was reflected in the rise of two proto-trade unions in 1981 - the Peterhead and Fraserburgh Deckhands Associations. These organizations with their roots in the propertyless deck crews perceived that their interests were not necessarily those of the skipper/owners. With their ideological background in petty commodity production however they are far from uniting with other groups of workers and vehemently deny that they have been tainted with trade unionism.

4.4 Fishermens' Cooperatives

The penetration of large scale capital into the fish-selling function and then into direct ownership in inshore vessels provided the seedbed for the rise of the fishermens' cooperatives. While a number of contingent factors influenced the growth of the cooperative movement in inshore fishing it was essentially a response to the encroachment of corporate investment.

The diversification of corporate capital into the inshore industry was seen by some sections of the inshore industry as a process detrimental to the interests of the fishing communities and parasitic on the labour of the fishermen. The cooperative movement arose as an attempt to cut out the fish-selling company, the merchant capitalist, who mediated the exchange relationship between the inshore fisherman and fish buyer.

The wage form, for Marx, is the means by which the transfer of surplus value from wage labourer to industrial capitalist is effected.[15] Paid for a fixed period of time this, the labour contract, disguises the fact that the worker is paid for only part of the product of his labour. He is paid for necessary labour time - that period of time in which he produces sufficient to meet his historically and culturally determined needs. The remainder of a given working day is spent in the production of surplus value. The labour contract and the wage from this, obscure the nature of the relationship between wage labourer and industrial capitalist. The industrial capitalist's revenue,

profit, is seen as arising from his capital not from the surplus product of labour.[16]

By comparison the relationship between a merchant capitalist and independent commodity producer is characterized by a full consciousness of the course of the former's profit. It is the quantity charged for a service (buying cheap and selling dear) of linking producer to consumer. The independent commodity producer is fully aware that in the exchange process between himself and the consumer of his commodity the merchant capitalist appropriates part of the product of his labour.[17]

The independent fishermen who formed the cooperatives around the coasts were conscious that part of their surplus was syphoned off by fish-selling companies when they broke with them to set up cooperative fish selling units.

> "At the quayside his (the independent fisherman's) interest is taken over by shore based firms who sell and dispatch the fish, supply the fishermen with fuel and gear and operate the boat accounts - all at a handsome profit to the shareholders. The operations of these fish-selling companies apart from being costly to the fisherman, constitute a drain on the wealth generated by the fishermen away from the fishing communities."[18]

This awareness of the parasitical relationship between the independent fisherman and fish-selling company became all the more irksome as the scale of the companies involved increased,

and as merchant capital was transformed into industrial capital.

The circumstances surrounding the emergence of the Fishermen's Mutual Association (Buckie) are illustrative.

The specific issue which led some of the Buckie fishermen to break with their fish-selling companies was an attempt in 1972 to raise the companies' sales commission from 4% to 5%. A collective agreement between the main fish-selling firms ensured that the fishermen would have little choice but to accept the increase. Some skippers reacted by arranging a meeting to discuss the possibility of managing their own shore based operations.

> "One of the salesmen informed those skippers operating through his office, that, unless they abandoned the discussions, they must leave his office immediately. To reinforce his threat the salesman had previously arranged with other offices that none would accommodate any of the expelled skippers. The skippers concerned refused to accept this ultimatum and were expelled from the office and found themselves forced to sell their own fish and keep their own books."[19]

Acrimony also surrounded attempts to set up other cooperatives.

Around 25% of the vessels in the Scottish inshore fleet are now in the 32 fishermens' cooperatives around the Scottish coast, although there are wide variations in the size and range of

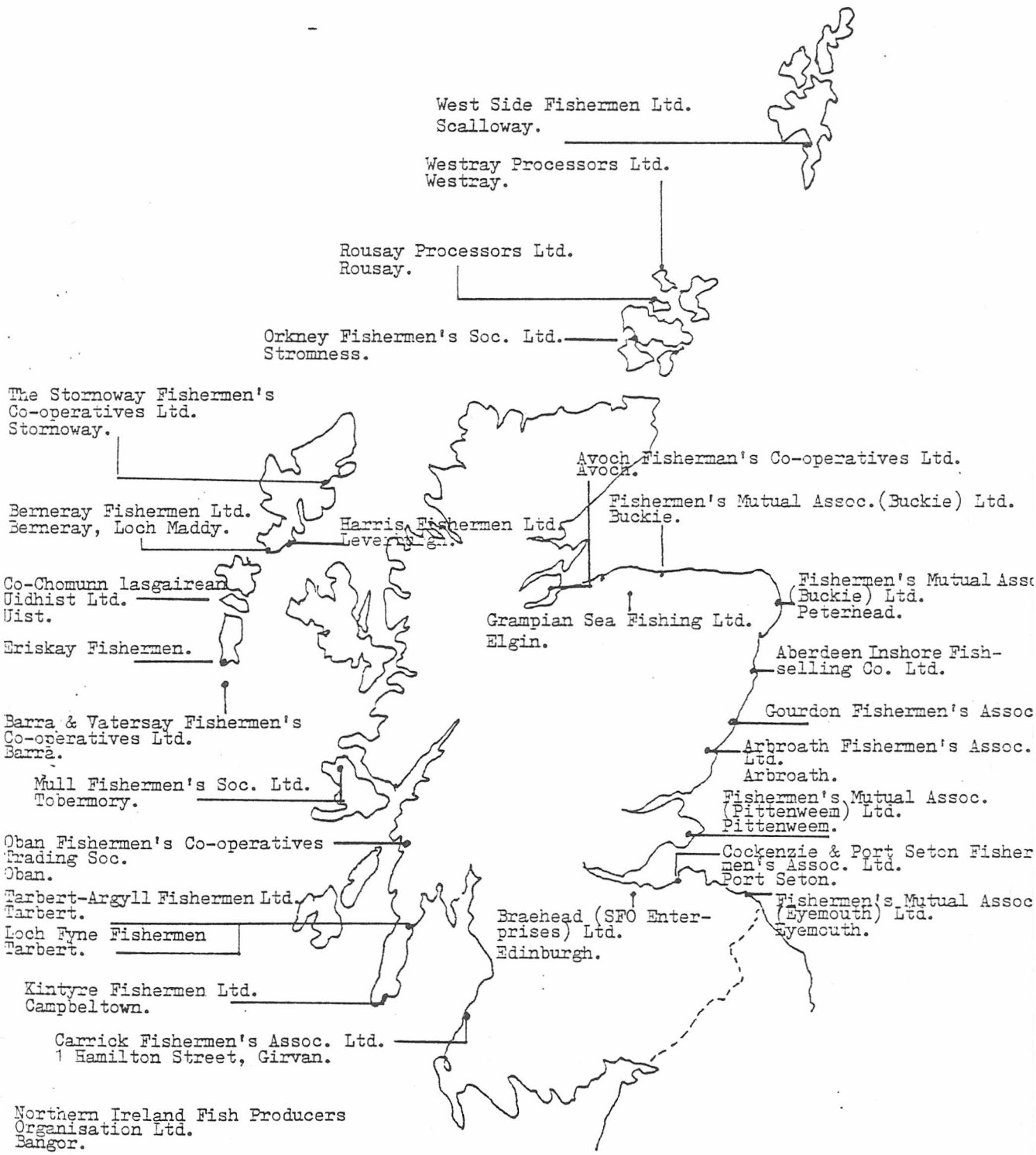
operations provided by different cooperatives.[20] The smallest only sell chandlery, the largest include boat building yards, net making services, fuel supply etc.. (See Fig. 6)

All of the cooperatives are federated in the Scottish Federation of Fishermens' Cooperatives (S.F.F.C.) and the associated Fishermens' Cooperatives (Trading Scotland Limited)(F.C.T.S.).[21] The latter is a means by which economies of scale in the purchase of supplies can be achieved. Some 650 vessels are associated to the two organizations through their Fishermens' Mutual Associations.[22] The F.C.T.S. has a number of associate members including a number of small independent fish-selling companies.

The cooperative movement in inshore fishing is not new. The F.M.A. (Eyemouth) was formed in 1925. The rate at which cooperatives have mushroomed and expanded, however, reflects the changing conditions of the 1970s. Over 15 of the 32 cooperatives in Scotland came into existence between 1975 and 1980. Although the basis of this growth lay in the changing socio-economic conditions described earlier, a further impetus to the development of fishing cooperatives and cooperative umbrella organizations came with Britain's entry to the E.E.C.. Financial and legislative support also created favourable conditions for the establishment of producer cooperatives.

FIGURE 6

Members of Scottish Federation of Fishermens' Co-operatives. 1980.



Source S.F.F.C. Newsline.

4.5 Fishermens' Cooperatives and Productive Property

The fishermens' cooperative does not simply represent an attempt by petty commodity producers to retain the petty commodity form of their industry in the face of encroaching capitalist penetration. The mosaic of ownership in the inshore industry is too complex to allow such a blanket judgement. The vessels which have combined to form cooperatives exhibit a range of forms of ownership. Skipper only, two or three of the crew, the whole crew, fishing families ashore are all forms of ownership found in the Fishermens' Mutual Associations. Obviously, the company ownership that is a growing part of the non-cooperative fleet does not characterize the cooperative fleet. But, as a transitional form, the petty commodity form has been under challenge from more than one direction. The social differentiation within the crews has proceeded to such an extent that wage labour is a crucial and permanent part of many inshore vessels' crews, albeit disguised in the share form. These boats are best understood as small industrial capitalist enterprises, even though family members may make up part of the crew and part of the ownership.

The distribution of productive property within crews is reflected in the constitutions of the cooperatives. In F.M.A. (Buckie) Limited, where skipper owners predominate, only skippers of vessels are eligible for membership and consequently the right to vote on policy. In Shetland West Side F.M.A. by comparison where crew

ownership is still prevalent, rights of membership are extended to the whole crew.[25]

To some extent the vessel owners in the F.M.A's represent an elite in the Scottish inshore industry. This is not to say that they necessarily own the most advanced boats, but that whatever type and size of boat, ownership lies with one or more of the fishermen who crew it, or at least within the fishing community.[26] Given the rise of the F.M.A's it is increasingly important for fish-selling companies to own part of the vessels which they agent. This is the only way of ensuring the loyalty of a vessel to their particular office. Debt secures the inshore fishermen to merchant, industrial and finance capital.

The whole question of debt, in fact, is central to the penetration of industrial and finance capital and the decay of the petty commodity form. Observers of other petty commodity producers have noted that debt is a symptom of a decaying peasant economy.[27] Debt to private backers like fish-selling companies banks and the State is widespread amongst the inshore fishermen of the North east. Apart from economic and social consequences, evidence is accumulating on its role in making the inshore fishing industry the most hazardous "occupation" in Britain (including construction and mining):-

> "The whole business has got very costly. Many owners are in a position where they have to take out large loans in order to pay for modern boats. They have got to pay the interest and make a living.

This could be a contributing factor in boats staying out and trying to fish in worse weather conditions than perhaps they would have done some years ago.

The attractions of fishing in bad weather is that when there are not many boats out and not many fish landed, prices of those fish landed are higher."[28]

Between 1978 and 1981, forty-six inshore fishermen were lost at sea in some of the most advanced vessels of the inshore fleet.

In conclusion, the fish selling sector is both the locus and agent of change in the catching sector of the North East fishing industry. By examining the relations of production which underlie the division of the catching sector into two distinct parts, the role of the fish selling agent is illuminated. Originating as merchant capital and transforming itself into industrial capital, the fish selling sector, by virtue of its ownership links with trawling and corporate capital, has played a major role in transforming the relations of production in the inshore sector. This in turn has produced the conditions which have spawned the rise of the fishermens' cooperatives during the 1970s.

While this thesis has so far focussed on the social-historical forces shaping the contemporary fishing industry the following chapter will locate the fishing industry in its material as well as social context with particular reference to the processes of exchange at the quayside.

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CHAPTER 5

The Auction System

5.1 The use of the auction system at 'first sales' between catcher and fish buyer seems eminently sensible. It is a market clearing mechanism which ensures that all the fish put on the market on a given day is sold at some price regardless of size or quality. This arrangement came into existence as a consequence of the variability in size, quality and range of species of landings, coupled with the fact that fish is a perishable commodity.

To understand the auction system solely in terms of its efficiency in disposing of variable quantities of a perishable and variable commodity is, however, to fail to understand the social and historical aspects of the use of the auction mechanism. To comprehend these aspects it is necessary to consider the auction:

1. in its position between different ownership structures in fishing and fish processing sectors.
2. as a consequence of the prevailing level of technology and the way in which fish catching became industrialized.
3. in its role in the maintainance of the small scale labour intensive nature of the Aberdeen fish processing industry.

5.2 The Auction System in the Structure of Ownership.

Auction Markets, Vertical Integration and Contract Systems

The market, as an institution of exchange, is the pivot around which both the catching and processing sides of the Scottish white fishing industry organize. In this respect the fishing industry of north east Scotland is similar to the majority of wet fish landing ports in Britain.

A review of the fisheries of Europe, however, indicates a variety of methods by which fish are landed and distributed, which employ neither auction market nor indeed, in some cases, exchange at all. Two examples illustrate the range of mechanisms which exist for landing and distributing fish.

The West German fishing industry is dominated by the deep sea sector of the industry. This sector accounts for 120,000 of the total 170,000 tonnes landed in west Germany and is dominated by the giant Nordsee group.[1] This group is owned 68% by Unilever and 31% by the Dresdner bank and employs $\frac{1}{3}$ of the 30,000 national fish workforce.[2] Nordsee is vertically integrated from its trawler fleet, through its processing plants to its chain of retail shops and fish restaurants.[3] This pattern of ownership evidently excludes the necessity for an auction market at the point of landing.

In the case of the Hull freezer trawler fleet, where fish was caught on contract, the large Humberside processors contracted the freezer trawlers to fish for a given quantity of fish and bought it on a fixed price basis. Freezer technology allowed the Hull companies

to break through the material restrictions which previously made quayside auctions necessary. These vessels with the capacity to freeze at sea could continue to fish until the target quantity is met. Previously, length of fishing period was limited by deterioration of the catch already in the fish hold.

The range of methods for landing and distributing fish may be seen as a continuum with the fully integrated system such as Nordsee at one end and the auction mechanism at the other. The contract system represents a mid point on this continuum. Which particular method is in operation at any given port depends on the following factors.

1. The pattern of ownership on both sides of the quayside.
2. The material context of production and the forces of production in use.

Ownership and Exchange in the North East of Scotland

The use of the auction system in north east Scotland reflects the fragmented structure of ownership on both the catching and processing sides of the industry. It also reflects the fact that all white fish landed in north east Scotland is fresh rather than frozen.

The quayside in the north east of Scotland is more than simply a geographical break. It also represents a break in the patterns of ownership in the industry. In other words, the processing industry is for the most part owned by different individuals and companies from the owners of the catching industry. Processors and catchers only relate to each other through exchange on the auction market.

This is not to say that no ownership links cross the quayside. Table 7

TABLE 7

Ownership Linkages between Catching and Processing Sectors of the North East White Fishing Industry

Catching	Processing
Wood Group (T., F.S., In.)	Allan and Dey Group (F., S., Fro.)
Richard Irvin (T., F.S., In.)	Alert (F., Fro.)
British United Trawlers (T., F.S., In.) (Associated Fisheries)	—
George Craig & Sons (T., F.S.)	Fillets (F., Fro.)
(I)	Fred Paterson (F)
J. Marr (T., In., F.S.)	Processing interests located in England (Fro.)
Bruce Wood	—

Key: T. - Trawling
F.S. - Fish Selling
In. - Inshore Vessels
F. - Fresh Fish
Fro. - Frozen Fish

indicates Aberdeen trawling companies with fish processing subsidiaries. However, these subsidiaries account for only around 3% of the total number of processing units operating in Aberdeen, although, because they tend to be larger than average, output is above this percentage.[4] The exceptional case of Fred Paterson, a fish merchant and owner of three inshore vessels highlights the general case that processors do not own interests on the catching side of the industry.

Even where trawling companies have substantial interests on the processing side (for example Wood Group/Allan and Dey) what is in existence is not forward integration. The relationship between the two company groups is a commercial one mediated through the auction market. There is no obligation on the processor to buy only or mainly fish landed by a trawler in the same company group. Nor is there any obligation on the trawler to sell only to or on advantageous terms to a processor in the same group. The relationship between the catching sector and processing sector is mediated wholly through the auction mechanism even in the few cases where the same company has interests in both sectors. A single caveat is the case of a market glut in which case a processor, all other things being equal would buy from a trawler in the same company group.

The explanation as to why the trawling companies have not become fully vertically integrated on the Nordsee model is rooted in the material nature of the production processes in fishing and fish processing. Frozen-at-sea fish illustrates that where the perishability and erratic supply of fish do not present a problem the auction and indeed exchange at the quayside may be bypassed altogether. Where the

commodity is fresh fish, the position is different. The whole catch of a wet fish trawler must be placed on the market as soon as possible before further stages of deterioration set in and market value is lost. Furthermore, trawl and seine net catchers cannot accurately predict what the size, quantity or species their catch will consist of. In these circumstances the interests of an individual trawler and an individual processor in the same company group may not coincide. The trawler's interest lies in disposing of all of its catch, both high and low quality, all species and sizes. The processor on the other hand will purchase fish aimed for specific markets and will want specific sizes, species and quality. Without the compulsion of the perishability of fish, a wholesalers function would normally have a role here - acting as a resevoir directing suitable quantities of fish of the correct species, size and quality as needed. However, no stock-piling or warehousing function is possible and the auction mechanism must clear the whole market. The auction acts as a substitute for the wholesale function evening out supply and demand for both trawler and fish buyer.

The contract system sporadically makes an appearance in Aberdeen but only on the margins of the auction system and never threatening it. Line caught fish because it is a selective method (only large fish can take the hook) can guarantee a more predictable catch than either trawl or seine net fish. Consequently line caught fish has shown a greater propensity to be sold on contract. Similarly during periods of persistent low prices on the auction market the contract system tends to be brought into use. However when prices become buoyant again fishermen tend to back out of earlier agreements in favour of the auction. This was the case with the Findus contract system in 1970.[5]

The current period of low prices has had a similar effect. Clipper seafoods signed its first contract with an inshore vessel in March, 1981 aiming to receive a regular supply from twenty vessels.[6]

5.3 Industrialization and the Tempo of Production

At this point it is apposite to introduce a theme which will emerge repeatedly throughout the remainder of this thesis. It concerns the tempo of production in the fishing industry.

One aspect of industrialization is generally accepted to be the progressive diminishment of the grip of nature on the tempo of production. As the emphasis of production has moved from agriculture, with domestic handicraft, to manufacture and thence to machinofacture, the rate of work became increasingly determined by human and social limitations rather than seasonality and the weather. Trade union limitations on the length of the working day and intensity of work, for example, became a more significant determinant of the pace of production than weather and the seasons.

The fishing industry, however, has never broken the hold of nature over the tempo of production. The environment in which fish production takes place and the fact that fishing is still essentially a hunting form of production, has limited the impact of machine technology at least in so far as the tempo of production is concerned. Even with the degree of sophistication reached in the modern seiner - trawler, weather, seasonality and luck play a disproportionate part in determining the quantity of fish landed and when this takes place. Given the patterns of ownership in the Scottish fishing industry and the fact that freezer-trawlers are not in use at all, the auction market responds to these circumstances by dramatic rises and falls in ruling prices. An example from October, 1980 reads:

> "Gale force winds restricted operations by Peterhead's white fish fleet last week when 151 arrivals landed 15,902 cwts. valued

at £486,098 - down 4404 cwts. and £26,211 on the previous week.

The short supplies resulted in keen demand for all varieties and prices for best codling escalated to £69 per box."[7]

The effects of this erratic tempo of supply makes itself felt right through to the processing and marketing sector of the industry. For now however I will only examine the ramifications of erratic production patterns on the use of the auction mechanism and fishermens' response to the problem.

5.4 In the north east of Scotland, the introduction of the acution system took the form of a power struggle between herring curers and fishermen. In its origin therefore, it was not a neutral institution solely adopted for technical reasons, but as an institutionalized set of power relations.

As was described in Chapter 2 the typical relationship between herring fisherman and curer was based around the contract. The contract system in periods of regular landings allowed the curer to predict the quantities of his other factors of production - salt, barrels and labour. However, the contract system - buying at a fixed price - became a burden on the curer during periods of glut which could and did pull many curers into bankruptcy.[8] In glut conditions the curer was faced with the choice of either selling his herring at a loss or not selling it at all. The contract with the fishermen meant that he found it difficult to restrict production.

After a series of disastrous seasons around 1886, with wildly fluctuating catches the auction system was introduced at the major herring ports.[9]

The curer could now buy in proportion to his market outlets and the ruling price; he no longer had a long term obligation to buy supplies.

The herring fishers were not unaware of the significance of this development; the curers had passed on to them the risks involved in over-production. The fishermen were now the ones who bore the weight of gluts on the market. They formed themselves into an association for the purpose of combined action and a "strike" was called.[10] Although there were riots in Peterhead, the crucial middlemen, the curers, backed by the banks won the struggle and subsequently most herring were sold by auction.[11] This was not the last time that owner-fishermen of the north east were to learn that the tactics appropriate for wage labourers in dispute with their employers are not necessarily appropriate for petty commodity producers.

The white fish industry, before trawling, had sold their line caught fish by hawking it direct to consumer or less usually, supplying retail fishmongers in local towns.[12] The rise of the trawling industry was synonymous with the rise of the auction system. In this case, however, the auction system was not imposed on the trawl owners from outside but chosen as being most closely aligned to their interests. These interests were to receive the highest market price possible for each component of each vessel's catch. Because white fish is a non-selective mode of fishing a range of species, sizes and qualities are landed. This is unlike drift net, herring fishing which by its nature is selective, landing a more homogeneous commodity. The auction system ensured that each category of white fish found its own price level on the market.

These facts did not obviate the earlier point, that the auction system places the risks involved in over-production on the catcher, whether capitalist or petty commodity producer. The following section examines attempts by the catching industry to minimize the effects to gluts and consequent price slump, particularly through minimum price schemes.

5.5 Price and the Auction Mechanism

The erratic supply pattern endemic to the fishing industry finds its expression through fish prices. During periods in which fish prices are rising generally faster or at the same rate as costs of fluctuating first sales prices do not necessarily work to the detriment of the fish catchers. True, they, rather than the fish buyers absorb the effects of erratic production but overall ,there can be gains as well as losses.

Historically, where fish prices generally have fallen, external institutions have intervened in the auction system to limit the losses occurring in temporary price slumps. Temporary minimum price withdrawal schemes have been operated when general fish prices have been in decline by both the White Fish Authority and the Herring Industry Board.

Britain's entry into the E.E.C. saw the instigation of a more permanent effort aimed at alleviating price disruptions through the medium of Producer Organizations.

Producer Organizations

As part of its overall stratagy to rationalize the organization of fish marketing the E.E.C. stimulated the growth of the Producer organizations. Arising out of the ranks of the catchers themselves the general aim of

the P.O.'s is to rationalise fish marketing and ensure that conditions for the sale of its members fish are improved.[13] However, by far the most important function of the British P.O.'s to date had been the operation of price support schemes. This of course is a consequence of the generalized use of the auction mechanism at first sales.

E.E.C. funds are allocated on which P.O.'s can draw to refund members whose fish fails to reach a minimum price set by the E.E.C. Over and above this however, P.O.'s may operate their own autonomous minimum price withdrawal scheme by which their members are reimbursed for withdrawn fish out of the P.O.'s own funds. P.O.'s autonomous price floors are at a higher level than those of the E.E.C. and are financed by a levy of ½% on the fish sales of all of the P.O.'s membership. Withdrawn fish is sold for pet food or fishmeal, removing it from the high value, human consumption market. Although in principle this was what was supposed to happen, it is not unknown for unsold fish to re-enter the fish marketing sector by private bargain between P.O. officials and fish merchants. The choice of whether to institute withdrawal prices at a higher level than those of the E.E.C.; or to cover species not covered by the E.E.C. is the prerogative of the P.O.

Since 1975 P.O.'s have operated price support schemes aimed at the stabilization of prices. The P.O.'s affecting the north east of Scotland are listed in Table 8 . Not all vessels landing fish on the market are members of P.O.'s. This has the effect of seriously weakening the withdrawal price schemes.

Minimum price withdrawal schemes and merchants buying rings should be seen as an attempt by catchers and buyers respectively to reduce

TABLE 8

Producer Organizations in the North East of Scotland

NAME	TYPE	LOCATION	NO. OF VESSELS	DATE OF FORMATION
1. Fife P.O.	Inshore	St. Monance Pittenweem Antruther	50	1980
2. Scottish Fishermens' Organization	Inshore	Scottish Coast	650	1975
3. Aberdeen Fish Producers' Organization	Trawler/ Inshore	Aberdeen	90*	1975
4. North East Scotland Producers' Organization	Inshore	Moray Firth	90	1980

* Declining rapidly 1975-1981

the amplitude of price fluctuations on the auction. Rings are informal agreements between a group of merchants who would normally bid against each other, to suspend competition between themselves for one particular lot of fish. The lot is subsequently divided between the members of the ring at the quayside price. In normal conditions the auction is the epitome of free market exchange with many sellers and buyers, none able to singly influence price. Buying rings tend to be temporary responses to particular market conditions, especially on days with low supply and high price. They are not institutionalized responses to erratic supply in the same way that minimum price schemes are. A more accurate parallel with the catching side of the industry might be an arrangement between catchers to stagger landings where possible to avoid gluts. Whereas minimum price schemes provide a floor to the market, buying rings are aimed at reducing the peaks in price when supplies are low.

In the white fish sector the auction system has been used because historically it was the most profitable way in which the company owned trawling sector could sell their fish, given the prevailing technology. After the structure of the industry became established newcomers particularly inshore fishermen moving into white fishing from herring had to adapt to the existing system.

Other groups, however, also benefited directly from this set up. In particular, the small processors which proliferate in Aberdeen are absolutely dependent on the auction system.

The auction allows them to buy precisely the quantity of fish needed for one particular day. There is no price penalty for buying in small

quantities. The large processor buying in tonnes receives no price advantage over the small processor buying a handful of cwt. boxes. This allows the small processor to balance his supply of raw material very precisely with the supply of his other factors of production and the market. This in turn, allows a flexibility which is a crucial element in the survival of small scale production units in the fish processing sector.

In conclusion, the existence and operation of an auction system in white fish sales in the north east of Scotland reflects both material and social factors. The auction is an adaption to specific material conditions associated with fish production, but it also reflects the existence of different patterns of ownership and consequently power relations in the overall structure of the fish industry.

Notes - Chapter 5

1. Fishing News. 10.8.79.
2. Fishing News. 10.8.79.
3. Fishing News. 10.8.79.
4. Company Documentation, Company Registration Office Edinburgh and London.
5. Interview with Aberdeen Fisheries Officer, Department of Agriculture and Fisheries. 7.6.78.
6. Evening Express. 6.4.81.
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8. Whinnyfold. 1924. pp. 90.
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PART THREE

The Fish Processing Sector

CHAPTER 6

6.1 Structure, Technology and Employment

The two most salient features of the white fish processing sector in the north east of Scotland are its concentration on the city of Aberdeen and its fragmented structure of ownership. Some 215 - 230[1] firms in the business of buying, processing and re-selling fish operate within a mile and a half of the Aberdeen fish market. These companies are variously named fish merchants, fish buyers, fish processors and where it fits, fish curers. As this chapter shows, important differences between firms in the sector do exist, but these common lables are a very unreliable guide to the activities and structure of the firms involved.

The most significant of the real, as opposed to terminological, differences between firms in the fish processing sector is that of size. Up to 1976 the Findus branch factory employing almost 600[2] employees co-existed with around 150 firms who employ less than 10 workers and frequently only two or three. Some idea of the overall structure of the sector is gleaned from the statistics on the structure of employment in the Aberdeen processing industry in Table 9.[3]

The 1976 statistics are chosen deliberately for the reason that they clearly exhibit the structure of employment before decline set in, in particular sectors after this date. The overall pattern is clear - a pyramidal structure with a few large employers "resting" on a base of a large number of very small firms.

TABLE 9

Structure of Employment in the Aberdeen Fish Processing Industry (1976)

6	merchants employ over 100 people
4	merchants employ 61 - 100 people
9	merchants employ 31 - 60 people
59	merchants employ 11 - 30 people
154	merchants employ 10 or less people

Source: A.F.C.M.A.

"Resting" in this context is purely a figurative term because for the most part there was or is no functional relationship between the large and small firms in the sector. Subcontracting, for instance, accounts for only 1% to 2% of the larger companies total production and even this is on an irregular basis.[4] For the most part the relationship of the small firm to the large firm is that of competitors for supplies on the fish market, or as equals in the Aberdeen Fish Curers and Merchants Association.

The most significant factor differentiating the companies on the top of the pyramid from those on the bottom, apart from numbers employed, is the scale and level of technology used. In particular, the larger companies are involved in freezing most, if not all, of their product. This generally involves a scale of investment much higher than the average Aberdeen fish merchant/processor, who operates at a relatively low level of technology. The top of the pyramid is dominated by branch factories of large national and trans-national corporations. Fish processing in these cases is just one facet of their overall interest in frozen food production. The multinational groups Unilever, Imperial and Nestles all have (or more correctly had) fish processing

companies in Aberdeen, as well as Humberside and elsewhere in Britain. Also in the large firm sector, are companies owned by independent Scottish groups (Salvesons, John Wood Group) and large local fish processor/merchants (Clipper Seafoods, Joe Little, Starwood Fisheries).

The wide base of the pyramid consists of a large number of small labour intensive units, the great majority of which are owner-managed.[5] An intermediate group of thirteen companies also exists each employing between 30 and 100 workers.[6] This intermediary group exhibits features drawn from both the large company and the small firm sectors. A number are large fresh fish processors while others have invested in individual quick freezing plant (I.Q.F.) and have entered the frozen fish market. These firms are mostly owner-managed with noteable exceptions like the Scottish Co-operative Wholesale Society fish processing unit.[7]

What accounts for this structure? I have already indicated that there is no functional relationship between large and small fish processors, e.g. wide-spread subcontracting. If the small firm sector survives therefore, the answer must lie in the fact that the small fish processors exist in areas of operation which for some specific reason are unattractive to large scale capital. Much of the remainder of this chapter is concerned with a consideration of the factors which inhibit the expansion of large scale capital into this sector. It is also concerned with the ways in which the small fish processors organize themselves for survival.

6.2 Fragmentation of Ownership

The lack of horizontal integration within what is variously called the fresh fish sector,[8] the traditional sector[9] or the small firm sector, is remarkable. For the most part these firms are owned by either the individual who manages the unit, by family groups or by small partnerships.[10] While a handful of fish merchants own more than one fish-house, generally each firm in this sector is owner-managed. These type of firms account for almost 200 of the 230 businesses in the sector.[11]

The reasons for this relatively disintegrated structure of ownership ultimately lies in the fact that there is a very low capital threshhold to entry to the 'fish trade'. Mackenzie identified this point in 1953:

> "it requires very little capital to set up as a fish merchant. It has been said in fact that 'a man with no more than a pocketful of nails and a hammer is able to enter the fish market as a merchant'. Credit has been fairly easy to obtain from local banks which specialize in the financing of fishing enterprises. The result is that small concerns represent a very high proportion of the 230 merchants in the trade."[12]

This remains true today. Premises can be rented, leased or shared. Even fairly large fish-houses are little more than two-tier sheds. It is common for up to three or four fish merchants to operate out of one small fish-house, their business consisting of a filleting table, a handful of filleters and access to telephone and utilities.

The prevalent methods of production are hand based, (see section II) consequently there is little or no outlay on capital equipment. Raw

materials, labour and cartage are the main costs to a fish merchant accounting respectively for 70% to 80%, 6% to 8%, and around 5% of total costs.[13] The exceptionally low labour costs reflect the high proportion of female labour employed and the absence of collective as opposed to individual bargaining over wages. The low cartage costs is partially the result of the operation of a collective transport system. This is discussed further below. Even premises and capital equipment are not necessary considerations in the initial months or years in the life of a fish processing business.

This ease of access to the fish trade and fragmented pattern of ownership, for Mackenzie, lay behind the conditions of production in the small firm sector:

> "the majority of fish-houses in Aberdeen are extremely small, ill equipped and even insanitory. The buildings are usually of wood with cement floors and wooden tables with boxes for the fish and narrow runnels or gutters to hold residues and drain away dirty water. Filleting tables too are of wood and are extremely difficult to clean. In the neighbourhood of the harbour and on the south bank of the Dee near Victoria Bridge fish stations huddle together in such a way that expansion is impossible and when fish boxes pile up, there is little more room at some entrances than is needed for a man to pass through. In the opinion of some of the more enlightened merchants the places are often unhygenic, both from the point of view of the food that is handled in them and the people who work in them. There are certainly up to date premises, but the conditions of the majority certainly make it open to doubt whether Aberdeen can maintain its reputation for good quality fish when the premises in which they are handled are in need

of complete overhaul."[14]

There have been changes since 1953. More fish-houses are purpose built cement block structures and stainless steel filleting tables are in evidence in a number of firms. But this description is immediately recognizable as the small firm fish processing sector in 1980. The cramped rather archaic conditions of production are still a central feature. A 1980 District Council environmental health survey[15] of 197 fish merchants' premises found 84 failed to reach the basic minimum standards of the food hygene laws. 73 did not have a washing-up sink, 82 had no hot water supply to a sink and 77 had no cold water to a sink. Another 19 did not have a wash-hand basin, 18 did not have hot water to a wash-hand basin and 8 did not have cold water for washing. With regard to premises:

> "Premises vary considerably from modern purpose built factories to corrugated iron and block buildings ... some of which externally at any rate appear almost derilict.[16]
>
> Part of the blame lies with the Food Hygene (Scotland) regulations which do not say that a firm's premises have to be large enough for the work to be carried out."[17]

These considerations stem, then, from the fact that low thresh-holds to entry maintain the high number of merchants limiting their room for expansion in both economic and spatial terms.

The specific reasons why the small firm sector operates at such a low level of technology are examined in detail in chapter VII. In brief they are connected with socio-technical barriers to the

introduction of mechanization to the core process in fish processing - fish filleting. Other factors however also determine the horizontal and vertical structure of the fish marketing sector, and so the conditions of the small firms survival. The most significant of these is the fish merchants collective response to a range of problems through the Aberdeen Fish Curers and Merchants Association (A.F.C.M.A.).

Very simply, the degree of 'formal' vertical integration is very limited. Chapter V indicated that the proportion of trawling companies 'integrated backward' into the processing sector accounts for only 3% of the total number of companies in the processing marketing sector. Only one Aberdeen fish merchant owns any fishing vessels, (F. Paterson). Forward integration even by the larger processors stops at the quayside, although backward integration through distribution channels (transport and cold storage) is more common in the case of the large national food processors.

The horizontal fragmentation of the processing sector as a whole, however, has limited the extent to which any individual firm could develop to a stage where vertical integration would prove profitable. A range of activities organized by the A.F.C.M.A., however, might usefully be seen as a move towards an informal vertical integration, on behalf of the small fish merchants. By this I mean that while individual units of ownership remain small, collective ownership through the A.F.C.M.A. has expanded a range of activities in a way which resemble very closely stratagies of vertical integration pursued by larger concerns.

Not all of the functions of the A.F.C.M.A. are directly concerned with the maintenance of the existing structure of the fish marketing/processing sector, but most of its major roles are designed to support the small firms which make up most of its membership.[19] All but approximately ten fish merchants in Aberdeen belong to the A.F.C.M.A.[20] The associations functions may be subsumed under four main headings: finance, transport, secondary supplies and the "political" role.

Finance

1) The alleviation of essential administrative and financial aspects of running a fish merchant's business is brought about through the operation of the A.F.C.M.A. Central Pay Table (C.P.T.). This scheme absolves the Aberdeen fish merchant of the main burden of accounting and administrative tasks that are normally straight costs to the merchant.[21]

The scheme means that the A.F.C.M.A. acts as a clearing house, settling the numerous daily transactions between merchant and fish salesman and merchant and inland wholesaler/retailer. The merchant receives one cheque per week from the association and writes one in return. This usually reduces the clerical staff in the typical fish merchants to a maximum of one.[22]

The C.P.T. is particularly important in the fish trade because the high number of transactions which a merchant is involved in but also because the quantities involved vary daily. The various fish-selling companies send a list of the weekly purchases made by the merchant to the association. The association adds to this cartage costs, ice, stores

and box pool levy costs and charges these to the merchant, less rebates. The merchant mustclear these debts by a single cheque by 10.00 a.m. each Tuesday morning.

A whole strata of 'unproductive' workers are thus removed from direct employment by the small firms in the fish processing/marketing sector.

A second financial role played by the A.F.C.M.A. not directly concerned with the structure of the sector is worth brief discussion here. This is the fish market guarantee scheme. The fish trade as a system of exchange is based on credit and as such has suffered frequently in the past from bad debts. As a guarantee against bad debts on the fish market the scheme run by the A.F.C.M.A. stipulates that the entry of a buyer onto the market must be backed by a deposit of one and a half times his expected weekly purchases. This money is deposited with the A.F.C.M.A. and the interest on it accrues to the Association. Through this deposit, the association can exercise sanctions to back up fish market exchanges based on credit. The deposit limits the potential size of default by linking weekly purchases to the guarantee. The interest, in the meantime, is used to subsidise the favourable price of secondary supplies.[23]

Transport

The details of fish distribution are dealt with more fully in chapter VII. Here I want to discuss only those aspects which support the existing structure of the fish processing sector.

The A.F.C.M.A. effectively has the ability to confer the monopoly of fish haulage to most of England (where $\frac{2}{3}$ of Aberdeen filleted fish are

sold).[24] Without this collective distribution system many of the smaller merchanting firms could not survive. The need for a distribution monopoly derives from the fact that the locations to which fish are delivered are widely scattered and the daily quantities of fish delivered are small and irregular. To ensure the functioning of the distribution system as a whole the fish merchants must guarantee that the unprofitable as well as the profitable routes are serviced. To do this the A.F.C.M.A. could either take on the distribution function itself or contract it out as a monopoly to a private haulage company. In fact, they choose to do the latter and Charles Alexander and Partners Limited have held the contract since road haulage took over from rail as the primary means of distribution.[25] In Grimsby, with a similar industrial structure, the Fish Merchants Association operate a transport co-operative.[26] Both systems allow a flat rate to be charged for the transport of filleted fish regardless of size of load or distance involved. The small firm in this way is not penalized for small irregular consignments, nor does any advantage of scale accrue to the larger processor. "Scab" haulage firms do operate by undercutting the flat rate on some profitable routes but do so on the periphery of the fish distribution system and do not seriously challange the association monopoly.

Subsidised Secondary Supplies

Because the merchants are organized collectively in the A.F.C.M.A., economies of scale are achieved in bulk buying secondary supplies i.e. supplies other than fish. These supplies are further subsidised by the other production activities of the association, notably, box making.[27] In 1978 rebates of 5.8 pence per stone of fish carried by the A.F.C.M.A. co-ordinated transport scheme was paid. Stores and motor supplies

received a 23% rebate, boxes a 16% rebate, while petrol purchases had a 6 pence per gallon rebate.[28] In this way the association attains economies of scale for its members normally only achieved by relatively large scale producers.

A less tangible, but no less real, reason for the fragmented form of the fish processing sector is the fact that the association acts as a collective voice for the fish merchants when dealing with trawl owners, inshore fishermen and representatives, local and national government bodies. Collective action gives the fish merchants a political weight which individually they do not have. Although difficult to quantify, this aspect of the A.F.C.M.A. role is crucial.

While remaining fragmented in horizontal terms, the white fish processing industry has pushed out vertical tentacles which sustain and support the small scale ownership pattern. Economies of scale are achieved through the A.F.C.M.A. but the merchants have also taken over aspects of direct production in vital ancillary industries. Box making is carried out by the A.F.C.M.A. in a subsiduary factory and the main outlet for offal is in the process of being purchased by a consortium of 260 merchants (March, 1981).[29]

6.3 From Employee to Employer

The step from employee to employer in fish processing , at least in the small firm sector, is much less awesome than in most industries in the late 20th century. Initial capital costs are low and credit facilities are generally available. Premises are usually a problem which it is necessary to resolve only after becoming established in a corner of an existing fish-house. The low level of technology, due to the predominantly hand based methods of production and the auction system means that two key factors of production, raw material and labour may be purchased in daily proportions with no long term overheads or outlays.

Breaking into the market is frequently achieved by taking a former employer's customers by quoting lower prices for an initial period. Knowledge of a former employer's customer list is possibly the most important single factor in becoming established as a merchant/processor. Indeed the type of knowledge built up through working as an employee in the fish trade is indispensible to the reproduction of the sector in its present form. Gaining entry to the social network of "the fish" allows access to information channels about the availibility of fish, labour and premises. These taken-for-granted contracts built up through working in the fish are activated when a fish worker breaks with his employer to begin a new business.

6.4 Structure and Competition

Two forms of competition co-exist within the fish processing industry, reflecting the two patterns of ownership. The large scale freezing companies compete on an oligopolistic basis. Fish is just one of a range of frozen food products, the prices of which are set in reference to only two or three other competitors. These companies are for the most part price makers rather than price takers. Selling a branded product, competition for market share often takes place at the level of advertising and packaging rather than price. The fish processing subsidiaries of Unilever, Associated Foods, Nestles, Imperial Group and Salvesons belong to this category of company.

The form of competition evident in the small scale fresh fish sector is more akin to the 19th century neo-classical model. This, of course, reflects the large number of small firms competing to buy the same means of production and labour and sell a relatively undifferentiated product in the same (U.K.) market.

The overwhelming importance of raw material in the total costs of a small fish processor ensures that the fish market is the key focus of competition in the purchase of factors of production. The purchase of fish accounts for some 70% to 80% of total costs.[30] Because a fish merchant's profitability is crucially related to the cost at which he can purchase fish, the relationship of fish merchants to each other is one of intense competition, interspersed by short irregular combinations in buying rings. The number of enterprises involved on both sides of the auction ensures that both catchers and buyers are generally price takers. Further neo-classical assumptions are met in the relatively free entry of buyers and sellers to the market and the relatively

homogeneous nature of the commodity. The display of fish on the auction floor ensures that conditions as near perfect knowledge as possible may be assumed although these conditions diminish when the effect of buying on distant markets and the trucking and consignment systems are taken into consideration. Some merchants have access to superior information channels than others.

As a seller of a commodity the fish processor also faces competition from processors/merchants in Aberdeen, Hull, Grimsby and Fleetwood all selling a similar product. Product differentiation, such as it is, is nature imposed, but is also a consequence of the way in which fishing became industrialized.[31] The distant water ports tended to land larger but coarser fish than the near water and middle distance fleets of Scotland. This has been a major reason why Aberdeen fish merchants have been able to compete with English fish merchants, in the English market, despite the higher transport costs involved.[32] Despite the superior quality of Scottish fish, the commodity on sale is not so dissimilar that they are effectively in different markets. Heavy landings in the English ports undoubtedly affect prices in Aberdeen and the Scottish inshore markets.[33] Market intelligence reports on landings in all of the major fish landing ports including Hull and Grimsby are circulated to all A.F.C.M.A. members before the auction begins allowing them to assess likely demand and competition.

Again, the form of competition is similar to the neo-classical model with large numbers of buyers and sellers none of whom can individually affect market price. One interesting point is the extent to which "perfect knowledge" is systematically distorted in the merchants struggle to retain and gain customers. Before fish stocks were dramatically affected

by over-fishing, competition for custom was the main form of inter-merchant competition in the sector. Subsequently there has been a shift so that competition is mainly centered on fish buying. Anecdotes abound in the industry of the extents to which merchants would go in the inter-war period to disguise the lables on dispatched fish.[35] The merchant's list of customers was considered his most valuable asset, being built up by personal contact reputation and in some cases inheritance. Reduced fish landings has made first sale purchase the crucial area of competition, although in periods of glut, for example the 1980 flood of European imported fish, a secure customer list is still a crucial part of survival. Knowledge about market outlets is thus systematically distorted. Access to this kind of knowledge is as important as finance to the new fish merchant. Again, the network of social relationships within the fish can provide or exclude an individual from this knowledge.

Notes - Chapter 6

1. Interview with Chairman of Aberdeen Fish Curers and Merchants Association. 2nd June 1978. The variation between 215 and 230 is accounted for by (a) annual variations in the "birth" and "death" rate of fish processing businesses in the sector (b) a handful of non-A.F.C.M.A. members which decline to join the association for religious reasons, being members of Plymouth Bretheren or one of their splinter sects.
2. Interview with Chairman of A.F.C.M.A. 2nd June, 1978.
3. Interview with Chairman of A.F.C.M.A. 2nd June, 1978.
4. Interview with Managing Director of Allan and Dey Fish Processing Group. 27th March, 1980.
5. Company Documentation. Company Registration Office Edinburgh and London.
6. Interview with Chairman of A.F.C.M.A. 2nd June, 1978.
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8. Taylor, R.A. The Economics of White Fish Distribution in Great Britain. 1960. pp.
9. Rosson, Philip J. Fish Marketing in Britain. European Journal of Marketing. 9, 3. 1975. pp. 243.
10. Company Documentation.
11. Company Documentation.
12. Mackenzie, Hugh. 1953. pp. 186.
13. Company Documentation. Costs Study.
14. Mackenzie, Hugh. 1953. pp. 185.
15. Findlay, Robert. Director of Environmental Health, Aberdeen District Council. unpublished Report on the Aberdeen Fish Processing Industry. 3rd October, 1980.

16. Findlay, Robert. 1980.

17. Findlay, Robert. 1980.

18. This is not so much backward integration as investment in two separate spheres.

19. Interview with Chairman of A.F.C.M.A. 2nd June, 1978.

20. See note 1.

21. Interviews with Aberdeen Fishmerchants. April 1978 - June 1980.

22. Interview with Aberdeen Fishmerchants. April 1978 - June 1980.

23. Interview Chairman of A.F.C.M.A. 2nd June, 1978.

24. Interview with Chairman A.F.C.M.A. 2nd June, 1978.

25. Interview with Chairman A.F.C.M.A. 2nd June, 1978.

26. Interview with White Fish Authority Regional Officer for Hull. 15th February, 1980.

27. Interview with Aberdeen Fishmerchants. April 1978 - June 1980.

28. Company Documentation.

29. Evening Express. This number includes a number of non-Aberdeen, North eastern fish processors. 24th March, 1981

30. Company documentation. Costs Study.

31. See Chapter 7 for a discussion of product differentiation in the fishing and fish processing industry.

32. Interview Aberdeen Fishmerchants. April 1978 - June 1980.

33. Interview with Aberdeen Fishmerchants. April 1978 - June 1980.

34. Interview with Aberdeen Fishmerchants. April 1978 - June 1980.

35. Interview with Aberdeen Fishmerchants. April 1978 - June 1980.

CHAPTER 7

Operations

7.1 Introduction

This chapter will examine the operation of the firms involved in the processing sector. Earlier, I have indicated that most of these units are best understood as industrial rather than merchant capitalists. If the examination is taken deeper, however, to the organization of the labour processes involved in white fish processing, light can be shed on the reasons underlying the location, organization and structure of the processing industry in Scotland. For the firms in the fresh fish sector the purchase, filleting and dispatch of a range of demersal species is the core of their activities. Even in those firms where further processing is carried on like curing, smoking or freezing these operations are built onto the basic problems of supply, filleting and distribution.

7.2 Supply

The coordination and control of the acquisition and use of raw materials, capital equipment and labour power are the defining characteristics of the industrial capitalist.[1] The first of these, the supply of raw material is more problematic in the fish processing industry than in most others. Again, because of the material nature of fish, certain rigidities are imposed on the way that supplies can be utilized and organized. Because of the idiosyncracies of the fish distribution system this topic deserves some discussion.

The distribution system between point of landing and processor is

very fluid. Its flexibility meets the problems caused by the transportation of a perishable and variable commodity in variable quantities, variable distances and often at irregular intervals. Despite its fluidity, however, definite patterns can be discerned in the fish distribution system. These patterns are currently changing in response to the effects of the changing international fisheries regime. However, before discussing the nature and significance of these changes some attention must be paid to the pre-existing system.

The economics of distribution costs clearly indicate that it is desirable for processing to take place as close to the point of landing as possible.[2] Processing, in particular filleting, reduces the weight of demersal species by around half.[3] The precise ratio of flesh to offal depends on yield which varies with different species, age, quality of the fish as well as labour skills and method of processing.[4] The considerations of transport costs clearly had a considerable bearing on the development of a processing industry in Aberdeen in the early 1900s, as well as Hull, Grimsby and Fleetwood for that matter. The cost benefits of locating processing capacity at, or near, the point of landing has thus been the major determinant of industrial location and consequently fish distribution patterns in Britain into the 1970s.

Without painting too static a picture, this also has been the major determinant of fish distribution patterns in North east Scotland throughout the 20th century. Aberdeen dominated the landing and

processing of white fish by virtue of its trawler fleet and transport links with the main industrial markets in the South. The movement of fish before processing in this case, although complex[5] in its day to day workings, operated on fairly straight forward principles. As something like 95% of fish processors premises in Aberdeen are located within a $1\frac{1}{2}$ mile radius of the fishmarket short haul, flat back, open lorries, owned either by a fishmerchant or haulage company, move fish from fishmarket to fish house. Table10indicates the transport firms primarily involved in this form of fish transport.

TABLE 10

Short Haul Fish Haulage Companies in Aberdeen 1980
Fastnet Limited
G.T. Fraser
C.F. Jennings
Lewis Milne
Morrisons Transport
James Porter
R. & J. Simpson
Ward Noble
Market Transport
Martin Transport
Alfred Nicol

7.2.1. The reverberations of the changing international fisheries regime and other associated factors discussed in chapter III have had their effect on the fish distribution system in Scotland.

Firstly, the demise of the English distant water fleet caused the centre of gravity of fish landings to move Northwards into Scotland as indicated in Table 11.

TABLE 11

Total Demersal Species Landed 00.M.T.		
	England and Wales	Scotland
1946	5470	1570
1974	3746	2623
1975	3255	2495
1976	2967	2724
1977	2428	2483
1978	1914	2313
1979	1600	2018

Source S.S.F.S.T.

Secondly, the shift in profitable catching capacity from trawling to inshore sectors affected not only the landing patterns between Scotland and England but within Scotland also. Whereas in 1965, 50.4% of landings in Scotland were made in the trawling ports of Aberdeen and Granton[6] by 1979 only 25% of landings were made in Aberdeen, Granton having ceased to operate as a significant trawling port. Even these figures exagerate the significance of trawling as seine net and light trawlers also operated out of Aberdeen and Leith fishery districts. The full proportions are seen in Table 12.

Total % of Fish Landed in Scotland (Demersal Species only) by British Registered Vessels by Fishery District

	1965	1979
Eyemouth	3.5%	2.9%
Leith	5.9	0.5
Pittenweem	1.9	2.3
Arbroath	2.1	2.2
Peterhead	3.7	31.7
Fraserburgh	7.4	5.6
Macduff	2.2	2.4
Buckie	5.2	1.4
Lossiemouth	3.6	0.8
Wick	3.0	1.7
Orkney	0.02	0.04
Lerwick	4.8	12.9
Stornaway	0.3	0.8
Ullapool	8.6	4.0
Mallaig	0.3	1.9
Oban	1.8	1.3
Cambeltown	0.7	0.5
Ayr	0.2	1.8
Aberdeen	44.5	25.0
Total	4643612 cwts.	50525.4 MT.

Source DAFS S.S.F.S.T.

TABLE 12

In short, what this means is that by the end of the 1970s over three quarters of demersal species landed in Scotland were made by inshore vessels. Because inshore landings are made at a range of harbours around the coast, the fish supply system was forced to adapt to the new conditions. The new system may best be understood in terms of three categories:-

1. Peterhead landings.
2. Fish Trucking.
3. Consigned fish.

7.2.2. Peterhead

The movement of the seine net fleet from Aberdeen to Peterhead in 1970 is discussed in Appendix A. It occurred at a time when inshore fishing was poised for a period of rapid expansion. The consequence has been that Peterhead in 1979 accounted for 31.7% of total demersal landings in Scotland whereas in 1965 it accounted for only 3.7%.[6] Whatever the significance of Peterhead's development as a landing port for the inshore fleet (some 330 Scottish inshore vessels regularly land their fish and are serviced from Peterhead)[7] it did not significantly alter the existing pattern of purchase and supply of fish for the merchants. The distance between Aberdeen and Peterhead (31 miles) is such that merchants or buyers could travel daily to buy on the Peterhead market after inspecting the Aberdeen landings. The same short haul, open back, lorries could be utilized to transport the fish from Peterhead to Aberdeen. The main processing capacity remained rooted in Aberdeen for reasons discussed in the following chapter. The Aberdeen merchants' purchasing operation simply incorporated the Peterhead market. Some 70% of the regular buyers on the Peterhead

fishmarket are Aberdeen merchants or their buyers.[8]

Two factors complicate this fairly straight forward acquisition of fish on the Aberdeen and Peterhead markets. Firstly, even with the increase in landings at Peterhead these two markets cannot guarantee a constant supply to the Aberdeen fish processors. In 1979, 43.3% of landings in Scotland were made at ports other than Aberdeen and Peterhead.[9] This, then, is an important source of supply for Aberdeen processors.

Secondly, considerable quantities of fish are bought on the inshore and trawling fishmarkets for transport South, unprocessed, to supply the under-utilized processing capacity on Humberside. The organization of this complex and fluid system of supply is best understood in terms of two patterns: fish trucking and consigned fish.

7.2.3. Fish Trucking

The first point to make about both the trucking and consignment of fish is that they are not new and were not brought into existence by the new conditions of the 1970s. Fish has been moved by road and previously by rail in this way since the inter-war period. However, consigned and trucked fish has a new significance in the new conditions which it never had before. Both of these systems of supply are now crucial to the survival of many fish processors in Aberdeen and Humberside. Whereas before 1970 they might be said to be peripheral to the main arteries of supply, now they are central.

The second point to make is that the phenomena described here are known by a variety of other names in different ports along the coast. In common usage the terms trucking, consigned fish, trans-shipment, overland fish mean the same or different things depending on where you are and who you are talking to. The terminology used here is, therefore, as idiosyncratic as any, but defined in fairly specific ways.

Trucking, for example, is the speculative purchase of fish on market and its movement and resale either on another fishmarket or directly to a processor. Two main trucking channels can be identified in North east Scotland. Firstly the movement of fish from a range of inshore ports (excepting Peterhead) to Aberdeen processors. Secondly the purchase of fish on the Aberdeen, Peterhead and other inshore markets and its movement and resale on Humberside, either on Hull or Grimsby fishmarkets or directly to processors located there.

Aberdeen

In the case of fish moving overland to Aberdeen, it is possible to identify certain key merchants who organize the purchase and transport of fish from the inshore ports. This fish then supplies a much wider range of Aberdeen processors. Approximately 8%[10] of merchants may be identified as these key merchants although they supply around 40%[11] of the fish processing firms in Aberdeen. As is evident from Appendix E most fish trucked to Aberdeen in this way comes from the inshore ports of North, Northwest coasts and Shetland. However,

although less regularly, fresh fish arrives from Granton (Edinburgh), Fife, Ayr, Isle of Man, North of England (N. Shields), Ireland (Killybegs) as well as Mainland Europe. Aberdeen's pull for unprocessed fish, it can be seen, extends well beyond the North of Scotland, albeit spasmodically. While all Aberdeen merchants purchase at least some of their fish on the Aberdeen market, 60% also buy on the Peterhead market and 40% utilize fish trucked directly to their premises from other sources on a regular basis.[12]

Some idea of the flexibility of this system can be seen from the methods by which fish are acquired by the key merchants. Some of the larger processors who also truck fish have direct employees at the main inshore ports who act as buyers. A more common method is to have an agent, generally another independent fishmerchant, at each port. After assessing the ruling prices at the other coastal markets the agent is authorized by telephone to buy a given quantity of fish and arrange transport to Aberdeen. Reputation is everything here as the Aberdeen merchants relies on his agent to assess quality and size. A variety of forms of haulage are used; the agents, the Aberdeen merchants or hired transport. Thus, there can be a number of interchangeable links in the trucking chain which can react rapidly to changes in supply and demand.

The key merchants, acting as merchant capital, are taking advantage of regional and temporal price fluctuations caused by different size and quality of landings around the coast. Apart from these fluctuating features there is an inherent regional price differential caused by the pattern of location of processing capacity. In particular Aberdeen

and Humberside processors pattern the distribution of demand around the coasts. The reasons underlying the retention of processing capacity in Aberdeen after the changed pattern of landings is discussed in chapter VIII.

Humberside

The trucking operation to Humberside is a response to the same forces as the Aberdeen operation. Regional and temporal price differentials which in turn reflect spatial and temporal differentials in supply and demand. The Humberside operation is however generally speaking organized by different merchants than the Aberdeen operation.

TABLE13

Main N.E. Merchants Trucking Fish to Humberside
Clipper Seafoods
Cox Fish
D.T. Bruce
R. Croan

TABLE14

Main Haulage Companies involved in Humberside Trucking Operation	
Regular	Occasional
G.T. Frazer	Alex Eyre
Charles Alexander and Partners	Catto Transport
D.H. Spence	Clive Rotherey
Ewan Booth	
Gibb's of Fraserburgh	

The interdependence of North and North east fishmarkets and the Humberside processing industry is reflected by a number of indices. Approximately 37%[13] of the daily sales at Peterhead are trucked South mainly to Humberside. Although variations in demand from Humberside varies seasonally and with the effect of other sources of supply, it undoubtedly has a considerable effect on the price structures on the Scottish white fish markets. When during 1980-81 large imports of white fish were being purchased by the large Humberside processors fish prices on the North east markets fell to below the minimum price levels. Less spectacular but more persistent is the everyday influence of Humberside on the ruling prices in Scotland.

The Humberside processors however, entered the Scottish fishmarkets in a big way from a position of weakness. Having geared their production lines to constant and massive supplies of cod, the severance of these supplies forced them to either draw supplies from elsewhere, adapt production lines to different species and size of fish, or go out of business. There have been examples of all three, but the most common initial response was to increase their dependence on overland fish.

Although overland movement of fish from Scotland to Humberside increased dramatically in the 1970s it started as a system in the late sixties with the increasing use of freezer-trawlers. Contractual agreements between large Corporate fish processors and trawlowners bypassed the auction. Consequently the quantity of fish available to small and medium sized firms was reduced. Their response was to turn to overland supplies.

Statistical information on overland movement of fish is notoriously poor. While only statistics relating to 1977 exist for Grimsby, none at all exist for Hull. Furthermore, this information relates only to fish sold through the Grimsby fishmarket. No statistical evidence is held on fish moving directly to processors premises. Most observers, however estimate this to be over 50% of total overland supplies.

TABLE15

Fish transported to Grimsby Fishmarket for Sale. 1977

Source	Boxes/Annum	Tonnes/Annum
Aberdeen	5324	202.8
Ayr	7384	281.3
Eyemouth	32443	1236.1
Granton	79673	3035.7
Kinlochbervie	387	14.7
Peterhead	2262	86.2
Fort William	1510	57.5
Shetlands	5395	205.6
Other Scottish	10430	397.4
Rest U.K.	3241	123.5

Source W.F.A. Grimsby

The major changes since 1977have been;the demise of the Granton trawler fleet, increasing landings at Peterhead and decline at Aberdeen. All these influences would affect updated figures. Nevertheless some impression of the scale and scope of fish trucking to Grimsby is conveyed in Table 15.

Fish trucked to the Humberside fishmarket is sold through fish selling agents, generally on a commission basis. The agents, advise truckers as to the ruling prices on a given day and sell the fish by negotiation or auction [14] on the fishmarket floor. Tables 16 and 17 list the Hull and Grimsby fishselling agents who receive and sell Scottish fish.

TABLE 16

Hull Fishselling agents for Scottish Overland Fish
Jack Cone
John Robinson
Brekkes Limited
Hamling Limited
Dan Fish Sales

TABLE 17

Grimsby Fishselling Agents for Scottish Overland Fish
A.E. Richardson
Sam Chapmen and Sons
Consolidated Fisheries
Danbrit (Fish Salesmen Limited)
George B. Bee Limited
John R. (Fish Salesmen Limited)
Caley Fisheries (Grimsby) Limited
Tom Sleight (Fish Salesmen) Limited
Grimsby Fishmerchants Association
Clipper Seafoods *

* This is not an exhaustive list of Grimsby Fishselling Companies

The Humberside fishselling agents are linked by ownership to a number of different sectors. While some independents remain, (e.g. John Robinson) others are linked to large processors (e.g. Brekkes Limited). Yet others are linked to large scale trawling interests (e.g. Caley Fisheries), and inshore vessel owning groups (A.E. Richardson).[15] Only one is owned by a trucking firm itself with origins in N.E. Scotland (Clipper Seafoods).[16]

There is little prospect of doing full justice to the complexities of the trucking system in this short section. One can only hope to illustrate the linkages through which unprocessed fish pass, affecting regional price structures and consequently the viability of both catchers and processors in Aberdeen and Humberside.

One function of the trucking system however, finally deserves mention. This is its role in combining small quantities of fish from a variety of sources into one large consignment. In this way fish which in small quantities could not be transported to a processor profitably, are built up to a viable load. Truckers in this way not only buy and transport the fish but play an intermediary regulating role - a kind of wholesaler on the run.

7.2.4 Consigned Fish

The fish consignment system is operated and organized by individuals and companies distinct from those operating the trucking system, although they are responding to the same forces - regional and temporal price differences. The consignment system is operated by fishermen, fishsalesmen and fishermens' Cooperatives, whereas the trucking system is operated by merchant truckers. The central difference between the two systems, apart from the individuals and groups involved, is that consigned fish is transported before first sales whereas trucked fish is moved after first sales, although possibly before second sales or sale by private bargain.

There are considerable differences in the scale and sophistication of different consignment operations. At one end of the scale is the case where a single inshore vessel lands its fish at a small harbour with no fishmarket or buying force. Examples regularly occur at Lybster and Scrabster, in the North, Gairloch in the West and Stonehaven to the South of Aberdeen. The fishermen or their fish selling agent arranges haulage to one of the main fishmarkets for sale.

However, most consigned fish is landed where there is only a small buying force. Rather than put their fish on sale at the point of landing the fish is consigned to a fishmarket with strong buying force and high price structure. Thus, fish landed for example at Lochinver, may arrive at an Aberdeen merchants premises through two distinct channels:-

1. Consigned fish, avoiding the Lochinver fishmarket and sold first on Aberdeen fishmarket or -

2. Trucked fish bought on the Lochinver market and transported direct to the processors premises.

It has been estimated by A.F.C.M.A. that around 80%[16] of the white fish landed at the main North west coast landing ports, Kinlochbervie, Lochinver and Mallaig arrives in Aberdeen through one or other of these systems. On given days however large quantities can go to the Humberside markets, although this pull diminishes as one moves North. The Glasgow wholesale market also has a considerable pull for whole fish as one moves down the West coast.

A further element in the fish distribution system arises from H.I.D.B. loans and grants for fishing vessels operating within the H.I.D.B. area.[17] Obliged under the terms of the loans and grants to land predominantly in the H.I.D.B. area, the fish tends to be consigned out of the area for sale and processing in response to regional price differentiation.

As the fishermens' Cooperatives have developed in size and sophistication the larger of them have moved into fish consignment on a large scale notably F.M.A. (Eyemouth) Limited and F.M.A. (Buckie) Limited.[18] Shore based staff assess the relative prices throughout the main fishmarkets in Britain and balance these with the quantity of fish landed by their members' vessels. Estimates of quantity size and species are radioed ahead before the vessels land. The fish are then divided into market catagories and dispatched to the highest paying market for each catagory on that particular day, e.g. the small haddock and whiting might go to Aberdeen while cod and codling were dispatched to Grimsby.[19]

The two systems of supply; trucking and consignment, are responses to the inherently erratic and variable nature of the tempo of production in the fishing industry. The marketing system, in its flexibility and fluidity, reflects these nature imposed conditions. The system of supply is usefully understood as moulding itself to the rigidities inherent in the production and transportation of a perishable and variable commodity. The same factors which shape the pattern of exchange, the auction system, shapes the supply system and as is explained later the processing industry also. While all producive activities are both social and material the latter plays a heavier role in determining the forms of industrial organization in the fishing industry than most areas of production in 20th century Scotland.

7.3 Processing: Technology and Raw Material

As discussed in earlier chapters, Aberdeen fishmerchants are not strictly speaking merchants, this is a misnomer. They are in fact small industrial capitalists. Their central function is to coordinate the acquisition and consumption of raw materials, means of production and wage labour in the process of production. To realise profit they must then seek market outlets for the transformed product.

The most important labour process involved in this production is fish filleting. Filleting is the core process, the pivot around which other processes such as finning, skinning or packing are organised.

What is distinctive and of paramount importance to the organization and operation of the Aberdeen fish processing industry is the fact that fish filleting is unevenly mechanized in the large scale sector and totally unmechanized in the small firm sector.

7.3.1. Peripheral Activities

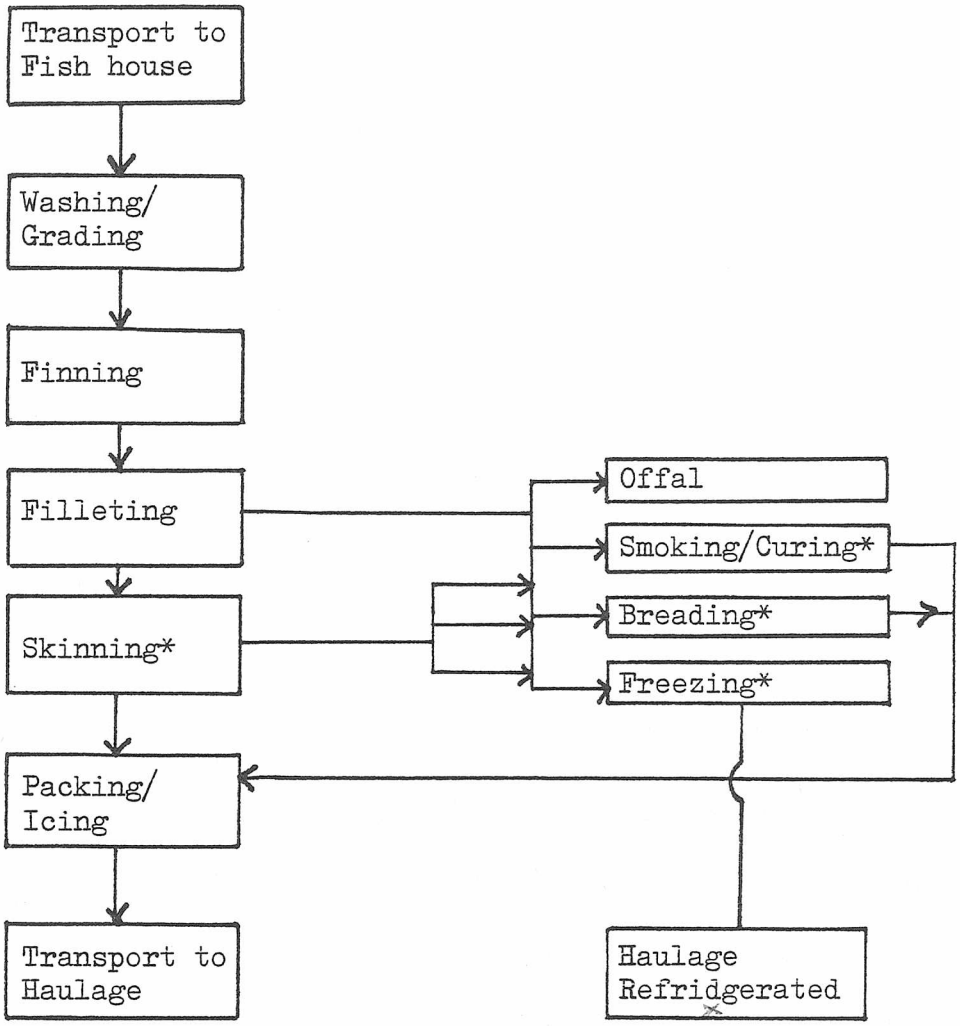
Figure 7 indicates the main labour processes involved in fish processing. Two processes are ommitted, because not only are they optional but also constitute a very small proportion of total processing activity. These are heading, where the fish heads are removed before processing (particularly with cod, coley and ling) and where headless unfilleted fish are smoked whole (Arbroath smokies).

Heading is mechanized, although only the larger processes have the

FIGURE 7

LABOUR PROCESS

FISH PROCESSING IN ABERDEEN



* Optional, determined by species or market demand

throughput to justify the machine. Grading machines of great sophistication exist and are used by some of the larger processors. The most advanced of these are coordinated by computer and not only put fish into specific size catagories but can select different sized fish and group them around an average weight of a standard pack.[20] Most grading however, in the small firm sector is done manually, as is icing and packing.

Finning, a process necessary with smaller fish which are destined for block filleting has been mechanized in a rudimentary way. The finning machine consists of a box with a slot in the top surface. Inside the box an electric motor operates a horizontal rotary blade. The dorsal fin is slotted into the aperture on the top surface and moved by hand along until the fin is sliced off.[21]

Although the first skinning machines were developed and marketed by Aberdonian fishmerchants in 1930[22] the highly sophisticated models now on the market are produced by Swedish and German companies.[23] The most advanced of these use freezing technology to freeze fillets, fed from a conveyer, onto a rotating drum containing liquid nitrogen. This has the effect of sealing the skin to the drum. A thin blade then shaves off the skin, taking very little flesh, as the drum rotates. The technique is infinitely more effective and rapid than skinning by hand.

Freezing has, of course, been the main technological advance since the advent of steam trawling. Freezing is however, a method of delaying decay, an advance in distribution methods and technique

rather than processing per se.[24] Filleting remains at the core of fish processing.

It is evident from above that mechanization has been a very uneven process in the Aberdeen fish processing industry. While certain peripheral processes have been assessable to machine technology the core process, filleting, in general has not. The following section will therefore examine the specific reasons for this anomaly and some of its consequences.

7.3.2. Barriers to Mechanization

The question of the uneven mechanization of the Aberdeen fish processing industry has three inter-related aspects.

1. The nature of the raw material.
2. Yield.
3. Supply.

First it is useful to have some idea of the actual distribution of machine and hand filleting in the white fish sector.

Machine filleting is concentrated in the large firm sector (over fifty employees).[25] Although only eight of these companies now use filleting machines they were more widespread before the mid 1970s[26] when different supply conditions existed. The small firm sector is entirely dependent on hand filleters.[27] However even the pattern of distribution of filleting machines within the large firm sector is patchy and even within given firms, their use is spasmodic rather

than constant.[28] What then accounts for this patchy, irregular uneven use of filleting machines?

1. The Nature of the Raw Material

Fish is a particularly unforgiving raw material to work with. Apart from its perishability, its variability in size and quality make the uniformity necessary for machine filleting difficult to achieve. An extra process of grading is usually necessary,as is a final hand trimming of the fillet. This adds to labour costs diminishing the labour substituting qualities of the machine.[24]

Once cut, it is not possible to add pieces to a fillet. The cut must be made in a series of smooth continuous motions. In the summer months, particularly, the flesh tends to be soft and tends to tear rather than cut.[30] The period of time that has elapsed since death, the method of icing and handling the fish,as well as their seasonal and life cycle variations,are all aspects which tend to favour the more flexible hand filleter.[31]

Certain sizes and species of fish have a bone structure which makes machine filleting impractical. This is the case with small haddock and whiting. The larger fish such as cod, coley and ling generally yield an acceptable fillet using the Baader 99 machine and the Baader 187 and 188 are used for filleting codling, haddock and small ling,under certain circumstances.[32] Although the Baader 183 was designed to fillet small haddock and whiting it is this size of fish which are particularly resistant to profitable machine filleting due to their bone structure.[33] No machine exists that can

successfully execute block fillets.[34]

2. Yield

The yield of flesh to offal (bones, head, tail etc.) is central to the question of mechanization of the white fish processing sector.[35] This apparently trivial issue is the single most important barrier to machine filleting in Aberdeen.

The weight of fish sold in fillet form by the processor is generally less than half that of the whole (gutted) fish. Profitability for the small merchant is based on narrow margins on each unit, compensated for by high throughput. Consequently, the balance of flesh to offal on each fish determines the weight of fillet and therefore revenue to the processor. The importance of high throughput is underlined by the fact that raw material costs account for over 70% and sometimes over 80% of the average small processors total costs, including labour.[36]

Hand filleting invariably produces higher yields than machine filleters. This is due to the material factors discussed earlier ; bone structure, variability in flesh texture and size.[37] The 'machine like pace'[38] of the hand filleters obscures from all but the trained eye, the constant variations in angle and cut of the knife which provides a superior fillet with higher yield. The precise ratio of flesh to offal depends on a range of factors including the skill of the filleter, the mode of remuneration (determining the speed of work), the species, size, quality of fish and the type of fillet executed.[39]

A further aspect of the yield question is the by-product for 'waste' offal. This market plays a crucial role in the profitability of many smaller processors. In many cases the'offal cheque'is equivalent to the firm's total annual, after tax, profit.[40] In other words, the sale of fillets only covers costs and it is the offal by-product which makes production profitable.

Yield and offal are therefore central questions in the profitability and indeed existence of the processing industry in Aberdeen. The outlet for offal takes two forms. By far the most important of these is the reduction of offal for fishmeal. Around 90%[41] of fish offal is utilized in this way by one plant owned currently by Rank, Hovis, Macdougal but in the processes of being bought by a consortium of merchants. The offal is bought at a fixed price.[42]

The second outlet for offal is for pet food, in particular mink food. This latter market is mainly in Scandinavia.[43] However petfood although a more lucrative outlet for offal than fishmeal only accounts for around 10% of offal produced by the Aberdeen processors.[44]

A number of the larger companies have invested in mincing machines. This equipment squeezes the remaining flesh from the bones, thereby effectively increasing yield. The flesh is then used in fish cake or fish finger type preparations.[45]

3. Supply

Where filleting machines are in use in Aberdeen they co-exist with

hand filleters. Their use is determined by supply conditions existant at any one time. In glut or near glut conditions the significance of yield diminishes and labour becomes the main cost to the processor. Conversely when supply of fish is low and price high the yield question re-emerges and there is a heavy demand for hand filleters.[46]

Where fillets are not sold individually but laminated with a frozen slab, then cut into portions for sale, the presentation of the fillet is not important. In these conditions hand filleters are retained for the up-market hotel or retail trade.[47]

These barriers to the introduction of machine filleting have two main effects. Firstly they maintain the low threshhold to entry to the sector thereby maintaining the fragmented structure of the industry. Secondly they create a dependence of the Aberdeen processors on a pool of skilled hand filleters. This latter point will be amplified in the following chapter.

7.3.3. Processing and Species: Supply and the Contours of Nature

Fish are differentiated by species. This has important implications for the social organization of the processing industry of North east Scotland. The companies which process pelagic species such as herring or mackerel are dominated by large scale, capital intensive branch factory, units, whereas the firms which deal with white fish tend to be very small, labour intensive and owner-managed. The material context of production is therefore of considerable significance to the social organization of the processing industry.

Differentiation within the demersal group of species influences certain aspects of the way that production is organized in the small firm sector. Product differentiation here is not the result of market research and product design but a nature imposed reality. The fishmerchants are faced with a situation in which they must adapt their businesses to the contours of nature. Fish farming is an attempt to break with the hunting character of fish productions, an attempt to adapt nature to human needs. But until these methods of production can guarantee a regular, adequate quantity of fish, the processing and marketing of white fish will be forced to mould their businesses to the contours of nature.

Two types of response made by the fishmerchants may be observed. Firstly those merchants who gear their production to the supply of one particular species. The hand filleters employed will usually be specialized in one species only and when the supply of this species is low, production is slowed down or halted.

The second response is seen in those merchants who spread production across more than one species, to widen their source of supply. Production here can move from species to species as market forces dictate but a wider range of skills held by hand filleters is necessary.

These two responses are really polar alternatives and many other merchants combined elements of the two, for example by only buying other species in severe conditions of undersupply. Barriers exist to the free movement from one species to another, the most important

being labour skills. Different skills are needed to fillet flat fish as are needed for,say,haddock. A filleter skilled in single fillets may not be able to execute a block fillet etc. Market outlets also limit the ability to change species. Specific geographical markets are geared to specific species, the Glasgow whiting market being the most obvious. Further, more detailed information on market/species differentiation is held in Appendix F.

7.4 Distribution

The Material Context of Fish Distribution

The fact that fish is a perishable commodity imposes its own rigidities on the way that the distribution of fish after processing can be organized. In general fish, even when adequately iced, must be consumed within fourteen to sixteen days after death, even in favourable conditions.[48] Freezing, as a method of delaying decay and hence removing this natural limitation, began on a commercial scale after 1945, although first used in the 1930s.[49]

Freezing effectively changed the pattern of fish distribution for 37.93% of the fish processed in Britain.[50] Cold stores and refrigerated transport made warehousing possible and time less of a constraint. However in Britain 62.07% of fish processed and sold in Britain is not frozen, but sold as wet fish or as fresh fish to friers.[51] By comparison, because of the greater distances involved, approximately 90% of the fish market in the U.S.A. is sold as a frozen product.[52]

The perishable nature of unfrozen, fresh fish makes warehousing, a central distribution function, inapplicable. The whole distribution channel operates in the context of the urgent need for rapid transactions, immediate direct transport, with as few delays between landing and final sale as possible. Associated with the irregular supply pattern this feature provides the important material limitations within which the distribution of fresh fish takes place.

7.4.1. Exchange Relationships

The relations of exchange between Aberdeen fishmerchants and their customers may usefully be understood in terms of a consensus channel, a concept borrowed from distribution economics literature. In brief, consensus channels are: "bound together neither by ownership nor by long term contracts." [53] They operate on the basis of a series of mutual exchanges between the units in the distributive chain. From catcher through port merchant, possibly inland wholesaler, to fishmonger or fish frier the relationships are those of buyer and seller.

By comparison, the channel through which frozen fish is distributed is characterized by a unity of ownership and control through the distributive chain. The frozen product thus either moves through an integrated distribution channel or is sold on the basis of long term contracts. In the latter case, large retailers often specify conditions of production and packaging. In the fresh fish sector contracts between buyer and seller tend to be short term, even if repeated regularly over the years.

It is clear then, that two distinct patterns of distribution exist, paralleling the distinctions between large scale and small scale producing units.

Acquiring customers is undoubtedly the highest barrier to a new fishmerchant's entry to the trade. Similarly, retaining customers is a constant problem for the established merchants. The merchant's list of customers is the firm's main asset, as tangible as the firm's

premises and capital equipment. The number of customers per firm varies on the size of firm and demand from customers. Fifteen to twenty per firm is probably the maximum limit while other merchants survive with only two.

A new merchant generally begins business by virtue of his access to a former employer's customer list. The conventional way of establishing the firm is to initially offer these customers good quality fish at prices which under-cut the other merchants.

The pattern of contacts between merchants and customer is thus based on personal contact and reputation. While it is difficult to examine these contacts systematically it is evident that the most recurring theme in them is opportunism.

Opportunism is a strategy which shapes itself to the market conditions generally found in the fishing industry. "You make a killing where and when you can and cut your losses as far as possible".[54] To take advantage of the sometimes wildly fluctuating market conditions, the merchant can adjust his purchases and prices very rapidly. In these conditions the market is not allowed time to even out to an average rate of profit between firms, at least not in the short term. Margins are added intuitively, based on experience with the particular customer involved. All transactions take place daily over the telephone.

Opportunism is however tempered by the need to balance short term advantage with the retention of valued customers. Within the fish trade the market is fragmented in a number of ways, each segment allowing more or less opportunity for a quick killing. For example, the market in fresh fish is fragmented along lines dictated by nature, i.e. by species. This, combined with customary preferences, patterns the market regionally. Scotland consumes a greater proportion of haddock per head than the rest of the U.K.. Similarly with cod in the North of England, Hake in Wales and Dogfish in London. Further fragmentation occurs when quality[55] is considered. Hotels and up-market wet fish shops will purchase top quality fish at the going price, i.e. the merchant can choose his own price, constrained only by the need to retain the customer. Other merchants buy only at the lower end of the price/quality scale and deal solely with the inland commission markets. Yet other distinctions occur in the preparation of the fish. Belfast will accept only skin-on fillets while the Scottish market generally consume only skinned fillets.[55]

It is apposite here to mention the role of the bribe as a lubricant of the exchange and distribution processes. It is generally recognized within the fish trade that this practice is widespread where the merchant is supplying a hotel, shop or institution where managers rather than owners are in charge. The scale of the bribe varies with the quantities involved. This is another example of the way that many of the smaller fishmerchants operate on the margins of legality. Evasion of tax and National Insurance contributions are commonly known to be widespread as are the breaking of health and safety regulations as indicated in Chapter VI. The purchase of

fish withdrawn from sale under minimum price schemes are yet another facet of this economic activity on the borderline of legality.

7.4.2. Distribution, Transport and Market Outlets

As the main distribution systems have been incorporated into the discussion of consignment, trucking and the role of the A.F.C.M.A., the final section of this chapter merely fills in some gaps in the overall picture.

Table 18 lists the full range of channels through which fish landed or processed in Aberdeen may be distributed. Processed fish is moved out of Aberdeen through four distinct channels. Firstly the large freezing companies utilize subsidiary transport companies, their own refridgerated transport, or subcontract out to local haulage firms with refridgerated haulage capacity. Secondly, the A.F.C.M.A./ Alexanders distribution network supplies the bulk of the fresh processed fish destined for England. This channel supplies inland wholesalers direct, inland wholesale markets as well as retail outlets. Thirdly, Humberside and Glasgow outlets (both fishmarkets and direct purchasers) are supplied by a number of independent haulage companies and provide the main exception to the A.F.C.M.A. monopoly. Finally, the last daily fish train in Britain supplies the Billingsgate market in London.

Figure 8 schematically illustrates the organizational network for fish distribution in Britain.

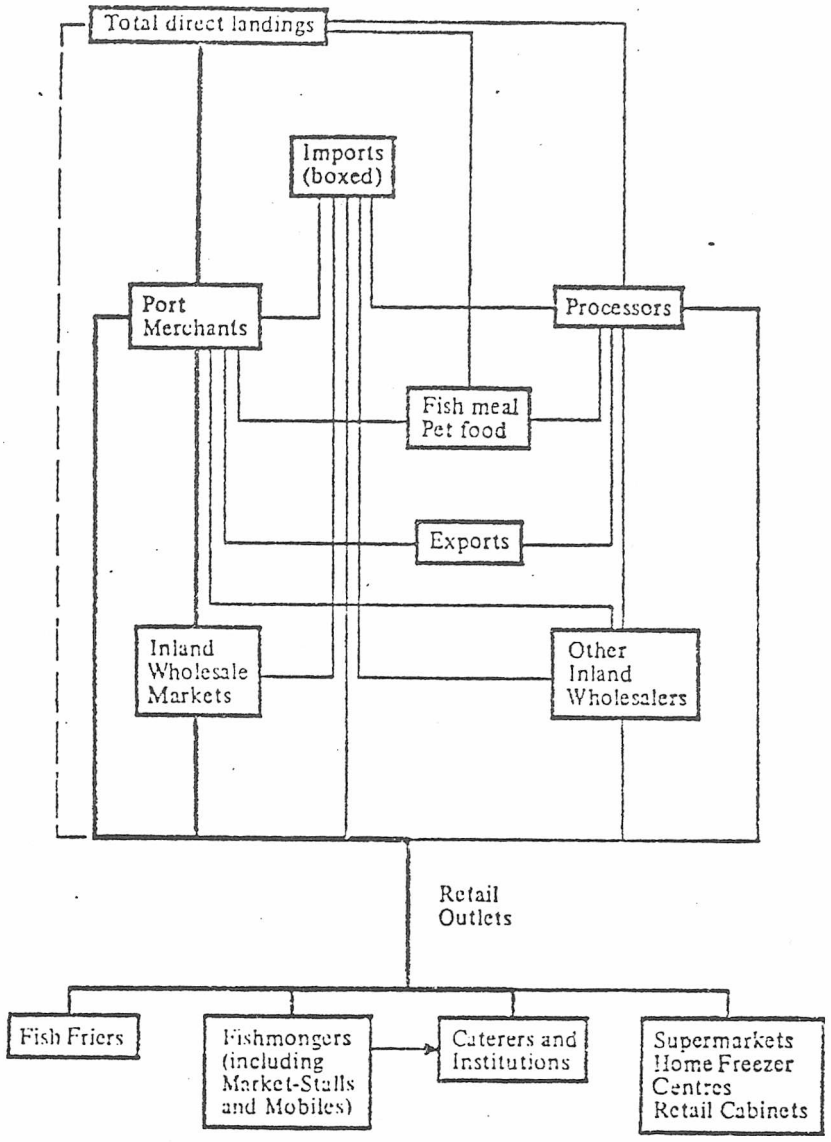
TABLE 18

The Distribution of Fish from Aberdeen

System	Commodity	Distribution	Ownership
Trucking	Unprocessed	Processors + Fishmarket	Truckers + Haulage Cos.
Consigned Fish	Unprocessed	Fishmarket	Haulage + Large Processors
Frozen Fish	Processed	Retail and Distribution Depot	
British Rail	Processed	Billingsgate	B.R.
AFCMA/Alexanders Monopoly	Processed	England except Humber	C. Alexander. Merchants + Haulage Cos.
Independent Merchant + Fishsalesmen	Both	Glasgow. Humber	Fishsalesmen
Local Short Haul	Both	Aberdeen/Peterhead	Merchants + Haulage Cos.

FIGURE 8

DISTRIBUTIVE NETWORK FOR FISH IN BRITAIN



Source: Price Commission

To estimate the dimensions of the supply of Aberdeen processed fish through this network to particular geographic areas, a survey of 134 Aberdeen fishmerchants was undertaken. (See appendix F). While almost impossible to quantify to any degree of accuracy, because of the daily variations in the trade, at least the general proportions may be elicited from the fishmerchants' responses.

The most significant point to emerge from Table 19 and Figure 8 is the national character of the market for fish processed in Aberdeen despite its origin in small scale units. This in itself puts the small fish processing firm in Aberdeen outside the catagory of small firms which serves only a local market. Only a very small proportion of the fish processed in Aberdeen is exported. There is no consensus on the precise quantity exported but estimates range between 5% and 10%. During the 1970s this figure probably peaked at around 20%.

The significance of the English market is apparent holding 62% of the outlets for Aberdeen processed fish. Lancashire and the central belt of Scotland are the most important regions, although the prominence of the Lancashire figure diminishes the significance of the Yorkshire market. Even allowing for the proximity of Hull and Grimsby the Yorkshire figure of 9% is understated. This is mainly due to the fact that since the construction of the transpennine motorway, Yorkshire wholesalers have purchased fish indirectly via the Manchester wholesale market.

A similar effect is seen in the case of Edinburgh. Supplied previously by the trawling fleet in Granton (a high proportion of Edinburgh

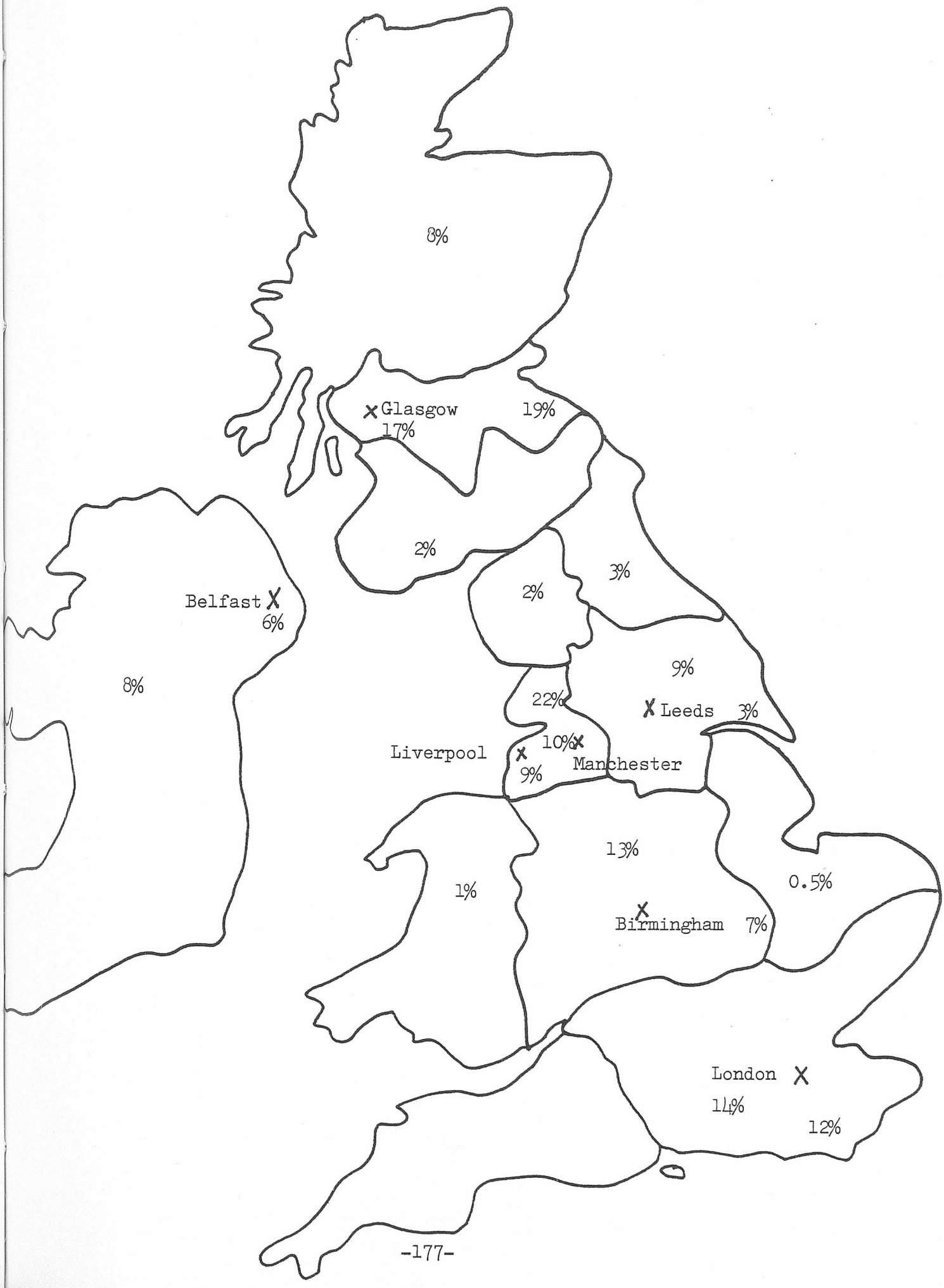
Market Outlets for Aberdeen Fish		Regional Distribution		
		Wholesale Market Towns		
Northern Scotland	8%			
Central Lowlands	19%	Glasgow	17%	
Borders and Ayrshire	2%			
N.W. England	2%			
N.E. England	3%			
Lancashire	22%	Liverpool/Manchester		9%/10%
Yorkshire	9%	Leeds		3%
East Anglia	0.50%			
Midlands	13%	Birmingham/Nottingham		7%/2%
Wales	1%			
South East England	14%	London	12%	
South West England	-			
Northern Ireland	8%	Belfast	6%	

TABLE 19

FIGURE 9

Market outlets for Aberdeen Fish. Regional Distribution

and Wholesale Market Towns



fishmongers fillet their own fish) processed fish is now drawn via the Glasgow wholesale market.

Apart from these anomalies, the distribution of market outlets for Aberdeen fish is a function of population distribution, transport costs and competition from the English trawling ports.

Notes - Chapter 7

1. Rosdolsky, Roman. The Making of Marx's 'Capital'. 1980. pp. 205.
2. Bowen, Ian. "Port Markets". in Atlantic Ocean Fisheries. 1961. pp. 145.
3. White Fish Authority. Technical Report. No. 103. Work Measurement of Fish Processing Operations in Aberdeen. J. Moore and I. D. Findlay. January, 1974.
4. White Fish Authority. Technical Report. No. 103. January, 1974.
5. Some Would Say Chaotic. The numerous small firms involved means that many journeys with small quantities of fish, between fish market and fish-house are duplicated.
6. Scottish Sea Fisheries Statistical Tables. (D.A.F.S.).
7. Fishing News. 30.1.81.
8. Interview Aberdeen Fish Merchants. April, 1978 - June, 1980.
9. Scottish Sea Fisheries Statistical Tables.
10. Survey. October, 1979: See Appendix C.
11. Survey. October, 1979: See Appendix C.
12. Survey. October, 1979: See Appendix C.
13. Interview with Manager of F.M.A. (Buckie). Peterhead Branch. 19.11.80.
14. One difference between Humberside and north east Scottish fish markets is the use of the "Dutch" auction in the former. Bidding, in this form of auction comes down rather than up. The first bid is the bid which is accepted.
15. Information provided by Area Officer. Grimsby Office of the White Fish Authority.

16. Interview with Chairman of Aberdeen Fish Curers and Merchants Association. 2.6.78.

17. Interview with Officials of the Fisheries Development Department of the Highlands and Islands Development Board. 2.4.80. Also Company Documentation.

18. Interview with Secretary General of Scottish Federation of Fishermens' Co-operatives. 19.11.80.

19. Interview with Secretary General of S.F.F.C. 19.11.80.

20. Interview with Line Manager and Factory Visit. Starwood Fisheries. 13.6.78.

21. Interview with Aberdeen Fish Merchants. April, 1978 - June, 1980.

22. Fishing News. 26.9.80.

23. Interview with Aberdeen Fish Merchants. April, 1978 - June, 1980.

24. Nicholson, F. J. Freezing Trends and Techniques. World Fishing. May, 1975.

25. Interview with Managing Director of Allan & Dey Limited Fish Processing Company. 27.3.80.

26. Interview with Managing Director of Allan & Dey Limited. 27.3.80.

27. Interview with Managing Director of Allan & Dey Limited. 27.3.80.

28. Interview with Aberdeen Fish Merchants. April, 1978 - June, 1980. Also direct observation in Aberdeen and Humberside large scale processing units.

29. Fish Trader. 8.3.80.

30. Interview with Aberdeen Fish Merchants. April, 1978 - June, 1980.

31. Interview with Aberdeen Fish Merchants. April, 1978 - June, 1980.

32. Interview with Managing Director of Allan & Dey Limited. 27.3.80.

33. Interview with Managing Director of Allan & Dey Limited. 27.3.80.

34. Interview with Aberdeen Fish Merchants. April, 1978 - June, 1980.

35. Interview with Aberdeen Fish Merchants. April, 1978 - June, 1980.

36. Costs Survey. Company Documentation.

37. See Fasken, David R. Claben Limited: White Fish Department - A Guide to Training. Unpublished Dissertation Diploma in Personnel Administration. R.G.I.T.

38. Raphael, Samuel. 1977. pp. 53.

39. White Fish Authority Technical Report. No. 103. January, 1974.

40. Costs Survey Company Documentation.

41. Press and Journal. 29.11.80.

42. Press and Journal. 29.11.80.

43. Interview with Aberdeen Fish Merchants. April, 1978 - June, 1980.

44. A further small quantity is bought by a Fraserburgh fish meal factory. This unit is however primarily geared to processing pelagic offal.

45. Interview with Aberdeen Fish Merchants. April, 1978 - June, 1980.

46. Interview with Aberdeen Fish Merchants. April, 1978 - June, 1980.

47. Interview with Chairman of A.F.C.M.A. 2.6.78.

48. Cutting, C. L. "Fish Preservation as a Factor in the Extension of Supply". in Fish in Britain. Eds. T.C. Barker and John Yudkin. 1971.

49. Wilson, Charles. Unilever. Vol. II, 1945-1965. 1968. pp. 171.

50. Price Commission. Prices and Margins in the Distribution of Fish. Report No. 14. Submitted 1976. pp. 6.

51. Price Commission. Prices and Margins in the Distribution of Fish. Report No. 14. Submitted 1976. pp. 6.

52. Wilson, Charles. Unilever. 1968. pp. 171.

53. Guirdham Maureen Marketing: The Management of Distribution Channels. 1972. pp. 24.

54. Interview with Managing Director of Allan & Dey Limited. 27.3.80.

55. Interview with Aberdeen Fish Merchants. April, 1978 - June, 1980.

CHAPTER 8

Skilled Labour

8.1 Introduction

The socio-technical barriers to the introduction of machine technology to the core process in fish processing, filleting, were discussed in the previous chapter. This chapter will examine one ramification of this fact - the dependence of the Aberdeen fish processors on a pool of skilled labour, namely the fish filleters. The chapter argues that the need for and existence of this pool of skilled labour accounts for Aberdeen's retention of fish processing capacity despite changing landing patterns and high distribution costs. Further, the chapter examines the forms which the market for fish processing labour takes and the way this affects the patterns of industrial relations and recruitment in the processing industry.

8.2 Mechanization

Historically, the type of fish landed at Aberdeen and other north east ports have not been amenable to machine filleting. In contrast to the large cod and haddock landed by the distant water fleet on Humberside, Aberdeen fish, although of high quality, were smaller, their flesh more variable. This size of species of fish were and are only filleted profitably by hand. The central argument of this chapter is that the demand for the skills associated with hand filleting, in particular single and block fillets of small haddock and whiting, has shaped, not only the overall structure of the Aberdeen fish processing industry, but the whole pattern of fish distribution in Scotland.

Patterns of Fish Distribution

The main channels through which fish arrives in Aberdeen for processing were described in chapter VII. On any given day however the pattern of supply is very complex dictated by erratic supply and demand and the various points of landing in Britain. One central feature is clear however. No matter where in Scotland fish is landed, a high proportion is transported to Aberdeen for processing.

At first sight this is a rather peculiar feature of the fish distribution structure. Fish is transported from the west to the east and from the south of Scotland to the north before transportation to the main markets in the industrialized regions of Scotland and England. Given that fresh fish is a highly perishable commodity and time is of the essence, not to mention the extra costs involved in the transportation of fish 150 [1] miles north to send it south again in a matter of hours seems to run against accepted economic rationality.

All other things being equal transport costs and the nature of the commodity would make processing at the point of landing desirable.[2] The concentration of processing capacity on Aberdeen in this way distorts the most direct flow of fish from point of landing to consumer.

8.3 Skilled Labour

The reasons underlying this peculiar distribution structure lie with the geographical concentration of a pool of skilled labour in Aberdeen, namely the fish filleters. The skills associated with filleting are only found in significant numbers in the north east of Scotland and the vast majority of the workers holding these skills live and work in Aberdeen. The location of these skills with a section of the Aberdonian working class, has its historical origins in the herring boom of the 19th century. Women from the many fishing villages and towns in the north east migrated seasonally as the herring drifters followed the migratory shoals from Shetland to East Anglia. They provided the workforce needed to gut and pack the fish landed. Aberdeen was part of this industrial effort both as a herring landing port and source of a female gutting workforce. When the herring industry went into severe decline after World War I, the surplus female gutters in Aberdeen were increasingly recruited to the white fish processing industry. [3] The contracting herring industry provided a resevoir of cheap female labour which could be adapted to the new industrial process of filleting. From around 1905, but particularly after the War filleting and consequently fish processing expanded rapidly. [4] Where there was no white fish substitute for the herring industry the skills associated with the gutting knife tended to remain with the generation who had known the great herring fisheries. In Aberdeen, however, white fish trawling provided the basis for the adaption of gutting into filleting skills, an objective [5] skill with no comparison elsewhere in Scotland. The difficulty in transmitting filleting skills to a workforce without this historical tradition has been a major problem for non-Aberdeen fish merchants. In the 1960's

there were a number of attempts by fish merchants in Granton (then a significant trawling port) to attract Aberdeen filleters down to teach local women their skills.[6] The filleters who went were usually young, unmarried women, being more mobile than married women. However, these attempts for the most part failed, as the young women, with all their kin and community bonds with Aberdeen, tended to return after a very brief period. Aberdeen remained the only location in Scotland with a workforce skilled in the various forms of fish filleting large enough to sustain the recruitment needs of the fish processing industry.

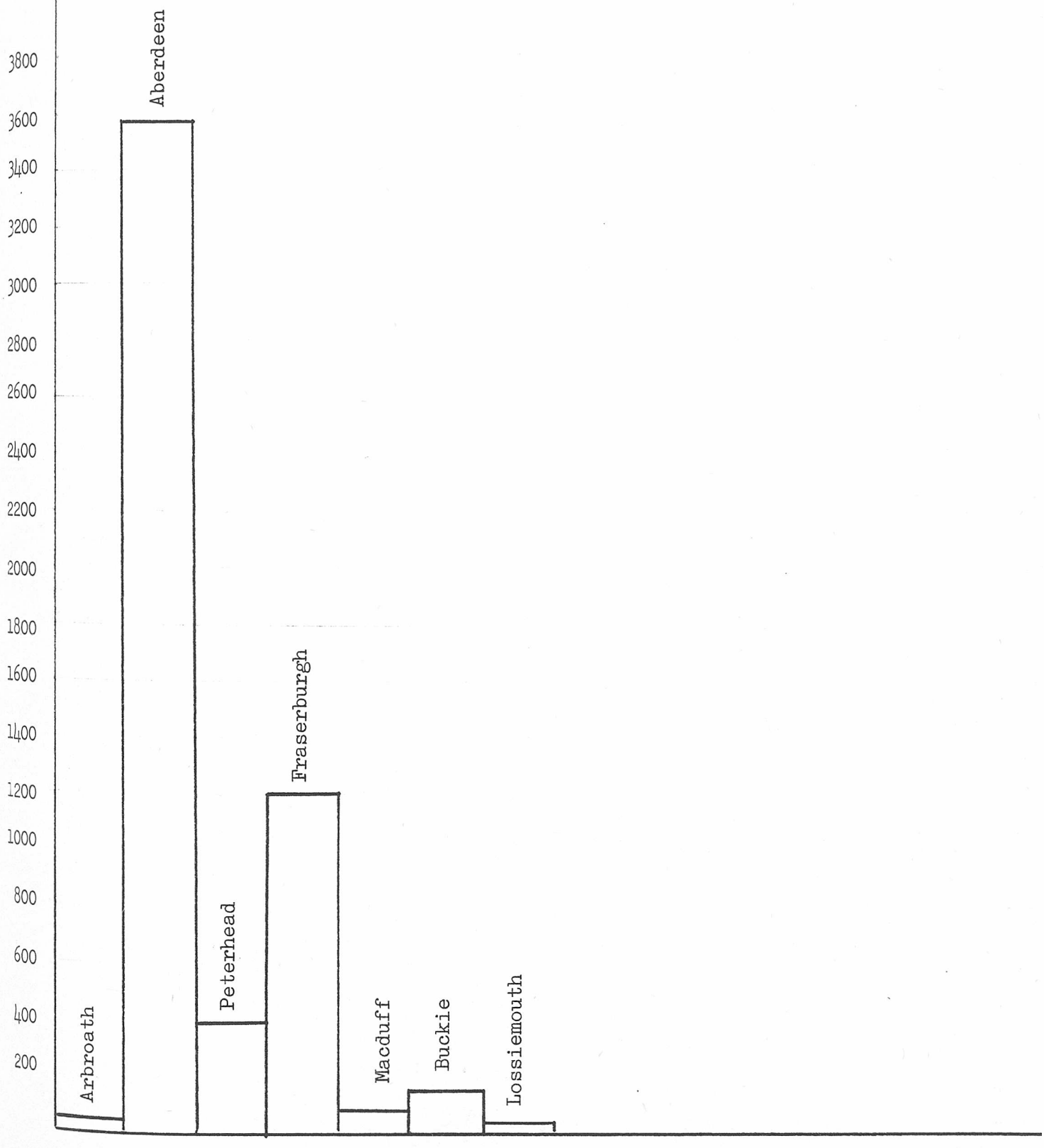
Therootedness of this skill in one section of the Aberdeen working class and even within one section of the fish processing workforce should not be underestimated. The following quote from a contemporary Aberdeen herring processor indicates the difficulty in transferring labour from herring processing on machine technology to hand filleting white fish.

> "I work purely herrings; all my machinery is fitted for herring. My girls do not know how to work white fish; they are machine girls; and you cannot get these girls to work white fish; they do not know how to work it. You have not the implements to work it. If you set yourself up for herring and certain lines for herring, then you carry on with that. Once the supply (of herring) has stopped you have stopped."[7]

By comparison with the white fish industry, the shell-fish processing industry is relatively evenly distributed around the Scottish coast.[8] The shell-fish industry generally utilize unskilled (more accurately

FIGURE 10

Distribution of White Fish Workers in North East Scotland 1979
(Excludes Clerical Staff and "Other Workers" Catagory).



Source: D.A.F.S.

deskilled) female labour, underlining the extent to which it is labour skills which are the major determinant in the location of white fish processing (see Figure 10).

8.4 The most salient characteristic about the holders of these filleting skills is that the majority are women. 60% to 70% of the filleting workforce are women,[9] whereas in Hull and Grimsby almost 100% of the hand filleters are male.[10] Aberdeen's more constant and direct links with the gutting workforce of the great herring fisheries may account for this difference. It is legitimized however, within the fish trade in terms of the size of the fish landed. Females it is claimed, do not have the physical strength to fillet the large cod landed on Humberside. A more convincing argument might show the different labour market conditions in the north east of Scotland and Humberside. Large quantities of unskilled female labour are for example employed in the Humberside frozen food processing industry leaving skilled hand filleting in the smaller firms a male domain.[11]

Direct employment in an Aberdeen fish-house is the only pattern of recruitment, although a filleting school existed for fourteen years until 1976. The school was organized by the A.F.C.M.A., the White Fish Authority and local education authority in an attempt to swell the resevoir of skilled filleters.[12] The enormous range of methods used to execute the same type of fillet is evidence of the schools limited impact on the filleting labour market.[13] From the beginning the school was undermined by a competing informal system of recruitment training and payment.[14]

Historically, recruitment of fish workers has taken place mediated by kin and community networks rather than directly on the labour market. The workforce generally recruits itself for the fish merchants. Filleters recruit their own family and friends to a particular fish-

house. Most fish workers start in the trade at school leaving age as packers or skinners.

Similarly with training; skills are transmitted informally from filleter to packers and skinners during tea break or dinner hour.[15] This system tended to undermine the efforts of the filleting school for the reason that the young fish worker could earn wages while learning filleting skills.[16] Only meagre grants were paid by the local education authority to student filleters.[17]

While most females graduate from packer/skinner to filleter, males sometimes follow a different career pattern; from packer/skinner to driver and perhaps fish buyer.[18] Occassionally buying and filleting is combined with a supervisory role.

A definite age structure exists within the workforce. After 50 many fish workers leave to find jobs less punishing to their health.[19] Cold and wet working conditions cause rheumatism and arthritis which is aggravated by the repetitive manual actions involved in fish filleting.[20] The fifty year age mark represents the period of the family life cycle when high income is less important as children become wage earners and/or leave home reducing costs. Consequently there is a drift to financially less rewarding jobs with better working conditions.[21]

8.5 Labour Market

Fish workers enter the labour market for the same reason that other workers do, i.e. being denied access to the means of production they must sell the only commodity they own - their labour power - to achieve their historically determined means of subsistence. However, the labour market is not a homogeneous entity. It is fragmented both horizontally (by skill level and bargaining power) and vertically (by demarcation and exclusion by other workers).[22]

Workers who hold a scarce skill hold a bargaining counter by which they may force up the price paid for their labour. This is true of the fish filleters in Aberdeen. By virtue of their scarce skills they earn considerably higher wages than packers or finner/skinners.[23] In this respect they are little different from any other group of skilled workers. The qualifications held by the fish filleters are however industry specific, or more accurately task specific. Their skills cannot be transferred to any other context than the Aberdeen fish trade. Only their skills cushion them from the full force of labour market insecurity. These two features account for the very high turnover of labour within the fish trade. Turnover takes place between fish-houses in the sector rather than the fish and any other segment of the local labour market.[24] The fish trade may thus be characterized as a relatively sealed labour market, at least in so far as the fish filleters are concerned. Finner/skinners and packers on the other hand generally belong to a wider segment of the local labour market. The qualifications for entry to this sector of the labour market are few,

> "beyond the general cultural abilities of any able bodied person. "The costs for recruitment training and wages incurred

by the employer are typically low ... their bargaining strength weak."[25]

This "dual labour market" within the fish trade provides the basis of the reasons why the fish workers in the small firm sector are not unionized.[26] The filleters' bargaining strength lies in the sphere of remuneration. Their scarce skill maintains the level of their remuneration at a relatively high level. Wage levels are determined by the supply and demand of skilled labour rather than collective bargaining by the whole workforce.[27] The dichotomy between skilled and unskilled labour is replicated in the dichotomy between wages and conditions. While filleters can earn relatively high wages, conditions of work both for them and the unskilled workers are notoriously bad. Because labour contracts are based on individual rather than collective grounds of work are not negotiable. Dissatisfaction tends to take an individual response represented by the high rates of turnover, a classic symptom of an non-unionized workforce.[28]

Despite a significant trade union membership in some of the large firms, in general the position of filleters in the large firm sector is not substantially different. In these firms filleters tend to make up a small proportion of the workforce as most tasks require deskilled machine operatives or packers. Union membership of the large firm sector is uneven and fragmented. The Transport and General Workers Union, the General and Municipal Workers Union and the United Shop, Distributive and Allied Workers Union, all hold sections of this workforce in their membership. Comparisons between firms in this sector with unionized and non-unionized workforces reveal that union membership has little effect on the organization of production. Their role tends to be restricted

to wage bargaining, the managerial prerogative to manage being left unchallenged.

Filleters tend to circulate with relative ease between large and small firm sectors. While conditions of work are generally better in the large firm units, this is offset by the advantages of"cash in hand" payments in the small firm sector. It is therefore not true to say that the large firm and small firm sectors represent different labour markets. Both draw on the pool of skilled filleters in Aberdeen, yet both also draw on a more general catagory of un or deskilled workers, only the size and the proportions drawn from each catagory differ.

8.6 Critical Moments: Tempo and Remuneration

> "In many industries there are critical moments, that is to say period of time determined by the nature of the labour process itself during which certain definite results must be obtained ..... the quantity and the quality of the product depend on the completion of the work at certain definite points in time."[29]

Many of the features of the fresh fish processing sector are closely related to the fact it is an industry where tempo is determined by "critical moments". Firstly, the perishability of the product acts as a rigid cast which determines the tempo and numbers involved in the labour process at any one time for the merchant. Secondly, the erratic supply side of the supply-demand equation which characterizes the fishing industry makes itself felt right through to the processing side. Not only gales at the fishing grounds, but problems involved in consigning fish by road in a variety of conditions can make the supply of fish fluctuate wildly. In order to balance the supply of labour with the erratic supply of fish, the fish-houses frequently have a mixture of full-time, part-time and casual workers which are taken on and laid off in ratio to the supply of fish.

Most filleters are paid a basic wage (usually low) plus a bonus based on weight of fish filleted.[30] However a large proportion of filleters are "self-employed". That is they do not work regular hours and are paid solely by the quantity of fish filleted. It is widely recognized that these workers are often paid "cash in hand" without tax or national insurance deductions.[31] The benefits of this "black economy" for the fish merchants are that production can easily be thrown into gear for a short period of time without

incurring labour costs outwith this period. It is crucial for the merchant to fillet and transport the fish on the day it is bought, not only because fish is highly perishable but because fish bought one day on the market might find itself in competition with lower priced fish, the following day.[32] For the filleters, particularly women with children, the hours of work can fit around their role in the sphere of reproduction - as mothers and housewives. In some cases women who work for a basic wage plus bonus in the mornings work for cash in hand for a different firm in the afternoon if needed.[33]

A similar regime existed in Fraserburgh in the herring gutting and packing workforce until the introduction of large-scale freezing. Here the female workforce was employed in ratio to the fluctuating fish landings. The introduction of freezing meant that employment became much more stable both in terms of the number of hours worked each day and seasonally, with fewer lay-offs. Excess supply was now frozen and used during period of short supply. The consequence of this new stability of employment was the rapid unionization of the work-force.[34] However the market demand for fresh fish seems to exclude this as a possible scenario for Aberdeen.

One particular consequence of the excess capacity in the catching sector has been the decreasing average size of fish landed and processed in the north east. This has had ramifications on the mode of remuneration and work organization in the processing sector as smaller sized fish increases the labour time necessary to fillet them.

At the same time, however, the progressive rise in first sale fish prices

in the post war period has made raw material costs a crucial consideration, bringing the question of yield to the forefront.

These two factors are in tension with each other. The result is an increasingly diverse pattern of remuneration. While some processors take advantage of the 15% increase in output per hour afforded by the piece rate system, others attempt to claw back costs by increasing yields as far as possible by using a time rate system.[35]

8.7 Although the labour market in skilled hand filleters has been presented as 'relatively sealed' it is not unaffected by external factors. Indeed, the general labour market conditions in the north east throughout the post and inter-war period have both sustained the filleters labour market and enforced change on it.

The unemployment (compared to U.K. average rates), underemployment and out-migration which characterized the north east economy for most of the 20th century until 1970[36] provided the general context in which it was possible and desirable for Aberdeen white fish processors to employ labour intensive processing methods.As was indicated in the previous chapter, the mechanization of the fish processing industry was and is far from being a straightforward process. But the general conditions of a reserve of surplus labour at the bottom end of the labour market removed, for most processors, even the impetus to look for new methods of production. The existence of this skilled, self recruiting, self training, geographically and occupationally static workforce, depended on the general dearth of alternative occupational opportunities in the area.

It comes as no great surprise then, that the expansion of oil related employment and consequent re-shaping of local labour markets also affected the sale and purchase of labour in the fish processing industry. The expansion of oil related employment coincided with a decline of employment in fish processing employment in Aberdeen. This decline was for the most part, for reasons unrelated to oil and its impact on the labour market. Problems of declining and erratic supplies being the paramount reason.

TABLE 20

Employment in the Aberdeen White Fish Processing Sector

	Principals	Office Staff		Fish Workers				Other Workers			
				Full Time		Part-Time		Full Time		Part-Time	
		M	F	M	F	M	F	M	F	M	F
1970	284	78	187	1137	1151	27	496	108	2	6	29
1979	235	64	179	729	722	44	561	48	14	11	18

Source D.A.F.S.

TABLE 21

Employment in the Aberdeen Processing Sector - Large Firm Sector

	1974	1976	1980
Macfisheries	216	166	Nil
Claben	620	350	115
Findus	587	500	Nil
Rossfish	312	Nil	Nil
Allan and Dey Group	234	184	185
Joe Little	165	135	100
Starwood Fisheries	60	197	Nil
TOTAL	2,197	1,532	400

Source S.D.A.

Table 20 indicates that some 750 jobs were lost from the white fish processing sector between 1970 and 1979.[38] Table 21 however indicates that

1,796 jobs were lost from the large scale processing sector between 1974 and 1980.[37] This discrepency has two sources. Firstly most of the large processors were dependant on herring as well as white fish processing. D.A.F.S. statistics therefore included them as herring processors. Secondly the total reduction in employment was countered partially by newly established firms. One large and two medium sized businesses created over 400 new jobs (Clipper Seafoods, Polarfish and George Denny). Allowing for these adjustments however it is clear that the main contraction in employment in the Aberdeen white fish sector has been in the seven large firms listed.

Because of their concentration (a) on herring processing and (b) mechanized white fish processing, most of the labour expelled from these firms have been unskilled and semi skilled machine operators or general labourers. The core of the filleting workforce has remained in employment. In general, it is the unskilled fish processing workers that constitute the movement from fish processing into office cleaning and retail jobs created by oil related development.

To say, however, that the labour market in skilled hand filleters is still largely intact in 1980 and 1981 is not to say that is unaffected by changes internal and external to the fishing industry. Filleters have been made redundant in large numbers. Starwoods closure in 1978 being the most obvious example. Recruitment of filleters has become more formal as newspapers and job centre advertisements have, to some extent, replaced the informal recruitment grapevine. Interview evidence also indicates that the age structure of the filleting labour force is changing. Few young women are entering the industry and

learning filleting skills. The main resevoir filleting skills now lies with married women. The changing age structure raises the question the continuity of transmission of the filleting skills across generations. This fact has been the impetus for a number of in-service training schemes run by some larger companies, e.g. Claben 1976, Clipper 1980.

Notes - Chapter 8

1. Appendices C and D indicate the geographical range of sources of white fish processed in Aberdeen.
2. Bowen, Ian. "Port Markets". In Atlantic Ocean Fisheries. 1961. pp. 146.
3. While other fish workers were also drawn from other sectors, the gutters provided a core work force from which the skills with the gutting knife were adapted to filleting skills.
4. Bowen, Ian. "Port Markets". In Atlantic Ocean Fisheries. 1961. pp. 144.
5. The construction of a "skilled" catagory of work can have objective and subjective aspects. Occupational groups may by virtue of their power at the point of production, create catagories of skilled work. They may then regulate entry to this catagory thereby maintaining earning differentials or advantageous working conditions. These catagories are subjective, in that they are the result of a conscious effort on behalf of the individuals in the "skilled" group. Objective skills occur where bearers of the skill hold particular dexterity or knowledge of a particular process of production. The holders of objective skills do not necessarily recognize it as a skill. Objective and subjective skills are not mutually exclusive and most catagories of skill exhibit both elements.
6. Interview with Aberdeen Fish merchants. April 1978 - June 1980.
7. Evidence to Parliamentary Expenditure Committee. Report on the Fishing Industry 1977 - 1978. Question 5536.

8. Shellfish processers operate in Eyemouth, Fife, Aberdeen, Peterhead, Fraserburgh, Buckie, Lossiemouth, Inverness, Stonaway, Ayr etc.

9. Department of Agriculture and Fisheries. Persons Employed in the Fishing Industry.Unpublished Statistical information. See Table 20.

10. Interview with White Fish Authority, Regional Officer, Hull and Area Officer Grimsby. 14th and 15th February 1980.

11. Interview with White Fish Authority, Regional Officer, Hull and Area Officer Grimsby, 14th and 15th February 1980.

12. Interview with former Instructor and Manager of Aberdeen Filleting School. 4th December 1979.

13. Moore, J. and Findlay, I.D. White Fish Authority Technical Report No. 103. Work Measurement of Fish Processing Operations in Aberdeen. January 1974. pp. 11.

14. Interview with former Instructor and Manager of Aberdeen Filleting School. 4th December 1979.

15. Interview with Aberdeen Fish Filleters. April 1978 - June 1980.

16. Interview with former Instructor and Manager of Aberdeen Filleting School. 4th December 1979.

17. Interview with former Instructor and Manager of Aberdeen Filleting School. 4th December 1979.

18. Interview Aberdeen Fish merchants. April 1978 - June 1980.

19. Interview Aberdeen Fish merchants. April 1978 - June 1980.

20. Interview Aberdeen Fish merchants. April 1978 - June 1980.

21. Interview Aberdeen Fish merchants. April 1978 - June 1981.

22. Kreckel, Reinhard. Unequal Opportunity Structure and Labour Market Segmentation. Paper presented at the meeting of the Research Committee on Social Stratification at the 9th World Congress of Sociology, Uppsala, 14th - 19th August, 1978.

23. Interview Aberdeen Fish merchants. April 1978 - June 1980.

24. Interview Aberdeen Fish merchants. April 1978 - June 1980.

25. Kreckel, Reinhard. 1978.

26. For a discussion of "dual labour market" theory see Edwards, Richard. C., Reich, Michael, Gordon, David M. Labor Market Segmentation. 1973.

27. Average wages paid are higher than the union rates negotiated for unskilled fish workers in the fish processing factories by T. and G.W.U., G.M.W.U. and U.S.D.A.W..

28. Taylor, Laurie and Walton, Paul. Industrial Sabotage: Motives and Meanings in Images of Deviance. Ed. Stanley Cohen. 1971. pp. 241.

29. Marx, Karl. Capital Vol. I. 1976. pp. 445.

30. Interview Aberdeen Fish merchants. April 1978 - June 1980.

31. Interview Aberdeen Fish merchants. April 1978 - June 1980.

32. Interview Aberdeen Fish merchants. April 1978 - June 1980.

33. Interview Aberdeen Fish merchants. April 1978 - June 1980.

34. Interview with Chairman of Buchan Trades Council. November 1977.

35. Interview Aberdeen Fish merchants. April 1978 - June 1980.

36. Illsley, Raymond, Findlayson, Angela and Thompson, Barbara. The Motivation and Characteristics of Internal Migrants. The Millbank Memorial Fund Quarterly. July. 1963.

37. Hay, F. G. and Smith, L.D. The Food Processing Sector in Grampian Region. A Report prepared for the Scottish Development Agency. July 1980. pp. 55.

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PART FOUR

Combined and Uneven Development

Part IV - Combined and Uneven Development

Introduction

Part IV is concerned to explain the irregular, uneven pattern of mechanization and different forms of organization of production exhibited by the Aberdeen fish processing industry. Earlier chapters have suggested specific socio-material reasons for these patterns. This section now attempts to place these individual explanations within a wider explanatory framework.

For this purpose the work of Raphael Samuel has been particularly useful. The theory of combined and uneven development as used and adapted by Samuel has proved to be a powerful tool of analysis, not only aiding the explanation of the nature of fish processing in Aberdeen, but in many ways challenging some key orthodoxies of British economic history.

However, before this thesis examines to what extent it is useful to understand the Aberdeen fish processing industry in terms of the theory of combined and uneven development, it is worthwhile to view this sector in terms of a more static model. By illustrating the different conditions of existence underlying the large scale, capital intensive, freezing companies and the small scale fresh fish firms it is possible to avoid confusion later when the convergence of the two sectors is examined.

Conditions of Existence

A useful method of explaining current developments in the Aberdeen

fish processing industry is to set up a dichotomy between the large scale freezing companies and the small scale fresh fish sector. This dichotomy is a model rather than an accurate reflection of reality. In subsequent chapters I will explain how reality differs from the model.

Crucial differences in organization exist between the two sectors. These may be summarized by saying that while the large scale sector attempts to even out the obstacles inherent in nature, the small scale sector organizes itself around these.

The large firm constantly attempts to ensure continuous production. The longer the production run, the lower unit costs are. With heavy capital commitments in freezing plant, filleting, skinning, finning, mincing machinery, plus cold storage, it is essential for these firms to have a guaranteed continuous supply of raw material. With a large unionized workforce and high overhead costs, interupted production bites into profitability.

The large freezing companies' response to the problem of supply has been to (a) diversify their sources of supply (b) to buy during glut conditions and hold this fish, frozen, in cold storage for use during periods of scarcity. Freezing, however, is only a partial solution to the endemic problems of erratic supply of a perishable commodity. Firstly freezing only delays, not halts decomposition. Secondly, the cost of holding fish in cold storage can negate the initial low cost of fish bought during glut conditions. Fish in cold storage represents unproductive capital to the processor. Thirdly, the final product tends to be of a lower quality if the fish has been held, frozen , before processing. The muscle tissue tends to gape if not defrosted extremely carefully.

The small firm sector is organized on diametrically opposite lines. It is geared to the very features that are anathema to the large freezing firm. The small firm, flexible in terms of capital and labour, is organized around the critical moments in the industry. With low overheads, little in the way of capital equipment, production is thrown into gear or halted in ratio to the supply of fish. The casual labour system in the fish trade, the mixture of full and part time workers means that the supply of labour can be rapidly adjusted to the supply of fish. In short, the small fish processing firm adapts itself to the contours of nature.

Viewed in totality one may say that within the Aberdeen fish processing industry different conditions of existence underlie the operations of the large scale freezing companies and the small scale fresh fish firms.

These differences became more marked in the late 1960s and early 1970s as the large freezing companies became more heavily mechanized. To justify the capital outlay, shift systems were introduced. A general move towards the employment of unskilled labour was also seen. The largest of these units, for example the Findus factory, were almost indistinguishable in operational or organizational terms from the large Humberside processors.

There should be no doubt therefore, that despite growing similarities between the two sectors very real differences historically and currently, distinguish them.

CHAPTER 9

Hand Technology and Mechanization

In attempting to understand the halting and uneven spread and even regression of mechanization in the fish processing industry in Aberdeen, it is helpful to compare it to the more general process of industrialization in Britain. However, there is by no means unanimity in the interpretation of what industrialization meant in the late 18th and 19th centuries and what it means today. If the more orthodox interpretations are taken as a touch-stone, little sense can be made of the processes found in the small scale fish processing firms in Aberdeen, except to see them as relics left over from an earlier period. This has certainly been the tenor of the views of most commentators on the sector.[1]

However, using Raphael Samuel's interpretive framework it is possible to understand hand filleting and the fish house pattern of organization as specific adaptions to the process of industrialization of the fishing industry. Furthermore, this framework allows the specific factors which account for the rise and persistence of hand filleting as an industrial process to be located within a useful theory of industrial development.

9.2 Economic historians focussing on the most dramatic and historically significant aspects of industrialization have developed a model which has become the conventional view of industrialization. In David Lande's summary:

> "In the eighteenth century, a series of innovations transformed the manufacture of cotton in England and gave rise to a new mode of production - the factory system. During these years, other branches of industry effected comparable advances, and all of these together, mutually reinforcing one another made possible further gains on an even widening front. The abundance and variety of these innovations almost defy compilation, but they may be subsumed under three principles: the substitution of machines - rapid, regular, precise, tireless - for human skill and effort; the substitution of inanimate sources of power ... thereby opening to man a new and almost unlimited supply of energy; the use of new and far more abundant raw materials, in particular the substitution of mineral for vegetable or animal substances."[3]

In this scheme machine technology was progressively substituted for occupations and tasks which traditionally involved manual skill and laborious work. The machine not only devoured skills, reducing the worker and artisan to operatives or 'hands' but also diminished the effort needed in production.

Against this view, Samuel argues that:

"the industrial revolution, so far from abridging human labour, created a whole new world of labour intensive jobs."[4] Mechanization for Samuel:

"was a process rather than an event. It did not begin with the great inventions of the 18th and early 19th century; nor did it end with their application. The process itself was neither linear nor smooth but on the contrary, discontinuous and subject to a whole complex of competing claims, pulling in opposite directions."[5]

His argument is, not that pockets of production based on hand skills and sweated labour survived, vestiges of an earlier period but that:

"Mechanization in one department was often complemented by an increase in sweating in others; the growth of large firms by a proliferation of small producing units; the concentration of production in the factories by the spread of outwork in the home."[6]

It was not unreasonable for economic historians to focus on the most advanced sectors of the British economy, they undoubtedly mirrored the future path which much of British production would tread:

"Though techniques in many industries were still traditional, labour intensive and small in scale, in the mid-Victorian British economy the tendencies and future face of production were widely apparent. Vital elements of the economy had been transformed. It was these that set the pace, determined the markets for and rationalized the organization for the whole.[7]

British economic historians, in Samuel's view, have, by restricting their focus to those sectors of the economy which exhibited the most dramatic changes have tended to ignore the relationship of capital equipment to labour in the economy as a whole.

When a broad comparative view is taken, Samuel argues, a different picture emerges. From this view the most important factor is that:

> "labour power was much more important than capital equipment in making Britain, at mid-century, 'the workshop of the world.'"[8]

To sustain this argument Samuel marshals primary and secondary evidence from a wide range of industries. The textile trades, clothing trades, iron making, metal working, leather and mineral trades, building, woodworking, food and agricultural industries are all examined to determine the precise relationship of steam power and labour power, machinery and hand skills. His conclusion as to the specific reasons why mechanization and the introduction of steam power proceeded unevenly, are varied. They include high initial costs of machinery, fragmented and rapidly changing market conditions, abundance of cheap labour, a range of technical difficulties and consumer preference. They also include peculiar characteristics or variability of raw material, and this, as was seen earlier, has been a central reason for the uneven mechanization of the fish processing industry in Aberdeen.

9.3 Samuel's general perspective which sees industrialization as an uneven process combining hand and machine technologies and steam and labour motive power proves itself to be useful when applied to the fishing/fish processing industries of Aberdeen.

The application of steam to the white fishing industry revolutionized the industry as I have shown in chapter 3. But it also created a range of occupations, mostly on-shore which were based on hand skills and labour power.

Crudely put, the industrialization of the white fishing industry in Aberdeen fits Samuel's model of combined and uneven development much more comfortably than the more conventional view of the inevitable, even, progression of mechanization.

It is important however to distance this thesis from Samuel's arguments in some respects. The most important of these is time scale. Samuel is primarily concerned with mid-Victorian Britain and many of the hand skills and sweated trades described in his article have been swallowed up by mechanization, albeit much later and in a more complex manner than had been appreciated by orthodox economic historians. But with the fish processing industry the processes, with associated occupations and skills which arose with industrialization, are still in operation today and this requires additional explanation. For these reasons, a closer look at the way the white fishing industry became industrialized is necessary.

9.4 Steam power and mechanization were very heavily concentrated on the catching side of the industry and even here it would be difficult to argue that they substituted themselves for hand skills and sweated labour. While trawlers were propelled by steam and steam winches hauled the nets, gutting and storing the catch, was and is, extremely labour intensive. Similarly, with the occupation of fish porter; the unloading of trawlers while a new occupation, was based on labour power rather than machinery.

However, it is on shore that the application of steam to trawl fishing made its heaviest impact in terms of employment. Most of these jobs were based on hand rather than machine technology. As Samuel puts it:

> "Mechanization and steam power ... were by no means inseperably linked, and a vast amount of 19th century work was affected by them at only second or third remove."[9]

This was the case with filleting. Trawling, by landing vastly increased quantities of white fish reduced the price of raw material for the processing industry. Filleting, as an industrial process was thus created at "second or third remove" from the direct application of steam power and mechanization.

There is, however, yet another link in the chain of explanation. Trawling began out of Aberdeen in the early 1880s, but it was not until around 1905 that filleting as an industrial process arose.[10] In between these years fish was sent whole (gutted but not filleted)

to market or cured whole. Half the catch in 1899 was haddock and 5/6 ths of this went for smoking and curing.[11] Of the remainder of the catch cod and ling were also cured, but:

> "the prime fish such as turbot, halibut lemon soles were sent by train to the London market. Glasgow and the surrounding country took a large proportion of the haddocks and the coarser fish were also sent there or to the manufacturing towns in England."[12]

As landings increased, so did the number of curers. In 1899 there were 49, by 1902 this had risen to 67. In 1907 there were 140 and by 1954 this figure had become 154.[13] The operations of these firms were entirely concerned with the curing or dispatch of fish.

What, in fact, gave the stimulus to filleting was the development of a by-product market for fish offal. The increased capitalization of agriculture in Europe, U.S.A. and Japan around the beginning of the 20th century created a demand for fish meal and fertilizer.[14] This catalyst made filleting, for the first time, a profitable industrial process. Again steam power and mechanization had affected the fishing industry, "at second or third remove".

The size of the market for offal can be judged by the fact that by 1913, there were eleven factories in or around Aberdeen connected with fish by-products.[15] The main supply for these factories came from the growing number of firms now filleting their fish before despatch to reduce transport costs but also to take advantage of the new by-market. Fish withdrawn from the market because of oversupply

was also used in this way but as is shown in Table the quantities from this source although substantial were erratic.

Table 22

Unsold Fish Sent for Reduction from Aberdeen Fishmarket 1906-1913

Year	Quantity (cwts.)
1906	10,359
1907	9,791
1908	6,528
1909	3,037
1910	2,942
1911	14,896
1912	2,900
1913	2,231

Source: Whinnyfold

9.5 The advantage of using the combined and uneven development perspective is that it can make sense of the actual pattern of mechanization in different industries, sectors, processes and periods.[16]

For example, the pelagic processing industry is almost wholly and evenly mechanized. The pattern of mechanization in the white fish processing sector, however, is very irregular. Even a model which highlights the very real dichotomy between large scale, capital intensive, freezing companies and the small scale labour intensive, fresh fish firms, cannot do full justice to the pattern of mechanization in the white fish sector.

In the large firms, hand filleters co-exist with filleting machines and each method is used in specific supply conditions. In many fairly small firms sophisticated skinning machines skin the fish filleted by hand only moments before.

Given this pattern, it becomes increasingly difficult to describe the methods of production in the white fish processing industry in terms of "backwardness" or as relics from the past. This is particularly so when the late 1970s and early 1980s has seen a net reduction in the number of filleting machines in Aberdeen. This de-mechanization has proceeded both through the closure of mechanized fish processing units and the fact that remaining firms have preferred to use hand filleters in the prevailing supply conditions.

The balance of hand and machine technologies is determined by which is the most profitable method of processing in specific circumstances. The problem is to understand the uneven penetration of mechanization, its halting progress in some sectors, rapid progress in others and even regression in yet others, in a systematic way. In this, the theory of combined and uneven development offers advantages over the orthodox view of continuous, even, technological development.

The large and small processing units in Aberdeen, in fact, exhibit dual technologies and should be understood in these terms rather than in terms of an abstract rationalism which sees the inherent logic of mechanization progressively reducing toil, sweat and hand skills by the timeless, accurate and repetitive machine.

The historical circumstances which, during the 19th and 20th century saw industrial capitalists introducing machinery varies widely. These included a shortage of skilled labour, rise of a market for by products, cheapening of the cost of capital equipment and class struggle. Equally, mechanization was blocked in certain sectors and industries for a multitude of reasons including abundant supply of cheap, skilled, labour, the nature of raw material, quiescent workforce, increased simplification of tasks and division of labour and consumer preference.

Thus, at any one time the degree of mechanization within an industry, sector or process is dependent on a complex crosscurrent of pressures.

In the white fish processing industry, in Aberdeen, the balance between labour costs - yield - mechanization - supply, have resisted the full mechanization of filleting. However, any change in one or more of these factors might instigate a fundamental change in the whole equation. For example, the application of micro processors to the adjustment of the blades in filleting machinery may eliminate the yield advantage of hand filleting, particularly if associated with the replacement of metal blades with high pressure water jets. This is one likely direction of change in the 1980s. Similarly, the changing character of the filleters labour market, under the impact of oil related employment, may also alter the equation, instigating fundamental change to the industry. Some implications of this type of change are discussed in the concluding chapter.

Mechanization and hand technology are usefully understood in terms of combined and uneven development. However this is only one aspect of industrial development. The following chapter will examine the internal organization of the fish processing unit again utilizing the theory of combined and uneven development.

Notes - Chapter 9

1. See R.A. Taylor (1960) and J. R. Coull (1969).
2. Samuel, Raphael Workshop of the World: Steam Power and Hand Technology in mid-Victorian Britain. History Workshop, No. 3. Spring 1977.
3. Landes David. Unbound Prometheus. pp. 41, quoted in Samuel 1977 pp. 7.
4. Samuel. 1977. pp. 9.
5. Samuel. 1977. pp. 10.
6. Samuel. 1977. pp. 17.
7. Berg. Maxine. Technology and Toil in 19th century Britain. 1979. pp. 6.
8. Samuel. 1977. pp. 16.
9. Samuel. 1977. pp. 19.
10. Eunson, Jerry. A Pioneer of the Fishing Industry. 1959. pp. 30.
11. Whinnyfold. 1924. pp. 117.
12. Whinnyfold. 1924. pp. 118.
13. Whinnyfold. 1924. pp. 117.
14. Whinnyfold. 1924. pp. 154.
15. Whinnyfold. 1924. pp. 154.
16. Samuel. 1977. pp. 60.
17. Samuel. 1977. pp. 54.

CHAPTER 10

Workshop and Factory Systems of Production

10.1 Combined and uneven development refers not only to the question of mechanization, important though it is, but to the whole process of capitalist development. In this chapter I am concerned with one facet of development - the internal organization of the unit of production in the fish processing industry in Aberdeen.

The characteristic unit of production in the fresh fish sector of the Aberdeen fish processing industry, the fish-house, is obviously a concomitant of the fragmented ownership of the sector. This, in turn, as discussed above, is a consequence of the low capital threshold to entry for new processors.

However, the fish-house form of organization is not purely a reflection of the pattern of ownership in the sector. Larger units of production are often divided up and operate as a number of individual fish-houses. This is the case with merchants who own more than one fish-house (as opposed to expanding the original one) but more importantly, is increasingly the case with large scale freezing companies.

To adequately understand the uneven pattern of factory and fish-house organization it is useful to examine in more detail what is involved in each.

10.2 Workshop Production

I have shown that the fresh fish processing sector in Aberdeen represents an industrial sphere which for socio-technical reasons has remained impervious to the introduction of machine technology. In its characteristic unit of organization, the fish-house, it is also at variance with the dominant trends of industrialization - the factory system of organization.

Centralization of wage earners, normally associated with factory production certainly took place in Aberdeen. The process of urbanization by which Aberdeen became an industrial city in the 19th century involved the migration of a rural (fishing and agricultural) population into the city. This expansion of employment in the processing sector, however took place not in large factory units but in a large number of small fish-houses. Industrialization and urbanization took place without the normally associated feature of factory production, combining the benefits of a fine technical division of labour, mechanization and economies of scale.

"Workshop" production or the 'workshop' system distinguishes itself from factory production and from domestic outwork but it is not without problems as a concept. Small scale productive units where ownership is restricted to one or two persons can have a variety of relationships with both their employees and with large scale capitalist enterprises. Subcontracting is better understood in its own terms, as is petty commodity artisinal production, rather than squeezed into the "workshop production" category. The extent to which employees working in a small unit own their own means of production also affects the patterns of recruitment, conflict and organization of work in a workshop. Some

central features of workshop production can however be identified.

Size is of course central. Because workshop production tends to be labour intensive the number of employees is the most obvious index of size. Other features are a relatively low division of labour, low level of material technology and low level of social technology. (Relations between employer and employee tend to be face to face unmediated by bureaucratic channels or written orders.[1])

The Aberdeen fresh fish merchants fit fairly neatly into this description of workshop production. The fragmented pattern of ownership, the low level of technology and channels of authority and above all the structure of employment are all indices of a workshop system. However the low level of subcontracting of filleting and the relative insignificance of means of production exclude these as central explanations for the type of system in existence.

10.3 Factory Production

The main characteristic of the factory system is of course the concentration of wage labourers under one roof. Under these circumstances the technical division of labour may be developed and mechanized techniques of production powered by inanimate sources introduced. In short the case of the factory system is the:

> "division of manufacture into a large series of simple processes each carried out by specialized machines operated by power."[2]

A concomitant of this organization of work is that production is organized into a logical flow of processes. Components manufactured in one part of the factory (or by a subcontractor) are combined into sub-parts or processes in a sequence which achieves its goal in the final product. This is part of the "vigorous rationalism" applied to methods of production"[4] which is synonymous with the factory system.

Until the arrival of fish freezing technology immediately after World War II the typical firm in Aberdeen was a variation on the workshop theme. The movement of large scale capital into frozen food production and in particular frozen fish processing, introduced factory production methods for the first time. The Nestles subsidiary, Findus was the epitome of the factory system as it was of machine technology. Mechanized filleting, with un or deskilled workers was co-ordinated as far as possible into "a logical flow of processes". Hand skills and "the fish-house mentality"[5] were excluded as far as possible as part of the vigorous rationalism applied to methods of production. In the late 1960s and early 1970s other large scale fish processes were moving in the same direction. In the early 1970s an informed observer

believed that:

> "the small man's days are increasingly numbered, particularly on the processing side. The housewife seems to need more expensive packaging and more attractive presentation and this the small man has been unable to provide."[6]

This belief, based on the view that only the large processors had the technical and organizational means to meet the changing market was widespread.

> "The 1960s saw movement away from the small one man business to the large international firm operating on the world market, such as Claben or Findus."[7]

The late 1970s has seen a definite break with this movement both in practice and as a system of ideas. The closure of the most technically advanced fish processing units (Findus, Rossfish and Starwood) under the new supply conditions has meant that mechanization in the fish processing industry suffered a reverse.

There has, however, been a concomitant change in the typical form in which production is organized in the larger freezing companies. A hybrid form of organization has emerged, exhibiting characteristics of both factory and workshop systems. Production in the new hybrid is organized not as a "logical flow of process" as in the factory system, but as distinct and separate processes and end products, located in small "fish-house" units.

In essence, production is organized in a series of workshops under one system of authority, control and ownership. In some cases these workshops are all under one roof, in others they are spread over a

number of geographically disperse production centres. These are differenciated by species, function and end product. Whatever their physical form these unit operate on lines akin to the traditional fish-house. Their size and organization makes them responsive to fluctuating supply conditions in their particular specialisms.

This system is the antithesis of a factory system, despite the fact that overall ownership is retained by large scale corporate capital. Long production runs are vital to the factory system because only in this way can long term economies of scale be attained. The workshop system under a "factory umbrella" is an adaption to the new supply conditions. Production runs are typically short and one workshop can move from one process to another with a minimum of difficulty. Thus the flexibility of the workshop system has been incorporated into a large scale production system.

Table 23 gives a concrete example of the range of processes, species and end products produces in one large Aberdeen company organized in this way.

It is important to avoid overstatement here while some of the larger processors are wholly organized on hybrid factory/workshop lines, others have clearly retained the central characteristics of the factory system.

TABLE 23

Allan and Dey Limited	
Process	Species
Fresh Whole	Haddock
Fresh Headed	Whiting
Fresh Filleted	Cod
Smoked Whole	Coley
Smoked Filleted	Salmon
Filleted Block	Monk-Fish
Single	Crab-Meat
Sole	Mackerel
Laminated Fillets (Machine)	Herring
Portion (Saw)	Codling
I.Q.F. (Blast, Block, Etc.)	
Breaded	
Re-packed	

As in the case with mechanization, the complex, uneven pattern of organization in the fish processing sector in Aberdeen, is usefully understood in terms of combined and uneven development. No teleological view of development is capable of explaining the apparantly 'backward' step of the re-introduction of workshop systems and hand technology. The strength of the former pespective is that it was precisely the uneven, contradictory trends within capitalist development which it was designed to explain. The specific combination of old and new methods of production depend on the response of the socio-economic logic of capitalism to local conditions. It is precisely these responses that the theory of combined and uneven development can help us understand.

Notes - Chapter 10

1. For a discussion of the relationship of these features to class structure see: Persistence and Change: The Petite Bourgeoisie in Industrial Society. by Frank Bechofer and Brian Elliot. European Archive of Sociology. 1976. pp. 77.
2. Hobsbawm, Eric. Industry and Empire. 1968. pp. 68.
3. Hobsbawm. 1968. pp. 68.
4. Hobsbawm. 1968. pp. 60.
5. The phrase is borrowed from a confidential staff appraisal report on one of the large fish processing units in Aberdeen.
6. Interview with Chairman of Aberdeen Chamber of Commerce. April, 1974. Unpublished Research Information. Deidre Hunt. R.G.I.T.

CHAPTER 11

Conclusions

11.1 Introduction

Taken together, the chapters within this thesis represent a socio-economic model of the white fish, catching, marketing and processing industries of the north east of Scotland. The fact that the industry is clearly divided into a number of distinct sectors in terms of function, ownership and organization, illustrates the need for an approach which can provide an overall unifying framework, yet one which can also explain the dynamics underlying the differentiation evident within the industry.

As in any model or conceptual framework, certain features have been thrown into relief, while others have been left relatively undeveloped. The aspects to which particular attention has been devoted here, are, property relations in parts 1 and 2; and the questions of mechanization and industrialization in part 3 and 4. That these themes, in particular, have been explored reflects the view that they are central forces shaping the socio-economic organization of the industry.

Briefly, the explanatory framework developed here highlights the distinct and different relationships of the men and women in the different sectors; inshore, trawling, fish-selling and processing (small and large scale), to the two key commodities labour and fish. The organization of production and exchange is, throughout, seen as having two interacting aspects, social and material.

11.2 The Elements of a Model

Existing models of industrial organization are not particularly illuminating when applied to the Scottish inshore fishing industry, primarily because they assume a pattern of property relations which are not appropriate. It became apparant to me that ,if comparative material were to be of any use it would have to be drawn from a literature which did not assume an inherent division between labour and capital either implicitly or explicitly. In the search for useful comparative material a helpful conceptual framework was found in Marx's theory of petty of simple commodity production, as subsequently elaborated by historians and rural sociologists.

Crew ownership of vessel and gear, a historical characteristic of fishing on the north east coast, fitted conceptually with the unity of capital and labour characteristic of petty commodity production. Within this framework the relations between fishermen and fish buyers, technical development within the industry and intra-crew relations could be usefully understood.

Perhaps the most helpful aspect of this perspective is its argument that all forms of petty commodity production are transitional forms - inherently unstable and liable to move towards capitalist class relations. This I have argued is the case in the Scottish inshore fishing industry in the 1920s and 30s and also in the 1970s.

11.3 If the inshore industry is or has been characterized by a unity of capital and labour, the trawling industry has been characterised by a separation between owners and crews of the vessels. Shore based companies, from the earliest days of steam trawling, owned the vessels and the crews were hired propertyless wage earners. This was a radical departure from the pre-existing organization of white fishing. The thesis therefore specified the historical circumstances which broke the pre-trawling white fishers from their customary means of livelihood, subsequently making them dependent on the sale of their labour rather than their products.

Some of the consequences of this break were then examined, namely the concentration of ownership on the one hand and the rise of trade union organization on the other. The development of the trawling industry, it was noted, has been along lines not dissimilar to many other industrial sectors characterized by wage labour and capital accumulation, in other words, based on capitalist relations of production.

The steep decline of the Aberdeen trawling industry, particularly during the years 1978-1981 is of more interest than as another example of a declining traditional industry. One response of the trawl owners to the declining catching opportunities, rising costs and falling prices,was to diversify into adjacent areas of activity. The inshore fishing industry was one of these adjacent areas. This movement of capital has been of the utmost significance to the inshore sector, but also to the fishing industry as a whole. Patterns of organization established in 1882 have been broken down in the trawling sector, while

a form of production reaching back two hundred years has been accelerated in decline, in the inshore sector. The fish-selling companies have played a central role in these changes.

11.4 The fish-selling companies are pivotal institutions in the fishing industry of north east Scotland. They straddle the break in ownership between fish catchers and fish buyers at the quayside. They also increasingly form the means by which capital is channelled into the inshore industry. Much of this capital has moved from the now chronically unprofitable trawling industry via fish-selling subsidiaries of the trawling companies.

In their original role, formed after the breakdown of the contract system, the fish-selling companies played a merchant capitalist role. They mediated the relationship between independent commodity producer and consumer by virtue of their strategic position between the two.

In the conditions of the 1970's however, they have been one of the key, shore based, institutions which have brought change to the customary property relations in the inshore fleet. In this process the fish-selling companies, themselves, have changed becoming, in some cases, direct employers. They have thus become industrial as opposed to merchant capitalists.

The reasons behind this change are:

(a) the increasing capitalization of the inshore industry under strong competitive conditions and consequent dependence of inshore fishermen on outside sources of capital.

(b) the movement of capital from the declining trawling sector.

One response to the penetration of corporate capital into ownership of the inshore industry has come in the form of the rise of fishermens'

co-operatives. Vessels whose ownership still lies with the crew or part of the crew have responded to the encroachment of corporate capital by forming fishermens' mutual assocations to handle fish-selling, vessel management and supply aspects of inshore fishing. In other words, they have cut out the merchant intermediary between themselves and fish buyers. To some extent these vessels are an elite within the inshore industry in that ownership still lies "with the boat". Debt, a characteristic of decaying petty commodity economies pervades the rest of the fleet.

The variety of forms of ownership in the inshore industry reflects the transitional character of the "productive form".[1] Petty commodity producers co-exist with corporate capital, small industrial capitalists are often in partnership with corporate capital, finance capital and state loan capital.

Within crews, a process of social differentiation is emerging with a property owning strata on one side and a property less wage labouring class on the other. Evidence of the rise of proto-trade unions based on these emerging class relations is growing during the current period.

11.5 While fish-selling companies exist in the "economic space" created by the use of the auction system the reasons for the existence of the auction system itself are far from straightforward.

The use of the auction system, it is argued, reflects both material and social factors. The fact that exchange takes place at all at the quayside is a consequence of the different structures of ownership in the catching and processing sectors of the industry. However, the auction system is also an adaption to the irregular, variable and unpredictable pattern of fish landings under the impact of weather and seasons on what is still essentially a hunting activity. Industrialization has never broken the grip of nature over the tempo of production in the fishing industry. This theme re-emerges repeatedly throughout the thesis as the irregular pattern of landings makes itself felt right through all aspects of processing and marketing fish. The thesis implicity argues that any adequate analysis must take cognizance of both the material and social world and their interaction.

11.6 This model, then, emphasizes property relations in the catching sector, using them as the key with which to explain the differences in ownership, recruitment and organization within this sector. In turn, property relations have been used to explain both the existence and changing significance of the fish-selling agent within the industry.

Because of the crucial role of state and supra state agencies in the current restructuring of the international and national fisheries regime, speculation on the future of the catching sector must necessarily be extremely tentative. The form of the industry will be shaped to a large extent by political decisions made by the E.E.C. and British Government. Both financial aid and direct legislation will set the parameters of change in the industry to a large extent.

However, some speculative statements can be made by extrapolating some of the major trends identified in this thesis into the future. For example, the merging of the two sectors, inshore and trawling is likely to continue. While the inshore industry has enveloped the trawling industry, in the sense that the trawling companies operate in areas traditionally regarded as inshore, using vessels closer to the inshore model, the trawling industry has devoured part of the inshore industry in terms of ownership, pattern of recruitment and organization.

The historical origins of the inshore industry in petty commodity production are likely to remain in evidence for some time, however. The most persistent of these relics of the petty commodity form is likely to be seen in the fishermen's mutual associations. Here however intra crew differentiation will continue. Consequently

the co-operative sector will remain small scale, but small scale and capitalist rather than small scale petty commodity producers. The formation of a class of wage labouring deck crew will cross the co-operative capital/corporate capital divide although the response to the development of trade union consciousness may be different in each.

11.7 In contrast to the existing literature on the fish processing and marketing sector, this thesis focuses on both the relations of production and relations of exchange in the industry. It argues that exclusive attention to the latter leads to a failure to grasp the essential forces of stability and change in the white fish processing industry.

To counter the dearth of empirical information on the white fish processing sector much of part 3 is primarily descriptive. The white fish sector is characterized as being structurally fragmented yet geographically very concentrated. Some of the reasons behind these characteristics are discussed, notably the low barriers to entry and the role of the A.F.C.M.A. The system by which Aberdeen white fish processors are supplied with fish which are landed elsewhere is described, in particular the trucking and consignment systems. The growing importance of overland fish, a response to the changing pattern of landings and structure of the fleet, is noted, as is the continuing prominence of Aberdeen as a processing centre, despite these changes.

The most important feature to emerge from this description of the white fish processing industry is its resistence to mechanization. A set of socio-technical factors make the mechanization of the core process in the industry, filleting, unviable. This has ramifications in several areas. Firstly, the low level of technology keeps initial capital costs low, thereby maintaining the fragmented, small scale character of the industry. Secondly, the dependence of the fish processors on hand filleting has created a demand for a pool of skilled hand filleters. Thirdly, small flexible units of production are more

appropriate to the supply of labour and raw material than factory systems based on long production runs and continuity of production.

The labour market for skilled hand filleters is the single most important factor in the organization of the white fish processing industry. The filleting workforce is predominantly female, and is for the most part self recruiting, self training and geographically static. The last feature mentioned is the central reason why Aberdeen has retained fish processing capacity in the 1970s and early 1980s, despite the changing pattern of landings. The labour market for skilled filleters is "relatively sealed" the skill being task and industry specific, but the sealed nature of the labour market is being threatened by the changing occupational structure of Aberdeen due to oil related activities in the late 1970s.

11.8 Part 4 begins by arguing that different conditions of existence apply to the firms in the large scale, capital intensive sector and the small scale labour intensive firms in the Aberdeen fish processing industry. The latter are extremely flexible both in terms of capital and labour while the former, because of their heavy fixed overheads, are dependent on continuity of supply in its factors of production.

The remainder of part 4 however, substantially modifies this initial picture. The co-existence of hand and machine filleting, not only within the sector as a whole, but within particular firms means that a more flexible conceptual framework was necessary. The same was found to be the case with the typical form of productive unit in the white fish processing industry. While factory systems and the workshop or fish-house systems were counter-poised in the late 1960s, the latter have remained fairly resilient in the 1970s while the former have either closed or adopted some of the characteristics of 'the fish-house'. Again, it was found that any conceptual framework which saw industrial development as a smooth, inherently progressive, unilinear, process, would have difficulty incorporating these facts.

The theory of combined and uneven development, particularly as developed by R. Samuel, proved to be a useful way of understanding the processes of stability and change within the industry. Mechanization does not progress evenly through the economy. Progress is halting, uneven and occasionally, in terms of a unilinear model, may be seen to regress. The rise of filleting as an industrial process and the adoption of labour intensive, small scale production methods by corporate processors, are two cases in point.

The application of steam power to trawling created a host of hand based processing jobs on shore. The rise of a by-market in offal some twenty or thirty years after the rise of trawling acted as a catalyst to the new process of filleting. The new technology only acted on the industrial and occupational structure at "second or third remove". Similarly, the supply conditions of the 1970s have led some large scale processors to adopt production methods more immediately akin to earlier workshop, handicraft production.

Any model with any hope of adequately explaining these facets of the fishing/fish processing industry cannot be bound to a unilinear view. The combination of old and new technologies, old and new forms of organization is an uneven process, driven by capital accumulation is what constitutes capitalist development. How the precise combination of technologies and organization unfolds is determined by specific and local adaptions to the logic of capitalism.

11.9 In trying to understand why the fishing and fish processing industries are organized in the way that they are, a number of concepts from adjacent areas of scholarship have been borrowed. It remains for future researchers to estimate how useful the application of these ideas to the fishing industry has been.

Many questions about the fishing industry remain unanswered. Yet further questions have been raised by the model developed here. The development of adequate explanations for many aspects of the fishing industry remains a task for the future.

In particular, differences in the social organization of the pelagic, white fish and shell-fish fleets remain obscure. The internal organization of the various Fishermens' mutual associations also deserve more attention than I have been able to afford. On the processing side, the whole historical development of the industry has been overshadowed by the catching sector. With few notable exceptions an adequate descriptive history has still to be written, much less any analytical work.

11.10 In conclusion, this thesis is presented not as a definitive work on the fishing industry but as an attempt to explain the central features of the industry in terms which illuminate rather than obscure. The main result has been to show that it is no longer useful to understand this industry in terms of the dominant paradigms of industrial organization in Britain. The model presented here is a tentative step away from these paradigms.

Notes - Chapter 11

1. Brenner, Robert. The Origins of Capitalist Development: A Critique of Neo-Smithian Marxism. New Left Review. No. 104 pp. 52.

Appendices

Appendix A

The 1970 Boycott of Aberdeen Fishmarket by the Inshore Fleet

The decline of Aberdeen as a fish landing port has been due to its failure to diversify rapidly enough into forms of fishing compatible with the new politico-economic order of the late 1970s and early 1980s. In contrast, the rise of Peterhead was a direct consequence of the movement of the inshore fleet from Aberdeen as inshore fishing became the only sector of the U.K. fishing industry with a long term viable future. Thus, both the decline of Aberdeen, left with an obsolete and inappropriate trawling fleet and the rise of Peterhead with an expanding inshore fleet, date back to the boycott of Aberdeen by the inshore fleet in October 1970.

The immediate focus of the conflict which lead to the boycott was over landing charges and berthing priorities. But to fully understand the issue, some sense must be made of the institutional framework in which the conflict took place.

Aberdeen harbour coming under the 1967 docks labour scheme has decasualized dock labour including the fish porters (the lumpers). The lumpers are employed on licence from the Harbour Authority by the Aberdeen Fishing Vessel Owners Association, in effect the trawl owners. A charge per box of fish landed is made on the vessel owners. A line of demarkation as to what lumpers do and

what crewmen on trawlers do therefore exists. The lumpers are a closed shop in the dockers section of the Transport and General Workers' Union, the crewmen of trawlers at the time were 90% unionized in the fishing section of the same union.

Fish landed by inshore vessels at every fishing port in Scotland except Aberdeen is handled by the vessel's crew or casual labour. Inshore vessels, attracted through the 1950s and 1960s to Aberdeen by its higher price structure, were obliged to have their fish landed by the unionized fish porters. This added a direct cost which was resented by the inshore fishermen. This resentment was not diminished by a series of disputes between the A.F.V.O.A. and the fish porters during the eighteen months prior to October 1970. During this period the fish porters withdrew their labour on a number of occasions and were countered by a nine week strike of trawler crews who objected to the disruptions to their wages. It was not unknown during this period for inshore fishermen to land their own fish while paying the appropriate labour charges as well. It was a period of much acrimony between all parties - inshore fishermen and A.F.V.O.A., lumpers, trawlermen, and fishmerchants.

The inshore fishermens' dissatisfaction with fish landing arrangements in Aberdeen was intensified by the system of berthing in force. As employers of dock labour the A.F.V.O.A. also regulated a berthing system in which A.F.V.O.A. vessels (i.e. company owned trawlers) had priority on given days. What this

meant was that trawlers could remain at sea longer, increasing effective fishing time and still retain the best positions on the market. Inshore and foreign vessels were obliged to wait. As it is generally accepted that prices are usually higher at the beginning of the auction, this meant a direct loss of money as well as a loss of fishing time (some inshore boats at the time used a quick turn round to make two or more landings per week).

Further dissatisfaction arose through berthing steel hulled trawlers adjacent to wooden seine netters and light trawlers, to the detriment of the latter.

These issues added to an earlier bone of contention when, under pressure from the fish porters, a five-day week was introduced at the fishmarket in April 1965. The Saturday market had been of particular use to the inshore fishermen many of whom hold strong religious convictions and taboos on Sunday fishing. Even today in Peterhead, landings tend to be heavier todwards the end of the week, while purely economic criteria would dictate landings staggered through the week. Humberside agents receiving Scottish fish frequently complain about the flood of fish towards the end of the week after being starved of supplies from Monday to Wednesday.

What all these issues amounted to was the fact that the growing significance of the inshore sector was not being reflected in institutional terms in Aberdeen harbour. With 103 middle distance

trawlers in 1970, Aberdeen was still seen primarily as a trawling port. The inshore vessels were seen as secondary to the main interests of the port, taking advantage of the high price structure created and maintained by the trawling industry and fish buyers. The inshore vessels were expected to adapt to the existing institutional framework of the port or land elsewhere with consequent loss of revenue.

These 'push' factors were supplemented by a number of 'pull' factors from Peterhead. The Peterhead Trustees noting:-

(a) that a high proportion of inshore vessels were registered at Peterhead and crewed by men originating and residing in Peterhead and

(b) that the inshore fishermen from Fife to the Moray Firth ports were currently dissatisfied with the landing arrangements in Aberdeen; Regan began a campaign to attract the inshore fleet to Peterhead.

The most tangible aspect of this campaing was the construction of a new white fish market.

The ending of Saturday fish sales in Aberdeen had already given Peterhead an impetus as a fish landing port, the Peterhead market substituting itself for Aberdeen fishmarket on Saturdays. This also had the effect of accustoming a number of fish buyers to travelling to Peterhead to purchase fish.

The movement of the inshore fleet en mass from Aberdeen in

October 1970 was initially a temporary move, a protest at existing conditions, rather than a permanent departure. That it turned out to be a more permanent development is largely due to the efforts of Peterhead Harbour Trustees and the Aberdeen fishmerchants' response. The former, immediately set about organizing Peterhead harbour around the needs of the inshore white fish industry. The latter found that the distance involved meant that Peterhead could be seen merely as an extension of the Aberdeen fishmarket but without Aberdeens' problems.

In many ways the consequences of the fleetshift from Aberdeen to Peterhead were unforseen. The decline of the trawler fleet left Aberdeen fishmarket without an alternative supply of any substance. Yet in 1970 it was by no means obvious that the future of the British fishing industry was to lie in U.K. coastal waters. The inshore fleet had been growing in importance but the spectacular reversal of fortunes of the trawling industry was not anticipated.

Peterhead's rise to become the premier landing port in Britain was by no means obvious and was in many ways an unintended consequence of the changing fisheries regime. These consequences are still in the process of working themselves out.

A full description of the boycott can be found in Boycott - a doctoral thesis from the Department of Cultural Anthroplogy, Leiden University, by Aat Brand and Jaap de Kort. 1977.

Appendix B

Methods of Fishing in the North East of Scotland

Trawling

The trawl is a funnel shaped net, the mouth of which is held open by a beam or set of doors (ottar boards) which are angled in such a way that the pressure of water as the net moves forward, forces them apart. The defining feature of trawling is that this equipment is hauled through the water scooping up any fish which lies in its path. The most common form of trawling is for demersal species, where the net is weighted and doors angled to be hauled along the sea bed. Plastic or vulcanized rubber bobbins prevent the net from snagging on small irregularities on the bottom while tickler chains move ahead of the net, disturbing the sea bed and raising bottom feeding fish into the path of the net. Mid-water trawling is a variation on this theme except that the target fish are pelagic species. Having been located by electronic fish locating equipment the trawl is lowered to the desired depth. In both cases after a given period the net is winched aboard and the catch deposited on deck.

The Seine Net

A seine is a net which is laid out around, or on the far side of an area suspected of containing fish. The net is then hauled towards a central point where it is emptied. This general principle is true of the primitive beach seine or the modern seine net vessel.

In its modern form the seine net is a Danish innovation. The fishing vessel pays out a set of warps in a circle from a starting buoy. At its furthest point from the dhan buoy a net is shot overboard. The vessel then returns to pick up the dhan buoy. The ropes are then manipulated by rope winch to draw the net towards the vessel. The net moves slowly along the bottom while the ropes move inwards. This has the effect of scaring the fish into the path of the oncoming net. During this operation the vessel moves ahead slowly. Finally the net with fish is hauled on board using a pneumatic net winch.

The Pair Trawl

The principles of pair trawling are similar to single vessel trawling except that two vessels are used to pull one large net. Ottar boards are not needed. The advantage of pair trawling is that the size of the net and the breadth of the sweep that can be made are larger. The method can be used for both demersal and pelagic fishing.

Light Trawl

Is simply a small trawler (less than 80 ft.) with less power and smaller gear. Although commonly used for catching demersal species, light trawlers are most usually used for catching nephrops (prawns).

Purse Seine

The purse seine is a post-war Norwegian innovation aimed at pelagic and industrial (non-human consumption) species. The shoals of fish

are located using electronic fish location equipment and the net is laid in a circle around them. The net hangs like a curtain, surrounding the fish, enclosing an area approximately the size of two football pitches. The next stage is that the net is pursed. Ropes around the foot of the net are hauled in until the net takes on the shape of a purse. Next, the net is winched in using net winches until the fish are confined in a small area alongside the vessel. Fish pumps then suck the fish from the net into refridgerated sea water tanks in the vessel. Purse seining is non-selective the bulk of the catch being such that smaller fish have difficulty in escaping.

Drift Net

The drift net is also a method of pelagic fishing usually used for herring. The nets are hung in lines like curtains and allowed to drift just beneath the surface of the water. It is a static form of fishing, the fish becoming enmeshed by the head and gills as they rise to the surface as part of their feeding cycle. The nets are hauled and herring shaken out of the mesh onto the deck of the vessel. Drift net fishing is selective in that only fish over a minimum size can become enmeshed.

Line Fishing

Small line, Great line and Autoline methods of fishing are variations on the baited hook theme. The small line was the original form of white fishing in the North East of Scotland. A number of baited hooks were attached by small lines (snoods) to a main line and

anchored for a given period of time. Great lining consists of fishing further afield in larger boats with more robust lines for larger fish notably cod, ling and tusk. Although selective as a method of fishing, line fishing's main disadvantage is that it is labour intensive. Each hook has to be baited individually and each fish un-hooked individually. For this reason the autoliner with automatic baiting and unhooking mechanisms were brought into existence. In 1979 two Aberdeen trawlers were converted to autolining. An added advantage is that as a static form of fishing fuel consumption tends to be kept to a minimum.

Dual or Multi Purpose Vessels

Increasingly through the 1970s new fishing vessels have had dual or multipurpose capability, in tune with the changing political economy of fishing. The modern vessel is likely to be a seiner-trawler, capable of white fishing as well as pelagic catching, one particular vessel in the Scottish inshore fleet is a seiner-trawler with autolining facilities.

Appendix C

Fish-selling Companies: Ownership Pattern

Fish-Selling Companies	Parent Company	Trawling Interest of Parent
The Don Fishing Company Limited	The John Wood Group Limited	Mannofield Fishing Company Limited
The Don Fishing Company (Peterhead) Limited		Fishing Enterprises Aberdeen
Banffshire Fish-selling Company Limited		Aberdeen Pioneer Fishing Company
John S. Duncan Limited		Burwood Fishing Company
Thurso Fish-selling Company Limited		Leslie Fishing Company
Kinlochbervie Fish-selling Company Limited		Ashley Fishing Company
Caithness Fish-selling Company Limited		Milwood Trawlers Limited
		Manxwood Fisheries Limited
		Distributors Fishing Company
		Aberdeen New Water Trawlers
Caley Fisheries Group	Associated Fisheries and Foods	British United Trawlers
Caley Fisheries (Granton)		British United Trawlers (Aberdeen)
Caley Fisheries Peterhead		British United Trawlers (Granton)
David Dow Limited		British United Trawlers (Grimsby)
Moray Firth Fish-selling Company		British United Trawlers (Hull)
		Clova Fishing Company
		Croan, Carnie & Sleight
		Southern Ocean Trawlers
		The Crusader Fishing Company
		Strouds Steam Fishing Company
		Wyre Trawlers
		Forth Fisheries Granton
		Strathcoe Fishing Company Limited
		Ross Trawlers
		Ross Freezer Trawlers Limited
		North Eastern Fisheries Limited

Fish-Selling Companies	Parent Company	Trawling Interest of Parent
John Brown Limited Alex White Limited George Walker F.R. Limited North Minch Fish-selling Company Limited Lochinver Fish-selling Company Limited Christian Salveson (Fish-selling Limited)	Christian Salveson Limited	——
Richard Irvin	Richard Irvin	Richard Irvin *
Peter and J. Johnston	J. Marr	J. Marr *
Aberdeen Inshore Fish-selling Company	——	——
Grampian Sea Fisheries	——	——
D.E.W. Fish	——	——
Macrae Duthie Walker	Arther Duthie Organization	——
Macrae Duggie Mcpherson	Arther Duthie Organization	
Loch Clash Fish-selling Company (Lochinver)	——	——
Mitchell (Macduff) Limited	——	——

Fish-Selling Companies	Parent Company	Trawling Interest of Parent
Alexander Patterson (Macduff)	——	——
Wm. Cormack and Company (Lossiemouth)	——	——
Ivan Boardly (Ayr)	——	——

* English Registered Companies. Information is therefore more limited on subsiduaries.

Appendix D

Sources of Fish Processed by Aberdeen Fish Processors

10% Sample Survey

The 10% Merchant Survey

The survey was a 10% survey stratified by numbers employed. 27 merchants were approached with two refusals.

Over 40 employees	-	5 merchants
11 - 40 employees	-	7 merchants
1 - 10 employees	-	13 merchants

The merchants were asked:

(a) to estimate an average days purchase on the Aberdeen market.

(b) to estimate an average days purchases on the Peterhead market (if any).

(c) to estimate an average days purchases from any other source (if any).

(d) the species specialised in (if any) and proportions.

(e) number of employees.

Key Results

It is evident that the Aberdeen fish market is not a pivotal institution as far as fish bought by Aberdeen merchants at the inshore ports are concerned. Fish consigned to the Aberdeen

market is generally done so through the fish selling companies. A separate survey of the main fish selling companies was therefore carried out.

A. 100% of the merchants bought at least some fish on the Aberdeen market.

B. 68% of the merchants bought regularly on the Peterhead market as well as the Aberdeen market.

C. 40% of the merchants had fish consigned directly to their fish houses from Scottish inshore ports other than Peterhead, e.g. Lochinver, Kinlochbervie, Mallaig, Fraserburgh, Macduff, Whitehills, Lerwick.

D. Of the total quantity of fish arriving in the Aberdeen fish houses per day, 44% comes from the Aberdeen Market, 32% from Peterhead and 24% from other inshore ports.

E. The evidence points to the existence of key merchants i.e. those who arrange the buying and transport of fish from the inshore ports. This fish is often resold to other Aberdeen merchants, e.g. Companies 5 and 9 Ramseys and Patersons. This generally takes place when fish landings are low on the Aberdeen market.

F. Haddock, whiting and codling are the main species irrespective of port of origin of the fish. 36% of the merchants concentrated solely on whiting. 8% of the merchants dealt in all demersal species, these merchants belonged to the over 40 employment bracket. 64% of the merchants mentioned whiting as a main if not only species.

G. On the assumption of 260 fish landing days: Fish consigned to Aberdeen in 1979:

Fish Merchants	Fish Selling Companies
9,642.3 mt.	4,036 mt.

Given that the fish selling companies responses added up to 7,396 mt. (low reading) and 12,310 mt (high reading) we may also regard the fish merchants response sceptically. In a sense there is no such thing as an average day.

H. Only 4% of the merchants were involved in "trucking" i.e. buying fish on the market and transporting it directly south usually to Humberside. Although the % of companies involved in trucking is low a considerable quantity of fish <u>on given days</u> may be transported south if fish landings in England are low. The fish is thus not processed in any way by the merchants.

10% Sample

ABERDEEN MERCHANTS PURCHASING ON ABERDEEN FISHMARKET DAILY

MERCHANTS Company	Boxes	ABERDEEN Species	Proportions
1.	100	Haddock and Codling	50/50
2.	40	Haddock and Whiting	60/40
3.	100	All demersal	
4.	20	Codling, Haddock	
5.	100	All demersal mostly Whiting	
6.	30	Whiting, Cod, Haddock, Coley	
7.	100	Whiting	100%
8.	40	Haddock - Whiting	50/50
9.	200	Whiting	100%
10.	50	Haddock	100%
11.	38	Cod, Haddock	25/75
12.	187	Codling, Haddock, Flats	70/20/10
13.	30	Whiting	100%
14.	15	Whiting	100%
15.	10	Whiting	100%
16.	25	Haddock, Whiting	90/10
17.	15	Whiting, Codling, Haddock	60/20/20
18.	25	Cod	100%
19.	15	Whiting	100%
20.	10	Whiting	100%
21.	20	Whiting	100%
22.	80	Codling, Dogfish	80/20
23.	40	Whiting, Haddock	90/10
24.	30	Whiting	100%
25.	10	Haddock	100%
Total	1,330		

1,330 cwts.

10% Sample

ABERDEEN MERCHANTS: QUANTITIES BOUGHT ON AVERAGE FROM PETERHEAD MARKET BY NUMBERS EMPLOYED DAILY AVERAGE

		PETERHEAD
	Boxes	Employed
1	150	40 - 50
2	30	40
3	-	160
4	150	50 - 60
5	100	50
6	70	30
7	20	8 - 16
8	25	12
9	200	25
10	10	24
11	84	12
12	20	23
13	60	10
14	15	6
15	60	8
16	-	3 - 4
17	-	10
18	-	5
19	-	3
20	25	10
21	-	7
22	20	8
23	60	8
24	-	3
25	-	7
Total	1,099 boxes	
	962 cwts	

10% Sample

ABERDEEN MERCHANTS: QUANTITIES BOUGHT FROM PORTS OTHER THAN ABERDEEN AND PETERHEAD DAILY AVERAGE

	Boxes	Port of Origin
1	-	
2	-	
3	50	Fraserburgh, Whitehills
4	-	
5	500	West Coast, Lochinver, Kinloch
6	-	
7	-	(seldom)
8	20	Macduff
9	Varies	Mallaig, Lochinver, Macduff
10	-	
11	-	
12		Fraserburgh, Lochinver
13		West Coast, Lochinver, Mallaig, Holland
14	30	Shetland (Lerwick), Lochinver (- equal proportions)
15	-	
16	-	
17	85	Fraserburgh
18	-	
19	-	
20	20	Fraserburgh, Lochclash
21	-	
22	-	
23	-	
24	-	
25	25	Fraserburgh, Macduff
Total	730 boxes	

Appendix E

Survey of Fish Consigned to Aberdeen Fishmarket for First Sales

All major fishselling companies in Aberdeen were contacted and asked to estimate the quantity and origin of consignments to Aberdeen fishmarket.

The results were as follows and refer to estimates made in November 1979.

FISH CONSIGNED TO 9 FISH SELLING COMPANIES ON ABERDEEN HARBOUR

	Low Reading	High Reading
1	400	400
2	350	450
3	250	750
4	1050	1650
5	500	1000
6	100	140
7	150	150
8	150	600
9	100	200
	3200 boxes per week	5340 boxes per week
	400	667
	2800 cwts.	4673 cwts.
	140 tons	233 tons per week
	7280 tons per year	12116 tons per year

One inshore box generally holds 7 stone of fish.

COMPARATIVE PERIOD JANUARY TO SEPTEMBER

ABERDEEN FISH MARKET

	Consigned Fish	Fish Landings
1977	1,760 tonnes	58,845 M. tonnes
1978	2,138	49,196
1979	3,047	42,128

ANNUAL FIGURES

1977	2,784	69,027
1978	3,208	61,468

Collected 10th October 1979
Aberdeen Fish Market Kiosk.

Fish Selling Companies	% of Total Estimated Yearly Consignments	Estimated Yearly Consignments
1. Aberdeen Inshore Fish Selling Co.	7.53%	304 metric tonnes
2. Brown, John and Son	8.46%	341
3. Caley Fisheries Group	14.00%	565
4. Don Fishing Co. Ltd.	30.89%	1247
5. D.E.W. (Fish) Ltd.	18.72%	756
6. Irvin Richard Ltd.	2.62%	106
7. Johnstone, Peter & J.	2.80%	113
8. Macrae Duthie Walker	11.23%	456
9. North Star Fishing Co.	3.74%	151
	Total	4036 mt.

BOXES OF FISH CONSIGNED TO FISH SELLING COMPANIES ON ABERDEEN FISH MARKET WEEKLY

ø = occasionally
R = on a regular daily/weekly basis

Cos.	Total Boxes	Ar-broath	Ayr	Buckie	Gour-don	Gran-ton	Helms-dale	Mon-trose	Oban	Pitten-weem	Stone-haven	Wick	West Coast	East Coast
1	400	133							266	ø				
2	450	250	ø						ø		200			
3	750												R	R
4	1650								900		750	ø		
5	1000	300		150	50		50	300				150		
6	140								40		100			
7	150								150					
8	600												R	R
9	200											200		
Total	5340	boxes												

West Coast general category includes Mallaig, Lochinver, Kinlochbervie, etc.

East Coast general category includes Macduff, Whitehills, Lossiemouth, etc.

Appendix F

Market Outlets for Fish Processed in Aberdeen (60% Survey)

134 Aberdeen fishmerchants (approximately 60%) were contacted and asked to estimate:-

1. The whereabouts of the geographical location of their firms market outlets.

2. To what extent their businesses specialized on particular species.

The results of this survey are mainly embodied within the text of chapter 7.

Table A is not an exhaustive list of the towns in England to which Aberdeen processed fish is sent to direct, but it gives some idea of the pattern of distribution (excludes main wholesale market towns).

TABLE A

N.W.	Maryport, Workington, Barrow on Furness, Carlisle.
N.E.	North and South Shields, Saltburn, Newcastle, Hartlepool.
Lancashire	Burnley, Bolton, Preston, Southport, Yorkshire, York, Leeds, Sheffield, Middlesborough, Bradford, Wakefield, Halifax, Castleford, Heckmondwight, Harrogate
Midlands	Nottingham, Cannock, Coventry, Stoke-on-Trent, Corby.
East Anglia	Norwich
S.E.	Tunbridge Wells, Newhaven

Table B lists the range of demersal species dealt with by Aberdeen fish processors as a main or subsidiary species.

TABLE B

Cod, Codling, Coley, Dogfish, Flats, (Lemon Sole, Plaice Dover Sole), Haddock, Halibut, Hake, Ling, Monkfish, Roe, Skate, Whiting.

Salmon, Herring, Nephrops (prawns) are also dealt with subject to availability.

Appendix G

Research Methods and Research Sources

Interview

1. White Fish Authority: Regional and Area Officials Aberdeen, Hull and Grimsby.
2. White Fish Authority; Economists in Fisheries Economics Research Unit.
3. Department of Agriculture and Fisheries for Scotland. Fisheries Officer and Staff of Aberdeen Fisheries Office.
4. Aberdeen Fishing Vessel Owners' Association: Chief Executive.
5. Aberdeen Fish Curers and Merchants'Association: Chief Executive.
6. Scottish Federation of Fishermens' Cooperatives. General Secretary. General Managers of Peterhead Branch of F.M.A. (Buckie). F.M.A. Eymouth, F.M.A. Port Seaton.
7. Selected Fish Merchants/Processors on regular basis.
8. Selected Freezing Company Managers.
9. Fish workers.
10. Fish Market Porters
11. Trawlermen
12. Inshore fishermen

} opportunist interviews

13. Officials of Highlands and Islands Development Board, Fisheries Development Office.
14. North East Scotland Development Agency Area Officer (Banff Buchan).
15. Aberdeen Harbour Board General Manager.

16. Buchan Trades Council, Chairman.

Company Documentation

Patterns of ownership and interlinking directorships were extracted from the register of Scottish Companies in Companies Registration Office, Edinburgh. Similar information on Aberdeen Companies registered in England (generally with Humberside origins) was available from the Companies Register in London.

This source provided statements of accounts, listing main sources of income and cost for fish processors. It also holds useful information on mortgages and bank loans from commercial banks, White Fish Authority or Herring Industry Board.

A considerable number of Aberdeen Fishmerchants fail to appear on the Scottish Register being unlisted Companies. Many of these may be found in the Business Names Register.

Statistical Information

1. Department of Agriculture and Fisheries for Scotland: Area Offices: Aberdeen, Peterhead, Fraserburgh, Lossiemouth, Macduff, Buckie, Arbroath.
2. Local and Fishing Press.
3. White Fish Authority.
4. Aberdeen Harbour Board.
5. Peterhead Harbour Trustees.

Surveys

See appendix C and D.

Appendix H

Clipper Seafoods Limited

A single company stands out against the general trends of decline in the large firm sector of the Aberdeen fish processing industry in the period 1976 - 1981. Clipper Seafoods Limited, owned by Dr. Francis Clark and family, emerged when Clark broke with the Christian Salveson subsidiary Claben, which he had previously managed and been Chairman of.

Clipper's rapid expansion and form of operation which differentiate it from the other large scale processors in Aberdeen, have a significance wider than the fish processing industry. The Clipper operation has been based on securing long term contracts with large scale retailing companies. In particular Clipper has the Marks and Spencers Limited contract for frozen smoked mackerel, frozen haddock and whiting fillets as well as herring products.

The growing power throughout the post-war period of large retailers to dictate the conditions and techniques of production of their supplies has been widely documented. While this arrangement can make the manufacturer/processor dependent on a single market outlet the guarantee of sales means that some of the risks involved in production are diminished.

When this type of market outlet is combined with freezing technology

many of the customary constraints on the tempo of fish processing are removed and new forms of organization are likely to emerge.

This is what has happened at Clipper Seafoods. Marks and Spencers demand that frozen food products should remain in cold store for eight weeks ensuring continuity of supply for customers allows a stability in marketing conditions for the processor. This reservoir evens out the natural fluctuations of fish production. Consequently the auction system has no particular advantages for the Clipper operation. Continuity of supply rather than market opportunism is the ruling norm. To ensure this continuity Clipper have started (March 1981) to buy directly on contract from inshore vessels, eventually aiming to have twenty contracted inshore vessels supplying them.

Some idea of the rate of expansion around these arrangements is seen in the following table.

Clipper Seafoods: Expansion of Employment 1977-1981

1976	-
1977	80
1978	140
1979	250
1980	300
1981	350

£3 millions were invested in factory space and plant between 1979-1981. The Clipper factory covers a total of approximately 50,000 sq. ft.

and has 75,000 cu. ft. of cold store.

For most of the period during which the research for this thesis was being conducted Clipper Seafoods Limited presented an anomaly to the general model developed in this thesis. This was true both in terms of the rate and areas of expansion of the firm but also the form of ownership the company took. The former characteristics are explicable in terms of the company's links with large scale retailers. However, in terms of ownership the company exhibited both a form of ownership akin to the independent merchant/processor while also exhibiting a scale and form of company operation more akin to the large scale corporate branch factory model. In fact, the company straddled the two models.

This anomaly was resolved during 1981 when the firm was taken over by the Corporate giant, Unigate. A useful linking theory for this type of company behaviour may be found in D. Hunt 1980, where a number of catagories of entrepreneurial behaviour are described. The appropriate catagory for the type of behaviour exhibited by Clipper is the "big bang" type. This describes those firms founded and built up with eventual merger or take over in mind.

Appendix I

Skilled Labour and the Distribution of Fish Processing Capacity

A number of trends evident in the white fish processing sector of north east Scotland highlight the general forces of continuity and change at work in the industry.

1. The overwhelming significance of skilled labour in the white fish processing industry is reflected in the movement of four North Shields processing firms to Peterhead during 1980/81. These processors, facing falling supplies moved their whole business operations including skilled labour, North to Peterhead. Skilled male filleters previously associated with the firms accompanied the businesses in their move circumventing the usual blockage of the movement of white fish processing away from Aberdeen.

2. Two medium sized white fish processing plants have been opened in Maud and Mintlaw, two small rural Aberdeenshire villages. The advantages which the Aberdeen processors draw on notably a pool of skilled labour have been foregone for other advantages. These, in particular, are a compliant, regular workforce drawn from predominantly female unemployed or under-employed labour. While all filleting skills must be transmitted to the workforce, the advantages of being the sole significant employer of female labour in one particular locale makes the workforce particularly maleable.

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