BRITISH APPRENTICESHIP, 1800-1914.

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1980.
I hereby declare that this thesis:
a) has been composed by myself;
and b) is the result of my own
original work.

Signed: W.W. Knott
Date: 6 March 1980.
ABSTRACT

British apprenticeship, despite its importance in industry, and elsewhere, has been almost totally neglected by most labour historians. Where it has been discussed it has generally been in the context of industrial relations, and therefore tied solely to economic questions, such as wages and hours, as they affected adult workers and employers. In view of this imbalanced and narrow approach the task of this thesis is threefold: firstly, to present a total picture of the apprenticeship system; secondly, to analyse the factors which have influenced the development of the apprenticeship system itself, and the changing role of the apprentice within it; and, lastly, to offer an explanation as to why an institution inherited from medieval society continued to play a major part in modern British industrial capitalism.

Under the terms of the first objective it will be argued that apprenticeship is more of a social relationship than an economic one, in the sense of seller of labour to buyer of labour. True, the apprentice was a member of the working class, but due to the educational aspect of his labour he was not seen as a wage-earner but as a worker/pupil. Learning rather than labouring, in fact, was how his work was thought of. This was illustrated in numerous ways: the apprentice was rarely free to sell his labour on the open market because of the existence of social and, if under indentures, legal restraints;
neither did he receive the full value of his labour; he was also not expected to take part in industrial disputes; finally, the language most frequently used to describe the socio-economic situation of the apprentice, for example, words such as obedience, service, faithfulness, and so on, suggested a relationship of greater complexity than mere wage earning. Another important feature of apprenticeship which tends to confirm this notion of social relationship was the large amount of symbolism and ritual associated with it. The passage from the status of apprentice to that of journeyman was marked by elaborate ceremonies. Thus apprenticeship was seen not simply as a means of acquiring a skill, or earning a wage, but also as a preparation for adult life.

In analysing the development of apprenticeship in Britain, and also the changing role of the apprentice within a given trade or industry, it will be argued that economic and technological development played a crucial part.

For example, in the first half of the nineteenth century the need to meet the ever expanding demands of the domestic and overseas markets encouraged the development of specialised tools and work processes, initially, in textiles, and later, in other trades, such as engineering. These developments acted to break-up the all-round skills of the pre-industrial handicraftsman and led, in some instances, to shorter apprenticeships (that is, less than seven years) and more flexible
methods of entering a trade. The net effect of this process was to destroy, in the first instance, but not without a titanic struggle, the Elizabethan system of labour protection as enshrined in the Statute of Artificers; and, in the second, to bring about the gradual decline of the indoor system of apprenticeship.

But it will be stressed that this process was by no means automatic or determined and that it was mediated through and by real human beings. Thus the path was by no means smooth or even. Different trades and areas responded in a variety of ways. For example, indoor apprenticeship although almost unheard of in Birmingham in the 1840's was still widely practised in London and Sheffield.

However, notwithstanding these important qualifications, the changed conditions did signify a major shift in the apprenticeship system; from a system based on a mixture of custom and legality, to one based on the former alone. Moreover, in those places where the indoor system had been discarded the paternalism associated with it was replaced by the cash bond of the outdoor system. The apprentice was, then, nominally transformed from a servant into a wage labourer, although, as we have said, not in the strict sense of the word.
Thus by 1850 the modern system of apprenticeship was laid down, that is, a system of outdoor apprenticeship in which the apprentice was paid a small wage in lieu of food, clothing and shelter, and where the mode of binding, either formal or informal, was optional. And subject to some modifications, for example, the general decline in formal or indentured apprenticeships, this remained the basic structure of apprenticeship in Britain.

The most crucial factor to emerge from this process was not the abandonment of the indoor system but the establishment of apprenticeship on the basis of custom, that is, as a voluntary act. This meant that the enforcement of apprenticeship came increasingly to rest with the journeymen and their trade societies. For it was they, because of the growing desire amongst many employers, especially the larger ones, to abrogate the traditional practices of the trade, who became the upholders and transmitters of custom. And through workshop socialisation, it was the journeymen who imbued the rising generations of artisans with ideas of solidarity and craft pride. By doing so they ensured a large degree of continuing commitment to and respect for the apprenticeship system on the part of most artisans.

This goes a long way to explain the reason for the continued existence of a social institution, which in many respects, because of its social aspects, was something of an anachronism in modern industrial capitalism. For it will be argued that
apprenticeship owed its maintenance and vitality to the existence of craft societies and their socialising effect. That is not to say that technological innovation did not play a major part in influencing the development of apprenticeship, but that where such mechanical progress did not absolutely downgrade skill to the status of simple repetition it did not seriously alter the content of apprenticeship. As proof of this statement one might cite the case of the engineering industry in the years 1890-1914.

In this period engineering underwent a profound technological transformation due to the importation of semi-automatic machines from the United States. The immediate result of this technical 'revolution' was to narrow the range of skills demanded of engineering craftsmen. Because of this apprentices could compete with journeymen after a relatively short period of training on specialised machines. However, this did not lead to a readjustment of the period of service to one more in keeping with the actual requirements of the job, it remained at five years as it had been previous to the introduction of the new technology. Moreover, there was also a noticeable drift towards formal bindings, either by indenture or private contract, amongst employers. And if further evidence is needed in support of this view, one might mention the building industry. Here apprenticeship was weak, yet technological development was of a low order.
Thus apprenticeship rests on tradition and custom. Whilst men have a strong awareness of and an adherence to these inherited patterns of behaviour and thought, apprenticeship remains vital and enforceable. If commitment to these practices is lacking, or absent, a contrary situation will exist. But as the thesis will show these norms are not only symbolic but also functional, intended to guarantee the status of the artisan in the community and the labour market.

Finally, although the phrase 'apprenticeship system' will be used throughout the thesis as a convenient short-hand term some doubt will be cast on the appropriateness of such an all-encompassing expression. For, in reality, a rich tapestry of different practices and arrangements existed throughout Britain concerning apprenticeship. To talk, therefore, of a universal 'system' is to overstate one's case.
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<td>A.I.</td>
<td>Artisans' Institute</td>
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<td>A.S.C.C.</td>
<td>Amalgamated Society of Carpenters and Joiners</td>
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<td>A.S.E.C.</td>
<td>Apprenticeship and Skilled Employment Committees</td>
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<td>A.T.A.T.E.</td>
<td>Artisans' Association for the Advancement of Technical Education</td>
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<td>British Parliamentary Papers</td>
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<td>C.E.S.A.</td>
<td>Clyde Engineers' and Shipbuilders' Association</td>
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<td>E.E.F.</td>
<td>Engineering Employers' Federation</td>
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<td>E.S.A.E.</td>
<td>East of Scotland Association of Engineers</td>
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<td>E.T.S.</td>
<td>Edinburgh Typographical Association</td>
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<td>G.T.C.</td>
<td>Glasgow Trades Council</td>
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<td>J.B.G.</td>
<td>Jewish Board of Guardians</td>
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<td>J.R.S.S.</td>
<td>Journal of the Royal Statistical Society</td>
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<td>L.S.C.</td>
<td>London Society of Compositors</td>
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<td>L.T.C.</td>
<td>London Trades Council</td>
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<td>L.U.A.</td>
<td>Linotype Users' Association</td>
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<td>N.A.M.B.</td>
<td>National Association of Master Builders</td>
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<td>N.F.M.P.</td>
<td>National Federation of Master Printers</td>
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<td>N.I.A.</td>
<td>National Institute of Apprenticeship</td>
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<td>O.B.U.</td>
<td>Operative Bricklayers' Society</td>
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<td>S.T.A.</td>
<td>Scottish Typographical Association</td>
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<td>T.A.</td>
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<td>T.G.L.</td>
<td>Trades Guild of Learning</td>
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<td>T.I.E.S.S.</td>
<td>Transactions of the Institute of Engineers and Shipbuilders of Scotland</td>
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T.N.A.P.S.S.  Transactions of the National Association for the Promotion of Social Science

T.N./E.C.I.E.S. Transactions of the North-East Coast Institute

U.S.B.I.S.S. United Society of Boilermakers and Iron and Steel Shipbuilders
Introduction

British apprenticeship during the period 1800-1914 has received little serious attention from modern labour historians. In most studies of trade unions or trade unionism the subject is almost wholly neglected, or given the barest of comment. Some random examples may serve to illustrate this point. The Webbs, for example, in their monumental work, The History of Trade Unionism, devote only nine pages to apprenticeship.\(^1\) Raymond Postgate, despite saying that the early building trade unions saw the necessity to restrict apprentices as more important than raising wages or shortening hours, can only give six pages to this vital question.\(^2\) J.E. Mortimer, in his study of the Boilermaker's society devotes a mere three pages to apprenticeship, which is incredible considering the importance the Society attached to apprenticeship controls;\(^3\) likewise, James Jeffreys, in his study of the engineering workers, apportions only six pages to what was a crucial matter, particularly in the

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1. Sydney and Beatrice Webb, The History of Trade Unionism, (Longmans, Green, and Co., London, 1920 ed.), pp.32,46,50,54,55,71,75,184,475. As in all cases cited these are only index references and do not necessarily mean a full page of content.


period 1890-1914; finally, Henry Felling, in his recent book, *A History of Trade Unionism*, mentions apprenticeship on only six occasions. Moreover, whenever labour historians have discussed apprenticeship they have tended to limit their comments to its role in wage bargaining and matters of labour supply.

The reasons for this general neglect and narrowness of interest is difficult to understand in light of the importance which apprenticeship held for contemporaries. Hugh Miller, the Scottish stonemason, in his autobiography, said, in 1854, of the life of a journeyman that it 'is much more influenced... by his second education - that of apprenticeship - than by his first - that of school...'.

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6. Thompson has proved an exception to the general rule by attempting to place apprenticeship in the context of the value and meaning systems of the Artisan. Chapter 8, pp.259-291. However, even Thompson fails to consider (perhaps, through lack of evidence) how apprenticeship was seen by the apprentice.

state through which a youth is called to pass: it is emphatically the spring season of his days'. The United Joiners of Glasgow were even more forceful, stating that they 'had long been convinced that the apprenticeship question is one of the most vital of our social system....'

The essence of those remarks quoted above lay in the significance which apprenticeship had in British society in the nineteenth century, not simply as a method of training or instructing a youth in the arts and mysteries of his particular trade, but because its educational function was thought to act as an agent of social control. The argument ran like this: apprenticeship lasted around five or seven years, in this time an apprentice had to apply himself in a spirit of industry and subservience, thus he learned the habits of work and discipline, moreover, since he was paid low wages during his period of service, it taught him the principles of thrift. By these contracted habits it was thought that a 'good' citizen might emerge fully equipped to emulate the solid petty bourgeoisie. Whether this argument was over-optimistic, and perhaps, a case of wishful-thinking, or alternatively, a practicable piece of social engineering, will be discussed later, however, it does highlight the need to

10. See chapter on technical education, middle class voluntary societies, incentives, and other scattered references.
investigate, as far as it is possible, the kind of socialisation the apprentice received in the workshop. For it was here that the seeds of craft pride and solidarity, so well associated with the artisanry of the nineteenth century, were sown. For these responses to industrial capitalism were by no means automatic, but were the product of subtle psychological and social pressures enshrined in the customs, rituals and symbols of the trade.

Therefore, this thesis sets out not just to trace the development of apprenticeship, both specific and general, under the impact of technological and economic change, vastly important as they are, but also to provide a total picture of the institution and its inmates. This will necessarily involve discussion on such matters as wages, training, socialisation and protest. And since apprenticeship is in many ways a covenant between adults (employers and unions) at the expense of the apprentice it will be an essential requirement to deal with their responses and feelings, particularly over the perennially vexing question of entry controls. Lastly, as apprenticeship was seen by some as a method of social control and as a panacea, in the late nineteenth century, for social ills, it will be necessary to deal also with the relationship between apprenticeship and the bourgeoisie.

11. As an example of the brevity with which a writer may recount his early working experiences one might cite Henry Broadhurst, The Story of His Life from a Stonemasons' Bench to the Treasury Bench. (Hutchinson, London 1901), who says of his experience, 'my father's employers gave permission for me to enter the shop as a beginner...., 'and nothing more.
The realisation of such an ambitious objective is not easy since many obstacles to its achievement exist. Firstly, much of the material concerning apprenticeship is scattered over a wide range of sources of unequal value. To write, for example, a chapter on, say, the socialisation of the apprentice, one would be forced to utilise three main sources, each of questionable worth, that is, biographies of working men, government reports and fictional literature. These have inevitable shortcomings: the life-histories are usually written in the later years of an artisan's life, and, as a result, can often be nostalgic, mistaken, or, indeed, niggardly in its treatment of the writer's youthful experiences; government sources rarely contain comments by apprentices, although they do provide some of the most valuable information relating to such factors as restriction, wages, numbers, and so on. Finally, literary sources can often be quite illuminating on aspects of socialisation, and they suffer from the same subjectivity as do biographies, nevertheless they can be an important contribution to our understanding of what relations existed in the work group viz-a-viz, the apprentices themselves, and between the apprentice and journeymen. Again much of the statistical data is often extremely inexact.

12. Some information, on what is practically a historical void, can be had from the Reports of the Children's Commissioners; Third Report, BPPXXI, 1864, Fourth Report, BPPXX, 1865, Fifth Report, BPPXXIV, 1866.

13. An excellent example of how drama can contribute to our awareness of these types of relationships is Peter Terson, The Apprentices, (Penguin Modern Playwrights, 1970).
For instance, in the Census Reports of the nineteenth century no serious attempts have been made to demarcate which of those under twenty-one years (or over in some cases) working in a given occupation are boy labourers and which are apprentices. One is simply presented with a set of age grades at quinquennial intervals into which all workers are placed regardless of the nature of their employment. Thus only the roughest guide as to the numbers of apprentices, their ratio to journeymen, can be given.

Trade unions and employers' organisations present other problems. National trade associations were a fairly late arrival on the industrial relations field, therefore, apprenticeship practices, in the absence of an agreed code of working rules, tended to differ from one town or region to the next.\(^\text{14}\) Even amongst national organisations which were nominally centralised, such as the Amalgamated Society of Engineers (A.S.E.), there existed a wide array of local arrangements concerning apprentices.\(^\text{15}\) Also as trade unions tended to confine themselves to interest in restricting entry into the trade rather than in the actual conditions of service, little attention is given to apprenticeship in their records and journals, except in times of economic slump when, understandably,


\(^\text{15}\) Ibid., pp.7-16.
restriction becomes a live issue. More fruitful in investigating what might be described as the day-to-day running of the apprenticeship system are employer's records. Here information can be found on numbers, training and education, and other subjects. But even here research is fraught with inconsistency and imprecise detail.

Lastly, in criticism of the present thesis it might be said that by taking such a lengthy time span (114 years) only the very general trends could be investigated and, later, delineated. I have tried to offset this by presenting four case studies on specific occupations, namely engineering, shipbuilding, building and printing, so that some reference might be made to the peculiarities existing in different trades. However, even this is not enough. Much work could obviously be performed at local level to broaden out and stiffen the picture presented here.

More information is needed on such local matters as wage rates, numbers, rituals, and so on, which is outwith the scope of this national study.

16. An example of neglect see the Minutes of the Edinburgh Branch of the Scottish Operative Plumber's Federal Union, 1895-1904 (National Library of Scotland, MS. ACC. 4961). It contains only three references, 6 August, 1895; 27 August, 1895; 4 September, 1895. They all deal with restriction. The exception to this rule is the copious amount of material contained in the journals of the several Typographical unions, as well as in their minutes and reports. See chapter on printing.
However, before taking up the task in hand of bringing the available material together and placing it in some sort of historical framework, let us define our terminology:

1. **Apprenticeship** is taken to mean a relationship between a youth and a master or employer in which each is expected to perform reciprocal duties. The former to serve constantly and diligently for a set period of time in his master or employer's service; the latter to teach, or cause to have taught, the apprentice in the arts and mysteries of his particular craft or trade in return for service. This may be sanctioned by legal covenant through a form of indenture, although it is not essential as long as the contract is mutually binding and both parties to the agreement (verbal or written) are true to their side of the bargain.

2. **Apprentice** one who serves under the conditions outlined above.

3. **Improvership** has two definitions. Firstly, it is an intermediate stage between apprentice and journeyman in which the improver works at less than the full journeyman rate for one or two years in order to gain wider experience in his trade. Secondly, it also refers to someone who enters the trade without adhering to formal apprenticeship codes or practices.
and 'picks-up' the trade as he goes along, receiving payment according to the amount and quality of his work. In the latter case no special arrangements are made for his instruction, therefore, it is proposed to call this kind of improver a 'picker-up'.

4. **Turn-over** is an apprentice who, in pursuit of higher earnings, leaves his original master when proficient at some branch of the trade to work for another at less than journeyman's rates of pay, but at decidedly greater than an apprentice's. He never qualifies as a journeyman as he fails to complete his apprenticeship.

5. **Learnership** is less rigid than apprenticeship as it involves no formal controlling mechanisms and no responsibility on the parties, either employer or apprentice, to each other, except one of mutual interest. Under it the onus is on the lad to learn his trade as opposed to being taught it as in the case of apprenticeship. It carries with it no security of employment in bad times, but it is less exploitive than formal apprenticeship as the learner is usually paid the rate for the job.

6. **Learner** one who serves under the conditions laid out above.
The whole development of apprenticeship in the years 1800-1914 involves the clash of these different methods of acquiring skill. What follows will be an analysis of the conditions in which they were transformed and developed at different stages in British history, and by what means.
THE DEVELOPMENT OF BRITISH APPRENTICESHIP, 1800-1914.

The institution of apprenticeship has undergone two crucial stages in its development during the years 1800-1914. The first of these involved the dissolution of the indoor system and its replacement by an outdoor system of taking and training apprentices. Under the former regime an apprentice was lodged with his master, whose responsibility it was to find him food and clothing, and to ensure that the youth was given continuous instruction in all the arts and mysteries of the trade in return for faithful and industrious service on the part of the apprentice. The relationship could best be described as paternalistic: the master acting as a surrogate father. The emergence, and later dominance, of the outdoor system did not significantly alter the reciprocal rights and duties expected of the parties under the form of indenture, but it did cause a transformation in the relationship. The paternalism of the indoor system was superseded by the cash bond of the outdoor system. Here the apprentice remained in parental care, and it was the parents, and not the master, who were expected to outlay for clothing and food. In return, the apprentice received a small wage, which increased annually by small amounts until the period of service was complete. This practice remained the chief method of rearing apprentices throughout most of the nineteenth century.

The second stage of development mainly occurred in the period 1880-1914. Apprenticeship, under the impact of profound
technological change, which saw the introduction of semi-automatic machinery and a greater drive towards specialisation of skill, product and process, underwent an orientation towards learnership. Under this heading all that was required of a young man was the mastery of a narrow range of skills, which placed more emphasis on technical intelligence than on manual dexterity. In these more specialised conditions a looser form of apprenticeship emerged, which, within limits, acted to transform the apprentice from servant to free labourer. A transformation which caused contemporaries to doubt whether apprenticeship existed at all.

Of course, such a development is rarely as neatly compartmentalised as that outlined above; changes take place at different times and rates in differing occupations; there exists much shading of one epoch into another; therefore an attempt will be made to give due weight to these peculiarities of development.

A) Decline of the Indoor System and the Rise of the Outdoor. The decline of the indoor system of apprenticeship was a gradual and uneven affair. Its disappearance, however, seems to have been fairly widespread by 1850. In fact, according to a parliamentary commission of investigation, in 1843, "In the city....the great majority are out-door apprentices, not-

1. These exceptions and qualifications cannot always be dealt with comfortably in such a general chapter. To do so would too often interrupt the flow of the narrative. Therefore, it is best to consult other chapters dealing with particular aspects of apprenticeship and specific trades should one feel the need to be aware of the peculiarities attending the history of apprenticeship.
withstanding there is a regulation by which the master is required to find...sufficient meat, drink, apparel, lodging, and other necessaries'; these stipulations being usually avoided by a bond of indemnity'. 2 In some trades the demise of the 'living-in' apprenticeships occurred much sooner than 1843. Timothy Claxton, an apprentice whitesmith, (1803-10), said that he 'was to serve seven years for certain weekly wages ....My father was to board me....' 3 Despite all this, the indoor system proved more obdurate than the 1843 Commissioners imagined. As late as the 1860's, the Children's Commissioners noted the survival of the indoor system in the Sheffield metal trades, where it was said that 'large numbers of boys...are still engaged as apprentices, and formally bound, and are boarded, fed, clothed....by their masters; 4 and in the printing trade, the firm of Eyre and Spottiswoode, of London, had a number of apprentices of which it was remarked that 'most are indoor apprentices'. 5 Even in the early twentieth century instances of indoor apprenticeship could still be found. H.G. Wells, in Kipps, tells of its existence in the drapery trade of Folkstone. 6

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2. Second Report of the Commissioners on Trades and Manufacturers, BPPXIII, 1843, p.26
3. Timothy Claxton, (Hints to Mechanics on Self-Education and Mutual Instruction, (London, 1839,) p.6
However, indoor apprenticeship by this time was a rare occurrence, and the outdoor system was predominant. What caused this transformation is no easy task to explain, particularly in the period before 1850. If one could argue that the rise of industrial capitalism vastly increased the average unit size of production, introduced highly mechanised processes operated under factory conditions, the answer would be fairly straightforward: living-in became impossible as the number of employees was too great to house under the master's roof, and, in any case, the dilution of skill by machinery was such that apprenticeship itself was unnecessary as a method of training. But, of course, no such thing occurred. As Professor Hobsbawm points out:

'On the whole ....except for cotton, and the large-scale establishment characteristic of iron and coal, the development of production in mechanised factories, or in analogous establishments, had to wait until the second half of the nineteenth century, and the average size of plant or enterprise was small. Even in 1851, 1,676 cotton-masters included a considerably greater number of establishments employing a hundred or more men than the total put together of all the 41,000 tailors, shoemakers, engine and machine-makers, builders, wheelwrights, tanners, woollen manufacturers, millers, lace manufacturers and earthenware manufacturers who reported the size of their establishment to the Census (of 1851').

And yet it was in his regime of small producers that the indoor system irreversibly declined. Of course, to be fair, even a small increase in the average size of the enterprise in the handicraft sector could create real housing difficulties, if the number of apprentices increased from, say, two to four. However, this does not mean that they were insurmountable. Accommodation might be enlarged or improvised by utilizing floor space or making more intensive use of available accommodation.

It would also appear that the decades after 1820 were among the most favourable towards the keeping of indoor apprentices. As Professor Flinn, in his recent study of real wage trends, has shown the years 1820-50 were a time of rising real wages (handloom weavers excepted). Prices, which had steadily increased 'from 1788/92 to the peak in 1809/15 of around 65 to 85 per cent', had fallen by 'between 25 and 35 per cent' in the early twenties, and this was 'followed by a slower fall to the late 1840's of about 10 to 25 per cent'. In contrast, money wages remained static, or actually increased. All of which would suggest that it may have been cheaper to board the apprentice than to give him a money wage.

8. Wells says of Kipps that 'He was also allowed to share a bedroom with eight other young men....', loc. cit. No doubt other small men made similar economies.


However, it could be argued that the recurring economic crises of the first half of the nineteenth century, particularly in the years 1836-42, placed such a strain on the resources of the small master that it became advantageous to dispense with the burden of lodging apprentices and let the parents assume responsibility for finding him the necessaries of life. However, one might ask why masters, in the equally harsh conditions created by harvest failures, in the eighteenth century were able to retain their apprentices and their counterparts in the nineteenth century unable? Also one must remember that most craft apprentices were bound under indentures, in times of economic dislocation the master was still responsible for providing employment. Although living-in had ceased, the covenants of the indenture still had to be fulfilled by master and apprentice alike.

Expansion of trade has a certain explanatory plausibility in as much as it introduces new capital which may be disrespectful towards traditional practices. However, the new masters, not wishing to incite industrial conflict by introducing new work patterns or technology, might have just as easily become integrated into the established systems of work and production. The argument remains somewhat circular. But if expansion is used as a factor in an explanation based largely on social causation it does shed a fair amount of light as to why the

11. Of course, they did not necessarily enjoy keeping their apprentices in times of hardship. William Hutton, apprentice stocking-maker, recalls that in 1740 a bad winter and a poor summer 'brought on a rise of provisions', and his 'mistress' considered it 'almost a sin to eat'. Llewellyn Jewitt, ed., William Hutton and the Hutton Family. (London, 1872), p.127
transformation occurred at a time when the economic conditions seemed favourably disposed towards the continuance of indoor apprenticeship. Under the indoor system parents could in many instances place their sons with those of equal social status. The main exception being poor-law apprentices. In a period of dynamic trade expansion, such as Britain experienced in the years 1800-1850, the number of those lads from the 'right' backgrounds willing to learn the trade would normally not be enough to meet the demand for labour. Thus the area of recruitment has necessarily to be widened, which inevitably generates an influx of youths from what might be considered unsuitable backgrounds. The Gorgon remarked, in 1818, on the amount of out-door printing apprentices in London, who numbered upwards of 500, and were, either the sons of those persons who are careless of their welfare, or of very poor persons who cannot otherwise provide for them, - of widows, or widowers, who have no proper home for their children, and little or no control over them'.

In such circumstances of rapid growth no guarantee could be offered regarding the apprentice's character, background and financial prospects. No master would have liked the presence of a strange lad of inferior or uncertain status lodged in his house, especially if he, perhaps, had daughters of marriage-able age. The prospect of a daughter contracting a bad marriage was a recurring fear for the small man of business.

12. The Gorgon, 12 December, 1818. For the rapid growth of the London printing trade at this time see the chapter on 'Apprenticeship in Printing'. 
To maintain the integrity of the family and to ensure a certain degree of social and economic status for his daughters, the small master adapted a stance of social exclusiveness vis-a-vis his journeymen and apprentices. As John Foster, in his study of the class structure of Oldham, says of the 'small tradesmen' (food wholesalers, spirit merchants, printers, specialist metal manufacturers and some cotton spinners), "They tended ...to prefer the company of their fellow tradesmen and (were) ...careful to keep out of contact with the mass of the population'. Social isolation was achieved, according to Foster, firstly, through church membership, usually Non-Conformist, and secondly, by intermarriage:

'...the churches seem to have been the most important artificial communities created to protect members from contact on equal terms with the population at large. Ninety-one servant-keeping traders had offspring marrying between 1848-1856. Eighty-two of them saw to it that the marriages were into other trading or professional families.....it seems pretty clear that it was the church members, and especially the Non-Conformists, who were particularly careful not to live in houses next door to manual workers'.

Social polarity was also likely to have been influenced by differences in the material standard of comfort experienced.

14. ibid., p.168. This statement should be set aside Foster's comments on the other strand of the Oldham petty bourgeois - the 'little masters': 'They shared the general working-class allegiance to the neighbourhood and the communities within which they lived were those of street, beerhouse and trade. As a result most little masters' marriages were into manual worker families', ibid., p.175. It would seem it was the socially aspiring masters who would have been most likely to abandon live-in apprenticeships.
In the case of the 'middle classes' this seemed to be rising. G.R. Porter, in his contemporary study of England's socio-economic progress, says of the dwellings of the 'middle classes' that '...it is not necessary to go back much beyond half a century to arrive at the time when prosperous shopkeepers in the leading thorough-fares of London were without that now necessary article of furniture, a carpet, in their ordinary sitting-rooms: luxury in this particular seldom went further with them than a well-scoured floor strewn with sand, and the furniture of the apartments was by no means inconsistent with this primitive, and as we should now say, comfortless, state of things. In the same houses we now see, not carpets merely, but many articles of furniture which were formerly in use only among the nobility and gentry: the walls are covered with paintings or engravings, and the apartments contain evidence that some of the inmates cultivate one or more of those elegant accomplishments which tend so delightfully to refine and to sweeten the intercourse of families'.

If the acquisition and pursuit of possessions and social exclusiveness can be said to indicate privatisation, then it would appear that among the upper stratum of the petty bourgeois life was indeed becoming privatised. The prospect of strange 'low-bred' boys engaging in social intercourse on equal terms with masters and their families, or interfering with their possessions, did not encourage a continuance of the indoor system among the socially aspiring.

But what of the apprentices themselves? Much of the foregoing has tended to presuppose that it was a unilateral decision on the part of the master to dispense with indoor apprenticeship,

but there does seem some evidence to indicate that there was pressure from below. For it is not unlikely that many apprentices found the indoor system odious as it impinged quite severly on their independence. The desire for greater freedom of movement away from authoritarian restraints was no doubt as great amongst the young then, as it is now. Thomas Cooper, for example, a shoemaker's apprentice, left his master at the age of sixteen being unable to stand any longer his moody behaviour, and 'From the age of sixteen-and-a-half to seventeen', he worked with another small master, then another year for a widow under his own tutelage. The 1843 Commissioners said of Birmingham Boys that 'many, ... of them will not become regular apprentices, because they like to go from place to place'. Finally, the 'Rules and Orders' of the Hatmakers' society noted the prevalence of the practice among 'some corrupt apprentices to damage their master's work, in order to incite their masters to assign them to other masters, merely to procure to themselves extraordinary wages'. Therefore, it would seem that a number of apprentices disliked working under a system which involved close supervision. Thus the decline of the indoor system was due to a combination of social forces; on the one hand, the increasing privatisation of the small masters, and, on the other, the restlessness of the apprentices.

17. Report on Trades and Manufacturers; op. cit., p.27.
However, it might be as well to point out at this juncture that in some trades no system of indoor apprenticeship had ever existed. Engineering, for example, was the product of industrialisation, as a result it had no indoor tradition to draw on. In the building trade, the extensive practice of filial bindings meant that indoor apprenticeship tended to be something of a rarity. This was also true to a large extent amongst the Thames shipwrights. A similar point might be made of some of the factory trades. William Hutton was apprenticed at the age of seven on an outdoor basis to the silk trade at Thomas Lombe's mill in Derby, in 1730.

The passing of the indoor system did not go unheeded. Much contemporary comment was made concerning the unwholesome effect of outdoor apprenticeships on society, in general, and on the young, in particular. Under the former system a range of social constraints were available, such as chastisement, instruction, close control, and so on, for checking the social irresponsibility of the young. The rise of the outdoor system dissolved the paternalistic control of the master, and this, it was argued, allowed

19. See chapter on 'Apprenticeship in Engineering'.
20. See chapter on 'Apprenticeship in Building'.
21. See chapter on 'Apprenticeship in Shipbuilding'.
23. Indeed apprenticeship has been used as a means of social control. For example, Abraham Lincoln 'introduced a bill for the freeing of slaves in the District of Columbia that provided a temporary system of apprenticeship for them'. Some time before this, the colonial government of the West Indies' recommended the freedmen...to a term of apprenticeship, owners being metamorphised into masters'. Paul H. Douglas, American Apprenticeship and Industrial Education, (P.S. King, London, 1921) pp.21-22.
...that contamination of character which naturally arises from a number of youths being herded together without any moral restraints, under the influence of which ...(Apprentices) are let loose on the public with corrupt and corrupted appetites when their work is done....' 24

to emerge and become responsible for a variety of social problems, particularly crime.

The Chaplain of Bridewell, prison, said in 1815, 'I should think there can be no doubt that the present system of taking apprentices and binding them out of doors where they are not under the eye of their master is very mischievous. I think a great proportion of the apprentices we receive are ...outdoor apprentices....'25

Thomas Chapman, compositor, giving evidence before the Police Commission of 1828, condemned outdoor apprenticeship as 'the most destructive demoralising thing that was ever introduced into the land. I have known in printing offices myself from that unhappy practice five out of a dozen that have been either hanged or transported....'26

William Payne, the High Constable of Birmingham, put down the increase in crime in his area to the dissolution of that system which 'wisely says that there should be no apprentices but those who are apprentices in the master's house by day and...


by night'. 27

However, the critics of the new regime did not specify which type of crimes the offending outdoor apprentices committed, and where they did they were not too serious. Payne, for example, said that the main crime was that of pilfering the master's materials for either sale to an interested party, or for making 'little trinkets' for self-enrichment. 28 Hardly an action designed to cause the break-down of the social order. Moreover, the charges of Chapman are unspecific; were those executed or transported for crimes involving violence or robbery or murder, or were they the unfortunate victims of state oppression, as were the Tolpuddle Martyrs, prosecuted for taking illegal oaths?

As to the question of wholesome discipline the evidence of the critics seems somewhat arbitrary. Francis Place disputed the charge that outdoor apprentices were generally more unruly, and said that printers were formerly 'much more vicious and profligate than they are now'. 29 In 1780, Joseph Hanway attacked masters for their lack of attention in the control of their apprentices:

27. Report of the Select Committee on Criminal Commitments and Convictions, DFPVI, 1828, p.42; see also evd. of John Eardley Wilmot, Chief Justice of Warwickshire Quarter Sessions, for a similar view, pp.27-28.

28. ibid...

'Do we not know that there is but a small number of masters in these days who can or will keep their apprentices within doors in the evening when their shops are shut. How they go abroad without money, and how they get money is the dark and mysterious part of the story'. 30

Daniel Defoe, in 1745, complained that 'few masters concern themselves with the souls, nay, scarce with the morals, of their servants, either to instruct them, or inform them of their duty to God or man, much less to restrain them by force'. 31 Therefore, it could not be said with any certainty that the indoor system was any more a generator of 'good' behaviour among apprentices than the outdoor, or that masters were liable to show a greater interest in them.

This moral opposition to outdoor apprenticeship was in essence merely a smokescreen masking the self-interest of the critics. Men in positions of authority, such as Payne, were naturally, in an age of disorder, desirous to promote anything thought conducive to order and stability. Artisans, such as Chapman, may have expressed fears over social control, or the lack of it, but these were products of the sub-division of labour and the specialisation of skills, particularly in textile trades, which threatened to displace them altogether with cheap semi- or unskilled labour.


The textile trades, especially cotton, were the foundation of industrialisation. It was here that the Industrial Revolution was first built, and the enterpreneurial spirit most markedly applied. Even in the earliest stages of industrialism complaints abounded concerning the disregard of men of capital and enterprise for the ancient customs of the trades.

Parliament, from 1750 onwards, received a flood of petitions signed by journeymen and small masters pleading that the statutes governing apprenticeship be observed and enforced. And this continued until the repeal of the protective legislation, in the first decade of the nineteenth century, by Parliament.

The principal causes of this conflict between large capital and small masters and journeymen were the expansion of trade and the application of machinery as an alternative to handwork. Between 1750 and 1770 cotton exports alone, 'multiplied ten times over'. The production of printed goods (silks, linens, calicoes) increased from 8,723,000 yards, in 1770, to 16,777,000, in 1790, and doubled again to 34,134,000 yards, in 1800.

32. Hobsbawm, op. cit., p. 52.
34. See Chapter on 'Restriction of Apprenticeship'.
35. Hobsbawm, op. cit., p. 57.
To cater for such a continually expanding market employers introduced machinery. In the calico trade, hand-printing of cloth by means of engraved blocks was superseded around 1785 by cylinder-printing. Instead of laboriously applying each colour separately to the cloth, it now could be 'passed over engraved cylinders, so that two or more colours could be printed at the same operation, and only one hundredth part of the labour previously used was now required to produce the same result'. The disastrous feature of this innovation for the journeymen was that 'boys could be employed in what had been hitherto the work of men'. Employers began taking on apprentices in large numbers. Thus the parliamentary committee investigating the calico trade in 1806, found that 'in the shop of Berry and Company of Lancashire ... 55 apprentices, and only two journeymen; and in another, that of Tod and Company of Dumbarton, there were 60 apprentices, and only two journeymen'.

Obviously it was not possible to house 50 or 60 apprentices under the master's roof, and therefore the indoor system had to be abandoned. Boys in the calico trade were taken on by verbal agreement and paid a weekly wage. This system was known as


38. ibid.

39. ibid.


41. Minutes of Evidence of the Select Committee on the Petitions of the Journeymen Calico Printers, BPP IV, 1803-04, evd. of Richard Harrison, p. 3.
'colting', and passed as a form of apprenticeship in name only.

In the handloom weaving trades, the invention of Cartwright's power loom in 1785 did not at first encourage the ruin of the weavers. It was the early division of labour in the worsted industry of Yorkshire which undermined the seven years' apprenticeship. The trade was split into two parts, weaving and wool-combing. As Herbert Heaton points out, under such conditions it was:

'quite unnecessary for a wool-comber to serve seven years when he could learn his trade in one or two, and it would be equally understandable that a man whose whole task was to be weaving should bind himself as an apprentice for a long space of time. Thus, both in the worsted and woollen industries, apprenticeship was becoming obsolete'.

However, as long as the domestic system survived it guaranteed apprenticeship. And, indeed, as Professor Habakkuk points out, until the 1830's, the domestic system matched the improvements made by the power loom in terms of productivity 'as a result of applying more labour at lower earnings'.

It was only after 1830 that the domestic industry began to collapse as the following figures show:


44. Mitchell and Deane, op. cit., p.187.
TABLE 1  

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<th>Year</th>
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<tr>
<td>1855</td>
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The power loom had simplified the process of weaving to such an extent that there was no need for a training period of any length; the weavers had become machine-minders. Its productivity had also obliged a transition from the domestic to the factory system.45

In the ribbon weaving trade of Coventry, the introduction of the Jacquard loom from the late 1820's proved to be too competitive for the handloom, on all but the fanciest and most delicate work.46 Even before the introduction of the power loom apprenticeship had undergone a significant modification, due to the superabundance of weavers. This industrial reserve army had been created by the boom period of the Napoleonic Wars. During these years the shortage of hands had led to an influx of 'a great number of girls', who, through the prospect of

45. Despite the disappearance of formal apprenticeships some of the cotton operatives attempted to restrict entry. For example, rule 37 of the Cotton Spinners' Association states that 'This Association binds and obliges every one of its members to refrain from instructing any individual in the art of spinning, except such sons or brothers of a spinner, who may have been or is at present a member of this Association, and it must be remembered that such persons, can only be admissible by having served them as ....'Reports from Committees: Combinations of Workmen, BRPVIII, 1837-38, evd. of Archibald Allison, Q.1952, p.107.

higher wages and greater independence, had left their situations in 'domestic service' for ribbon weaving. The new entrants were taken on as 'half pay apprentices'. Under this arrangement 'a master takes an apprentice for two, three, four or five years, and he is bound by an unstamped indentive or agreement. The master is to have one half of the apprentice's earnings, and the apprentice the other half, and to maintain him or herself'. Out of his/her wages the apprentice was expected however to 'find half the candles which may be consumed, and bear half the stoppages and abatements'.

The infringements of established customs made by machines and specialisation of skill were not confined to textiles. In 1835, The Mechanics' Magazine deplored the social effects of the division of labour, which condemned 'a poor boy with very little education... bound apprentice for five or seven years, to do one particular act'. James Myles, in his autobiography, says, that in the early nineteenth century, the shoe-making trade underwent specialisation; he, in fact, obtained employment, in the summer of 1835, in Dundee as a 'woman's man', that is, 'an operative who confines himself to the making of women's shoes'. By the 1850's, the process was also subdivided: 'the cutting out of leather, "closing" (or sewing together the uppers) were all separate processes'.

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47. Minutes of Evidence on the Ribbon Weavers' Petitions, BTPLX, 1818, evd. of John Carter, p.5.

48. ibid.

49. ibid.

50. 13 June, 1835.


engineering trade a similar and more extensive process occurred, as E.P. Thompson points out:

'As late as 1818 the Book of English Trades... does not list the trades of engineer, steam-engine maker, or boilermaker: the turner was still regarded as mainly a woodworker, and the skills of the engineer were united in the 'machinist' — a versatile master of many trades, "of considerable ingenuity and great mechanical knowledge" who "requires the talents and experience of the joiner, the brass and iron founder, the smith and the turner, in their most extended variety'. Only ten years later there was published The Operative Mechanic and British Machinist, running to no less than 900 pages, showing the extraordinary diversity of what had once been the millwright's craft'. 53

There was also in London a dividing of trades into two distinct sections, which Henry Mayhew dubbed 'the honourable' and 'the dishonourable', and included 'cabinet-makers, carpenters and joiners, boot and shoe-makers, tailors and all clothing workers, and the building industry'.54 The former section indulged in high quality work and contained the best paid and skilled workers; the latter catered for the 'cheap and nasty' end of the market and was notorious for sweat shops, garret-masters, low wages and poor workmanship.

This onslaught on the status of the artisan and customs of the trade was mainly responsible for the emergence and growth of trade unions; and the essential activity of the early craft associations was the maintenance of apprenticeship. Where the union was strong it could resist encroachments by machines and employers into established trade practices. For example, in Coventry, despite the existence of the Jacquard loom and a pool of casual labour, the journeymen ribbon weavers in alliance with some of the 'good' masters were able to enforce 'list

prices', the bedrock of the domestic system against the 'dishonourable' masters, and retard the transition to factory production until 1860. Where there was no union apprenticeship, whilst not wholly abandoned, existed in a looser form. For instance, the 1843 Commissioners noted that in the metal trades of Birmingham indentured apprenticeship had been abrogated, and as a result 'when trade is bad....boys are turned off'.

It was the ability to restrict the labour supply by insisting on rigid apprenticeship rules which made trade unions anathema to the large employer. For essentially what the latter wanted was an unchallenged right to construct or expand the workforce according to the state of trade. The main obstacle to such industrial autonomy was the trade union, membership of which was conditional on having served a proper apprenticeship of seven years under indentures. James Napier, the Clyde shipbuilder put the employer's case fiercely when he said:

'...the system of apprenticeships, of long engagements, is hurtful to society at large - that it is a system of protection, which.... ought not to be tolerated; that its end is a tyranny and despotism of the indolent and idle over the industrious, which at this moment is growing into one British Trades' Union ....the system of apprenticeships leads in the end to strikes, trades' unions, disorder, separation of the master from the workmen,'

56. Report on Trades and Manufacturers, op. cit., p.27.
and to a state of things exactly the reverse of what the Bible teaches us ought to exist between the parties. If it does all this, then surely the simplest of remedies is to give it up. Let the Natural Laws have their course, and let labour be FREE'. 57

It was thus from the early years of the outdoor system that apprenticeship became intertwined with trade unionism: an attack on one became an attack on the other. Moreover, apprenticeship also became a strong bargaining counter between employers and unions, and this increased as the century wore on.

However, the desideratum of 'free' labour in place of apprenticeship was still some way off. There were as yet a number of barriers to overcome. Socially, the British workers were accustomed to inherited forms of work patterns. As Professor Habakkuk says:

'A higher proportion of the English labour force in the mid-nineteenth century was accustomed to certain industrial routines. This was principally because a very large part of expanding operations in established industrial centres ...local supplies of experienced labour ...was habituated to certain forms of work, of operation, it was apt to resist change....' 58

Economically, the structure of British industry remained heavily weighted on the side of the small-scale enterprise making a large variety of goods. In most enterprises


economies of scale were not possible. According to the 1851 Census, in the engine-and machine-making trades, out of the 837 employers making returns, 160 were either working on their own or did not state the number of men they employed; 152 employed one to two men; 295 employed three to nine; 90 employed ten to nineteen; 72 employed twenty to forty-nine; 40 employed fifty to ninety-nine; and 34 employed over a hundred men. 59 A similar occupational structure existed in tailoring, shoe-making, building, wheelwrighting, tanning, woollen-cloth and worsted manufacturing, silk manufacturing, earthenware manufacturing. 60

Technically, the extensive innovation which characterised the early phases of industrialisation had exhausted itself. The increase in output in the years 1850-80 was achieved not by the introduction of revolutionary machinery but by improvements in existing equipment. In the iron trade, for example, the vast increase in output, from 2,250,000 tons, in 1850, to 7,750,000, in 1880, was due, says Professor Hobsbawm, to 'a remarkable increase in the capacity or productivity of blast furnaces', 61 and not to innovating techniques of production.

60. ibid.
61. Hobsbawm, Industry and Empire, op. cit., pp.116-17; see also chapters on printing, building, engineering and shipbuilding.
Having reached the outer limits of technological invention, all that was left to an improving employer to increase productivity and lower costs was to reorganise the work process. In engineering, the two-handed trade of fitter and turner was split into separate trades; in building, the multi-faceted trade of glazier/plumber/painter decomposed into three distinct parts. Moreover, firms increasingly became associated with one class of work or a particular product. As the President of the Institute of Mechanical Engineers said in 1874, 'Within the last few years ... the business of mechanical engineering has divided itself into distinct branches so that locomotive builder is little more than locomotive builder'.

The increasing specialisation of product and skill did not go unnoticed. After the 1867 Paris Exhibition of Manufacturers had caused an uproar amongst men of science and progressive employers at the spectacular improvement of foreign industry, calls were made to reorganise the apprenticeship system along different and more systematic lines. An all-round training supplemented by technical and scientific instruction in the science and principles of the trade was not urgently adopted, it was argued, then foreign manufacturers would quickly surpass Britain's in the markets of the world.

62. See chapter on 'Apprenticeship in Engineering'.
63. See chapter on 'Apprenticeship in Building'.
65. For a fuller discussion on the background of these fears see chapter on 'Technical Education and the Apprentice'. 
Silvanus P. Thompson, Professor of Experimental Physics at the University of Manchester, spelt out the worst fears when he proclaimed in war-like tones:

'The skilled industries of Great Britain with their irregular bands of workers, trained anyhow, nohow, armed with scraps of empirical knowledge, and swaddled up in the rules of thumb, are doomed before the industries of nations who bring into the field ordered legions of trained workers equipped with intellectual weapons, and clothed with sound science, against such adversaries all the stores of coal and iron in our hills and valleys will be of little avail. We have, however, one chance left; we must adapt our systems to the new social order, and drill and train our workers in a systematic and scientific apprenticeship....' 66

The critics of apprenticeship in this period were generally admirers of the German system: most of the inspiration and ideas emanated from there. In Germany, although the guilds had been abolished in 1810, under the Prussian Industrial Code of 1845 the supply of journeymen was still in some measure restricted by the insistence 'on the passing of tests for admission to the status of journeyman and master'. 67 These tests of competency were removed in 1868, but after the publication of a report into apprenticeship by an Imperial Commission, in 1875, it was decided to regulate it once more, this time under the clauses of the Imperial Industrial Code of 1878. 68 This action was deemed necessary because under the

68. ibid.
loose system introduced in 1868, it was found that unsatisfactory practices resulted, that is, neglect of training and over-specialisation of apprentice labour. By the 1878 Code apprenticeship and training were placed under the control of the guilds.  

However, despite its attractiveness to the proponents of technical education, the German system was never imported to Britain, and technical education, even up to 1914, appealed only to a minority of apprentices and employers. But as the century wore on, the scathing critique of the apprenticeship system made by men such as Thompson seemed to many people all the more valid. In fact, after the late 1830's protest reached a crescendo.

2) British Apprenticeship, 1880-1914: Did it Die?

The period of the late 1880's-1914 saw Britain experience what might be described as a 'Second Industrial Revolution'. The hallmarks of this high phase of technological development were, one, the introduction of the new semi-automatic machines, two, the increasing use of unskilled and semi-skilled labour in trades hitherto the preserve of the skilled man; three, the adoption of a system of standardised and interchangeable parts;

69. ibid. This, however, proved ineffective and after an investigation in 1887 it was found that technical instruction was unsatisfactory and apprentices frequently disregarded their contracts. It was only after a mass campaign by the small masters that a complete system of apprenticeship training was introduced, in 1897, ibid., p.412.

70. See chapter on 'Technical Education and the Apprentice' for the reasons why it progressed so slowly in Britain.
and finally, the predominance of the factory over the workshop as the unit of production.

In engineering, the importation of semi-automatic machines, such as the capstan lathe, greatly reduced the functions of the skilled workers; in shipbuilding, the invention of the pneumatic rivet machine undermined the skilled hand-riveter's work; in building, the pneumatic chisel did away with the business of dressing stone by hand, and prefabrication decreased the variety of the carpenter's work. In some trades machines did away with the skilled men altogether. For example, in boot and shoe manufacture 'new machinery ...began to invade the territory of the lasters and finishers, and a novel subdivision of labour, the "team system", was transferring work to the less skilled operatives on time rates...(which) led to a rapid increase in the employment of boys'. In the London book-binding trade, the 'substitution of cloth for leather'; the mechanisation of 'cloth case-making'; and the 'mass production of standard works, such as the bible and prayer books' led to a massive de-skilling of the trade and the replacement of craftsmen by machine operators, mainly women, who, in fact, by 1891 constituted 'over 60 per cent of the labour force'. In the Iron Moulding trade, by 1908 mechanisation was leading to a more

71. See relevant chapters on.
72. Clegg, et. al., op. cit., p.26
73. ibid., p.148.
extensive use of unskilled men and the trade was said to 'No longer attract apprentices'.

The new machinery of production encouraged the drive towards factorisation and decreased the importance of the workshop, as the following table shows:


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Table 2
The change over to factory production quickened the pace of and made more methodical the work of the journeymen, as well as allowing for the introduction of piece-rate payments in industry. In the engineering and boilermaking trades, for example, in 1886, only 5 per cent of the workforce were on the piece-rate scheme, by 1906, it had increased to 27.5 per cent; and amongst turners the trend was even more marked: 6 to 7 per cent, in 1886, rising to 47 per cent, in 1913.76

These profound changes in the nature of industry and skill led many contemporaries to argue that apprenticeship had died out, or, at least, was in the process of dying out. Harry Ham, secretary of the Alliance Cabinet Makers' Association, giving evidence before the Royal Commission on Labour (1892), said that in 'London I do not know a half-a-dozen apprentices'.77 John Judge, secretary of the Leeds Branch of Boot and Shoe Operators, before the same Commission, said that in Leeds the apprenticeship system was 'unknown'.78 Even in the haven of the small-producer, the Sheffield cutlery trades, it was said, in 1910, that 'The system of apprenticeship is breaking down'.79

78. ibid., Q.12, 112, p.30.
79. Royal Commission on the Poor Laws and the Relief of Distress, BFPXLIII, 1910, evd. of Albert Mason, Qs. 88,388-90, p.476.
There appeared good statistical evidence for saying so. In 1895, the London County Council's Technical Education Committee reported on apprenticeship in the building trades of London. According to the report, only 80 apprentices existed, 'among a total of about 12,000 men, including labourers', and that four firms, 'each with a staff of about 1,000 had not a single apprentice'. Various studies carried out on school leavers a number of years later found a similar problem existing in most skilled London trades. Reginald Bray, for instance, found that amongst school leavers during the years 1906-08, 56,662 entered skilled occupations, or 33.2 per cent, and 18,910 or 61.0 per cent entered unskilled occupations. But clearly these figures are either highly selective or incomplete, as on page 143 Bray, using the statistics of the Education Committee (1909), presents a picture which is less bright:-

<table>
<thead>
<tr>
<th>Skilled Trades</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Skill</td>
<td>8.2</td>
<td>14.0</td>
<td>16.8</td>
<td>16.8</td>
<td>18.0</td>
<td>16.3</td>
</tr>
<tr>
<td>Van Boys</td>
<td>28.2</td>
<td>32.8</td>
<td>34.1</td>
<td>33.9</td>
<td>32.5</td>
<td>34.1</td>
</tr>
<tr>
<td>Errand &amp; Shop</td>
<td>30.5</td>
<td>22.0</td>
<td>18.4</td>
<td>15.0</td>
<td>12.6</td>
<td>10.3</td>
</tr>
<tr>
<td>General &amp; Casual Labourers</td>
<td>5.3</td>
<td>7.0</td>
<td>6.7</td>
<td>6.9</td>
<td>6.4</td>
<td>8.7</td>
</tr>
</tbody>
</table>

In other parts of the country an analogous situation existed. R.H. Tawney, in his study of boy labour in Glasgow, found that out of 250 boys leaving elementary school '53.6 per cent became milk boys or lorry boys, 24.6 per cent became unskilled labourers... (and) 12 per cent became apprentices or learners'. 82 Margaret Keynes found that in Cambridge 'Only 32 out of the 437 boys were actually apprentices within two years' of leaving school. 83 Cyril Jackson stated that in Liverpool out of 117 boys leaving school only four, or 3.4 per cent entered a trade, as against thirty, or 25.6 per cent, who became general labourers, and the fifty-six, or 47.9 per cent, who became errand and shop boys. 84 In Manchester the figures were comparable: out of 84 boys who left school at 14, only 8 entered a skilled occupation as against 32 who became unskilled labourers. 85

Based on such damming evidence it appeared to many that 'There can be no doubt that to a large extent the system of apprentice-

ship has died out, and it is very doubtful if it would be possible or desir-

able to re-establish it in large towns'. 86

But how far was it the case?

85. ibid., Table. 22.
86. Keynes, Loc. cit.
The first qualification that one might make is over the highly selective nature of some of the statistics utilized by the social investigators. Firstly, much of the evidence was based on the occupations taken up by school leavers immediately schooling was (legally) completed. However, this fails to appreciate that there was generally a two-year gap between leaving school and entering a trade. In 1909, the majority of apprentices entered a trade around the ages of fifteen to seventeen and not at fourteen, as the following table shows.87

Table 4: Age of Entry Into a Trade.

<table>
<thead>
<tr>
<th>Industry</th>
<th>14 Yrs.</th>
<th>15 Yrs.</th>
<th>16 Yrs.</th>
<th>16 to 18 Yrs.</th>
<th>18 &amp; over</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering</td>
<td>29.9</td>
<td>26.1</td>
<td>27.2</td>
<td>1.5</td>
<td>0.1</td>
</tr>
<tr>
<td>Shipbuilding</td>
<td>12.0</td>
<td>16.8</td>
<td>16.2</td>
<td>28.7</td>
<td>0.2</td>
</tr>
<tr>
<td>Pottery</td>
<td>19.4</td>
<td>20.4</td>
<td>25.0</td>
<td>21.3</td>
<td>1.9</td>
</tr>
<tr>
<td>Building</td>
<td>36.6</td>
<td>24.7</td>
<td>12.7</td>
<td>1.9</td>
<td>0.2</td>
</tr>
<tr>
<td>Furniture</td>
<td>34.4</td>
<td>23.3</td>
<td>13.9</td>
<td>4.5</td>
<td>-</td>
</tr>
<tr>
<td>Printing</td>
<td>60.6</td>
<td>10.6</td>
<td>4.5</td>
<td>-</td>
<td>0.1</td>
</tr>
<tr>
<td>Baking</td>
<td>17.1</td>
<td>14.7</td>
<td>34.3</td>
<td>6.0</td>
<td>10.7</td>
</tr>
</tbody>
</table>

Therefore, it was to be expected that the 'blind-alley' occupations should employ a high proportion of boys leaving school and the skilled trades a correspondingly lower proportion.

Secondly, some of the towns chosen to illustrate the decay of apprenticeship are untypical. Cambridge, for example, to a large extent, drew its wealth from the existence of the university and this accounted for the large number of errand boys (50 to 60 per cent of the total) in Keynes' sample. London seems a very special case, and is highly unrepresentative of the country as a whole. Here recruitment to the trades was largely from the ranks of provincial journeymen and not by indigenous apprenticeship, as Booth shows:

Table 5: Proportion of Heads of Families Born in London. 89

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Born in London</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bookbinders</td>
<td>81 per cent</td>
</tr>
<tr>
<td>Coopers</td>
<td>69</td>
</tr>
<tr>
<td>Cabinet-makers</td>
<td>68</td>
</tr>
<tr>
<td>Printers</td>
<td>66</td>
</tr>
<tr>
<td>Plasterers</td>
<td>65</td>
</tr>
<tr>
<td>Printers and Glaziers</td>
<td>65</td>
</tr>
<tr>
<td>Plumbers</td>
<td>62</td>
</tr>
<tr>
<td>Shipwrights</td>
<td>60</td>
</tr>
<tr>
<td>Bricklayers</td>
<td>49</td>
</tr>
<tr>
<td>Engineers</td>
<td>49</td>
</tr>
<tr>
<td>Blacksmiths</td>
<td>47</td>
</tr>
<tr>
<td>Masons</td>
<td>46</td>
</tr>
<tr>
<td>Builders</td>
<td>44</td>
</tr>
<tr>
<td>Carpenters and Joiners</td>
<td>41</td>
</tr>
</tbody>
</table>

88. Keynes, op. cit., p.5.

By tapping the resources of the provinces London employers were able in many cases to forgo the trouble of rearing apprentices, especially in trades such as bricklaying, engineering, carpentry, and joinery and building. Therefore, utmost caution must be used in citing London as an example of national decline.

Thirdly, the figures given by Jackson for provincial towns seem too selective to be of use, and have to be contrasted with the statement of the Ministry of Labour in the 1920's that there are some 315,000 boy apprentices and 110,000 boy learners in Great Britain alone; thus nearly one-fifth of the male workpeople in Great Britain under 21 years of age are apprentices and nearly 30 per cent are either apprentices or are employed under some form of training adopted as an alternative to apprenticeship. And this after the dilution of the war years. Obviously Jackson's tables are woefully inadequate. It also must be remembered that as technological innovation killed-off some skilled occupations such as book-binding and shoe-making it also created new skills, for example, the electrical trades and the motor vehicle building and repairing trades, ever growing in size and importance.

Finally, underpinning the views of Tawney and Bray, as well as others, was the commonly accepted view that machine specialisation had seriously diluted the skill content of most trades,

turning apprentices into little more than machine minders. As one employer in Glasgow put it, 'to put an apprentice on a valuable machine is a waste of money unless he is specialised to it', and in all trades the longer a boy is kept at the process the sooner does he become economically profitable, and this in essence was the social investigators' case: exploitation had taken the place of training.

Before discussing this proposition, it might be as well to make a few commonplace remarks. The idea that men are not as skilled, or the work they produce not as good, as they were in previous generations is a recurring complaint. Already we have mentioned the complaint issued by the Mechanics' Magazine concerning the overspecialisation of apprentices in 1835. Today many people would look back on the period 1880's to 1914 as a time when the embodiments of real craftsmanship were imparted to and practised by apprentices. Therefore, skill is a socially perceived, as well as a socially defined, concept almost always viewed in chronological perspective. Moreover, it can also be socially constructed. For example, trade unions defined a skilled man as one who had served an apprenticeship for a set number of years, regardless of his ability. It might also be said that not all machines are necessarily destructive of skill. A circular saw may abolish the laboriousness of hand-sawing but it does not necessarily abrogate the demand made on the judgement and eye of the Sawyer. Similarly, the introduction of the linotype composing machine into the newspaper industry in no way diminished the skill of the compositor, in fact, it could be argued that it

91. Tawney, op. cit., p.521.
enhanced it. 92

Let us take as our starting point, in this discussion on the nature of skill, Thomas Wright's definition of the skill of an artisan:

'He puts his brains into his work, thinks and plans, and in a rough- and ready way invents. He understands the capabilities of tools, whether they be simple hand-tools or complicated machines. He can make the fullest use of automatic adjustments and self-acting gearing which reduce the one-job man to the level of a machine feeder and nothing more. Where, however, any such accessories are wanting, he is not, like the one-job man, "floored" by their absence. He can "rig-up" substitutes for them or so vary the methods of executing his work as to be able to dispense with their aid'. 93

For Wright skill was thought of and practised in terms of human inventiveness and idiosyncrasies and not as machine- like. And this remained true where ever the product was dictated by the personal taste of the consumer, for instance, in housing. But where production was based on standardised lines and interchangeable parts the demands made on human ingenuity were reduced in proportion. And this was taken furthest in engineering, although as John Hobson noted, the 'highly erratic' nature of factory breakdowns still called for some display of ingenuity on behalf of the engineer. 94

92. See chapter on 'Apprenticeship in Printing'.
But if we were to apply Wright's criteria of skill, it had obviously in engineering, at least, declined.

It was certain that the manual dexterity of the journeymen had decreased substantially. But this in no way diminished the need for skilled men. All it did was to alter the nature of skill. As one American commentator pointed out:

'They (employers) did not realise that the more complex machinery, through which specialisation was largely made possible, also called for a higher type of all-round mechanic to design, construct, and install this machinery'. 95

Skill, therefore, was not seen as manipulative exercise but more in terms of intelligence and technical knowledge. A similar point was made by Hans Renold, who stated that the increasing complexity of machinery and the 'cost of mishap became so great that highly skilled operators will be employed, who have not only to work the machines but to keep them in adjustment. Such work may well call for a very high degree of skill in the form of judgement, alertness... a real understanding of the principles on which the machine works.' 96

Renold, in fact, had started out with the idea of eradicating skilled occupations in his factory, but found that, even by applying the principles of scientific management, those in

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the craftsmen category grew both in numbers and as a percentage of the whole, and those in the semi-skilled machine operator class and unskilled labourers decreased, as the following table shows:

97. ibid., p.600.
Hence drop in percentage skilled categories.

Consequent influenza is still prevalent, hence the skilled categories are not yet affected.

*Period of extreme activity may affect the skilled categories.

Eventually normal.

<table>
<thead>
<tr>
<th>Year</th>
<th>1926</th>
<th>1927</th>
<th>1928</th>
<th>1929</th>
<th>1930</th>
<th>1931</th>
<th>1932</th>
<th>1933</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 1928</td>
<td>34.9</td>
<td>30.1</td>
<td>39.1</td>
<td>46.3</td>
<td>85</td>
<td>120</td>
<td>190</td>
<td>205</td>
</tr>
<tr>
<td>Jan 1927</td>
<td>36.7</td>
<td>273</td>
<td>51.8</td>
<td>97</td>
<td>17</td>
<td>215</td>
<td>269</td>
<td>36</td>
</tr>
<tr>
<td>1926</td>
<td>1925</td>
<td>1924</td>
<td>1923</td>
<td>1922</td>
<td>1921</td>
<td>1920</td>
<td>1919</td>
<td></td>
</tr>
<tr>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td></td>
</tr>
</tbody>
</table>

Table 6: Analysis of employees with reference to skill of occupation (skilled).
Despite the use of Taylorism and sophisticated machinery there was a steady (and increasing) demand for skilled men. As Hobson pointed out some years before, factors such as growing size, complexity, power, and so on, makes 'the work of this class of worker "more intellectual"'. Therefore, skill has to be viewed not simply in terms of manipulativeness and dexterity but also in terms of technical knowledge and intelligence. The former categories may well have declined but there was no reason to suppose that the latter categories had reduced the skilled man to machine-minding status. Apprenticeship was still necessary: training still had to be imparted. Precision, exactitude and expertise still required more than unskilled labour could perform.

The reason the social investigators could not come to terms with the new interpretation of skill was that they tended to view apprenticeship from a nostalgic vantage point. Ideally what they wanted was to recreate the indoor system of apprenticeship under the conditions of modern industry. According to Tawney, apprenticeship to be worthy of the name had to allow 'a boy to get an all round knowledge of his trade'. For Reginald Bray, apprenticeship had to include three interlocking features; firstly, close supervision of the apprentice's 'conduct and physical development'; secondly, 'full opportunities of training, both general and specific - the training of the citizen and the training of the worker'; and lastly, to

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99. Tawney, loc. cit.
ensure to a youth on reaching his maturity employment 'in the ranks of adult labour'. The apprentice was to be tied by the paternal bond and denied independence or freedom of movement in a system of training which was guild-like in its design and inspiration. It is small wonder with these views, both on skill and apprenticeship, that those social investigators who went looking for the death of apprenticeship could not otherwise have thought that they had been present at its cremation.

In fact, they could not have chosen a more fortuitous time to confirm their theory, as between the years 1901 and 1911 there was a substantial decline in the numbers of young workers employed in the skilled trades, as the following tables show:

Table 7 Total Difference Between the Numbers Employed in Selected Trades in England and Wales at Inter Censal Periods, 1901 and 1911. 101

<table>
<thead>
<tr>
<th>Trades</th>
<th>1901</th>
<th>1911</th>
<th>or - Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fitting, Turning and erecting</td>
<td>159,173</td>
<td>154,167</td>
<td>- 4,006</td>
</tr>
<tr>
<td>Boilermaking</td>
<td>46,432</td>
<td>48,804</td>
<td>+ 2,372</td>
</tr>
<tr>
<td>Cabinet-making</td>
<td>51,903</td>
<td>50,010</td>
<td>- 1,993</td>
</tr>
<tr>
<td>Bricklaying</td>
<td>115,995</td>
<td>102,752</td>
<td>- 13,243</td>
</tr>
</tbody>
</table>

100. Bray, op. cit., p.2 See also chapter on 'Middle Class Voluntary Societies and Apprenticeship'.

Table 8. Total Difference in the Numbers of Workers under the age of 21 Employed in Selected Trades in England and Wales at Intercensal Periods, 1901 and 1911. 102

<table>
<thead>
<tr>
<th>Trade.</th>
<th>1901</th>
<th>1911</th>
<th>+ or - Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fitting, Turning and errecting.</td>
<td>33,794</td>
<td>28,403</td>
<td>- 5,391</td>
</tr>
<tr>
<td>Boilermaking</td>
<td>8,381</td>
<td>6,735</td>
<td>- 1,646</td>
</tr>
<tr>
<td>Cabinet-Making</td>
<td>10,220</td>
<td>7,224</td>
<td>- 2,996</td>
</tr>
<tr>
<td>Bricklaying</td>
<td>16,143</td>
<td>3,850</td>
<td>-12,293</td>
</tr>
</tbody>
</table>

And in most other trades during these years a similar picture emerges. 103

However, the reasons for this decline lie less in the death of apprenticeship, but more in the condition of the British economy at this time.

The years 1900-1914 were highly productive of trade fluctuations. In the building industry, the number of dwellings constructed in the period 1901 to 1914 fell from 153,800, in 1902, to 100,900 in 1908 to a disastrous low of 48,300 in 1914. 104 As a result unemployment increased substantially; amongst carpenters and plumbers it 'rose steadily from 1.3 per cent in 1898 to 8.3 per cent in 1905...and the figure for

102. ibid., 1903, pp.186-202; 1913, pp.68-74.
103. See Ministry of Labour, Report on Apprenticeship, op. cit., pp.49-64. The comparable figures given by the Report for selected trades are as follows: in bricklaying (all industries), the number per 1,000 workers under the age of twenty-one fell from 173, in 1901, to 48 in 1911 (p.49); in boilermaking and plating (all industries), it fell from 210, in 1901, to 167, in 1911, (p.51); in cabinet-making and joinery (all industries), the numbers fell from 243, in 1901, to 170 in 1911, (p.56).
104. Mitchell and Deane, op. cit., p.239.
1907 was 7.3 per cent, rising to 11.7 per cent in 1909.\textsuperscript{105} Not unexpectedly wages stagnated and did not rise 'more than 0.5 per cent before 1912'.\textsuperscript{106} In shipbuilding and engineering the years 1908-09 were bad ones. The boilermakers' experienced an unemployed rate of 21.4 per cent,\textsuperscript{107} in 1909; and in the whole related group of trades registered under the heading of engineering, metals and shipbuilding, the total unemployed reached 12.5 per cent, in 1908; and 13 per cent in 1909.\textsuperscript{108} Wages fluctuated in engineering from 'dead level (in 1900) and then (took) an undulating tilt'.\textsuperscript{109} In contrast, prices, since the end of the Great Depression in 1896, had moved steadily upwards 'sharply curbing real wages in the years when money wages slackened'.\textsuperscript{110} And although employment and trade were in a healthy state, apart from the years 1908-09, 1905-14 were years of inflation as prices rose and wages lagged behind.\textsuperscript{111}

The effect of these fluctuations was to create a measure of uncertainty and doubt, as well as mounting industrial unrest, which broke so fiercely in 1912 and 1913. In such conditions parents were dubious as to the advantages of placing their sons to a trade, particularly when the new technology might make necessary a reorganisation of industry and render a seven or

\textsuperscript{105} Clegg, et. al., p.351.
\textsuperscript{107} ibid., p.58.
\textsuperscript{108} Mitchell and Deane, op.cit., p.65.
\textsuperscript{109} Clapham, op. cit.
\textsuperscript{110} Mathias, op. cit., p.378.
\textsuperscript{111} ibid.
five years' apprenticeship to no account. Furthermore, in a period of decreasing real wages there would have been greater pressure upon parents to put their boys to occupations which held out the promise of immediate high earnings, such as errand boy or messenger, rather than apprentice them for low wages to a trade in which the benefits were long term. For example, according to Mrs. Ogilvie Gordon, in 1908, apprentices in the Scottish building trade began work at the age of fifteen or sixteen years. At this point they could expect to receive an average of five shillings a week and in their last year (normally twenty-one years) around 12s.\textsuperscript{112} An unskilled boy of fifteen, say, engaged in firelighting-making, would expect eight shillings per week.\textsuperscript{113} He could also expect if retained by his employer, to realise the full adult wage at an earlier age. Whilst financial sacrifices were a constant feature of apprenticeship life, if combined with these other factors there was a strong economic pressure to keep clear off trades requiring long periods of servitude in this period.

However, such a remarkable decline in the numbers of apprentices was reversed to a large extent in the early 1920's. According to the Ministry of Labour's Report on Apprenticeship, in bricklaying, the number of workers per 1000 under the age of

\textsuperscript{112}Mrs. Ogilvie Gordon, \textit{A Handbook of Employments}, (Rosemount Press, Aberdeen, 1908), p.29.

\textsuperscript{113}ibid., p.25.
twenty-one had increased from 48, in 1911, to 87 in 1921, (all industries), and in the building trade itself from 50 to 100;\textsuperscript{114} in fitting, turning and erecting, the numbers grew from 222, in 1911, to 225, in 1921, (all industries), and in engineering alone, from 239 to 258; in boilermaking and plating, the trend was even more marked, rising from 167 in 1911, to 212 in 1921, (all industries), and in engineering only, from 175 to 250;\textsuperscript{115} in cabinet-making and joinery, the trend continued upwards, rising from 170, in 1911, to 208 in 1921, (all industries), and in furniture only, from 171 to 231.\textsuperscript{116}

Therefore, we cannot say that apprenticeship died out. It merely suffered a temporary set-back, and the ground lost was quickly, if not absolutely recovered. The institution remained an integral part of modern industry, as the Ministry of Labour's reports stated in 1928:

>'The results of the enquiry serve to emphasise that apprenticeship is still of supreme importance in the modern industrial system and it is still the recognised and by far the most systematic method of entry into the ranks of skilled men in the most important industries of the country'.\textsuperscript{117}

\textsuperscript{114.} Ministry of Labour, \textit{Report on Apprenticeship}, loc. cit. \\
\textsuperscript{115.} ibid., p.51. \hspace{1cm} \textsuperscript{116.} ibid., p.56. \\
\textsuperscript{117.} ibid., p.163.
True, it had undergone some major changes during the years 1800-1914, and the bond between master and apprentice had considerably loosened under the weight of economic and technological change, but the essential feature of apprenticeship remained, that is, to teach or cause to have taught an apprentice in arts and mysteries of his trade. If over the years there had been a narrowing of the range of skills practised, nevertheless what was left still demanded a number of years of application by the apprentice until expertise could be realised.

118. See Chapter on 'Components of Apprenticeship' for a slight modification of this generalisation.
Restriction of numbers has always been a hallmark of craft unionism. By restricting entry it was thought that wages and employment could be kept reasonably high. The control of the supply of labour was therefore an essential and distinguishing feature of craft unionism. In the eighteenth century, and before, journeymen had no permanent need to combine to enforce restriction of numbers as it was permitted by legal enactments, the most of important of which was the Statute of Artificers (1563). By this Act the exercise of a trade was made exclusive to those who had completed a seven years' apprenticeship, on pain of forfeiting 'for every default forty shillings'.¹ By thus limiting the trade to time-served men, the Statute virtually guaranteed the right to employment to every journeyman. Legal protection was, however, undermined, and finally abandoned in 1814, through changes in the nature of British capitalism, particularly in terms of class relations. With the abolition of the Elizabethan Statute of apprenticeship,² in 1814, regulation of numbers, which had formerly been based on a mixture of legality and custom, was transformed into a practice founded, in the short-term, on custom alone, and, in the long-term, on industrial power.

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¹ 53 Eliz. c. 4., Sect. XXXI.
² The Act is sometimes known as the Statute of Artificers, and sometimes as the Statute of Apprenticeship.
In this chapter we hope to trace the origins and actuality of this transformation and the subsequent development of restrictive apprenticeship in Britain. To do so it will be necessary, for the sake of clarity, to split the chapter into two parts, one dealing with the movement for the enforcement and extension of the ancient laws governing apprenticeship, and the other with the situation post-1814.

A) The Reveal of the Elizabethan Statute of Apprenticeship.

The years 1800 to 1814 witnessed the rapid dismantling of the Elizabethan system of labour protection. Old statutes governing the rights and duties of labour were abolished by a seemingly hostile Parliament. The apprenticeship laws of the calico trade were abrogated in 1807; the woollen trade in 1809; in 1813 the law empowering J.Ps to fix wages was duly repealed; and, finally, the Statute of Artificers, the cornerstone of the system, was itself abolished.

The Webbs have argued that Parliament's conduct was the outcome of a coherent economic philosophy (laissez faire) taking root among members of the ruling class, which forced them to repeal the apprenticeship laws, and any others, that stood in the way of unrestrained freedom of action in economic affairs. At first, they say; this was unconscious - the outcome of experience rather than philosophy - but later it was deliberate. For instance, the Woollen Cloth Weavers' Act, which empowered J.Ps. to fix piecework prices to prevent underselling and cutting
rates of pay, was passed in 1756 at the behest of the weavers. Just one year later, the Act was revoked after extensive petitioning by the master clothiers, which asserted the advantages of freedom of contract and unimpeded competition. Thus fully twenty years before the publication of Adam Smith's The Wealth of Nations, the ruling class in Britain was operating on the basis of free trade principles without ever realising it. As the Webbs put it:

'Common sense forced the government to take the easy and obvious step of abolishing the medieval regulations, which industry had outgrown.'

Despite what the Webbs say, one has to ask how far was the ruling class actually committed to the main tenets of free trade. The Webbs themselves seem unsure. For example, the Spitalfield silk weavers were placed under statutory regulations, in 1777, by an act which gave J.Ps. the authority to 'fix rates of wages and to enforce their maintenance'. Again, when referring to the 1813 parliamentary committee, whose job it was to abolish the apprenticeship clauses of the Act of 1563, the Webbs state that it 'found itself unable to fulfil its mandate'. Finally, if the doctrines of the classical economists, particularly those of Adam Smith, were so powerfully impressed upon the collective ruling class mind, then how could one explain the strengthening of the Corn Laws in 1815?

4. ibid., pp.54-55.
5. ibid., pp.60-61.
To avoid the oversimplification of the Webbs, and to satisfy the rigours of scholarly criteria, obviously a much more dynamic and wider ranging analysis of the question is needed. One which of necessity will incorporate a discussion on such important factors as the nature of the class alliance between the industrial capitalists and the landed gentry; the nature and size of the journeyman/small master protest against repeal, and the highly sophisticated way in which it was organized; the part played by related events such as Luddism and land enclosure; and so on. However, before indulging in this ambitious synthesis, it will be necessary to provide some background information in order that the act of repeal can be set in chronological perspective, and the lines of dispute clearly marked out, as well as the disputants.

The period 1780 to 1814 saw the 'take-off' into industrialism, which threatened to and eventually did, disrupt the traditional socio-economic and political framework of Britain. In those trades undergoing profound organisation changes and mechanisation men reacted angrily to blows aimed at their rights and privileges established under common law, and Parliament faced a veritable flood of petitions from journeymen and small masters, pleading for protection under ancient statutes. In the calico trade, for instance, the emergence of a system of labour organisation based on supply and demand, and the relative ease with which apprentices could pick-up the craft, meant a
massive influx of labour. A parliamentary committee investigating the industry found that in 'the shop of Berry and Company of Lancashire... 55 apprentices were employed, and only two journeymen'. And although the national picture was less gloomy, most apprentices on reaching their maturity faced an almost certain period of unemployment and distress. The tyranny of servitude was replaced by the cruel logic of the market place, which allowed men to stand idle whilst mere boys did their work. The application of this logic was experienced in other trades, including framework - knitting, watch-making, weaving, hat-making, and more besides. In fact, the Journals of the House of Commons are filled with petitions praying for relief during these years of upheaval.

To combat these attacks on traditional patterns of work, the journeymen in some cases formed combinations, in others petitioned Parliament, and in still others applied to the courts for 'natural justice'. A rebuff in one area would lead to activity in another. Combinations of a durable nature were formed among the calico-printers, the woolcombers, the framework - knitters, the woollen weavers, and in others as well. But at this time their function was chiefly haggling with the masters over wages and conditions and providing relief for members. They were not as yet trade unions in the modern sense. In fact,


7. Overall the ratio of apprentices to journeymen was not so extreme. In Scotland, for instance, as a whole, the proportion was 1346 men and 216 apprentices, (Select Committee on the Petitions of the Journeymen Calico Printers, 1804, evd. of Archibald Maitland, of Dumbarton, p.16); and in the counties of Lancashire, Cheshire, Derbyshire and Staffordshire there were 1495 men and 893 apprentices, (evd. of Mr. Mason, ibid., p.6).
they were, as the Webbs point out, more in the nature of clubs exhibiting a 'tendency to "stand in" with their masters against the community, or to back them against rivals or interlopers, than to join their fellow workers of other trades in an attack upon the capitalist class'.

Petitioning Parliament was a traditional way of redressing grievances among journeymen. To them it was a count of last resort which would uphold, when called to, the established rights of the men against unprincipled interlopers or unscrupulous masters. However, after 1750, and especially after the French Revolution, Parliament was, at crucial moments, less than willing to fulfil its role as protector of the commonweal. For example, in the early 1800's, the woollen weavers indulged in a wave of petitioning which eventually resulted in a parliamentary investigation into the workings of the trade. In spite of lengthy and costly proceedings, all that occurred was that a Woollen Manufactures Suspension Bill was passed, leaving the Act of Elizabeth in abeyance. Three years later, in 1809, a bill was introduced to repeal 'those clauses of the 5th Eliz. which renders apprenticeship compulsory'. The calico printers suffered the same fate. After a long and protracted battle, in which a committee of investigation appointed by Parliament actually recommended that the trade be placed under the apprenticeship clauses of the Act of 1563, allowing each master only

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Webbs, The History of Trade Unionism, op. cit., pp. 45-46 as combinations will be dealt with in greater detail later in the chapter it is proposed to limit discussion, at present, to those remarks.
two apprentices, although reducing the period of servitude from seven to four years, a bill introduced by Sheridan in March, 1807, designed to effect the recommendations of the committee failed to get a second reading. Such was the force of the opposition in the House of Commons and among the master manufacturers, who had petitioned fiercely against the proposals.

Faced with the inaction or hostility of Parliament, the journeymen were forced to apply to the courts for justice. Many a case was brought before the bench under 'Unrepealed statutes (which) still enable justices in some trades to fix the rate of wages, limit in others the number of apprentices; in others again, prohibit certain kinds of machinery, and forbade any but apprenticed men to exercise the trade'. But the judiciary was unsympathetic to artisan notions of established rights and customs. Lord Mansfield (Rennard V, Chase) described the Act of 1563 as 'a Restraint on Natural Right' and 'contrary to the general Right given by Common Law'.

Lord Coke, in much the same vein as Mansfield, said that 'Acts of Parliament which are made against the Freedom of Trade, Merchandising, Handicrafts, and Mysteries, never live long'.

11. T. Bensley, 'A few opinions of some Great and Good men, and sound Lawyers on the Apprenticeship Laws of Queen Elizabeth; Applicable to the Era of 1805; (London University Collection of Broadsheets, Vol. V., No.469).
12. ibid.
But it was not simply a case of judicial repugnance towards the Statute of Artificers, there were also difficulties surrounding the interpretation of the Act within, what Lord Mansfield called, the 'strict letter of the law'.

Firstly, many trades were simply not covered by the Act of 1563, some had grown up with the industrial revolution, for instance, engineering; secondly, the strict definitions of trade practices were unable to take account of technical changes in a particular craft, for example, a 'turner' in the Elizabethan Statute meant a turner in wood but not in metal. Even when the Act was upheld, the courts could, and did, take it upon themselves to grant no costs to the plaintiff. William Chippendale, attorney, in evidence before the parliamentary committee on the apprenticeship laws, said he was so frustrated in his attempts to get convictions under the Statute of Apprenticeship that he 'declined to have anything further to do with prosecutions upon it; and, he continued, 'I am strongly of the opinion that no action will ever be brought again by any Solicitor upon that Statute'.

'The Old Framework-Knitters' Company was revived with the support of the journeymen in the initial years of the nineteenth century, the journeymen paying the heavy subscription of £1.

13a. 6d. for admission, and several

13. Ibid.

14. Report from the Committee on the Several Petitions, ... Respecting the Apprenticeship Laws of this Kingdom, BPFLV, 1812-13, p.52. The trades mentioned in the Act were as follows: '...Smith, wheelwright, ploughwright, millwright, carpenter, rough mason, plasterer, sawyer, lime-burner, brick-maker, tylers, slaters, tylers-maker, hatter, linnen-weaver, turner, cooper, millers, earthen-potters, woollen weavers, puller, burner, of care, and wood-ashes, thatcher...'; (5 Eliz., C.4., Section XXX).
actions were committed. A test case against "colting" succeeded; but the one shilling damages awarded by the jury was insufficient to deter other offenders'. 15

Thus it would appear that the reluctance of the courts to interpret the Statute of 1563 on anything less than a rigid basis and the heavy costs involved in bringing actions, with the prospect of scant rewards, acted as a deterrent to those seeking their traditional rights and privileges through the legal and constitutional machinery of the country. In practical terms it meant that the illegal masters could flood the trades with unapprenticed labour without fear of prosecution.

Suffering one legal set back after another, the tradesmen realised that part of the problem lay in the sectional nature of their protests. There had, in any case, been a growing awareness among journeymen of their common interest in the face of identifiable common grievances. This had developed out of their experiences in the radical Corresponding Societies of the 1790's, and the growing capitalisation of industry and social relationships, which saw the rise of permanent trade societies, such as the Woolcombers' Society, encompassing a whole trade or region. This nascent sense of class interest was brought to fruition in the organised campaign of mass petitioning to induce Parliament to bring in a bill to enforce, strengthen and universalise the provisions of the Elizabethan statute.

15. E.P. Thompson, op. cit., p. 582.
This campaign was conducted by both journeymen and small masters against the abuses of the Statute of Artificers. A representative example is contained in a petition from 'Several Masters and Journeymen Mechanics, Artificers, and Handicraftsmen':

'...of late years, many unskilful persons who have never served any apprenticeship, have set up divers handycraft and other occupations as masters, and many masters have employed unskilful workmen in their several businesses, who have never been brought up or served seven years in the same, and other masters have taken persons as apprentices for short terms of three or four years...the Petitioners...have caused prosecutions to be instituted and actions to be brought against divers persons for infringing the said Statute, but as the said Statute does not give costs to the Prosecutor, and no greater penalty can be recovered than for every default 40s. for every month... and the expense of trying a Cause upon the said Statute is usually from forty to sixty pounds, the Petitioners have suffered in a much greater degree by the heavy expenses... than the Defendants, by being convicted in such Suits, and paying the penalties...besides which the Prosecutor is liable to pay costs to the Defendant if he does not obtain a verdict; and that since the passing of the said Statute, many new trades not then in use have arisen, and many Trades therein enumerated have branched out into several divisions, which, at the time of the said Act, were employed in one Trade; and that the Petitioners conceive...that such Trades should have the benefit of the provisions of the said Statute, as well as the Trades enumerated therein...the said Statute appears to the Petitioners to be in other respects inadequate and inefficient, and requires amendment and extension...bring in a Bill to explain and amend, and render more effectual for the purposes aforesaid... 16.'
There was, of course, nothing in itself novel or radical in petitioning Parliament; it demonstrated a respect, and perhaps a faith, in the protective function of the country's leading institution. What was alarming and new to the ruling class was the scale of the petitioning. During the years 1812-14 there were no less than 49 petitions presented to Parliament favouring the retention and/or extension of the Act of 1563. Over 300,000 people signed the petitions,17 '64,000 of which were master manufacturers'.18 Petitions, outside of those from London, flooded in from such places as Carlisle, Huddersfield, Leeds, Blackburn, Reading, Kingston-upon-Hull, Nottingham, Liverpool, Hereford, Tiverton, Canterbury, Bristol, Ipswich, Norwich, the counties of Somerset and Monmouth, Portsmouth, Plymouth and Southampton. There was also a staggering range of trades represented, including letterpress-printers, woolcombers, tin plate workers, furriers, ironfounders, and many more besides. In short, it was a tremendous national exercise in inter-class cooperation between the small masters and journeymen against the larger employers.


18. 'Circular published by the Committee for Conducting a Bill into Parliament, to amend the Statute of 5th of Elizabeth, Cap. 4...', (Goldsmiths Library, Ms.755, ff. 200-001).
The campaign of the extensionists was orchestrated from London by a Committee of Master Manufacturers and Journeymen, which operated from the Freemasons' Tavern. From here instructions were issued by the Committee to 'Each City and Town throughout the United Kingdom', giving detailed information as to how to draw up a petition, whom to procure signatures from, and how, once signed, to get it presented to Parliament. Other activities indulged in by the Committee included the lobbying of M.P.s, the publishing and distribution of addresses, handbills and pamphlets on the necessity of apprenticeship to the public.

These activities were financed by subscriptions from all the London trades and those of the provincial towns as well. The total monies collected in the period 13 May, 1812, to 29 July, 1814, amounted to, for the London trades, £974 18s. 2½d., and for the provincial towns, £701 3s. 9d., making £1,676 1s. 11½d. in all.

A counter organisation was set-up by a Committee of London Manufacturers to advance the cause of repeal. The Committee included Charles Alsager, packer, Samuel Bevington, Spanish leather dresser, J. Collings, patent axle tree maker, Samuel Miller, boot and shoe maker, John Fowler, manufacturer of tin and Japan wear, John Warner, brass founder, Alexander Galloway,

20. 'Circular', loc. cit.
engineer, Henry Maudslay, engineer, Bryan Donkin, engineer, and Timothy Bramah, engineer.\(^{21}\) In fact, like the extensionists, the employers' committee represented a fair number of different trades. Operating from their headquarters in the Crown and Anchor Tavern, the Committee likewise engaged in petitioning Parliament, although with less spectacular results. In total, the manufacturers petitioned Parliament seven times to repeal all or part of the Statute of Artificers, but could only manage to find a derisory 2,000 signatures.\(^{22}\)

The essence of the abolitionists' case was contained in a series of resolutions passed at a general meeting of the manufacturers at the Crown and Anchor Tavern. It was resolved that the Statute of Artificers was an obstacle 'to the free exercise of every manufacturing employment carried on in this kingdom' and was 'inapplicable to the present times'.\(^{23}\) And although the abolitionists insisted that they did not wish to destroy the apprenticeship system as it provided a regular 'supply of journeymen' and looked after the 'morals and management' of 'our youth', it was felt that the extensionists were in error to regard the trades as the preserve of only those who had served an apprenticeship. Finally, it was stated that


\(^{22}\) Howell, op. cit., pp.113-14; Webbs, The History of Trade Unionism, op. cit., p.61.

\(^{23}\) 'Meeting of the Master Manufacturers...to take into Consideration the Best Means of Supporting Mr. Sergeant Onslow's Motion for the Repeal of...the Statute of the 5th Elizabeth, c.4...', 11 November, 1813, (Goldsmith's Library, Ms.755, f.215).
of 1799 and 1800, were, 'under the colour of Benefit Societies', becoming so organised and powerful that they were hindering economic advancement by refusing to work with either non-society men or unapprenticed labour, or both.\textsuperscript{24} Baldly stated, the manufacturers feared that should the Act be preserved and/or strengthened, combinations of workmen bolstered by its provisions would constitute an almost insurmountable hurdle to the free movement of capital and labour. Such a barrier would, they argued, effectively check technical innovation and the division of labour, and this would lead to the loss of foreign markets 'by increasing the price of...goods'.\textsuperscript{25} From the outset then, the abolitionists made the issue one of control. Was the Act of Elizabeth to be allowed to give the men control of workload, entry and product, or was it to be abolished to let the power to manage to rest with the employers? At present, they argued, the former situation prevailed:

\begin{quote}
For 'Under the pretended privileges given by this Act, many masters are not permitted to have their own workmen. No the "Shop Committee" must be applied to... They choose too what articles shall be made, and impose large fines on whoever disobeys their laws. They fire men also, that work for masters who conduct their business in a manner not approved by them,... neither will they make a new article, till "their Committee" has decreed the price... If the master resists the decree... and obtains assistance from any... journeyman, the rest instantly quit his shop, and until they are able to
\end{quote}

\textsuperscript{24} ibid.

\textsuperscript{25} 'The Origin, Object and Operation of the Apprenticeship Laws...,' \textit{Pamphleteer, Vol. 111, 1814}, p. 238
obtain admission to another one supported from "the fund". In the mean time a mark is set upon the men. None will hereafter work in the same shop with them, until their peace is made by a "fine" (italics in the original)'. 26

Those small masters who supported the struggle against the repeal of the Statute of Apprentices were labelled by the abolitionists as 'mistaken'. But as E.P. Thompson points out, there was a deal of self-interest involved:

"In London and Birmingham a good many of them (small masters) were themselves Radicals, who despise the repressive legislation of which the Combination Acts were a part, and who had scruples against their use. Relations with their journeymen were informal and personal; trade clubs had long been accepted as part of the scene; the very small employer still found apprenticeship convenient. He thought of his business as providing him with a reasonable living rather than in terms of expansion, and consequently he was as jealous as his men of the few large employers who, disregarding custom and apprenticeship, were taking the cream off the market and employing cheap labour", 28

Indeed the small masters had been active in the campaigns of the early 1800's. In the calico trade, small masters and journeyman had combined to petition Parliament, in 1804, concerning the 'greater Number of Outdoor Apprentices than of

26. ibid., pp.237-38
27. 'Mr. Sergeant Onslow's Act: An Address on the Statute of Apprenticeship...from the Committee of Illlegal Masters', 29 July, 1814, (Goldsmiths Library, Ms.755, f.220).
Journeymen. In the same way the small masters of the West Riding of Yorkshire supported the journeymen in their struggle against the evasion by the larger manufacturers of apprenticeship laws and the practice of 'colting' (that is, the employment of non-indentured learners who served only a few years to the trade). Finally, a good number of small masters, despite property ownership, retained membership of a trade club or society as something to fall back on should trade fluctuation prove unfavourable. For these reasons the small master was able to make common cause with the journeymen. Together they countered every circular, every address, of the illegal masters with one of their own.

The extensionists rested their case on the twin pillars of morality and economics.

Morally, it was argued by William Playfair, in 1805, the most advantageous feature of the Statute of Apprenticeship was 'the control which the law gives a master over an apprentice'. Without the discipline enforced on an apprentice by low wages (or no wages) and virtuous service, the youth, said Playfair, 'at the moment that the passions begin to act without control,

30. See Select Committee on Woollen Manufacture, BPPV, 1802-03 for numerous examples of journeyman/small master cooperation; also Report from the Committee on Woollen Manufacture, Journals of the House of Commons, 1806, Vol.61, Appendix 23.
or form habits contracted, would seek the company of others in a 'similar' condition and this would lead to 'bad conduct'. Once enmeshed in this web of evil, continued Playfair, a steady downhill path into further depravity would befall the youth until ultimately he 'became ashamed of himself' and a 'bad member of society'. Similarly, Randle Jackson, M.P., relating moral laxity to political action, warned the legislature of the danger of abolishing apprenticeship as it would 'set afoot the great body of the passions, of the most helpless part of society; that part which, from poverty and want of education, is the most liable to temptation, and the least capable of resisting it...'

The lesson was obvious: apprenticeship produced sober, industrious and non-radical citizens, to abrogate the controlling mechanisms of the institution would cause a massive rise in social costs which would more than outweigh the economic benefits accruing from laissez faire, moreover, it might destabilise the political equilibrium if the uncontrolled 'passions' were harnessed by some clever political leader or faction to serve radical ends, all in all it was a shrewd reassurance to an aristocratic ruling class obsessed by fears of revolution from the lower classes.

32. ibid.
33. ibid.
Just to emphasise the loyalty of the journeymen and small masters to the institutions of the nation, the extensionists took great pains to disassociate themselves from any charge that their intentions were of a Jacobin or radical nature, deciding '(to) leave the use of any Titles...(to) any member of the late "London Corresponding Society" who make think them convenient for the purpose of levelling any of the ancient institutions now established in this Kingdom'.

The other major reasons given by the extensionists for retaining the old apprenticeship laws was Britain's pre-eminence amongst manufacturing nations. According to them, this superiority was founded upon the Statute, as it provided a pool of skilled labour unrivalled in any other country. In those places, where apprenticeship was unregulated and where shorter terms of apprenticeship were common, such as Scotland, it was claimed that the artisans 'were inferior to what they are in England....' And 'when those young (Scottish) persons come to London, they have, as they admit, their trade to learn over again....' The skilful exercise of one's craft, argued the extensionists, could only be gained by serving a seven years apprenticeship under strict regulation, any attempt to deviate from this time-proven practice would lead, they warned, to a general deterioration in trade skills and 'accomplish the ruin of manufactures and trade of this Kingdom....'

35. 'Answer of the Lawfully Apprenticed Manufacturers and Artisans to the Address from the Committee of Illegall Manufacturers on the Statute of Apprentices', (Goldsmiths Library, Ms. 755, ff.284-95, undated).
36. ibid.
37. ibid.
Underpinning these objections to the repeal of the Elizabethan Statute was a world view at odds with the prevailing doctrines of classical economy which saw labour as a commodity and as such subject to the vagaries of the market economy. To the artisan his skill was his birthright; an inheritance from his ancestors. The long years spent in acquiring it, and the sacrifices involved, left the artisan with a strongly held view that he had an unchallengeable right to exercise his trade regardless of the state of the market. As one journeyman smith put it when asked how he was injured 'by persons employing...men who have not been regularly bred to the trade', they 'have had the work which I thought I had a right to have'.

Therefore, he sought to defend the traditions associated with the apprenticeship system, as laid out in the Act of 1563, as a link with a paternal and regulated order of society in which custom and usage provided a knowable framework of social relations between man and society. The foundation stone of such a system was apprenticeship, without it the unregulated forces of capitalism and competition would undermine the artisan's place in society by overstocking the trades with unapprenticed labour in place of time-served men. Failure to maintain entry controls and the conditions under which labour was sold would cause the artisan to sink into the quagmire of the labouring poor. As we have noted above, the small master shared these fears. Therefore, for both sections of society the preservation of the Statute of Artificers became a struggle of profound importance.

38. Committee on the Apprenticeship Laws, op. cit., p.47.
At stake in this dispute was the future shape of British society. And although the struggle could be seen as a highly reactionary one, it was paradoxically radical enough in its negativity to be resisted by the larger employers and Parliament.

Not content with the simple process of rebutting the abolitionists' claims, the extensionists went as far as to prepare their own act to tighten and extend the provisions of the Act of 1563. Although it never did reach the statute books, the proposed piece of legislation deserves some comment because of the insight it gives into how the small master/journeyman faction intended to organise industry.

As a sop to the abolitionists and to 'stimulate the rising genius of this country', inventors of new patents or processes were to be allowed to exercise their new found trade without serving the customary apprenticeship and to employ those whom they thought competent to work in the new manufactory, although they had to be 'natives of the realm'.

Men of capital were also permitted to invest in a trade without having served a seven years' apprenticeship to it providing that they did 'retain' a partner who had, and did not interfere with the running of the business.

39. 'Alterations and Amendments Proposed to be made to the Statute of the 5th Elizabeth, Cap.4', Section 14 (Goldsmiths Library, Ms. 20784, ff.233-34). See Appendix 1 of thesis for the complete programme.

40. ibid., Section 17.
Of course, the main intention behind the proposed act was to make more stringent the terms of the Elizabethan Statute. Therefore, the taking of apprentices, outside of those aforementioned special cases, was to be restricted to those who had served seven years to their trade. Every default of this provision would result in a fine of 'forty pounds'. The exercise of the trade was to be confined exclusively to those, who by 'lawful indenture', had served seven years. Every defaulter was to be fined five pounds for the first offence; ten for the second; and for each offence after that double the previous amount.

Particular attention was also paid to the taking of apprentices. Section two of the proposed bill restricted each master to one apprentice, and for every apprentice above that number he had to employ two journeymen; and 'for every apprentice above five, he or she shall employ three other journeymen....upon pain, that every person or persons offending, shall forfeit and lose for every default the sum of forty pounds'. By indenturing each apprentice and forcing each master to record on the indenture the amount of apprentices and journeymen retained by him a detailed account could be compiled showing the ratio in any one firm or locality.

41. ibid., Section 1.
42. ibid., Section 7.
43. ibid., Section 3. In practice, this meant than in an establishment containing, say, 30 apprentices, the journeyman/apprentice ratio would be about 3 to 1.
44. ibid.
Finally, the extensionists, still smarting at the high costs of suing an offending employer, made a proviso that successful actions in court would carry with them the full 'costs of the suit'.

In summary, the extensionists had retained all the advantages of the old Elizabethan statute but had widened its application and introduced harsher penalties for defaulters. Whilst it is true that certain allowances had been granted to accommodate the freer movement of capital and encourage innovation, the proposed Act could not but have appeared draconian to laissez-faire minded employer and their allies in Parliament, as it threatened to establish the dominance of the petty producer in the economic and legal, if not, as yet, the political framework of Britain.

However, as we have said, Parliament was reluctant to grant relief to those petitioners who had requested the application of the old statutes to their trades. Sheridan's bill to reduce the amount of apprentice labour in the calico trade was condemned by Sir Robert Peel as a 'mischievous' and dangerous enactment liable to do irreparable harm to the trade of Britain by encouraging a flight of capital and the advancement of combination.

45. Ibid., Section 15.
Even the framework-knitters, who had recognised it was fruitless to try to get parliamentary interference on the question of wage fixing, and therefore sought to restrict only the practices of those employers who produced inferior goods and charged high prices, were unsuccessful. Despite a bill 'For Preventing Frauds and Abuses in Framework Knitting Manufacture', in 1812, reaching the stage of a third reading, heavy petitioning by the master clothiers decided the Commons against the journeymen.47

Given the existence of a strong anti-regulative faction in Parliament, when Mr. Sergeant Onslow's Act to repeal the major portion of the Statute of Artificers was presented, it came as no surprise that it passed through the House without division. The Act received the royal assent on 13 July, 1814. Henceforth it became 'lawful for any persons to take or retain or become an apprentice'. Only a few voices had been raised in dissent. Among them, George Canning, ... for Tralee, advocated the retention of the existing system as it was 'useful to the perfection of our manufactures, and still more useful as affecting the morality of the lower orders'.48 Likewise, Mr. Sergeant Best wished the repeal clause of the Statute to be removed, because he thought 'that... it was much better that young people should not be left without some control'.49 Lastly, Mr. Brothertoe was satisfied that 'if Apprenticeships were more encouraged... combinations among journeymen would almost be put to an end'.50

47. E.F. Thompson, op. cit., pp.584-89.
Those M.Ps. who spoke against repeal showed no clear party or class affiliations. In the case of George Canning its seems as if his opposition was the result of Richard Sheridan's influence. In his youth, Canning, 'lived in great intimacy with Mr. Sheridan' and the latter's championing of Tory paternalism no doubt deeply affected Canning. In other cases, it may have been the result of electoral pressure. M.Ps., such as Peter Moore of Coventry, whose constituencies were situated in an ancient incorporated borough had to act carefully. For in those places 'service as an apprentice was one method of acquiring parliamentary franchise'. In fact, it was said of the ribbon weaving trade of Coventry that 'men bound themselves for seven years to ribbon weaving, a sweated and overcrowded trade, almost entirely in the hands of girls, in order to obtain the franchise'. Thus afraid of upsetting their constituents and the political balance, some M.Ps. were under strong pressure to vote against repeal. But it was to no avail.

Those M.Ps. in favour of repeal insisted that it was necessary on a number of counts; firstly, Sir C. Mordaunt, M.P. for Warwickshire, on behalf of the manufacturers of Birmingham, said that 'If the Law as it now stood, were put into force, it would have the effect of imposing the strongest possible fetters upon ingenuity and industry'; secondly, the Act was outmoded and.

50. ibid., col. 879.
51. Joshua Wilson, A Biographical Index to the Present House of Commons, (London, 1806), p.133
52. Dunlop, op. cit., pp.273-74
53. ibid.
irrelevant to contemporary needs, it was, in fact, as Mr. W. Smith, M.P. for Norwich, said, 'a mere relic of the past... when the trade of the whole of the British empire was not equal to that of the part of London at this day...'. It was argued that the apprenticeship system was a direct encouragement to combinations amongst workmen, as Mr. Phillips had earlier stated, 'That system (apprenticeship) was supported by contributions, which were placed under the control of committees, composed of idle and turbulent people'. Parliament agreed.

Before going on to discuss the effects of repeal on the restriction of apprentices, a more penetrating analysis of why Onslow's Act passed through Parliament so rapidly is called for. For it seems at first sight difficult to understand why a legislature dominated by landed interests should be so entirely in accord with the doctrines of classical economy. Also why did such men make speeches eulogising the wonderful benefits which would arise from the general adoption of the principles of free trade, and yet at the same time pass legislation in direct conflict with this aim, that is, the Corn Laws, in 1815?

55. ibid., cols. 883-84.
56. ibid., 27 April, 1814, col. 572.
Admittedly trade was not such a dirty word to the aristocracy, as both Smout and Crouzet have shown. Coal mining, road building, canal building were all beneficiaries of aristocratic investment in the eighteenth century. However, as the century wore on aristocratic involvement declined. No doubt, it was partly, as Crouzet says, due to 'competition from other outlets for investment', such as enclosures, government stocks, and so on, but it seems more likely to do with the fact, as Smout explains, of the landlord's 'sense of power'. He continues.

'The landlord was interested in national economic development only in so far as it strengthened his paternal standing in the local community. Applied to industry, this meant he limited his enthusiasm to rural industries, which fascinated him by their ability to provide rent and full employment.... As soon as (industry)... moved into the towns or attracted large-scale immigrant labour he lost interest or became actively hostile'.

Thus we have a paradoxical situation: a declining interest in industrial pursuits accompanied by a widespread lauding of the unfettered movement of capital and labour. This seemingly contradictory position can only be reconciled by employing Smout's concept of the landlord's 'sense of power',


60. ibid. 61. Smout, op. cit., p.231.

62. ibid.
however, this time given a political and not a social flavouring, and setting it against the background of the changes in agriculture during the period 1780-1814.

Since the French Revolution of 1789 all attempts at combination by the lower orders, whether for economic or political purposes, were eyed with suspicion by a government mortally afraid that the revolution in France might be an exportable model for the future reorganisation of the political life of Britain. Fear of Jacobin conspiracies became endemic in ruling class circles. Every act which hinted of disobedience to the established order was interpreted in a hysterical manner and cruelly repressed. That is why it was no accident that the Combination Act of 1799 was passed shortly after the Nore Mutiny (1797) and the rising in Ireland (1798). As the Duke of Portland, then Home Secretary, put it, later, when referring to the outlawing of trade societies:

"If nothing injurious to the safety of the government is actually in contemplation, associations so formed contain within themselves the means of being converted at any time into a most dangerous instrument to disturb the public tranquility". 63

In such a potentially explosive situation the ruling class realised that disaffection on the part of the important and powerful industrial and professional classes was a distinct possibility. And there was an ample amount of contemporary

63. Cited by Pelling, History of Trade Unionism, op. cit., p.25.
evidence to support the contention. Had not the leaders of
the French Revolution, Danton, Robespierre and others, impeccable
middle class credentials? Had not Tom Paine in the Rights of
Man levelled much of his attack against the inflated privileges
of the landed interests in an effort to rally the unenfranchised
merchants and tradesmen to the radical cause? As E.P. Thompson
points out:

'...Paine's writings were in no special sense
aimed at working people, as distinct from farmers,
tradesmen and professional men. His was a doctrine
suited to agitation among 'members unlimited'; but
he did not challenge the property rights of the rich
nor the doctrines of laissez-faire. His own affili-
ations were most obviously with men of the unrepre-
sented manufacturing and trading classes....His
proposals for graduated income tax anticipated more
far-reaching notions of property redistribution;
but they were aimed at the great landed aristocracy,
where the hereditary principle involved in the custom
of primogeniture gave him offence. In terms of
political democracy he wished to level all distinc-
tions and privileges; but he gave no countenance to
economic levelling'. 64

Therefore, in return for refusing to challenge the political
leadership and control of society's 'natural' leaders, the
industrial bourgeoisie were given a free hand in economic
affairs, except in times of strife when they could expect a
favourable response from the state. It was an unwritten
bargain which guaranteed the landlord's 'sense of power'.

64. Thompson, op. cit., p. X104.
However, it was not simply a political-\textit{quid pro quo}, crucial as that was, there was another important reason why the landed section's interest coincided with that of the large employers; in a word, enclosure. For in the period of the industrial revolution profound agrarian changes occurred especially in the nature of land ownership. As Hobsbawm and Rude point out, 'Three-quarters of the 4,000 private acts of Parliament (enclosing common land) which revolutionised English farming and landscape...were concentrated in the 1760's and 1770's, and again during the revolutionary and Napoleonic wars' (1793-1815).\footnote{65} This dramatic shift in land ownership in favour of the already well-off landed gentry not unnaturally caused much resentment amongst small holders and those who had become landless labourers.\footnote{66}

The proletarianisation of the agricultural worker particularly in the South of England, opened up the question of combination amongst the dispossessed. Mr. Giddy, M.P. for Bodmin, warned the landowners that there was 'nothing more dangerous than combinations amongst journeymen. If the agricultural labourers


\footnote{66} John Saville, 'Primitive Accumulation and Early Industrialisation in Britain', \textit{Socialist Register}, 1969. Saville estimates that even by mid-eighteenth century 'the proletarian element was the largest social group in the countryside', (p.263), and that by 1831 the ratio of employers of labour to those of labourers was 1:8.7 in Bedford; 1: 8.4 in Essex; 1: 6.3 in Dorset. Further North the scale of the holding decreased to give a ratio of 1: 2.5 in Cumberland, (p.257).
were to combine in a similar manner, and demand for their labour more than their fair proportion of the land, the country would most rapidly fall to ruin'. 67 Giddy's argument was given credence by the occasional outbursts of rick-burning, and more concrete credentials by the riots in East Anglia in 1816, as resistance to innovating and enclosing landlords increased.

In fact, harkening back to the events in France, in 1789, the opponents of the Elizabethan Statute constantly encouraged the landed gentry to draw parallels between combinations of workmen and the period of 'Terror'. Numerous circulars were issued by the abolitionists depicting the extensionists as Jacobins out to endanger not only the well-being of industry but the very fabric of the State. For example, it was argued that the passing of Onslow's Act of repeal would rescue 'the master manufacturers from an increased thraldom and subservience to the dangerous Club Associations which threaten the Manufacturers of the Kingdom'. 68 And in another circular, the abolitionists, flushed with patriotism, informed their fellow countrymen, 'of the combinations to which you are exposed, (and to this end) the Committee add a literal copy of the Circular transmitted by the Convention of Journeymen, to the Benefit Societies and other Trade Associations throughout the Kingdom' (italics in the original). 69

68. 'Mr. Sergeant Onslow's Act', loc. cit.
69. 'Circular', loc. cit. Note the use of the word Convention, symbolizing at once the French Revolution and the idea of an alternative or rival government of the workers and other unenfranchised elements.
Thus the growing capitalisation of farming and the consequent proletarianisation of the small holder and farm servant created situations of conflict which were akin to those faced by the large manufacturers. What the employer wanted was to break the power of the combination which, at times, had forced him to pay high wages and to bow to the demands of the 'shop committee' on questions such as the limitation of apprentices, demarcation and hiring. The landed interest, whilst political power remained its primary concern, could, because of similar experience, appreciate the problems of the manufacturers more readily thus tightening the bonds of interest between them. As the Webbs put it, 'the fear lest insubordination should develop into rebellion were merged with the capitalist's objection to high wages and the political dislike of democratic institutions'.

The first act of this alliance between 'brass and breeding' was the introduction of the Combination Acts of 1799 and 1800. The Act of 1799 was the outcome of a petition from the London engineering employers against their striking journeymen millwrights; the Act of 1800 was the product of employer dissatisfaction with the failure of the 1799 bill to effectively curb combinations among workmen, and led to the extension of the existing law 'from particular trades to the whole field of industry'. And whilst for the landed interests, as we have seen the Acts were the result of primarily political considerations, it did show a marked willingness on their part to

70. Webbs, *The History of Trade Unionism*, op. cit., p. 78.
71. ibid., p. 72.
support the employers against their workmen.

However, despite the Combinations Acts, the French Wars had created relatively prosperous times for the artisans because of the high demand for skilled labour of a period of shortage of supply. Wages rapidly increased during the years 1800-14, experiencing only one temporary setback in 1812-13, the year of bad harvests. Tucker, in his study of the wage rates of London artisans, says that between 1792-1812 there was an overall increase of 54.8 per cent in real wages. Bowley says that in the same period London Builders' real wages rose by 70 per cent. And although there was a correspondingly steep rise in prices during the French Wars, Flinn argues that 'for many groups of workers...wages rates in general broadly kept pace with rising prices'.

Neither had the Combination Acts arrested the growth of combination amongst artisans. As Professor Felling says, 'After another dozen years of the operation of the Act combinations were at least as widespread as before, and probably more so'. Lord Sidmouth provided the reason: 'the great political inconvenience which is felt arises from difficulty of proving the necessary facts to convict offenders'.

72. There were reputedly nearly half-a-million men under arms at the close of the French Wars. This 'may have represented more than 10 per cent of the male adult labour force', Flinn, op. cit., p.408.
73. ibid., p.397. 74. ibid., p.407.
75. ibid. 76. ibid., p.408.
78. ibid., (unfootnoted citation).
inefficient police force, the absence of a public prosecutor, the unwillingness in many instances of the employers to accept the responsibility for putting into motion the due processes of the law, meant that combination among workers continued to grow.

The failure of the anti-combination law to achieve the desired end, that is, stop combinations and by doing so lower wages, saw a new tactical approach by the employers. Reasoning that the old Statute of Artificers had protected and nurtured journeymen's societies by artificially restricting the supply of labour they implored Parliament to abolish on the pretext that it was ruinous to the industrial and commercial interests of the nation. As Alexander Galloway, one of the illegal masters, admitted some years later, their aim was to reduce the term of apprenticeship and/or remove all restrictions on the hiring of labour. 'When a man', said Galloway, 'was allowed to work at any employment, whether he had served one, two or three years, or none at all, that broke the neck of all combinations'.

However, although the motives behind repeal seem to be fairly well established, there is the problem of timing. As we have seen, the dismantling of the old protective order was performed by an indecisive and, at times, dilatory government. Unsure of the consequences of its actions, Parliament preferred to

79. Reports from Committees: Artisans and Machinery, BPPV, 1824, p.27.
adopt a policy of benign neglect to positive action. For example, the bills affecting the apprentice structure of the calico and woollen trades took as long as four years to pass through the Commons, and it was only through a sustained campaign of petitioning that a decision was finally forced. Not so with the repeal of the Statute of Artificers. The massive campaign of petitioning and the centralised organisation behind it conjured up a very real picture of a large-scale movement able and willing to challenge the power and position of the ruling class, notwithstanding the protestations of loyalty of the extensionists. If Parliament acceded to the demands of the 'idle and turbulent' people where might it all end? Made bolder by their success would they not go on to demand other reforms, such as the legal right to form and belong to a trade union, the right to ban the installation of new labour saving machinery, halt the factory system, and, perhaps, even the right to vote?

This may have been rather speculative, but when viewed in connection with the activities of the machine breakers, the years of Parliament, and hence its rapid repeal of the Act of 1563, were multiplied many times over. Professor Briggs has pointed out that there was as many soldiers employed in putting down the Luddites as there were fighting with Wellington in the Spanish Peninsula against the French.\textsuperscript{80} To many, their

Aims were similar to those of the extensionists. Did they not want to arrest the spread of the factory system and prevent the employer from exercising his liberty to employ men and to use them in whichever way he thought necessary? The Rev. J.T. Becher thought so. In a letter to the Home Office, 24 May, 1814, he noted with alarm that the success of the framework-knitters in combining to attack 'illegal' masters and machines was a direct inducement to others to emulate their actions.

'The Bricklayers', he warns, 'encouraged by the success of the Journeymen in the Hosiery trade are endeavouring to effect their purpose by a conspiracy of some description... Such an extensive system of insubordination and terror will, I conceive, be deemed incompatible with the existence of our manufactures: Appraised as we are of the industry and success with which these principles are disseminated among mechanics of every description throughout the empire....' 81

To check the growth of 'insubordination' Becher advocated that the government ought to pass a series of laws to outlaw combination and allow labour to find its own price in a free market. 82 Parliament agreed.

Therefore, the epidemic of machine breaking, the gigantic scale of the petitioning, the sophisticated organisation behind it, combined to force Parliament to take a decisive stance in what one contemporary described as 'a struggle between the employers and employed'. 83 And although it would be far more accurate

82. Ibid.
83. 'Letter from Mr. Rodgers, Solicitor, to Mr. Gregson, concerning the Repeal of the Statute of the Eliz. Act 5, 13 May, 1814,' (Ms. 755, ff. 329-30).
to say a struggle between the petty bourgeois and the journeymen against the large employers, with the class lines drawn so clearly the landed based Parliament knew where it stood. Urged on by the leading employers and their friends in the Commons, Parliament acted to forestall what must have seemed an open threat to the economic and political stability of the country at a time of war. Parliament could not afford to ignore the act. It had to be repealed or it might serve to alienate the employers and act as a catalyst for future collective action on behalf of the lower classes to effect changes in the politico-economic structure of British society.

As it has been necessary to indulge in some digression in order to make the issues and motives clear, it might be as well to summarise the situation so far, before going on to discuss the restriction of apprentices in the absence of legal restraints.

It would appear that the growth of capitalist social relations, the development of new machinery and increasing industrialisation created tensions between the journeymen and their employers. Control of all labour supply was one of the most vital points of contention, and this was increasingly falling into the employers' hands. Moreover, contemporary notions of economic liberty and market forces were used to justify employers' actions. This worldview conflicted with the men's belief in established rights and traditions in matters of custom, wages and usage. In their protests the journeymen were joined by the small masters fearing increased competition from larger employers. To correct these growing abuses of ancient rights,
the journeymen/small master alliance, particularly in the textile trades, petitioned Parliament for protection as had been the traditional practice. Parliament, until the outbreak of the French Revolution in 1789, was more or less amenable to their appeals. But from there onwards it began to pay less heed to the journeymen and lent its support to the employers. Parliament, economically speaking, had both a practical and theoretical justification for acting so: the trade of the country was growing and this, argued the classical economists, was due to the general adoption of laissez-faire principles. However, the predominant motive was political. The landed gentry built an alliance with the industrial bourgeoisie on the basis of giving them a free hand in economic matters in exchange for their acquiescence in the former political dominance of the aristocracy. From the moment this unspoken agreement was reached all requests for the application of the ancient statutes were rejected.

This growing sense of disillusionment with the constitutional and legal machinery of the country led to an increasing awareness on the part of the journeymen that sectional action was more than useless and that only a united campaign by all trades would create an irresistible force. A committee was organised in London with affiliated bodies throughout England. It began a campaign of mass petitioning and lobbying for the extension and strict enforcement of the Act of 1563. This was countered and eventually defeated by a similar, though much smaller committee of manufacturers in concert with their allies in
Parliament. The committee of manufacturers styled the journeymen/small masters' campaign a Jacobin conspiracy, and given this was said at a time of grave economic and political turmoil, it was convincing enough for M.Fs. to believe it. The act of repeal was duly passed.

B) APPRENTICE RESTRICTION POST-1814

If the Act of 1814 formally ended state regulation of apprenticeship it was not a measure aimed at the destruction of apprenticeship as a system of training. Neither did it mark the transition from the indoor system of taking apprentices to the outdoor system. Essentially it was an attack made upon the ability of the artisans to fix the labour supply in proportions unacceptable to the larger employer. By abrogating legal restrictions and flooding the trades with apprentices and semi-skilled specialists, the abolitionists hoped that not only would the power of the combination be broken but high profits, economies of scale and expansion of trade would result. However, the customs of the trade were more difficult to root out than was imagined by either Adam Smith or the abolitionists themselves.

Even in trades thought to be undergoing a rapid process of mechanisation, trade customs proved to be stronger than the laws of the land. For example, in the hatmaking trade, as late as 1824, it was observed that 'both masters and men have appeared to have ignored the repeal in 1814 of the Statute of Artificers...the proportion of foul men in the London trade

84. See chapter on 'British Apprenticeship, 1800-1914' for a discussion on this transformation.
was still only thought to be one-tenth of the whole'. Some trades were exempted from the operation of the Act. Peter Keefe, a silk manufacturer of Macclesfield, was of the decided opinion that Onslow's Act was not applicable to the silk trade.

Furthermore, many of the early trade societies had rules governing the proportion of apprentices to journeymen, and demonstrated a refusal by the artisans to be intimidated by the Act of 1814. The 1826 edition of the rules of the Brushmakers' Society restricted 'any Brushmaker going into business as a master...[to] one apprentice without being requested to employ a journeyman; but no master shall take a second apprentice until he shall have employed one journeyman two years, or two journeymen one year; nor...take a third apprentice until he shall have employed two journeymen three years, or three years, or three journeymen two years...'. The Liverpool Shipwrights' Benefit Society had a rule limiting the number of apprentices to one to every three journeymen on 'old work', (that is, repair work). In Dublin, the Carpenters' Society's rules stated 'that no master employer shall be allowed to keep more than three apprentices, that he shall have no more than three apprentices at the same time'. And there were many more besides.

88. Artisans and Machinery, op. cit., evd. of John Cain, p.226
89. ibid., evd. of Patrick Farrell and Acheson Moore, p.430.
However, the highly localised nature of trade unionism in this period (1820-50) and the relatively low density of unionization amongst tradesmen meant that much of the regulation was performed at workplace level. Although outwith the period directly under scrutiny, the evidence of Richard Harnott, secretary of the Friendly Society of Operative Masons, to the Royal Commission on the Organisation and Rules of Trade Unions (1867), suggests what might have occurred in the workshop when a master employed an undue proportion of apprentices:

'How many apprentices do you allow to each man? - We have no restriction; it is left an open question. If the men (in the shop and not in the branch) think there are too many in one employ they begin to speak about it'. 90

This informal method of restriction was buttressed by a host of other practices, such as premiums, 'footings', length of service, indentures, and so on. The net effect of these conditions and exactions was to deter young men from entering the trades. Alexander Somerville after witnessing the 'struggles' of his family to supply his brother Peter, an apprentice joiner, with 'joiners' tools' and 'clothes' decided against 'going to any trade as an apprentice'. 91 For some, then, serving an apprenticeship involved a good deal of hardship.

90. First Report, BPPXXII, 1867, Q.1088, p.46.

However, the burdens were not spread evenly or fairly. In the case of patrimony, sons, normally the eldest, of journeymen were exempted from apprenticeship rules. For example, the Journeymen Paper Makers' Society, 'in order to grant a further privilege to the sons of papermakers...agreed, that in a six or four vat mill, papermakers may have the privilege of bringing in two eldest sons over the number of one to a vat, in a two or three vat mill, one eldest is allowable over the number...

Patrimony was not, of course, totally restrictive but it tends to narrow the area of recruitment into the trade. Moreover, it also acted as a means whereby apprentices, once initiated into the trade, could, under parental and craft pressures, be expected to adhere to main principles of restrictionism as a result of their socialisation.

The reasons for restricting the labour supply was nominally (and still is) that of keeping up wages and avoiding labour displacement. But as Hobsbawm has pointed out, before the middle of the nineteenth century artisans were motivated in their dealings with employers not so much to obtain the highest rate of wage possible on a free market, but to maintain 'the basic asking price and the quantity and quality of work',

On the basis of custom and tradition. The same criterion was applied to apprenticeship.

92. Report from the Select Committee on the Combinations Laws, DPPIV, 1825, p.57; see also chapter 'Apprenticeship in the Building Industry' for numerous examples of patrimony.

In the opinion of the artisans, they, through their long training and sacrifices, had acquired a property, represented by their skill, which was just as sacred to them as private property was to the bourgeoisie. And just as the bourgeoisie wished to preserve and enlarge their property so that their heirs might benefit on their death, so the tradesmen thought of their skill as their sons' inheritance; in fact, their birthright. As a foreman carpenter put it when asked if limiting apprentices was 'beneficial to the trade':

'I think it rather beneficial, as the trade is at present quite overstocked and in order to give my brother carpenters an opportunity of rearing up our children, our brothers, or nephews in the trade, if we please. We consider that an employer not a carpenter, has no right to take seven or eight apprentices to learn the trade... to the exclusion of our children or our brothers...'' 94

Even in the cotton industry without formal apprenticeships one of the purposes of the early trade unions was to gain favour for the kin of their members in order to get them into the factories. According to Turner, 'The Grand Spinners' Union of 1829-30...despite the development of the factory process since the mule frame's first appearance, attempted to impose an even tighter form of trade exclusion - one restricting the right to learn to the relatives of established spinners'. 95

To say that such an attitude was at odds with prevailing economic thinking would be to state the obvious. As far back as 1776 Adam Smith had condemned apprenticeship as a restraint on 'natural liberty', because it prevented a man from exercising his right to choose, without interference, a career, a trade, or a business. And the great classical economist's views coloured the arguments of the opposition against restrictive apprenticeship. In 1846, for example, (coincidently the year of the repeal of the Corn Laws), the Northern Whig, in a series of debates with the Moulders' Friendly Society and the Belfast Branch of the Old Mechanics, argued that anyone desirous of learning a trade ought to have the right to do so without artificial barriers, such as union rules, being placed in their way.

However, during the years 1814 to 1850, despite the predominance of the small workshop as the typical unit of production, the journeymen still faced considerable problems in establishing their control of the labour supply. Outside of straightforward employer opposition, rapid expansion of industry and/or technical innovation could seriously undermine whatever entry controls had been established. The former by greatly increasing the demand for labour, which for trade societies created immense problems of organisation; and the latter, by simplifying the learning process, which necessarily decreased the time spent in acquiring a skill and, as a result, opened the doors to competition from the semi-skilled specialists. In printing, for

instance, the Gorgon, in 1818, brought to the attention of the public the massive influx of apprenticed labour into the London trade due to the increased demand for printed literature.\textsuperscript{98}

In the ribbon weaving and watchmaking trades, particularly in Coventry, improvements in machinery and the greater division of labour simplified skill acquisition to such an extent that it was impossible to stem the inflow of juvenile labour. The silk ribbon weavers who, during the period 1807-15, had a rule limiting a master, or undertaker, to two apprentices were faced by 1818 with the total breakdown of apprenticeship regulations.\textsuperscript{99}

In the Coventry watchmaking trade, the making of a watch had been broken down into 32 distinct operations,\textsuperscript{100} which resulted in an 'increase of workmen beyond the probability of a demand for their work',\textsuperscript{101} which despite the neutral sound of the phrase could only have meant severe privation for those without work and their families. The example of the watchmakers and ribbon weavers of Coventry, and other casualties of industrialisation, such as the domestic handloom weaver, only too vividly impressed on the artisan what might happen when men could no longer maintain a reasonable proportion of apprentices to journeymen. The wretchedness of others must have reinforced artisan resolve to uphold the traditions and customs of the trade. And this determination must have been multiplied a few times over by the recurring trade slumps which so disfigured the

\textsuperscript{98} 28 November, 1818.


\textsuperscript{100} \textit{Mechanics' Magazine}, 15 May, 1824.

\textsuperscript{101} \textit{Report from the Committee on the Petitions of the Watchmakers of Coventry}, B1/FL, 1517, edw. of James Keene, p.73.
British economy in the years after 1815 and up to 1850, creating serious unemployment problems.

However, in the period of the 1850's until the onset of what is popularly known as the 'Great Depression', in the late 1870's, Victorian society entered a more prosperous phase. The diversification of the economic base away from cotton to iron and steel, coal and railways, produced more stable economic conditions. The sharp fluctuations of the bad old years of the 1830's and 1840's, which had brought about tremendous political and socio-economic upheaval, seemed, from the vantage point of the golden decades of the fifties and sixties, a bad dream. Bourgeois sleep was now peaceful, although occasionally the restfulness was interrupted by nightmares in which distorted images of strikes and class conflict loomed large.

In these prosperous years, some trade unions formed themselves into what the Webbs called 'New Model'(s). Under the influence of men such as Robert Applegarth, of the Amalgamated Society of Carpenters and Joiners, and William Allan, of the Amalgamated Society of Engineers, these new model unions concentrated on avoiding conflicts with employers, and instead, devoted their energies to building their funds, increasing their membership, and gaining a position of respectability in society.

In this atmosphere of class collaboration and high employment it came as no surprise that a number of unions were willing to abandon entry restrictions. The United Joiners of Glasgow argued, in 1860, 'that no restriction be imposed, rather than
deprive any proportion of the rising generation of some handi-
craft whereby they may be enabled to place themselves above
the sphere of the common labourer'. 102 Robert Applegarth,
in his evidence before the Royal Commission on Trade Unions
(1867), stated that in his society there was no rule governing
the proportion of apprentices to journeymen. 103.

Most unions, however, believed that some sort of restriction
was still necessary. The TUC, in 1868, passed a resolution
unanimously approving, 'That we urgently recommend to all trades
to adopt apprenticeship system, and in all cases limit the
numbers of apprentices if found desirable to protect the interest
of any trade or trades'. 104.

No doubt such a strong assertion of the value of apprenticeship
was based to a large extent on the fact that a number of trades
in the late 1860's experienced a short-term slump. In 1868,
according to Mitchell and Deane, overall unemployment amongst
trade union members in Britain stood at 7.9 per cent; whilst
in engineering, shipbuilding and the metal trades it was 10
per cent of union membership. 105 But accompanying this self-
interested justification of restrictive apprenticeship there
was expressed at Congress a new ideological viewpoint. Indeed

union leaders giving evidence only Allan of the A.S.E.
maintained the need to restrict apprentices, ibid., Q.927, p.40.

104. The Beehive, 13 June, 1868.

105. Mitchell and Deane, op. cit., p.64.
one which marked a shift away from the 'birthright' argument of the 1850's, and earlier, and placed a greater emphasis on the need to safeguard the best interests of the trade and to protect the community.

This new approach to the old question of restriction was given a public airing in the debate between the Prime Minister, William Gladstone, and the London Trades' Council, in 1868. The debate was the outcome of an attack on trade union limitation of apprentices made by Gladstone in Oldham in December, 1867. In the speech, the P.M. criticized the unions for creating, through restrictive policies, 'deplorable cases of... bad production at the expense of the community' and for reducing the efficiency of labour. What Gladstone meant by these accusations was that, one, by insisting on apprenticeship and limitation of numbers the unions necessarily cut down the area of recruitment, thus depriving the rising generation of openings in the skilled trades, and, two, by insisting that time-served men received the minimum wage for the job regardless of the distinction between the relative qualities of skill possessed by each man, the unions were effectively pushing up the cost of production in an artificial manner. Furthermore, as everyone was paid the same there was no incentive to improve one's skill or work more efficiently than the next man.

After these remarks appeared in the Beehive Gladstone agreed to meet a delegation from the L.T.C. to discuss his comments. George Potter put the Council's case on entry controls. He stated that restriction had become obsolete 'in the large

106. The Beehive, 14 January, 1868.
majority of trades', and where it had occurred 'both men and skill had greatly deteriorated; (and) slopwork and the sweating system...introduced...'. 107 It was the employers, argued Potter, who were to blame for such a disgraceful and irresponsible practice. In the face of such bad conduct, unions needed to impose restrictions on the numbers entering the trades, not because they wished to establish a 'monopoly', but, insisted Potter, 'to correct' trade abuses made at the expense of the public and those employed in the skilled industries.

Gladstone, in reply, said that much of the abuses complained of by Potter, particularly that of the gross exploitation of apprentice labour, could only be ameliorated if apprentices worked as 'unapprenticed boys, and obtained the best wages the market could afford'. 108 In effect, argued Gladstone, limitation did not seriously improve wages or conditions of employment. As evidence of this he pointed to the Lancashire cotton industry where no system of apprenticeship existed, and where 'the labouring men of this country enjoy the most industrious and solid position'. 109 In short, the free market, supply and demand, were the real determinants of wages and employment, tinkering with these iron laws was futile.

107. ibid., 22 February, 1868.
108. ibid.
109. ibid. The P.M.'s point will be discussed later.
In 1869, whether as a result of Gladstone's intervention, a resolution, reaffirming T.U.C. support for restrictionism was only narrowly carried 17 votes to 13. The delegates representing the Trades' Councils of the Potteries, Glasgow, Preston, London, and Sheffield all voted against the resolution. 110

However, in 1873, Congress completely reversed its decision. A motion endorsing the policy of limitation, moved by representatives of the Manchester and Salford Trades' Council, was withdrawn through lack of support. From then onwards Congress decided that restriction of numbers was the business of individual unions and not of the T.U.C. 111

Perhaps the reason behind the abandonment of restrictionism by Congress, outside of ideological factors, lay in the improved economic conditions of the early 1870's and the increasing prosperity of the unions. In 1871, unemployment amongst all trade unionists fell to 1.6 per cent; in 1872, it fell even further to 1.2 per cent; with a small increase to 1.7 per cent, in 1874. In more specific terms, the engineering, shipbuilding and metal trades showed a remarkable decline in unemployment, from a high of 10 per cent, in 1868, to a low of 1.4, in 1874. 112 Significant gains in membership were

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110. ibid., 4 September, 1869. The volte face of the L.T.C. seems to be the result of the fact that the Council was inactive during the years 1869-72, meeting, 'only at very long intervals' and this allowed more conservative class conciliators, such as George Odger, to effectively shape L.T.C. policy. London Trades' Council, London Trades Council: A History, 1860-1950, (Lawrence and Wishart, London, 1950), p.37.


112. Mitchell and Deane, loc. cit.
made during these years of boom. The A.S.E. grew in size from 30,984 members in 1865, to 44,492 in 1875; The Operative Bricklayers' Society similarly increased, from 4,230 members in 1865, to 24,543 in 1875; and most other societies did likewise.113

It would seem, then, that in such favourable conditions restrictive practices were being discarded by the unions as unnecessary. A reflection of this trend is given in the minutes of the Edinburgh Trades' Council. At a meeting in June, 1873, it was found that among those trades represented only two of the twelve had any policy of restriction.114 And it would appear that this trend continued throughout the nineteenth century and beyond.

Of course, once apprenticeship controls were abandoned it was very difficult to resurrect them, especially when given up in times of prosperity. When the slump of the late 1870's occurred


114. Ian MacDougall, ed., Minutes of the Edinburgh Trades Council, 1859-1873, (Constable, Edinburgh, 1968), p.363. Although there is no indication on this occasion (24 June) as to which trades were present those affiliated to the E.T.C. at this time were as follows:-


4. Printing and Allied Trades - Printing, Book Binders, Typefounders.

unions were in a weak position and therefore unable to challenge employer hegemony in a purposeful way. Unemployment amongst trade union membership reached 11.4 per cent, in 1879. In the engineering, shipbuilding and metal trades it reached 15.3 per cent of union members. Some unions, as a result, suffered serious reductions in membership, others stagnated, and some made slight increases. The Operative Bricklayers' Society, for example, saw its membership fall by half from 24,543, in 1875, to 12,610, in 1880; whilst the London society of Compositors increased its size from 3,600 members, in 1875, to 5,350, in 1880.

By 1886, most of the respondents to the Questions Addressed to Associations Representing the Working Classes, sent out by the Royal Commission, admitted that entry controls, had broken down or had been abandoned. And by the publication of the Webbs' Industrial Democracy, in 1897, they could state that apprentice regulations were enforced in unions with a combined membership 'of only 90,000', and that 'regulations were on the books but virtually unenforced in unions with a further membership of 500,000, but that unions with a membership of 900,000 had no apprenticeship regulations whatsoever'.

115. Mitchell and Deane, loc. cit.
118. Webbs, Industrial Democracy, op. cit., fn. p.474. There does exist some doubt as to the accuracy and reasoning behind the Webbs' claims, and these will be discussed in appendix 2 of this thesis.
The causes of this failure by the unions post-1850 to control the labour supply was not just the outcome of unemployment or low trade union membership, important as they were, but lay in the profound structural and technological changes taking place in industry. In the building industry, for instance, the number of workers (including labourers) grew from 310,000, in 1841, to 663,900, in 1881; in engineering, the respective figures were 53,100 and 213,500; lastly, in the woodworking trades, the figures were comparable at 147,500 and 221,600.119

The massive growth of the numbers engaged in these trades were not matched by similar increases in trade union membership. By 1888, the metals, engineering and shipbuilding group could only claim a 15 per cent density of union membership, or 190,000 members out of a total of 1,250,000 employees.120 In building, the situation was worse; unions could only claim a density of 10 per cent, or 90,000 out of 951,000 employed workers.121 The figures plunged even lower in the woodworking trades, with an 8 per cent union density, or 20,000 out of a total workforce of 243,000.122

Technology was also a factor inhibiting entry controls. Improvements in machinery and tools, growing specialisation of process and product, placed journeymen in many trades under threat from the semi-skilled. Harry Ham, secretary of the

120. Clegg, et. al., op. cit., p.468.
121. ibid.
122. ibid.
Alliance Cabinet Makers' Association, in his evidence before the Royal Commission on Labour (1892), highlighted these deskilling trends, firstly, in terms of specialisation, and, secondly, in terms of machinery:

'As a rule, they (apprentices) can only make a section of the job. For instance, take a dressing table. An employer will give him the two jewel boxes on the top, and in time he learns the way to construct them; in many cases he never goes beyond that. When he arrives at manhood he asks for a job in a shop where he can get his living by making the said jewel boxes; but if you were to ask him to make the centre frame he could not do it.

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The worst effect (of machinery) is that of course they (employers) employ boys to do men's work,...there are something like 30 or 40 boys in one shop learning to turn'.

These profound changes made restriction extremely difficult and this led to the gradual abandonment of it by many Unions. All of which would tend to confirm the Webbs' conclusions that the 'restriction barrier is broken down' in a trade where 'new employers are always starting up in fresh centres'; and 'if the craft is frequently being changed by the introduction of new processes or machinery'; and 'if alternative classes of workers can be brought in to execute some portions of the operation'.


If, as has been said at the outset of this chapter, the basic rationale behind restriction was to maintain and/or increase wages by restricting the labour supply, what were the consequences of its abandonment? Unfortunately without the benefit of a major econometric study of a number of occupations, which took into account factors, such as unemployment, short- and long-term demand, piece and bonus rates, terms of trade, and more besides, it would be difficult to make a definite statement one way or the other. Of course, that presupposes that the necessary data with which to make the comparison was available. With this in mind let us confine ourselves to a more simple comparison based on money wages in two closely allied trades, engineering and shipbuilding, the former of which from 1883 onwards had given up restrictionism, and the latter of which practiced a strict policy of limitation.

According to Professor Clegg, et. al., in the boilermaking and metal trades of the shipbuilding industry, platers, riveters, and caulkers earned extremely high wages: 'Caulkers averaged 54s. 8d. (a week), riveters 55s. 7d., and platers 71s. 3d., rising to 82s. on the Tyne, wear and fees'. 125 Hobsbawm, in his study of the 'labour aristocracy' in Britain in the nineteenth century, provides similar evidence. In those occupations in which more than 40 per cent of male workers earned 40 shillings or above in 1906, says Hobsbawm, platers constituted 81.7 per cent in the 40s. and more group, and 73.7 per cent in the 45s. and more group. 126

125. Clegg, et. al., op. cit., p. 481.
the take home pay of fitters and turners averaged just over 36s. per week, according to Clegg. In his high wage earning groups, Hobsbawm's figures for group one for turners on piece-work amounted to 43.8 per cent and 47.6 per cent for fitters; and in group two the respective figures were turners 47.6 and fitters 26.6 per cent. Therefore, it would seem, at least, on the surface that a policy of limitation of numbers was effective in maintaining wages at a high level.

However, it might have just as easily been the result of union ability and power to extract wages increases at the expense of reluctant employers and other workers. For example, in shipbuilding the degree of unionisation was, in 1910, around 46 per cent, or 75,000 out of a total of 164,000 occupied workers. Union density in the engineering trade was considerably less at 33.3 per cent, or 153,826 out of a total of 461,000 occupied workers. It could be argued then that the higher

127. Clegg, et. al., loc. cit. The lower wages cannot be put down to deskilling techniques operating in the industry, nor to competition from semi-skilled workers, for as J.F. Rowe points out '...taking the industry as a whole, it is quite clear that judged either by time-rates or full-time earnings, the relative position of the different grades remained virtually unaltered during the period (1886-1906) ... despite relative changes in skill which had certainly developed to a most marked extent, even by 1906'. Wages in Theory and Practice, (Routledge and Sons, London, 1926), p.42.

128. Hobsbawm, loc. cit.

129. Clegg, et. al., op. cit., p.468. How the authors arrive at these figures is unclear.
wages in shipbuilding was a direct result of union strength rather than a consequence of strict entry controls. As further evidence in support of this view one might cite coal-mining; an occupation which did not adopt a policy aimed at restricting numbers and, apart from face-workers, nor was it particularly skilled. Yet during the period 1886-1906 miners saw their wages increase by 49 per cent as compared to 22 per cent in shipbuilding and engineering. 131 An average coal miner's wage, in 1906, was reckoned to be 33s. per week, with underground workers earning over 35s., and face workers 'as much as 40s'. 132 These high earnings were concomitant with high union membership, which stood at 731,000, in 1910, or 60 per cent of the total workforce, (1,214,000). 133 And, of course, both high wages and high unionisation might be a reflection of the relative demand for, and the good bargaining power of, the workers concerned. 134

130. Census (1913), op. cit., pp.16-18; Webbs, History of Trade Unionism, loc. cit. In practice, it is difficult to know which trades exactly are in engineering. To arrive at my figures for union density I have taken census classifications of pattern-makers, millwrights, ironfounders, brassfounders, blacksmiths, erectors, fitters and turners, brassfinishers, metal machinists, as constituting the engineering trade. From there I used the 1910 figures given by the Webbs for union membership of the grades listed above and simply divided one into the other. The membership of the unions were as follows: A.S.E., 110,733; Friendly Society of Ironfounders, 17,990; Associated Ironfounders of Scotland, 7,504; Associated Blacksmiths' Society, 2,933; United Journeymen Brassfounders' Association, 2,450; National Society of Amalgamated Brassworkers, 7,373; and the United Machine Workers' Association, 4,843.

131. Clegg, et. al., p.480.

132. ibid.

133. ibid., p.468.

From this it would seem that no (simple) equation, which states that strict limitation of numbers equals high wages and no limitation equals low, or lower, wages, can be substantiated without the undertaking of a great deal of more work.

But the question of restrictionism cannot be left merely to revolve round the problem of high or low wages; it demands, at least, some discussion of the fairness or injustice inherent in such a practice. For limitation is arbitrary, it excludes aspirants not on the basis of merit or aptitude, but solely on the grounds of numbers.\(^{135}\) It also denies to an individual the chance to follow the occupation of his or her choice. Thus the test of fairness must rest on whether limitation is used by a group to artificially restrict numbers in order to buttress their privileged position as against other workers, or whether it is done out of a concern for the welfare, of those working in the trade and those desiring to enter it. Obviously it is not to anyone's advantage, in or out of the trade, that an open-door policy ought to exist if that policy leads to a situation where the number of men or youths being trained constantly outstrips the employment available at the moment training ceases. Therefore, from both a moral and economic standpoint restriction is justifiable in certain conditions as a bulwark against the unscrupulous employer. But if it used in the former context it is not. Such a practice only leads to the narrow craft or sectional outlook which characterised the era of the 'labour aristocracy'.

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135. Of course, young people can be excluded from entering an occupation for health and intelligence reasons. The discussion obviously is concerned with artificial restriction only.
In conclusion, restrictionism can only be acceptable if it is designed to promote the best interests of the trade, and not as an artificial tool designed to promote sectionalism. How the 'best interests' of a particular trade are to be ascertained can only be done by dealing with the actual conditions pertaining in a given trade of any given time, that is, is it declining or expanding, and at what rate. In short, it must avoid arbitrariness in favour of objective calculation. But such were the conflicting goals and values of capital and labour in Edwardian Britain it was hardly to be expected that such points of issue would be resolved by reasonable men making value-free judgements based on reliable information and objective criteria. As it was, where restriction was abandoned in most cases it was done reluctantly, and under the compulsion of external forces, that is, unemployment, employer opposition, etc., rather than on the basis of mutual agreement. Industrial muscle became the determinant and not legality, custom or objectivity.

136. For a discussion of whether some objective standard can be used to arrive at the 'fair number of apprentices' see discussion in the chapter on 'Apprenticeship in Shipbuilding'.
COMPONENTS OF APPRENTICESHIP

A. THE INDENTURE

'Each young Apprentice, when he's bound to Trade;
This solemn vow to God and Man has made,
To do with joy his Master's just commands,
Nor trust his secrets into other hands.
He must no damage to his substance do,
And see that others do not wrong him too.
His Master's goods he shall not waste nor lend,
But all his property with care defend,
He shall not buy nor sell without his leave,
Nor lie, nor injure, nor at all deceive,
Taverns and Ale-Houses he shall not haunt,
Those snare to youth, those scences of vice and want,
At Cards and Dice he shall not dare play,
But fly from such temptations far away.
O Youth! remember thou to this art Bound,
See no breach of this in thee be found'.

Indentured apprenticeship has a long history. Its origin lay in the guild system. Here a contract was drawn up and then torn in two, hence, indented; one half went to the master, and one to the apprentice or his guardian. On completion of service the youth would be given the other piece of the contract as proof of his having served his time. Essentially it was a legal contract between two consenting parties (except in the case of pauper apprentices) binding the master to teach, house, clothe and feed the apprentice, and in return the apprentice agreed to faithfully serve and obey his master for the duration.

of his period of service as the verses above show, the indenture also contained a number of moral clauses concerning the apprentice's conduct. Its effect was to ensure close supervision and proper teaching of the apprentice, although, as we will see, it could also be tyrannical.

Most of the early trade societies favoured indentured servitude as a means of controlling entry into their trades. For example, the rules of the Journeymen Paper-Makers of England (1823) expressly states that 'No one shall be entitled to the business unless he has served a legal Apprenticeship of seven years, and who can produce his lawful indenture'. The only exception to such strict rules of entry was that each member's son (usually the eldest) was excluded from their application. A representative example of the near universal 'get-out' clause among trade society-rules can be found in the regulations of the London Society of Compositors. Under the terms of rule five, 'A compositor's eldest son can serve without indenture, but must prove that he has served seven years to the business'.

Not all boys were, however, bound to masters. Indeed in some trades a filial system of indenturing existed. For instance, in the shipwright trade of London boys could be apprenticed to their fathers, or to masters, by legal indenture. In the Sheffield cutlery trades apprentices were bound to the journeymen and not the masters. In the early 1840's, it was said

of outdoor apprentices in Birmingham that some are bound 'to
the principals, some to the journeymen'.

During the first half of the nineteenth century, the system
of binding by indenture came increasingly under attack,
particularly in trades, such as engineering, which were expand-
ing as a result of industrialisation. Some employers argued
that indentures made apprentices lazy and uncooperative, since
under the terms of their contract they could not be dismissed.
In fact, in the strictly legal sense 'not even a conviction
for a felony could justify the master in dismissing his
apprentice'. James Naysmyth, engineer, discontinued taking
apprentices who were indentured on the grounds that they
'caused a great deal of annoyance and disturbance....They were
careless in their work, and set a bad example to the unbound'.

However, perhaps, the most objectionable feature of the indenture
was not that it induced slovenly working habits in young
people, which was, at least, debateable, but that the apprentice
had to be found employment in times of slack trade. The
employer having contracted to teach the apprentice the trade
for a stipulated number of years could not introduce discon-
tinuities owing to trade depression. Even if bankrupt, the
employers were still duty bound to find an alternative employer

P.475.
7. ibid., p.544.
8. Evans Austin, The Law Relating to Apprentices, (London,
1890), pp.69-70. Moreover, should an apprentice contract
a severe and debilitating illness the master would be
liable 'To provide for him in sickness and health' till
the expiration of his apprenticeship', ibid., p.76.
Samuel Smiles, p.227; see also Nairn, loc. cit.
for their charges. What many employers of the likes of Nasmyth desired was a looser form of binding, one which allowed them to dispense with the services of the apprentices when either trade or preference dictated. Thus it was noted that amongst Birmingham boys many of them 'will not become regular apprentices ... (because) When trade is bad these boys are turned off and left to themselves'.

Not all employers adopted such a hostile attitude towards indentured apprenticeship. For the indenture did give the employer some distinct advantages. Firstly, should he be saddled with a refractory apprentice he was permitted by law to administer punishment 'as long as no unnecessary violence (was) ... used'. Secondly, the employer was entitled to make the apprentice work overtime without payment, unless, of course, the hours of work were laid down. And if the apprentice happened to be of the indoor variety any monies earned 'by the apprentice otherwise than in his master's service (were) ... the property of the master'. Lastly, it provided the employer with an assured amount of labour over a certain period of time and prevented the apprentice, on pain of punishment or fine, from 'turning-over'.

10. Austin, op. cit., p.49.
The attitudes and feelings of the apprentices towards being indentured are difficult to discern, but there does exist some contemporary evidence to suggest that amongst a minority there was an active dislike at being bound. The journeymen hat-makers noted, in their 'rules and orders', in the early 1820's, that there was a practice among apprentices, desiring to have their indentures cancelled, damaging their master's work, in order to incite their masters to assign them to other masters.\footnote{Aspinall, op. cit., p.108.}

The Children's Commissioners stated that 568 males were committed to Stafford County Prison during the years 1837-1840 for breach of contract with employers in the Wolverhampton and surrounding area.\footnote{Second Report on Trades and Manufacturers (1843), BPPXV, Part 2, p.593.} Benjamin Scott, City Chamberlain of London, said that in the period 1826-1862, the Chamberlain's Court had adjudicated on no less than 17,501 cases concerning grievances connected with indentures. Of these, 14,000 were reconciled; 3,501 were heard directly on summons before the Chamberlain; and the remainder (1,044) ended in imprisonment.\footnote{Benjamin Scott, 'The Custom of Apprenticeship in the City of London', T.N.A.P.S.S., 1862, p.186.}

Most of the complaints tended to be lodged by the master. In fact, as the Children's Commissioners noted, in 1843, there were 'very few cases in which the complaint of the apprentice meets with any redress'.\footnote{Benjamin Scott, 'The Custom of Apprenticeship in the City of London', T.N.A.P.S.S., 1862, p.186.} Masters could and, of course, did prosecute their apprentices under their indentures. Scott listed a number of violations which might result in prosecution (but not necessarily in the dissolution of the apprenticeship),
they included unfaithful service, disobeying orders, disclosing secrets, wasting goods, lending them unlawfully, fornication, contracting matrimony, absenting from the master's service, and so on. 19

What caused the apprentice to act antagonistically towards his master usually stemmed from two major sources of discontent; one, low wages or, in some cases, no wages, which left the apprentice with a heightened sense of exploitation; and, two, the feeling of unused ability. Alexander Somerville recalled in his autobiography how his brother, Peter, broke his indentures after two-and-a-half years as an apprentice joiner, because, in the first place, his 'mechanical ability was of an order...above the average of journeymen'; and, in the second place, because 'receiving none until the four years for which he was bound were expired, the idea that he was giving the master more than an equivalent for board and lodging and instruction, was not unnatural....' 20

The most obvious method for dissatisfied apprentices was to abscond. Nineteenth century newspapers carried many an advertisement from an aggrieved master offering a reward for their capture and return. As late as 1875, an employer's journal, Capital and Labour, complained that 'the system of runaway apprentices is now becoming quite common', and called

upon employers to 'look more strictly after their apprentices
than they do'. Although it is not possible to say how
widespread the problem of running-away was, evidence does
exist to show that there was some degree of short-term
abscording among apprentices. Even in the 1870's this was
quite common. At the works of Stephenson's in the Wear
district, in 1875, 123 apprentices were each fined five shillings
for absenting themselves from work without their employer's
permission. Three years previous twenty lads at the same
works 'were charged because they handed in their time boards
at 10.30 a.m. one day during Race Week'.

Imprisonment of protesting apprentices was infrequent and
only used as a last resort when all else had failed. Where
applied it usually lasted for a term of between seven and
twenty-one days, although, according to Scott, in London, the
Chamberlain's Court had the 'power to extend imprisonment
to three months'. But it was usual, added Scott, to cancel
the indentures before resorting to such draconian measures.

After the passing of the Employer and Workman Act of 1875 the
term of imprisonment, if ordered by a magistrate, was not to
exceed 'fourteen days' (Section six).

20. Alexander Somerville, loc. cit. For a recent investigation
into the question of what an apprentice likes or dislikes
about his work see T.S. Chivers and S.R. Parker 'The
Apprentice Technician and his Job', Industrial Society,
October, 1966. The investigators found that both the
feeling of unused ability and pay were the two major
sources of discontent among apprentice technicians, p.236.

22. J.F. Clarke, 'Labour Relations in Engineering and
Shipbuilding on the North-East Coast in the Second Half
of the Nineteenth Century', (Unpub. M.A. Thesis, University
of Newcastle, 1966), p.89.
However, in spite of the existence of legal sanctions, most apprentices, even if they were discontented, were resigned to their lot. In any case, it would seem that by the early 1860's the practice of indenturing was somewhat on the decline. Scott found indenturing to be common amongst printers, scriveners, stationers, type founders, iron and copper smiths, machinists, bookbinders, cork-cutters, carpenters, cabinet-makers, box and packing case-makers, but not in other London trades. This decline was lamented in some quarters and resulted in a debate in 1862-63, which was carried on throughout the columns of the Transactions of the National Association for the Promotion of Sciences (T.N.A.P.S.S.).

The case for a general revival in the use of the indenture was argued by Godfrey Lushington, a London barrister. He felt that the indenture had ensured in the past that apprentices acted with proper respect and affection towards their masters and by these means a bond was created between master and apprentice which continued into journeymanhood. It had also, added Lushington, ensured a high degree of training resulting in a superior breed of skilled artisans. 'In short the trade (by this method) has gained one more efficient member, an honour to his class'.

25. ibid.
26. ibid., p.186.
27. Godfrey Lushington, 'Should Apprenticeship be under Indenture', T.N.A.P.S.S., 1862. There may be a little self-interest involved in Lushington's argument. An indenture was a legal document, disputes arising from it involved, at times, the hiring of council, which in turn, meant employment for lawyers. Also the legal profession used apprenticeship to restrict entry in to its own ranks, thus keeping up the cost of lawyers through the workings of supply and demand.
28. ibid., p.730.
In contrast, Lushington argued, that unindentured boys rarely established any form of attachment to their masters, outside of mutual self-interest, and generally were 'unruly and abnoxious' in their behaviour through having too much money and too little control. As to the question of skill, the inferior training of the unbound apprentice, said Lushington, only made him fit for 'coarse plain labour'. If this system were allowed to continue unchecked, he warned, it would produce 'men...who are discontented with themselves and suspicious of their masters'.

In order to counteract the worsening relations between employer and employed breaking into class conflict, Lushington argued that a recognition in the trades of the need to safeguard the indentured system was imperative. And whilst such a demand might run counter to the prevailing doctrines of political economy, according to him, 'free trade has been tried and has failed'. Benjamin Scott endorsed Lushington's views, and called for the extension of the indenturing system 'to all parts beyond the City's jurisdiction', providing the mode of binding was 'left optional'.

The views of Lushington and Scott were attacked by George Hurst, in 1863, on a number of counts. The basis of Hurst's argument lay in the fact that the indentured system could not fulfil the role laid down by its supporters. For instance, if a boy was

29. ibid., p.731. 30. ibid., p.732.
placed under the tutelage of an inferior workman or master he might turn out a very bad workman. Moreover, the indenture was thoroughly biased in favour of the master, who reaped the excessive benefit of the last few years of the apprenticeship. Verbal agreements, Hurst advocated, were the best means of apprenticing because they had several built-in advantages over formal bindings; firstly, both parties could separate at will; secondly, as the youth would not be retained if he misbehaved or acted in an indolent manner, therefore, there was a greater incentive for him to 'conduct himself well'; thirdly, given the industrious application of the youth to his work the employer was sure to treat him fairly and kindly, to retain the services which had become valuable; fourthly, apprenticeship was in reality a 'species of slavery', which bound a boy to a master, tyrannical or kind, and as such was mimical with freedom and ought to be abolished. Hurst concluded his attack by stating that apprenticeship was a 'worn-out' institution, a relic of the past, which ought to be replaced by 'a system of pupilage...compatible with freedom of action... and the progressive state of modern institutions'.

Both arguments were dogmatic. In essence, they were restatements of the two predominant views on industrialisation, that is, paternalism versus individualism; views formulated and debated through the writings of such notable men as Robert Southey, William Wordsworth and Thomas Carlyle, on the one hand, and Jeremy Bentham, Thomas Malthus and the Utilitarians, on the

34. ibid., pp.756-57.
However, at a more practical level the notions of Lushington and Scott were largely unrealistic. How could a paternal bond be created between the employer and apprentice in, say, a big engineering works employing hundreds of people? Surely the very size of such an enterprise involved a distancing of employer and worker. Obviously their views applied more to petty industry than to large-scale, capital intensive establishments. Again simply being indentured was no sure means of learning a trade. For example, a breach of contract case took place, in 1866, in which a builder was fined £29 in damages for failing to adhere to the terms of the indenture. Under the agreement the defendant had covenanted to teach the apprentice 'the business of a builder, ornamental painter and decorator, and to supply him with meat, and drink, and lodging'. During a trial period of one month these stipulations had been adhered to, and the apprentice 'was treated very well'. However, later, the apprentice 'was subjected to all funds of ill-usage and indignities'. Instead of being taught the trade 'he was employed as a labourer; he also had insufficient food, and for a year and a half had to sleep on four chairs in the kitchen, which was swarming with black beetles and cockroaches, and had to dress in the open-air'. Lushington's over-optimism concerning employer paternalism was perhaps a little naive in face of this type of apprentice abuse.


Hurst's attack exposed the rather idyllic notions of Lushington regarding apprenticeship and stressed its oppressive potentiality. But whereas the latter had at least expressed some concern for the welfare of the apprentice, Hurst, drunk on the elixir of the market economy, placed too much reliance on impersonal market forces to adjust the terms of employment in favour of the apprentice. Displacement in times of slack trade of the apprentice meant enforced discontinuities in training, and encouraged, by necessity the practice of 'turning-over' among half-taught youths. If universally adopted such a practice would have undoubtedly led to a flooding of the lower end of the trade with inferior labour. In such circumstances there would be a general deterioration of skill and product leading to lost markets and serious economic consequences.

The answer obviously lay in the creation of some system geared towards providing continuity of training but with an understanding that should the parties become dissatisfied with each other, for reasons other than the state of trade, they could part company without fear of legal prosecution. However, as the nineteenth century progressed employers became more attuned to Hurst's views on the use of the indenture. The indentured system, in fact, collapsed in many trades. In their replies to the Questions Addressed to Associations Representing the Working Classes (1886)37 most trade unions emphasised that indentured apprenticeship had disappeared. These unions covered

printing, building, engineering and shipbuilding, in fact, the most important branches of craft-based industry. Of these only a few stated that indentures existed, and included the Nottingham Branch of the Operative Stonemason's Friendly Society, the United Plumbers of Great Britain and Ireland, the Glasgow Branch of the Amalgamated Society of Engineers. Only in printing was there any marked use of indentures.

Trade unions, unable to insist on indentured apprenticeship, generally dropped clauses from their rules which made entry into the organisation conditional on producing an indenture. Most, like the A.S.E., were content with proof of servitude to the trade for a set number of years, which could be verified by either a written assurance from an employer, or on the testimony of a fellow journeyman.

Therefore, it would seem that by the mid-1880's indentures had died out. However, the period of the late 1880's to 1914 witnessed a revival of interest in the use of them, mainly as a result of changing technological conditions. During these years significant developments in technology, such as the turret lathe in engineering, the pneumatic chisel in shipbuilding and masonry work, etc., increased the drive towards specialisation of skill in many trades. In engineering, for instance, a boy

38. ibid., p.50. 39. ibid., p.66. 40. ibid., p.8.
41. ibid., pp.81-89.
42. See Webbs, Industrial Democracy, op. cit., pp.469-70.
was apprenticed to fitting or turning, but rarely both; in printing, it was a choice between hand or machine composing, and so forth. As the apprentice could acquire a fair amount of trade skill in a shorter period of time it made him a strategically important figure, especially in times of industrial conflict, and this provoked a renewed interest in his control and training. Trade union concern was summed-up by Edward Girling, secretary of the National Amalgamated Society of Coopers, in his evidence before the Royal Commission on Labour (1892). In reply to the question, 'What difference does the indenture make?', Girling said, 'we look upon it as a rather loose way - that the lad may leave and go to another place; if a strike were to occur, he might be induced...to go to another place where a strike existed to get a higher rate of wage; and if he was bound, he would be held to the place where he was bound to'. Girling was correct in his statement as from a legal point of view an apprentice was 'bound to a master to serve him in his trade, (and as such be)...cannot be sent by his master to work for other people'. This prevented the use of the apprentice as a strike breaker, except should the strike occur in the master's establishment. It also stopped the youths from 'turning-over', and flooding the lower end of the labour market with their inferior skills.


44. Austin, op. cit., p.49.
For the same self-interested reasons as the unions, many employers took a renewed interest in the use of indentures to bind the apprentice more strictly to their service in order to discipline the journeymen. In engineering, in the great lock-out of 1897, the victory of the employers had, in part, been due to their skillful use of the apprentices as strike-breakers. As a result of the conflict many of the engineering employers took to indenturing their apprentices. However, what prevented the general adoption of the old indenturing system amongst employers as we will see later, was the many clauses which prevented the flexible use of apprentice labour.

There was yet another important body concerned to see a revival of the use of indentures; the technical education movement. It was obvious to those in the movement that for any course of instruction to be of value it had to be run on a systematic and regular basis. If apprentices were allowed to 'turn-over' at will not only would their working habits become irregular, but attendance at some technical institute would be impossible due to their migratory method of picking-up their trade. Apprentices had to be fastened down to one employer for the currency of their apprenticeships. Moreover, if the basis of technical education was to impart all-round skill and discourage specialisation then some form of contract had to be drawn up which would ensure that this was carried out, if not in the workshop, then, at least, in an educational institution. The Rev. Henry Solly, in 1884, said that 'indentures and class-training...
would guard lads against the principal danger which besets them in the workshop, viz., that of being kept at one kind of work too long.... If it were specified in the indentures that in no case an apprentice should be kept more than, say, six months at one species of employment, he would come 'out of his time' better fitted for obtaining employment.... 46 A few years later F.W. Bockett called for a system of binding by indenture which would contain certain 'clauses... binding the employer to give his apprentice facilities for passing through a registered course of instruction in the technical school.... 47

However, despite the existence of powerful and influential supporters of a more extensive use of indentures, the traditional legal clauses associated with them proved a real barrier to their general adoption. If, for example, an employer wished to break the indenture because of the unsatisfactory behaviour of the apprentice, he found the court biased towards the youth. As Norman Dearle points out, 'the courts generally gave the boy "another chance", and thus employers rather than waste time and expense in going to law, would make the best of a "bad bargain". 48 He could, and many did, of course, simply discontinue using the indenture in the future. An other important factor was the guarantee of continuous employment to the apprentice during his period of service. As was the provision for teaching the apprentice the whole trade, particularly in specialised industries.

Investigating these problems in 1911, the Merchant Company of Edinburgh's Joint Education Committee (employers and men) come to the opinion, 'that it would be difficult to revive the system of indenture in trades where it had been wholly or partially abandoned'. The reason the Committee gave for their view was that 'In these days of large trading concerns and joint stock companies, the master or manager seldom comes into contact with the apprentices, and, generally speaking, the indenture system does not fit in with modern conditions of labour'. If there was any advantage to be had from such a system the Joint Committee felt it lay in the 'greater bond (it creates) between the master and his apprentice'. To a large extent the Norwich employers shared the views of the Edinburgh Committee. Here employers were of the opinion that 'the formality of indentures makes a boy feel more interested and responsible in his work, and it also (meant)...that they did not lose him directly he (became) useful'. Despite inducing loyalty, it was still felt that indentured 'apprentices cannot be fitted into a modern workshop, where every man and every machine must be used with a single eye to the largest possible output from each unit employed'.

Some employers in face of the difficulties presented by the old mode of indenturing, as well as by their desire to retain a hold on their apprentices, drew up contracts of service more consistent with modern industrial conditions. Dearle found

49. Minutes of the Edinburgh School Board, 26 June, 1911.
50. ibid.
51. ibid.
52. Hawkins, op. cit., pp.260-01
53. ibid., pp.195-96
among the London employers modified forms of indenture. 'In one case', he says, 'a clause was inserted to make the employment "terminable by a week's notice on either side", and in another to make employment depend on "good behaviour", whilst in a third the indenture was drawn up, but not actually signed by the firm till the expiry of the apprenticeship....'\(^{54}\) The latter method was much in favour among the Clyde shipbuilders. Here the practice was to issue the apprentice on completion of his term of service, with 'lines', that is, a written testimony by the employer, stating that the youth had faithfully served the stipulated years of apprenticeship, as well as providing evidence as to when it had begun and when it had ended.\(^{55}\) In the engineering industry, companies had their own means of binding apprentices. William Marshall, managing clerk of Messrs. Vickers, Sons and Maxim Ltd., Sheffield, stated, in his evidence to the Royal Commission on the Poor Laws (1910), that whilst his company did not use the indenture, it did use a 'private contract for the purpose of binding boys to their service'.\(^{56}\) In 1913, a few months after the apprentices' strike,\(^{57}\) the Engineering Employers' Federation issued its own model form of contract of service containing clauses which gave strict disciplinary powers to the employer, as well as the right to suspend apprentices in times of slack trade.\(^{58}\)

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55. Minutes of the Clyde Shipbuilders and Engineers' Association, (Ms. Glasgow City Archives, No. TD 241), 4 July, 1896; passim.
57. See chapter on 'Industrial Protest and the Apprentice.
Notwithstanding, the collective and individual efforts to promote indentured apprenticeship, the old system was given an unexpected boost in the early years of the twentieth century in the form of the National Insurance Act of 1910. The introduction of the Act involved a 6½d. deduction from the wages of apprentices in regard to health and unemployment benefit. To avoid the payment of contributions apprentices could indenture themselves, and many employers agreed to it. The Merchant Company's report of 1911 noted that the 'indentured system has received a new lease of life in the building trades owing to apprentices wishing to be bound in order to escape contributions of unemployment benefit under the National Insurance Act'. In the engineering and shipbuilding industries, as a consequence of the 1912 apprentices' strike, many employers indentured their apprentices. For example, in the firm of Bertrams of Edinburgh, the apprentices consented to return to work after agreeing to become indentured and 'to claim exemption from the operation of the Act...'.

However, despite the existence of a discernible trend towards indenturing apprentices, most firms were content to do without it, as the following table shows:-

60. Glasgow Herald, 22 August, 1912; see chapter on 'Industrial Protest and the Apprentice' for other examples.

59. Minutes of the Edinburgh School Board, 28 June, 1911, (p.87).
### TABLE 1.

**PERCENTAGE OF BOY TRAINEES IN 1909 EMPLOYED UNDER THE CATEGORIES LISTED BELOW.**

<table>
<thead>
<tr>
<th>INDUSTRY</th>
<th>INDENTURED</th>
<th>ANOTHER AGREEMENT</th>
<th>LEARNER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering</td>
<td>29.0</td>
<td>35.0</td>
<td>36.0</td>
</tr>
<tr>
<td>Shipbuilding</td>
<td>51.3</td>
<td>22.1</td>
<td>26.6</td>
</tr>
<tr>
<td>Precious Metals</td>
<td>70.9</td>
<td>11.6</td>
<td>17.5</td>
</tr>
<tr>
<td>Pottery</td>
<td>4.6</td>
<td>28.8</td>
<td>66.6</td>
</tr>
<tr>
<td>Glass</td>
<td>55.8</td>
<td>44.2</td>
<td>-</td>
</tr>
<tr>
<td>Building</td>
<td>37.0</td>
<td>63.0</td>
<td>-</td>
</tr>
<tr>
<td>Furniture</td>
<td>33.0</td>
<td>26.1</td>
<td>40.9</td>
</tr>
<tr>
<td>Saw</td>
<td>31.5</td>
<td>20.1</td>
<td>48.4</td>
</tr>
<tr>
<td>Milling</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wooden Vehicle</td>
<td>26.3</td>
<td>40.3</td>
<td>33.4</td>
</tr>
<tr>
<td>Building</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Printing</td>
<td>64.5</td>
<td>30.2</td>
<td>5.3</td>
</tr>
<tr>
<td>Wool</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Textile</td>
<td>30.6</td>
<td>32.4</td>
<td>37.0</td>
</tr>
<tr>
<td>Boot and Shoe</td>
<td>25.0</td>
<td>26.0</td>
<td>49.0</td>
</tr>
<tr>
<td>Clothing</td>
<td>33.5</td>
<td>24.1</td>
<td>42.4</td>
</tr>
<tr>
<td>Leather and</td>
<td>35.8</td>
<td>26.0</td>
<td>38.2</td>
</tr>
<tr>
<td>Leather Goods</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baking</td>
<td>19.1</td>
<td>39.9</td>
<td>41.0</td>
</tr>
<tr>
<td>Electricity</td>
<td>16.1</td>
<td>83.9</td>
<td>-</td>
</tr>
<tr>
<td>Supply</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All above</td>
<td>36.2</td>
<td>37.7</td>
<td>26.1</td>
</tr>
<tr>
<td>industries</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It would appear that of the total number of trades listed something like one-third of all boy trainees served under indentures. However, as the table does not make clear exactly, what is meant

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by the category 'another agreement' we can only assume it either stands for verbal agreement or private written agreement, or both. If it does contain private written agreements then it would assume the status of the indenture, without its formal legality, and thus act to push up those apprentices indentured higher. But, despite these qualifications, it does seem that there existed great variations between trades. The high rates in precious metals, glass and printing can be put down to the high standards of skill involved, which demand long periods of training. The relatively high percentage in shipbuilding could be put down to the strength of the Boilermaker's Union, as well as to the high standards of occupational skill needed in this industry. The abnormally low figure of 16.1 per cent in the electrical supply industry can only be explained by the fact that, since it was a newcomer to the industrial scene, the industry did not have traditional customs to adhere to. It probably adopted its own form of agreement; one which was best suited to its peculiar needs. In general, however, most industries tended to indenture one-third of boy trainees.

Of course, just as there were trade variations, there were also regional differences. Thus London was recorded as having 85.5 per cent of its apprentices serving under indentures; in Yorkshire, Lancashire and Cheshire the figure decreased substantially to 28.8 per cent; in the North and West Midland counties the figure rose a number of points to 38.2 per cent; and in the rest of England and Wales the figure was a relatively high 57.2 per cent; whilst in Scotland the numbers of boy trainees indentured plummeted to an extreme low of 19.6 per cent, well below the National average of 36.6 per cent.62 These remarkable regional variations
obviously need some explaining, even at the risk of digressing somewhat.

To account for such wide regional variations is very difficult. Ideally what is wanted is a reliable set of statistics which would allow for a correlation to be made between the economic structure of a region or locality and the propensity for taking and indenturing apprentices. Once in possession of such material we could then decide whether or not regional differences were a function of different regional structures of industry. However, as census reports do not provide information as to the number of young people apprenticed to a given trade or occupation, either at a national or local level, far less state whether they were indentured or not, this is not possible. Therefore, until more concrete information is available we must at this stage be content with a tentative explanation.

In Scotland, for example, the traditional guild structure of industry, as expressed in the industrial dominance of the incorporated trades and merchant guilds, broke down in the first half of the eighteenth century. By 1729 Professor Smout notes their disappearance in Edinburgh, and, by 1740, 'the substance of guild restrictionism in the trades and crafts...had...vanished' in Glasgow. 63 Unencumbered by ancient regulations new capital was attracted to Glasgow and its hinterland with the result that

62. ibid.

industrial regulation was abandoned and the area became a centre for 'free labour'. Consequently, apprenticeships 'tended to become shorter' and the use of the indenture less than universal. Thus, in parts of Scotland, at an early stage in industrial development, traditional forms and attachments were already becoming obsolete. And this was further accentuated by subsequent economic development. For as the nineteenth century progressed, the Scottish economy became increasingly founded upon heavy industry, particularly engineering, shipbuilding and, later, steelmaking. All these industries, from 1850 onwards, were capital intensive using sophisticated machinery and employing large numbers of skilled men and apprentices. In such circumstances the indenture seemed outmoded and incongruous, primarily because it was more readily associated with small-scale paternalistic concerns than with large enterprises, where size made the formation of a close bond between owner and apprentice a remote possibility. Moreover the new capital was highly influenced by the theories of Adam Smith, and the Glasgow business community was a staunch advocate of the free movement of labour and capital. Given this world view it was not surprising that long and fixed contracts of service were considered anathema in this part of Scotland. Thus a mixture of tradition and economic structure had resulted in bringing about the virtual extinction of indentured apprenticeship in Scotland's industrial heartland.

64. ibid.
66. Tawney said in 'Glasgow the indentured system is not found, as far as can be ascertained, in any trade except building....' Economics of Boy Labour', op. cit., p.523.
However, if the example of Birmingham is anything to go by, it would seem as if tradition was a more important factor than economic structure in determining whether the indenture remained a vital or decaying component of apprenticeship. On the surface, it seemed as if Birmingham was better constructed economically to adopt an indentured system of apprenticeship than any other city in Britain, outside of Sheffield. Here, as C.R. Fay points out, 'There were few big factories (in 1860) ...(and), as late as 1914 "the small man system" was still the rule'. 69 Even the developments in steam driven machinery had not obliged a transition to factory production but had merely encouraged a multiplication of small concerns, producing a dazzling array of finished products. With few factories and a great many small workshops and domestic establishments the economic structure seemed suitable for the type of close and personal relationship between master and apprentice as represented in the form of indenture. Yet it did not take root. Why?

Birmingham was not a corporate town and therefore, unlike its near neighbours Coventry and Walsall, it had no system of industrial regulation. With no apprentice or other restrictive rules to check the mobility of labour, Birmingham became a 'haven of economic freedom' for the new men of enterprise. 71 Trade societies, which might have acted as custom preserving agents, were weak because of the ease with which a journeyman could transform

68. ibid.
70. ibid., p.119.
71. See chapter on 'The Restriction of Apprentices, 1800-1914'.

...
himself, with the minimum of capital, into an independent small master. Moreover, although the Productive unit was predominantly small-scale, and therefore could more easily diversify its output from one article to another to accommodate changes in taste and fashion, it did not escape the effects of recurring economic crises. Allen says that the highly skilled military arms trade of Birmingham was liable 'to extreme fluctuations in demand', as were others.\(^72\) This discouraged masters adopting long term contracts of service. Therefore, the absence of an apprenticing tradition allied to the unstable nature of the market tended to severely restrict the use of the indenture among Birmingham masters; a fact noted earlier in the chapter by the Children's Commissioners.

Lastly, let us take the case of London. Here tradition and economic structure were in almost perfect harmony, which is perhaps why the percentage of apprentices serving under indentures was so high in comparison to other parts of Britain. In fact, a large number of artisans and employers had a strong affinity with the inherited customs and traditions of their respective trades, probably more so than anywhere else in the country.

For at the beginning of the nineteenth century London was the pre-eminent artisan centre in the world. The London journeymen at this time had a heightened awareness of the importance of tradition in matters of trade regulation. It was because of this that they fought so fiercely against Onslow's Act in the years 1813-14. Their commitment to inherited customs of

\(^72\) See chapter on 'Apprenticeship in Engineering'.

\(^73\) Booth, op. cit., Vol. 9 (1897 ed.), pp.162-196.
apprenticeship was shared by many of the London masters and by the city companies, which a fair number of masters belonged to. In fact, well into the nineteenth century these ancient institutions still wielded considerable power and influence and took an active part, as was pointed out above, in settling disputes between masters and apprentices, and, later, in promoting the cause of technical education. Thus there existed in London an ingrained sense of tradition at both an institutional and workshop level.

As the nineteenth century wore on this adherence to time-honoured practices regarding apprenticeship remained strong in certain quarters because of the peculiar nature of the London economy. London tended to manufacture finished goods of a superior quality or fineness; but it was not a manufacturing town of any great repute. As it had no local supplies of coal and iron it had, at an early date, lost its manufacturing capacity in textiles, engineering and shipbuilding, and more trades besides, to places such as Lancashire, Yorkshire, Clydeside, and so on. Thus, unlike areas such as Tyneside, there was no great specialised or concentrated industrial product associated with the metropolis. What existed, in fact, was a highly diffused and unspecialised economic structure which left much room for the small man to corner a good share of the city's productive capacity, and wealth. It was among this section of the London employers that indenturing of apprentices was most widely practiced. This was endorsed by the findings of Norman Dearle in 1915. Dearle found that those trades in which indenturing was a common feature were generally dominated by the small-scale establishment for example printing, book-binding, basket-making, brush-making, coopering,
and silk hat-making.\textsuperscript{74} And it was here that tradition and economic structure were most integrated.

However, as had been mentioned above, at this point in time, the indentured system was by no means the dominant mode of taking boy trainees. Of course, it did have its advantages to employers in the sense that it offered them a means of close supervision over their apprentices; but this was offset in many ways by clauses concerning the continuous employment of the apprentices, the need to teach the apprentice the whole trade in view of specialisation, and the legal problems. But if modified to contain dispensation of service clauses in times of slack, and, at the same time, provide employers with the disciplinary powers of the old indenture, it was by no means totally useless in modern conditions. This was recognised by the various Departmental Committees set up during the 1914-18 War. When their reports were published in 1918 each one endorsed the indentured system.\textsuperscript{75} The committee dealing with the iron and steel trades advocated that 'apprenticeship should begin at the age of 14.

\textsuperscript{74} Dearle, op. cit., p.305. It might be as well at this stage to issue a caveat. As was noted in chapter one, London was rather typical in terms of the economic structure of Britain. It was also a place where apprenticeships were becoming rare, mainly because employers could get sufficient supplies of journeymen labour from the provinces, and therefore did not have to bother to rear their own. Thus those who were indentured might, in the absence of reliable statistics, might proportionately be less than in other areas. In addition, it might also mean that those who were indentured were preferential apprentices, that is, the sons and daughters of those in positions of ownership or managerial and supervisory grades. Thus the London figure ought to be treated with caution.
under indenture'. Likewise, the committee on shipping and shipbuilding said that 'We are of the opinion that either an indenture or some form of agreement should be instituted, which would bind the apprentice to be diligent at his work, and the employer to teach the apprentice his trade'. However, further discussion of this development lies outwith our period, and thus we have to be content with the notion of a revival. But it might be useful to point out in passing that the Ministry of Labour's report on apprenticeship and training noted a net drop in the numbers indentured in engineering, from 29 per cent, in 1909, to 23.3 per cent, in 1925; and in shipbuilding from 51.3 per cent, in 1909, to 50.5 per cent, in 1925. Obviously the recurring problems of indentured apprenticeship were still considered by employers as something better avoided.

B) THE PREMIUM

Little is known of the history of the premium. Perhaps this was because it was a private transaction between an employer or master and a prospective apprentice's parent. Trade unions did not seem to interest themselves in it as much as they did in the indenture and maybe this is another reason why it did not play a significant part in the development of apprenticeship.

75. There were seven committees in all but only three are of interest to us; the others dealing with coal, textiles, sulphuric acid and fertilizers, and electrical trades and they are: Departmental Committee to Consider the Position of the Engineering Trades after the War, BPPXIII, 1918, pp.369-422; Departmental Committee to Consider the Position of the Iron and Steel Trades after the War, ibid., pp.423-73; Departmental Committee to Consider the Position of the Shipping and Shipbuilding Industries after the War, ibid, pp.473-629.

76. ibid., p.463. 77. ibid., p.521.
It began, according to Daniel Defoe, as a gift made by the apprentice to his surrogate mother in the hope that it would induce her to be kind to him during the currency of his apprenticeship. However, Defoe adds, 'By length of time this compliment or present became so customary as to be made a debt, and to be conditioned for as a demand'. The fees, even in the eighteenth century, could be very expensive, especially when the lad was apprenticed to become a merchant or manufacturer of sorts. Dr. Aikin, in his 'description' of Manchester, says, one 'considerable manufacturer' he knew charged 'from £250 to £300' before taking-on apprentices, and the 'highest fee known, as late as 1769, was £500'.

Such fees were abnormally high and unthinkable for working-class boys. As Dorothy George notes 'an apprentice fee of £5 or less meant a poor or disagreeable occupation resorted to by parish children and the children of the "labouring poor".... Artisans would (however) often pay £10 or £15 and upwards'. The trend of the fees was decidedly 'upwards'. A handbook to the London trades of 1806 gave the following premiums for specific trades: carpentry and joinery, 'the usual premium given with apprentices to carpenters and joiners in good business is £50'; glazing 'it is not... unusual to give a premium of from 20 to £50'; plastering, 'The premium given with an apprentice seldom (exceeds)...

79. Defoe, op. cit, p.147.  
80. Dr. John Aikin, A Description of the Country from Thirty to Forty Miles round Manchester, (London, 1795), p.184  
81. George, op. cit., p.163.  
83. ibid., p.269.
£20'; 84 printing, 'The usual premium given with an apprentice to a master is £50, provided he undertakes to board his apprentice'. 85

Elsewhere the premiums were just as high. Daniel Donovan, a master cabinet-maker, of Bristol, said, in evidence to a committee investigating the apprenticeship laws of England, in 1813, that he generally received a fee of 'about £40' with an apprentice. 86 Before the same investigation committee Frodsham Mitchell, a coachmaker, of London, said that it was a common feature of his trade for masters to take premiums and that '150 guineas has been given as an apprentice fee'. 87

Obviously such high initial expenses put a trade outwith the reach of many a boy from the labouring stratum of British society. It was, therefore, restrictive in operation, and thus no doubt had the backing of a good number of the artisans. In addition, many small masters had a vested interest in continuing the premium system. It provided at crucial times a much needed injection of cash, covering running costs for a short period of time. Moreover, as the wages of the apprentice were low such a gift could be used to pay the boy for a number of years. Thus the master had the free use of his apprentice's labour.

84. ibid., p.344. 85. ibid., p.356. 86. Report on the Apprentice Laws of this Kingdom, op.cit., p.34. 87. ibid., p.8.
However, the very attractiveness of the premium system led in many ways to abuse, particularly amongst the small masters, who acted as premium hunters. Boys were taken on by the 'hunters' with little regard to their training or prospects, and in certain instances so badly abused, humiliated and neglected in a conscious and systematic manner that they would leave the trade another taken on in replacement. The process would then begin all over again. Dr. Aikin, 1795, condemned those manufacturers who viewed the premium system simply as 'an object of profit'.

Dr. Kay, one of the Poor Law Commissioners, attacked the premium system in respect of pauper apprentices, in 1838, as it 'chiefly formed an inducement to persons of narrow means to whom the premium itself was exceedingly desirable as a means of escape from some temporary pressure....'

In the early twentieth century many of the complaints made against charitable and philanthropic organisations were connected with the premium system as an incentive to unscrupulous masters to take boys. Norman Dearle attacked the Apprenticeship and Skilled Employment Association for giving premiums to masters on the grounds that the 'practice is a direct incitement to premium hunters, and also for employers to pass over a potentially good apprentice for an inferior one'. C.B. Hawkins, in a social study of Norwich, complained that the premium system 'tended to put unnecessary obstacles in the way of Norwich boys who desire to enter skilled trades', and this thoroughly bad

88. Aikin, loc. cit.
situation, he continued, was only allowed to continue because of the existence of apprentice charities which regularly apprenticed boys at sums of between ten and fifteen pounds. 91

However, by the time Dearle and Hawkins wrote, the premium system had been largely abandoned. The Ministry of Labour's investigation into apprenticeship in the United Kingdom noted that, in 1925/26, only 5.1 per cent of all firms employing apprentices now, 'require premiums, and they are mainly smaller firms'. 92 It was also found that the practice was mainly confined to the 'Midlands and the South of England, including London, in which areas nearly 80 per cent of the firms taking premium apprentices are located'. 93

Although there exists practically no documentation, it would appear that the virtual extinction of what was a well-established custom at the beginning of the nineteenth century was simply due to the expansion of industry and population. To cater for the demands of growing domestic and overseas market expansion in the economy took place. As more and more workshops and other establishments opened the demand naturally increased, thus the area of recruitment to the skilled trades had to be widened to

92. Ministry of Labour, Report on Apprenticeship, op. cit., pp.35-36. Of those firms taking premiums with apprentices, the Report found that '12 per cent employ less than five male workpeople, 26 per cent less than ten, 42 per cent less than twenty, and 60 per cent less than fifty male workpeople', ibid.
include the sons of labourers. Coming from the low wage sector of the economy, these boys could not be expected to provide a premium of any large extent, and, in consequence, most masters had to learn to do without them.

93. ibid. This would further tend to suggest that regional differences were largely based on tradition and economic structure.
CONDITIONS OF APPRENTICESHIP

A) UNDER THE INDOOR SYSTEM

The apprentice who served under the indoor system was in a position of dependency. Although his contract of service would have undoubtedly stated that he was entitled to be found in food, clothing and shelter, he was totally reliant on his master for the quality, amount and variety. He also had no say in his conditions of work. The apprentice was expected to work at a pace and for a time dictated by his master. If he did not meet the demands of the master in terms of effort, obedience and time the apprentice was legally eligible to be punished, always providing, of course, that whatever punitive action was taken did not seriously injure the recipient. And whilst the indenture provided some elementary safeguards regarding the treatment of the apprentice, its very indefiniteness meant that the system was open to abuse by those unscrupulous enough to do so.

Some writers, as a reaction against the alienation of modern capitalist society, have tended to romanticise the indoor system. Peter Laslett, in *The World We Have Lost*, for instance, has argued that seventeenth century English society was essentially organic, or classless. In this static social environment, the apprentice was thought by him to be a member of his master's family and not a hired servant; in fact Laslett says, apprentices 'were... extra sons and daughters'.

Not content with simply stating that the relationship was paternal, Laslett goes as far as to claim that 'every relationship could be seen as a love-relationship'. The bond between the worker/son and the surrogate father/master was, then, for Laslett, extremely close-knit and affectionate.

Most of Laslett's statements are inferred and not substantiated. Moreover, as generalisations they are weak. It is true that a 'love-relationship' may have existed in certain (genuine) instances, but to speak of a universal experience seems fruitless, as most of the documented evidence would point to a completely opposite picture; one coloured by resentment and bitterness. From various extracts of autobiographies (admittedly eighteenth and early nineteenth century) it would appear that far from being a member of an organic whole, existing in a state of mutuality with his master and family, the indoor apprentice was subject to petty tyrannies, social isolation, and, although by no means general, physical violence.

For example, Arthur Jewitt, cutler, recorded the experiences of an apprentice in the Sheffield cutlery trades during the years 1761-71:

'... now (after being bound until the age of 21), his misery begins and he finds out what it is to be a 'prentice as the youngest boy he becomes a slave to all above him, and the next youngest just escaped from the trammels is generally the greatest tyrant.... his master leaves his instruction to the elder 'prentices and they cuff and beat him because by intuition he cannot do as well as themselves....' 3

2. ibid., p.5.
As well as performing the menial tasks of the trade, the new apprentice had to 'grease or black his master's, his mistress' and the children's shoes, as well as those of the elder 'prentices'. And on top of all this he had to 'fetch water for the house maid and riddle the ashes....' 4

As to the social structure of the master's household, Jewitt emphasised the isolation of the apprentice from the immediate family group:

'... the apprentices were considered of a different species from the master and his family; their living was mean and coarse and frequently very insufficient. They did not dine, at their master's table....' 5

William Hutton, apprenticed to a stockinger, in 1738, also spoke of the meanness of his treatment:

'... I was grudged every meal I tasted. She (the master's wife) kept a constant eye upon the food and the feeder. This curb galled my mouth to that degree that ever since I have ate at another's table with fear'. 6

Not only was Hutton badly fed, he was also expected to provide his clothes from 'over-work' money. But as it was the practice for the apprentice to be set a target production level, and as 'it was the general practice of apprentices to

4. ibid.
5. ibid., pp.67-68.
fall under the mark', 7 Hutton never earned any extra-money from his overtime. As a result 'Clothes came as sluggishly as food'. 8

Dr. Aikin, in his description of Manchester and its environs at the turn of the eighteenth century, endorsed some of the views expressed by Jewitt and Hutton when he said of apprentices that they were thought of by their masters 'as servants rather than pupils'. 9

In the early nineteenth century, Hugh Miller spoke of an apprentice painter, William Ross, whose condition was, indeed, pathetic:

'... he was struggling with great difficulty through the last year of his apprenticeship. As his master supplied him with but food and lodging, his linen was becoming scanty, and his Sabbath suit shabby; and he was looking forward to the time when he should be at liberty to work for himself'. 10

Even some apprentices from an overtly well-to-do background fared little better. William Lucas, an apprentice chemist, in the early nineteenth century, whose father paid a substantial premium of £250 to have him taught the business, spoke bitterly of his experience:

'We lived in a most squalid manner, always sitting in a little dark room at the back of the shop.... Our food was coarse as workhouse diet and we were never allowed to go out in the evening.... we slept in the attics in dirty beds swarming with bugs, and one of the apprentices had for months to sleep under the counter (of the shop)....' 11

Amongst female apprentices in the dressmaking and millinery trades an analogous situation existed. A millinery assistant from Edinburgh said that, as late as 1864, her 'food was not very good', and that in the 'season it was understood that we were not to go out at all in the week'. 12 A London girl said of the rooms in which she, and others, slept that they 'were shocking; in the height of the season three slept in a bed; our bedroom was so damp that the water would run down the wall....'13 Overall, so bad were the conditions in the dressmaking trade, that Children's Commissioner, R.D. Grainger, was moved to say:

"The evidence of all the parties establishes the fact that there is no class of persons in this country, living by their labour, whose happiness, health and lives are so unscrupulously sacrificed as those of the young dressmakers". 14

It would seem, therefore, that most of the felt sufferings of the indoor apprentices were due either to the nature of their work, or to the inadequacies of their standard of living and

13. ibid., pp.151-52.
comfort, or both, and not to outright physical violence. But that does not mean to say that the relationship between the master and apprentice was entirely passive. Acts of violence were committed on a minority basis.\textsuperscript{15} John Binge, a table-knife hafter, of Sheffield, said, in 1843, that 'One-fourth of the apprentices are liable to ill-usage'.\textsuperscript{16} The Children's Commissioners, in 1865, found that it was a commonly held view amongst Sheffield cutlery apprentices that the masters 'can't beat you unless you're ban (bound), but then they can'.\textsuperscript{1}

Needless to say by being bound in Sheffield the apprentice was expected to live-in.

In the light of such evidence, it is well not to see indoor apprenticeship, from the vantage point of nostalgia, as some sort of idyllic paradise. Paternalism is invariably the view from above; from below the picture is more often than not one of resentment.\textsuperscript{18} The passing of the indoor system, therefore, should give historians no cause for indulging in what can only be described as historical melancholy.

\textsuperscript{15} This of course discounts the treatment, which in many cases was inhuman, given to pauper apprentices. The details of this shameful phase in history has been so well detailed as not to need a further recitation of the brutality, but see George, op. cit. pp.226-30; B.L. Hutchins and A. Harrison, \textit{A History of Factory Legislation}, ( Cass, London, 1966 ed.), for examples.

\textsuperscript{16} Report on Trades and Manufactures, op. cit., p.500.

\textsuperscript{17} Fourth Report of the Children's Commission, op. cit., p.8.

\textsuperscript{18} For some insight into the view from below see chapters on 'British Apprenticeship, 1800-1914' and 'Components of Apprenticeship'.

B) CONDITIONS UNDER THE OUTDOOR SYSTEM

The dissolution of the indoor system transformed apprenticeship into a relationship based nominally on the cash nexus. It necessarily involved the apprentice in the workings of the market economy. And yet information regarding wage rates for apprentices is extremely scant, if not non-existent, in some cases. But from what evidence we do have suggests that apprentice wages were generally fixed in some sort of proportion to that of a journeyman's. He was, therefore, not exactly a free labourer selling his skill on the open market for whatever price it might fetch.

In the case of hours worked, there was a general improvement under the outdoor system. But these were in tune with overall decrease in the working day for all grades of labour and were not specifically related to apprenticeship.

However, in order to catalogue what variations existed in terms of wages and hours with regard to trade and region it will be of greater convenience if the sub-chapter is split into four sections, each dealing with a particular trade. This will allow us, where possible, to more easily offer a comparison between apprentice rates and journeyman's.
1) ENGINEERING

Table 1  
Time rates of wages for apprentices and journeymen at certain dates. 19

<table>
<thead>
<tr>
<th>Date</th>
<th>Place</th>
<th>Year of apprenticeship</th>
<th>Journeyman's rate</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) 1865</td>
<td>Leeds</td>
<td>4s.</td>
<td>8s.</td>
<td>(A) 28s.</td>
</tr>
<tr>
<td>(2) 1890</td>
<td>Manchester</td>
<td>5s.</td>
<td>12s.</td>
<td>(B) 37s.</td>
</tr>
<tr>
<td>(3) 1908</td>
<td>Scotland</td>
<td>4s. 6d.</td>
<td>12s.</td>
<td>(C) 33s. 10d.</td>
</tr>
<tr>
<td>(4) 1909</td>
<td>U.K.</td>
<td>4s. 6d.</td>
<td>11s.</td>
<td>(D) 36s. 6d.</td>
</tr>
<tr>
<td>(5) 1915</td>
<td>Bristol</td>
<td>4s. 6d.</td>
<td>11s.</td>
<td></td>
</tr>
<tr>
<td>(6) 1914</td>
<td>London</td>
<td>6s.</td>
<td>18s.</td>
<td></td>
</tr>
</tbody>
</table>


As is obvious from table one the material relating to the wages of engineering apprentices over the years 1865-1915 is extremely patchy. However, if we discount the rates for London as being unrepresentative of the U.K., the following picture emerges: an almost static situation concerning first...

In the compilation of table 11 have adopted certain practices which will apply not just to engineering, but to the other trades considered, they are as follows; one, averaging the rate where the rates given by Bowley and Wood from their two main sources, that is, trade union standard rates and non-union sources, contradict; two, averaging the rates for the categories fitters and turners where they contradict; three, averaging the rate where apprentices wages are said to range, that is, 3-6s. would become 4s.6d., lastly, I have omitted the intermediary years of apprenticeship for the sake of...
year apprenticeship wages, although, in some cases, a 10 to 20 per cent increase is recorded; and in the final year, 37.5 to 50 per cent. It would also appear that there was a certain amount of narrowing of differentials between first and final year apprentices:

<table>
<thead>
<tr>
<th>Date</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1865</td>
<td>50 per cent</td>
</tr>
<tr>
<td>1890</td>
<td>41.6 per cent</td>
</tr>
<tr>
<td>1908</td>
<td>37.5 per cent</td>
</tr>
<tr>
<td>1909</td>
<td>40.9 per cent</td>
</tr>
<tr>
<td>1915 (London)</td>
<td>33.3 per cent</td>
</tr>
</tbody>
</table>

But it does seem as if the proportion remained stable between 1890-1909, with London proving exceptional, which was perhaps due to the attraction of highly paid unskilled work for young workers. In comparison to the journeyman's wages, the first year apprentice received around 14.2 per cent of the adult rate and the final year apprentice 28.5 per cent, in 1865; in 1890, the rates were 13.5 and 32.4 per cent; in 1908, 13.2 and 35.4 per cent; and, finally, in 1909, 12.3 and 30.1 per cent respectively. All of which would tend to suggest that engineering apprentices had their wage rate fixed in roughly the proportion of one-eighth to one-third to that received by the journeyman over the period in question.

19. clarity; in practice, the rate normally increased by 1s. per annum.
In the early years of the nineteenth century hours tended to be long. Timothy Claxton recalled that when he was apprenticed as a whitesmith in the years 1803-10 his hours of work were 'six in the morning... (till) seven in the evening - on Saturday at six - allowing an hour and a half for meals'. By the 1860's, the hours of work had decreased slightly. Among the engineering and machine apprentices of Lancashire, the working-week had been cut to fifty-seven-and-a-half hours, or 6 a.m. to 6 p.m., with an hour-and-a-half set aside for meal breaks. In addition, it was found that a half-day's holiday on Saturday afternoons was almost universally the rule. However, the apprentices were expected to work overtime. For example, in the establishment of Mr. J. Whitworth, the extra-time worked 'beyond 7 p.m. for each young person in the last five years (1859-64) ranged from 1.58 hours... to 8.80...'

By 1907, the standard working week stood at fifty-three or fifty-four hours, but as Clegg, et al., note: 'Some firms worked fifty, forty-nine, or even forty-eight hours on a one-break system'. However, this reduction in hours was not confined to apprentices only, all engineering workers, regardless of age or status, benefited. As things stood, the engineering apprentice had witnessed his hours of work being reduced by around 27 per cent over the course of about one hundred years.

22. ibid.
(a) **SHIPBUILDING**

Before tabulating the figures for wage rates in the shipbuilding industry, it might be as well to point out that little or no evidence exists prior to 1900 in respect of apprentice wages. Therefore, what follows will be confined to the early years of the twentieth century.

**Table 3**

<table>
<thead>
<tr>
<th>Date</th>
<th>Place</th>
<th>Year of apprenticeship</th>
<th>Year of Journeyman</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1901</td>
<td>U.K.</td>
<td>6s. 6d.</td>
<td>13s.</td>
<td>(A) 36s. 1900-01</td>
</tr>
<tr>
<td>1906</td>
<td>U.K.</td>
<td>7s.</td>
<td>12s.</td>
<td>(B) 36s. 7d. 1906</td>
</tr>
<tr>
<td>1909</td>
<td>U.K.</td>
<td>7s. 8d.</td>
<td>11s. 10d.</td>
<td>(C) 35s. 10d. 1909</td>
</tr>
</tbody>
</table>

(Source: (1) Board of Trade, Report on Collective Agreements, op. cit., pp.109-10; (A) Bowley and Woot, op. cit., pp.112-13, 116-17; (2) Board of Trade, Report on Earnings and Hours, op. cit., p.108; (B) ibid., p.107; (3) Ministry of Labour, Report on Apprenticeship and Training, loc. cit.; (C) ibid.)

On the basis of such a small sample comparisons are difficult, if not valueless. However, on the rates given in table 3 it would seem as if: one, that first year wages showed an increase, between 1901 and 1909, of 1s.2d., or around 17 per cent, whilst final year wages in the same period showed a decrease of 1s.2d., or nearly 9 per cent; and, two, in relation to journeyman's rates there was a tendency for the final year wages to recede and that this was maintained, as the following table shows:-

24. Journeyman rates are a combination of those returned for platers and riveters. The practice adopted for engineering also applies.
The answer as to why the final year rate was falling in these years probably lies in the fact that by this time piece-rate payment had become the predominant method of earning a wage in British shipbuilding, and as such the older apprentices, because of their superior skill and experience, were more likely to be on piece-work than the younger ones, hence they were less liable to bother a great deal over time-rates. Another explanation might be that as the employers had gained control of apprenticeship in this period, they may have wished to improve starting wages in order to attract more labour into the yards.

However, notwithstanding the validity, or otherwise, of these remarks, the almost universal existence of piece-rate payments for adult workers meant, in practice, the gap between apprentices on time rates and the journeymen was indeed much wider, than the table would indicate. It would also indicate

25. See case study B for verification.

26. The number of platers returned by the Report on Earnings and Hours, op. cit., p.107, as working on piece-rate in the U.K. was 1,448 as compared to only 83 working on time-rate; in the case of riveters the figures were 1,927 and 662 respectively.
that a discussion concerning average time rates for apprentices is quite unreal in view of the fact that many of them also worked on piece-rate. As the Board of Trade said, when referring to minimum wage rates, 'This scale of wages is... never kept in practice, as the boys are put on piece-work after the first year, and earn an average about 35 per cent below standard rates for adults'. It is unclear as to whether the 'standard rates' applied to piece-work or time-work. In the case of the former, the average for journeymen platers, for example, in the south of England (including the Thames) and Wales was, in 1906, 66s.9d., which meant that an apprentice plater might earn as much as two-thirds of the adult rate, or 44s.6d., if on piece; and a riveters' apprentice around 30s.6d. in comparison to the journeyman's rate of 46s. In the case of the latter, the apprentice's earnings would be 14s. and 10s. ld. respectively for plating and riveting. And the last set of figures would correspond (roughly) to the average piece-rate earnings of apprentices given by the Board of Trade, in 1906, as 10s.3d., with the lower quartile at 8s. and the upper at 12s. This would have

In Scotland, an apprentice plater after 'three years work' was said to receive not less than '15 to 20 per cent' of the journeyman's rate, which on the Clyde, in 1906, stood at 63s. ld. for platers working on piece. This would have

28. Board of Trade, Report on Earnings and Hours, op. cit., p.112.
29. ibid., p.113.
31. Board of Trade, Report on Earnings and Hours, op. cit., p.115.
given an apprentice of nineteen years of age, working on piece, and receiving 85 per cent of the adult rate, around 54s. a week; and on 80 per cent about 51s. Apprentice riveters were said by Mrs. Ogilvie Gordon to earn from '10s. - £2' on piece-rate.\textsuperscript{32} However, the 1906 Report on Earnings and Hours puts the wages of piece-rate apprentices on the Clyde at an average of 24s. 4d., with the upper quartile peaking at 29s.\textsuperscript{33}

Therefore, on average it would appear that for both modes of working, the average tended to be around one-third of the adult rate.

B) HOURS

The hours of work in shipbuilding was almost identical to engineering and, therefore, a restatement is unnecessary.

3) PRINTING

In the printing trade pre-1850 a policy of no wages during the preliminary years of apprenticeship was fairly widespread. Charles Manby Smith recalled how in the first four years of his apprenticeship (1819-23) he 'received no wages'.\textsuperscript{34} Mr. J. Henderson, of the Newry Commercial Telegraph, said, in evidence before the Select Committee on Combinations of Workmen (1837-38), that his apprentices were supported by their parents

\textsuperscript{32} Mrs. Ogilvie Gordon, op. cit., p.340.
\textsuperscript{33} op. cit., p.115.
for the first two years, and after the third they were allowed a 'certain sum', the sum being £10 for the third year; £12 for the fourth; and up to twenty for the seventh and final year, or (in weekly amounts) 3s.10d., 4s.8d., and 8s. respectively. In the 1840's, this practice was still operated by some of the London master printers.

In view of this situation what little evidence exists of apprentice wage rates prior to 1850 to 1850 has been discarded as we have no way of verifying how general non-payment of wages as a method of taking apprentices actually was, and vice-versa. Therefore, in keeping with previous practice, we will take 1865 as our starting point.

Table 5

<table>
<thead>
<tr>
<th>Date</th>
<th>Place</th>
<th>Years of Apprenticeship</th>
<th>Journeyman's rate</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>1865</td>
<td>Manchester</td>
<td>5s. 1ls.</td>
<td>(A) 29s.5d.</td>
</tr>
<tr>
<td>(2)</td>
<td>1906</td>
<td>&amp; U.K. (average)</td>
<td>6s. 1ls.</td>
<td>(B) 36s.7d.</td>
</tr>
<tr>
<td>(3)</td>
<td>1906</td>
<td>London</td>
<td>8s.6d. 16s.</td>
<td>(C) 44s.2d.</td>
</tr>
<tr>
<td>(4)</td>
<td>1906</td>
<td>Scotland</td>
<td>6s. 11s.6d.</td>
<td>(D) 34s.2d.</td>
</tr>
<tr>
<td>(5)</td>
<td>1909</td>
<td>Manchester</td>
<td>5s. 13s.</td>
<td>-</td>
</tr>
<tr>
<td>(6)</td>
<td>1909</td>
<td>U.K. (average)</td>
<td>5s.4d. 14s.8d.</td>
<td>(E) 34s.1d.</td>
</tr>
<tr>
<td>(7)</td>
<td>1915</td>
<td>Bristol</td>
<td>4s.6d. 13s.</td>
<td>-</td>
</tr>
<tr>
<td>(8)</td>
<td>1915</td>
<td>London</td>
<td>7s. 20s.</td>
<td>-</td>
</tr>
</tbody>
</table>

* excluding those compositors working on daily newspapers, and including both hand and machine rates. If London is excluded the U.K. average rate is 5s.3d. and 10s.1d. respectively.

35. op. cit., Qs.5177-82, p.78.
From the foregoing it appears that the London rate was un-
typical of the printing trade as a whole. If it is disregarded
first year wages over the period 1865-1909 tended to remain
static, as the Manchester rate shows. However, again making
use of the Manchester figures, in the final year apprentice
wages rose by 2s., or by about 18 per cent in 34 years. At
a national level no difference is apparent between the U.K.
1906 (average) rate and that of Manchester in 1865. But,
like engineering, there was a trend towards a narrowing of
differentials between first and seventh year apprenticeship,
that is, until 1906, and then widening in contrast to engine-
ing.

Table 6

<table>
<thead>
<tr>
<th>Date</th>
<th>Place</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1865</td>
<td>Manchester</td>
<td>45.4 per cent of final year</td>
</tr>
<tr>
<td>1906</td>
<td>U.K.</td>
<td>54.4 &quot; &quot; &quot; &quot; &quot; &quot;</td>
</tr>
<tr>
<td>1906</td>
<td>London</td>
<td>53.1 &quot; &quot; &quot; &quot; &quot; &quot;</td>
</tr>
<tr>
<td>1906</td>
<td>Scotland</td>
<td>52.1 &quot; &quot; &quot; &quot; &quot; &quot;</td>
</tr>
<tr>
<td>1909</td>
<td>Manchester</td>
<td>38.4 &quot; &quot; &quot; &quot; &quot; &quot;</td>
</tr>
<tr>
<td>1909</td>
<td>U.K.</td>
<td>36.3 &quot; &quot; &quot; &quot; &quot; &quot;</td>
</tr>
<tr>
<td>1915</td>
<td>Bristol</td>
<td>34.6 &quot; &quot; &quot; &quot; &quot; &quot;</td>
</tr>
<tr>
<td>1915</td>
<td>London</td>
<td>43.7 &quot; &quot; &quot; &quot; &quot; &quot;</td>
</tr>
</tbody>
</table>

37. ibid., p.815.
In regard to journeyman's wages, the first year apprentice received around 17.2 per cent of the adult rate and the final year apprentice 37.8 per cent in Manchester, in 1865; in 1906, the U.K. rates stood at 16.3 and 30 per cent; in 1909, the national rates were 15.2 and 43.4 per cent respectively. Again it would point to the fact that apprentice compositors in the early years of their apprenticeships were becoming proportionately worse-off compared to later years. Why this should be the trend is a difficult question to answer. Moreover, given the smallness of the sample and its irregularity as a time series, any generalisations must be highly suspect. But the situation may have been created by the fact that in many urban centres at this time the print unions were gaining control of apprentice recruitment. As the compositors were vehemently in favour of restricting numbers it may have been that the low rate of wage paid to a first year apprentice was the result of union pressure, in order that it would act as a deterrent to young lads wishing to enter the trade. Or again it may have been simply due to the extremely long period of service (7 years) associated with the composing trade, which suggests that in the initial stages of apprenticeship the young apprentice did not perform work of a high enough value for the employer to justify the latter in paying him a higher rate. But, of course, we cannot say with certainty.

B) HOURS

The working day in the printing industry, until the 1870's, tended to be long. For example, the London printing trade, in the 1840's, worked 'regular' hours of 7 a.m. to 8 p.m., with 'two hours allowed for meals'; on the Times an apprentice
worked from '9 or 10 a.m.' until '8 or 9 p.m.', although it was noted that they 'stopped occasionally till twelve but never later'. In normal working conditions the apprentices were allowed 'one hour for dinner, and half an hour for tea'. By the 1860's little had changed. The foreman compositor on the *Morning Post* said that the regular hours of work were '8 a.m. to 8 p.m.', but, he added, 'they were often exceeded'. In Liverpool, the Children's Commissioners found that apprentices rarely exceeded the regular hours of work (8 a.m. to 9 p.m.), but in the small places it was 'not uncommon (for) them to work till 10 or 11 p.m.' In the firm of Eyre and Spottiswode, H.M. Printers, London, apprentices, during the busy periods, were expected to work until '9 p.m. every night except Saturday, but not for more than a fortnight at a time'. An old compositor looking back over the working conditions of apprentices during the period 1840-70 confirmed these statements when he said, 'From seven in the morning to eight at night - from Monday to Saturday inclusive - were the old printing office hours.... Of these... the apprentices had more than their share'. But, he added, there was also much hidden, and therefore unpaid, overtime. After the official hours were completed the apprentice was expected to deliver urgent orders for customers on his way home: 'his home lying due south... while the destination of "these parcels" spread over a radius of three miles north and west....'

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37. ibid.
39. ibid., p.4.
40. ibid., p.19.
41. ibid., p.19.
42. *Scottish Typographical Circular*, July, 1871.
43. ibid.
As a result of the various regional print unions' campaign for a shorter working day, by the 1870's, both in London and the provinces, the 54 hour week or nine hour day was achieved, as well as the Saturday half-day holiday in jobbing offices, although in the area of the Provincial Typographical Association hours, 'varied, from 56 to 57 in some of the smaller towns to 50 in Liverpool'. And it seems as if trade union pressure continued to gain reductions in hours. In London, the Compositors' Society were awarded a reduction from 54 to 52½ hours as a result of arbitration in March, 1901. This was further reduced to 50 hours in 1911. In the provinces, a sustained campaign, beginning in 1899, for a reduction in hours conducted by the Typographical Association resulted in a 'compromise of 50, 51, or, more often, 52 hours' being reached in the early twentieth century. Over the nineteenth century, then, the apprentice compositor had seen his working day reduced by around 24 per cent.

4) BUILDING

A) WAGES

Despite the size and importance of the building industry in Britain only a few isolated scraps of evidence relating to the wages of apprentices exists. Perhaps the paramount reason for this lies in the unsystematic nature of building apprenticeships. Patrimony was rife in the industry, and sons of journeymen were put to a particular trade without serving a proper apprenticeship.

44. Howe, The London Compositor, op. cit., p.288; Musson, op. cit., p.188.
45. ibid.
47. ibid.
in fact, all the rules governing entry and progress to journey manhood were dispensed with. Sons were pushed on by their fathers and encouraged to demand a living wage as soon as they were able. Until this father/son relationship declined somewhat in its importance it was extremely difficult to document a clear apprentice rate. What data that does exist in the years prior to 1850 tends to show, at least, in the plastering trade of Dublin, that the practice of paying no wages in the initial years of service, widespread in the printing trade, also existed in the building trades. William Darcy, of Dublin, and a member of the Plasterers' society, said, in 1837, that in 'some cases the boy gets no wages for three years, then in the fourth year they will give them (that is, jobbing masters) remuneration for their labour, (at) 7s. and 8s. a week....' 49

From the late 1880's onwards the increasing expansion of the industry and the inauguration of a system of industrial relations at regional and national levels led to an attempt(s) to regulate apprenticeship, albeit on a rudimentary basis, with respect to ratios and conditions of service. In consequence, more information became available as to the wages and hours of apprentices. The national average wages by trade for apprentices were given in 1909 as follows:-

49. Select Committee on Combinations of Workmen, op. cit., Q.6020, p.467.; Robert Tressell, in the Ragged Trousered Philanthropist (Panther, 1964 ed.), says of Bert, the apprentice painter, that he was bound for five years, no wages the first year....', p.94. How extensive the practice was at this late date (1906) is unknown to the author.
Table 7

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Apprentices 1st year</th>
<th>Apprentices last year</th>
<th>Journeymen Oct. 1909</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bricklayers</td>
<td>5s.</td>
<td>14s.5d.</td>
<td>39s.11d.</td>
</tr>
<tr>
<td>Masons</td>
<td>5s.3d.</td>
<td>13s.6d.</td>
<td>38s. 3d.</td>
</tr>
<tr>
<td>Carpenters &amp; Joiners</td>
<td>4s.</td>
<td>11s.9d.</td>
<td>38s. 3d.</td>
</tr>
<tr>
<td>Plumbers</td>
<td>4s.</td>
<td>12s.6d.</td>
<td>38s. 3d.</td>
</tr>
<tr>
<td>Plasterers</td>
<td>5s.5d.</td>
<td>14s.2d.</td>
<td>39s. 2d.</td>
</tr>
<tr>
<td>Painters</td>
<td>4s.8d.</td>
<td>13s.4d.</td>
<td>35s. 8d.</td>
</tr>
</tbody>
</table>

(source: Ministry of Labour, Report on Apprenticeship and Training, loc. cit.)

There were a few variations in these rates of pay. The Board of Trade noted that in the 'outdoor trades' boys tended to start work later than fourteen, usually fifteen or sixteen, and their wages consequently were correspondingly higher with a 'number of firms paying 7s. or 8s. per week' as a 'commencing wage'. However, the absence of similar data makes comparison a worthless task.

B) HOURS

In regard to the number of hours worked the building trades have always been governed to a large extent by the weather and by the seasons. Thus it would appear, in the early 1900's, that 51 hours during the summer and 45 in the winter were almost universal amongst all trades, at least, in Scotland.

5) **CONCLUSIONS**

There are a number of matters to be considered in this last sub-section of the chapter. Firstly, to compare the conditions under the indoor and outdoor systems of apprenticeship. Secondly, to ask whether or not the apprentice was part of the market economy. Lastly, to consider the material position of the apprentice vis-a-vis his unskilled counterpart.

As to the first question, it cannot be definitely stated whether the indoor apprentice was materially better-off than his outdoor successor, or vice-versa. To do so it would be necessary to have to hand some reasonable data concerning the diet, the clothing and the accommodation of the former, in order to make a comparison. This we do not have. And even if we did the matter might revolve itself not so much on economics but on questions of freedom and authority. However, we can say that with the general improvement in the standard of life, the apprentice in 1914 was the recipient of a higher standard of material comfort than the indoor apprentice of 1800, and his working day was shorter and more regulated. However, before we too loudly trumpet the march of progress, and claim that there was an absolute improvement in the conditions of apprenticeship under the outdoor system, it would do us well to remember that in some trades, notably engineering and shipbuilding, the productivity of the apprentice's labour increased substantially during the latter years of the nineteenth century. Whether this rise in productivity was matched by a similar
increase in wages, or whether it simply signified a significant increase in the rate of exploitation, cannot, in the absence of reliable data, be confirmed one way or the other. Therefore, until evidence comes to light one would be well advised to act with caution on this matter.

On the second question, the evidence does seem to point to the fact that there was some movement in apprentice wages and this would tend to suggest that apprentice labour was treated as a commodity, subject to the laws of supply and demand. This was, of course, obviously true of those apprentices working on piece-rate and, to a lesser extent, those apprentices in their final year. However, despite this, it would be true to say only that the apprentice was but partially affected by the workings of the market economy. Because his wages were not set solely by economic criteria, but to an important degree fixed by social considerations.\textsuperscript{52}

As we have seen, apprentice wages appeared to have been fixed at a certain proportion to journeyman's. As such the apprentice was not free to sell his labour to the highest bidder in a free market. Those who did were treated as 'turnovers' and normally never received full journeyman's rates. Employers justified paying these low wages on the basis that during the early years of apprenticeship the apprentice would more than likely

\textsuperscript{52}. The growth of piece-rate payments to apprentices in engineering and shipbuilding obviously highlighted the decreasing importance of the social aspects.
spoil materials and damage tools resulting in a direct loss to the employer. In this connection, apprenticeship was not associated with selling one's labour as a commodity, but with training. And as education was not associated with remunerative employment apprenticeship tended to be thought of in this light. Some people, in fact, argued that apprenticeship was more than just a process of skill acquisition, it was training for life. Low wages, in the impressionable years of life bred a certain type of character, one not given to dissipation of resources or time, but able to withstand short-term sacrifices for long-term gains. The experience of apprenticeship encouraged fastidiousness and thrift and made the boy/man solid and reliable; a credit to his trade.

Therefore, for a mixture of economic and social reasons the employers considered it only just that they should recoup some of their outlay in the training of the apprentice by paying him less than the market value of his skill in the later years of the apprenticeship. Thus market criteria was only one determinant in establishing an apprentice wage structure, social factors also played a significant part.

However, if an apprentice could survive the years of financial hardship his rewards were ultimately greater than that of unskilled labour, even although the latter may have received a

53. For a detailed discussion of such views see chapters on 'The Apprentice and Technical Education' and 'Middle-Class Voluntary Societies'.
higher initial wage and had graduated to a man's wage at an earlier stage in life. And this fact was borne out, in 1916, when a comparison was made between the life chances of an unskilled and an apprenticed youth by two contemporaries:

'A labourer earning 23s. weekly at the age of 25, with a life expectancy of 36 years, earns roughly £2,150. A skilled workman earning 40s. weekly, under similar conditions, would earn about £3,750, an increase of £1,600, (or) about 75 per cent on the labourer's total. The possibility of obtaining more by overtime, piecework, etc., and of less loss through unemployment, make, in the aggregate, a large addition to the craftsman's wages. During a seven-year period of training, an engineering apprentice earns about £190, exclusive of overtime, etc. A "blind alley" worker or labourer, in the same period, under the most favourable conditions with respect to wages earns about £250, leaving a difference of £60. The cost of primary education is identical in each case. Thus a training costing a youth, results in a net gain of £1,600. 54

One might also add that the tendency to marry later and delay parenthood amongst skilled workers increased their prosperity over the unskilled labour, as the following table shows:-

Table 8

| A comparison of life cycles of skilled and unskilled labour for 1900. 55 |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| 0 5 10 15 20 25 30 35 40 |
| Infancy | Schooling | Apprenticeship | Marriage | Parenthood | Skilled |
| Infancy | Schooling | Boy Labour | Marriage | Parenthood | Unskilled |
An apprentice in the long-run would have no doubt benefited from his years of sacrifice. Although it was cold comfort to a young apprentice on low wages to be told so. 56


56. For a discussion on wastage rates see 'Industrial Protest and the Apprentice'.
WORKSHOP SOCIALIZATION AND THE APPRENTICE

Workshop socialisation was a complex process of interaction between human beings working in a closed, usually exclusively, male environment. Carrying with it as it did the idea of age gradation in both work and status, it operated to provide, on one level, a knowable framework of relationships and behaviour among journeymen and apprentices, in which the initiation ceremony acted as the transitional point from inferior to superior status, that is, it marked the transformation of the apprentice into the journeyman. On another level, it had an important role to play in the development of craft pride, comradeship and solidarity among artisans. To study this process it will be necessary to split the chapter into two sections; the first, dealing with relations within the workshop; and, the second, with the initiation ceremony itself. But it must be said at the outset that much of the following is only relevant to the period 1800-1880. After 1880 industrial expansion and technological innovation progressively acted to erase some of the older customs of the workshop.

For a young lad of fourteen or so years the workshop must have seemed an alien if not a fearsome place. The speed and noise of the machines; the pace and exertion involved in the work; the answering of commands from strange men, some of whom were rough-and-ready in their mannerisms and insensitive in their speech; inevitably made a powerful impression on the new apprentice. James Hopkinson, cabinet-maker, admitted feeling
'very queer' on his first encounter with the workshop, and found that the physical effort demanded of him (mostly carrying furniture) left his shoulders 'raw and tender' and his hands 'very sore'.

Joseph Gutteridge, ribbon weaver, resented the fact that there 'were those who would order me to do things that were neither justifiable nor reasonable'.

Hugh Miller stonemason, recalled how the physical exertion demanded of him in the early stages of his apprenticeship left him suffering 'wandering pains in the joints, and an oppressive feeling, about the chest, as if crushed by some great weight', as well as being subject 'to frequent fits of extreme depression of spirits; which took the form of walking sleep...'

A recent survey on the transition from school to work highlights the perennial problems of adolescents adjusting to the workplace. The first impressions of the twentieth century youth was that of speed and size. 'Everything is so big and fast', said one young lad, 'and people seem to be dashing here and there all the time: its like being in a maze when you first start .... I nearly chucked it on the spot, I was that miserable'.

Increased physical effort was found by some youths to be significant. 'I was that tired for the first few weeks, I didn't think I'd last out: it was just get up in the morning, go to work, come home at night and have a meal, and straight to bed...'

3. Miller, op. cit., p.149.
5. ibid., p.118.
In the smaller workshops of the mid-nineteenth century, the apprentice, after overcoming his initial culture shock and accustoming himself to the new rhythms and exertions of work, found that he was expected to perform certain customary obligations towards the journeyman. Among the London hatters the first act of the new apprentice was to provide his shopmates with a "maiden garnish", that is, a meal and a drink, on entering the shop, which might cost around ten shillings. In the cabinet-making trade of Nottingham in the 1830's, the apprentice's father was expected to give a 'binding supper' for the men, when entering his son to the trade. In the Scottish trades it was the custom to pay an 'entry' fee. The Scottish shipwrights reputedly would lay on a dance now and again, paid for by the entry money (two pounds) collected from new apprentices. In Ireland, the same practices prevailed, only here the entry money was known as a 'footing'. If an apprentice refused to pay the entry fee his life was made very unpleasant. The English shipwrights faced with an uncooperative apprentice would 'flog' him 'with a har: saw from time to time'.

9. ibid., p.9. 10. ibid., p.113.
11. ibid., p.176. Gutteridge said that 'The tyranny and persecution that the more thoughtful youths were subjected to who refused to join in these carousals can scarcely be realised by outsiders. These practices sometimes ended in riot and mischief', loc. cit. Unfortunately Gutteridge gives no specific information regarding the content and frequency of this behaviour.
This, however, was just the beginning of the financial exactions. In order to gain instruction from the men apprentices would be expected to pay certain sums of money. The mastering of each stage of the craft required a cash payment from the apprentice. James Burn noted that amongst the hatters of London an apprentice's rate of progressing in his trade was governed at the outset upon 'the rate of paying for this instruction'. After this had been settled the apprentice was expected on occasions to provide 'Flank Ale', that is, to treat his workmates with one shilling worth of beer, after this indulgence their followed, 'father beer', 'first garret beer', 'first dozen beer', and 'first general beer'.  

In 'the tailoring trade, apprentices were expected to provide 'a lacing pint, a pressing pint' and a pint whenever the journeyman taught them to perform 'a difficult part of the trade, for example, to overcast a button-hole with one-thread'.  

James Hopkinson complained bitterly that 'every fresh job that I had not made one like it before I had to pay a shilling or I should not have been allowed to make it. And no one would have dared to show me'.  

Hugh Miller said of the stonemasons of the Cromarty Frith area of Scotland that 'they were treated to a drink when an apprentice joined the squad; treated to a drink when his "apron was washed"; treated to a drink when "his time was out".  

Although such practices were thought to promote 'friendship and harmony' amongst the work group, they also had another function which was essentially restrictive. Dunlop says of the print-workers of Scotland that they charged an 'entry' fee of seven pounds, which 'operated as a check on the reception of apprentices, and kept up a monopoly of hands'. Thus these customary exactions, in part, acted as regulative devices used by the journeymen in controlling the numbers entering the trade. However, it was all made possible through the nature of the training. The apprentice learnt his craft by a system of age gradation. In the beginning he was kept to menial tasks such as running errands, sweeping the floor, and so on. As time passed the tasks performed by him would become more difficult, so that each important aspect of the trade performed by the apprentice would seem an event of some significance. Therefore, a cause existed for celebration, in the sense, that a landmark or significant stage had been reached.

The inability of the apprentice, because of his lack of experience to execute his tasks to the satisfaction of the journeymen, in the early part of his training, subjected him to violent treatment from the older hands. This might have taken the form of rough physical use or simply tongue-lashings sprinkled with well chosen epithets or oaths. Frederick Rogers, bookbinder, in his autobiography, said he was appalled at the 'brutality a young lad had to accustom himself to and put-up with if he wished to learn a trade .... In his daily

life a lift with a boot or clout of the head was a common and ordinary experience, and if he went wrong in learning his business, you did not teach him principles, you 'pulled his ears'.

Henry Broadhurst stonemason, describes the behaviour of the journeymen towards the apprentices in almost exactly similar terms:

'Generally the language and manner of the men were (sic) coarse and brutal in the extreme. The man was never recognised in the boy, who was regarded as created for the sole purpose of ministering to the fancies of his elders; any lack of ready obedience brought down upon the victim's head a storm of abuse, not unfrequently accompanied by more substantial admonitions in the shape of kicks and cuffs'.

Miller says that he and other apprentices who had offended the journeymen in some way were given a 'ramming' (that is, the offender was held 'like an ancient battering-ram, and driven endlong against the wall of the kiln' a number of times).

Apprentice compositors, were provided with an involuntary cold bath on a winter's morning if they failed to rise in time to have the fire lit for the journeymen arriving at the workshop.

20. Scottish Typographical Circular, July, 1871
The repetitive and indiscriminate use of this kind of behaviour, whether merely playful or intentionally malicious, served to create a bond between the apprentices. It united them, particularly the younger lads, in their hatred of the workplace authority figures, journeymen and foremen, and encouraged them to lay down unwritten codes of work practice. Hopkins n recounts how the other apprentices organised him into accepting a customary workload:

'They told me I must on no account do a job quicker than they had been in the habit of doing, because I would get them into disgrace. And I very soon found that they had the means to prevent one. Being the youngest they would call me off my work to help them .... They could dull your tools and hinder you in various ways'. 21

Apprentice solidarity was further encouraged by hatred of a certain journeyman. In extreme circumstances, when the bullying was intense and constant, this enmity could be carried by an apprentice through to the termination of his servitude. Thomas Wright, the 'journeyman engineer', recalls how the brutal treatment of one journeyman to an apprentice resulted in the latter, on the day he received his indenture, giving the man a 'sound thrashing', explaining his actions thus: 'I always told you when you used to knock me about when I first came to the trade that I would pay you off for it when I was out of my time ....' 22 Similarly Frederick Rogers


recounted how he took retribution from, what he called, a 'vicious brute of a workman .... (who) had a diabolical method of twisting, my ear in a way that caused me most acute pain'. When an opportune moment arose Rogers stamped hard on the man's foot with his 'Lancashire clogs', which in itself was nothing much, 'except that the man suffered from severe corns'.

However, despite these occasional outbreaks on the part of the apprentice towards the journeyman, it was a rare occurrence that an apprentice should harbour bitterness toward the latter for the whole duration of his apprenticeship. For as the years went by the profound gulf between the apprentice and the journeyman in matters of skill and status narrowed considerably. This was partly a reflection of the greater proficiency shown by the apprentice in the exercise of his trade, which made him less dependent on the adult workers for assistance and instruction, and also partly due to the changed position of the apprentice in the workshop hierarchy, as a result of his greater skill. The upshot of all this was to allow the final year apprentice to attain a position of near equality, viz-a-viz., the journeymen on such subjects as authority in the workshop and matters of trade or topical interest. As Wright says, 'He is now allowed to "put in his word", or express his opinion freely

23. Rogers, op. cit., pp.13-14. Of course, not all journeymen were cruelly disposed towards their apprentices. George Barnes, engineer, recalled that during his apprenticeship in Dundee he was befriended by a journeyman, Bob Noddle, whom he says, 'was a kindly man who was a good friend to any of the youngsters who were put upon by shop bullies'. (From Workshop to War Cabinet, London, 1924), p.13.
among them (the journeymen): he can command the younger apprentices with equal authority; and although, being still legally an apprentice, he is generally only drawing apprentice's pay, he will be doing journeyman's work, and if ... attached to a piece-work gang under a liberal leading hand, he may also be receiving something like journeyman's pay'. 24

The increased status of the senior apprentice produced a marked change in his behaviour. As he was now in a superior position to that of the younger apprentices, the older apprentice began to act more responsibly and less immaturity, shying away from the company of the young lads and seeking out the journeymen. 25

It was at this stage that the notion of the fellowship of the trade was implanted in the mind of the apprentice by the journeymen. Wright describes the method:

'The apprentice is 'taught both by the precept and example of his mates, that he must respect the trade and its written and unwritten laws, and that in any matter affecting the trade generally he must sacrifice personal interest, or private opinion, to what the trade has rightly or wrongly ruled is for the general good ....' And this is transmitted to the apprentice in two ways: 'From talk of the old hands about, strikes, lock-outs, and nobsticks, and other kindred subjects, the apprentice obtains an insight into those technical trade points (i.e. dirty money, or other ex-gratia payments) which are so frequently the ground of disputes....' 26

25. For an excellent dramatic account of this process see Peter Terson's The Apprentices, loc. cit.
26. Wright, op. cit., pp.102-03.
The 'example' was given by the act of employed journeymen 'pitching-in', for those out of work or too ill to carry on their work and this says Wright, was by no means infrequent, by seeing a young man - 'even when trade is at the dullest' - voluntarily 'offering himself for the "sack"'. Again, in times of slack, Wright points out, that he will often find 'the old hands, those who were sure of being kept, the first to advocate short time'.28

Here then was the process of socialisation in operation. In essence, it was not unsimilar to the creation of an esprit de corps in military organisations. First there was the period of rejection and isolation combined with rough discipline, the early stage of apprenticeship. Second there was the process of acceptance, as long as the young man was prepared to adopt the norms and outlook of the group, the later stage of apprenticeship. And in the latter situation an apprentice might go to some lengths to gain acceptance by the adult workers, as the following extract from the recent play The Bevellers shows:

'Norrie (new apprentice): 'That glass is sharp. Think ah've cut ma haun'.
Bob (foreman): 'See it. Now, that's nothin. Just the skin. See these. A few cuts therr, eh?'
Norrie: 'I don't think ah'd fancy that. Getting ma hauns a 'cut, ah mean'.
Bob: 'That's funny, when we were boys we couldnae wait tae get wur hauns lookin like bevellers. Used tae compare them, and sometimes yeid thom a wee roughin-up wi a sharp bit of glass tae hurry t' on'.29

27. ibid., pp.104-05.
28. ibid., p.105.
By these means artisan solidarity was created at an early stage in the working life of an artisan. It was these experiences gained in youth which so impressed themselves on the post-apprenticeship behaviour of the artisan in both social and economic affairs. As one leading American industrial psychologist put it:

'In general we may say that the longer and more vigorous the period of initiation into an occupation, the more culture and technique are associated with it...the more deeply impressed are its attitudes upon the person'. 30

However, at this crucial stage the senior apprentice is still faced with an identity crisis. The younger apprentices still reserve, or attempt to, a claim on his allegiance by insisting that he must not 'come the man over them too strong'. 31 Should the senior apprentice overstep the limits of acceptable behaviour the other apprentices let him know by 'open hootings' or, in exceptional circumstances, by 'small gang(ing)'; him, that is, physically assaulting him. 32 The lines of permissible and unacceptable behaviour are drawn thus:

'Should any general dispute arise between the journeyman and the apprentices; he must come back to the side of the apprentices. As yet the privilege of "clouting" a boy is not for him. Above all he must not hesitate to walk out of the shop in company with the loudly rejoicing younger boys on the occasion of any half day's holiday given to apprentices. A refusal...would be held to endanger the granting of the holiday in the future....

32. ibid.
The men may chaff him, but he must go – aged though he may be; or...
bearded....' 33

Thus the senior apprentice was caught between powerful poles of attraction. He was pulled one way by his vertigial loyalty to his former peer group, the younger apprentices, and in another, through his desire to enhance his status amongst the time-served men. This dilemma of identity was finally resolved by the cross-over from apprenticeship to journeymanhood, symbolised by the initiation ceremony.

Initiation was an important symbolic ceremony marking the changed status of the apprentice. It was a specialised form of the anthropological concept of 'rites de passage', in the sense that it impressed upon the individual, by means of an exact and oft-repeated ritual, that 'he...(had) changed groups and that he must not regress to the behaviour which might have been proper for the group he...(had) left but is not functional for the group he has entered'. 34 The ceremony also acted to reaffirm the traditional journeyman/apprentice hierarchy, as well as acting to confirm the long-held beliefs and values of those who took part. From this arose a sense of community or fellowship between the initiate and the group. As Bagley, a young apprentice, says, in the play The Apprentices, 'it makes us all a band of brothers'. 35

33. ibid., pp.221-23.
35. Terson, op. cit., p.45
However, in the early part of the nineteenth century, before the repeal of the Combination Acts, it may have been necessary to indulge in secret and elaborate ceremonies to encourage members of the society to keep the vow of silence. The compositors, for instance, were encouraged not 'to betray the Secrets of the workmen' in their initiation ceremony. Therefore, during a certain period of time the ceremonies assumed a functional as well as symbolic role in some trades.

The ceremonies were a mixture of cruelty, ritual and expressions of companionship. All, or nearly all, involved partaking in alcohol at some stage in the proceedings. Dunlop found amongst the ironfounders that 'at the expiration (of the apprenticeship) or "losing" there is 3L. or 4L. for a supper and a drink for the men....' whilst among the millwrights a lad was bound to pay '10s. to 20s.' entry money, and the same again when his time was served 'only on a more extensive scale'. James Hopkinson had to provide an 'outing supper... costing six or seven pounds' for his workmates on completion of his term of servitude. Among the brushmakers, following the initiation, there was always 'some health drinking to be done.... The new Journeyman gathered his shop round him and paid his footing'. In the printing trade, this was known as the 'General Indulgence' or 'General Intoxication'.

37. Dunlop, op. cit., p.179.
38. ibid., pp.238-39.
40. Kiddier, op. cit., p.60.
The actual ritual was normally quite simple, Kiddier says that in the brushmaking trade 'the hour which ended seven years' Servitude was twelve noon. On the first stroke the apprentice set his last knot.... On the exact moment the shop rose with loud demonstrations. Besides cheering at the top of their voices they drummed on all sorts of things.... No man was too old to join in.... Hopkinson says,

'At 12 o'clock the men and boys came from all parts of the large work shops and drank my health, and then ranged themselves in a circle with me in the centre. Each man or boy had in his hand a hold-fast... which sounds like a deep toned bell when it is struck with a hammer. 'With these they rang me out of my time. And a pretty loud clatter they made....' Hopkinson says,

Noise was also a part of the ceremonial ritual of the composing trade. As in the cases instance above, the apprenticeship formally ended at twelve noon. At this time, 'all the other journeymen and apprentices in the department cease work and begin to hammer on their benches (or stones as they are known) or machines while the time-served apprentice removes his working clothes puts on his outdoor clothes and leaves the building'. However, the transformation of status is even more clearly marked in printing, for although the apprentice leaves the building, he 'returns immediately and asks to see the foreman.'

42. Kiddier, op. cit., p. 60
43. Hopkinson, loc. cit.
44. Sykes, loc. cit.
in charge of his department. He then formally asks the
foreman whether he has a vacancy for a journeyman ... compositor
... The foreman then formally "takes on" the ex-apprentice
and he is introduced to the men as the new journeyman'.
In the coopering trade, the ceremonial ritual was altogether
more cruel. Here the initiate was trussed. This involved
standing the new journeyman in a barrel made by himself, as
he stood the barrel was heated. After a short time he was
'covered with a mixture of soot, shavings, feathers, treacle
and beer, before being rolled round the cooperage and tossed
in the air'. Dunlop condemned the whole procedure as 'fool-
ish and barbarous'. However, the cruelty was more playful
than malicious, and was a product of the enclosed male environ-
ment of the workshop, which encouraged these types of mild assaults
on one's person. It also incited attacks to be made on one's
sexual dignity through smearing the genitals with grease, or
daubing them with paint, and so on. But, as White points out,
these traditions of 'cruelty and minor indelicacies' owe less
to the 'secret rituals, ceremonies and incontations of the
early craft guilds and trade unions than' they do to
'the habits of all-male and fairly closed communities'.

45. ibid.
46. David White, 'Rituals of the Trade', New Society,
48. White, loc. cit.
As such they have their parallels in public schools, sea going vessels, and other male exclusive institutions and work places, and have little in common with the type of ritualized transformation of status we have been describing.

In certain trades, after the late 1830's, the process of socialisation was severely disrupted by changes in the structure, size and supervision of industry which acted to alter the position of the apprentice viz-a-viz the journeyman. Nowhere is this better demonstrated than in the engineering trade. In many of the big works the training of the apprentice which in the past had been the responsibility of the journeyman was given to others. Engineering employers, in numerous cases, began appointing apprentice supervisors to instruct and teach the apprentices, usually in separate parts of the works. What socialisation occurred evolved out of the peer group, the older process, which was conditioned by the journeymen, was no longer operable. In any case, the transformation ceased to have the kind of importance it formerly had. Technical innovation had specialised skill and made its acquisition simpler. In such a situation journeymen could not extort money for drinking usage as the process of age gradation had been dramatically altered. Moreover, the journeymen themselves, tied to piece-rate work and under greater supervision, found it more difficult to take an interest, sympathetic or hostile,

49. For a number of examples of this type of scheme see The Engineer, 17 January, 1908. For a fairly recent discussion of the breakdown of socialisation in its traditional form see Cora Tenen, 'Some Problems of Discipline among Adolescents in Factories', in Occupational Physchology, Vol. XXI, 1947.
as the case may be, in the apprentices. Alfred Williams, in his study of a railway factory, describes well how the changes outlined above induced a different, and more regimented, atmosphere from the one he had experienced twenty years ago:

'Many pranks are played upon one another by the workman, though it is significant of the times that sky-larking and horse-play are not nearly as common and frequent as they used to be; there is not now the time and opportunity, now even the inclination to indulge in practical jokes. Under the new discipline the men are generally more sober and silent, though they are none the happier, nevertheless. The increased efforts they are bound to make at work and the higher speed of the machinery has caused them to become gloomy and unnatural, and, very often peevish and irritable'. 50.

In short, the expensive and sophisticated new machinery had called for greater attentiveness on the part of the engineer lest production be in someway hampered; concentration could not allowed be broken, nor machinery run down, to cater for ritualized and ancient ceremonials. 51

In the past, the emergence in a journeyman of ideas of craft pride and solidarity was effected to a significant degree by the socialising process he was accustomed to. Now that primary socialisation had, to a large extent, broken down in large workshops and factories, new bond-creating agencies

had to be devised if these (aforementioned) impressive features of artisan life were to be maintained, even if modified. As the unions were in general the beneficiaries of these ideals, not unsurprisingly, some of them took it upon themselves to act as socialising agents. The Boilermakers and Engineers, for example, opened youth sections. Some, like the Typographical Association, organised 'apprentice nights'. These would consist of a concert and a presentation of a momento of the occasion, as well as 'some words of good advice in order that they (the future journeymen) might prepare themselves for entry as journeymen into the trade union movement'.

However, in spite of the profound changes outlined above, the process of socialisation in its traditional form still continued to operate outwith the giant factories and workshops, although even here drinking usages had disappeared. In the small and medium sized establishments, where a need still existed for the all-round skill of the craftsman, and where the working regime was more informal and less rigorous, the relationship between the journeyman and the apprentice remained essentially unaltered. Socialisation was therefore still of importance. But despite these qualifications, socialisation, in general, had decreased in influence. Its most impressive period had coincided, quite understandably, with the high period of the artisan (1800-1880), when earnings and status set him apart from the best of his fellow workers. When that disappeared,

51. See case studies on engineering and shipbuilding apprenticeships.
due to a narrowing of differentials within the working class and the dilution of skill, there was not so much to protect or celebrate about. Hence, in proportion to the declining prestige of the artisan, the rituals and ceremonies declined as well.

52. Scottish Typographical Circular, No. 571. February, 1909.
INDUSTRIAL PROTEST AND THE APPRENTICE

Inevitably apprentices were members of the working class. As sellers of labour in a market economy their interests, at least, on the surface, were in opposition to that of the master or employer, the buyer of labour. The actuality of this relationship was long hours and low wages, which the apprentice had to endure for between five and seven years. In addition, however, he was also subject to all the petty tyrannies and moods of those in immediate authority, the adult workers.

The seeds of discontent were, then, sown early, but rarely found the right conditions in which resentment could be translated into organised protest. For outside of the mass strike of 1912 by engineering and shipbuilding apprentices in Scotland and parts of England, there is little empirical evidence to suggest that apprentices as a body took an active and sustained part in trade disputes or an interest in trade unionism. Of course, that is not to say that no evidence exists; there were sporadic instances of apprentices striking going back to the 1820's, but, on the whole, such an event was a rare occurrence. Why?

1. See chapter on 'Conditions of Apprenticeship' for a full discussion on wage rates, hours of work, and so on.
2. See chapter on 'Workshop Socialisation and the Apprentice'.
3. In the shipwrights trade in Liverpool in the early 1820's, the apprentices attached a master shipbuilder, Mr. Royden, because 'he went to fetch strange carpenters into the town, who had not served their time'. (Report from Committees: Artisans and Machinery, BPFV, 1824 evd. of John Kirwin, p.209). The solidarity of the apprentices towards the journeymen was probably the result of the filial mode of binding which existed to a large degree in shipbuilding. In consequence, the apprentice was open to a different kind of socialisation to that received under a master. Subordination to the group, rather than the individual occurred. See chapter on 'Apprenticeship in Shipbuilding'.

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In the early years of the nineteenth century the prevalence of the indoor system of apprenticeship acted as a powerful deterrent to industrial protest on behalf of the apprentice. Living-in with his master, subject to his commands and supervision, isolated from fellow apprentices through long hours of work and little leisure, the apprentice was hardly in a position to evolve a group consciousness or solidarity with other similarly placed apprentices.

Reinforcing the paternal control of the master were the coercive sanctions of the indenture. Under this legal covenant apprentices could be fined or imprisoned for failing to adhere to the terms of their contracts of service. Masters could, and did, punish refractory apprentices by prosecuting them under their indentures. Bridewell Prison, London, was a place of confinement not only for bankrupts, prostitutes, and other wayward souls, but also for apprentices thought to be in need of correction. And even when the indoor system had fallen in disuse, the indenture was still utilised by masters to maintain control and discipline amongst their apprentices. As late as 1912, 300 apprentices in the employ of a large Renfrew engineering company were threatened, should they join the strike movement, with prosecution under their contracts of service.  

4. See chapter on 'Components of Apprenticeship' for a discussion on the legal position of an indentured apprentice, as well as for some data concerning prosecutions under it, and the prevalence of it.

5. Scotsman, 18 August, 1912.
The existence of the indenture as the dominant mode of apprenticing boys to a trade, also prevented trade unions from recruiting apprentices into their ranks. This was due to the fact that the indenture was a legally enforcible contract between two consenting parties, employer and boy, and no third party could interfere without laying itself open to possible legal action. In any case, trade unions for much of the nineteenth century were more interested in limiting the numbers of apprentices than in improving their conditions of service.  

However, in the general absence of such methods of coercion and close control, there were still other subtle psychological and overt material pressures which could be relied upon to maintain apprentice indifference to labour organisation. Low wages, or, in some cases, no wages, were understandably an inhibiting factor. In the first half of the nineteenth century, some trades did not pay wages to apprentices until they had served for a number of years. In the latter years of the nineteenth, into the early years of the twentieth century, the meagre wages received by apprentices did not allow for union subscriptions, even if they had been demanded.

6. See chapter on 'The Restriction of Apprentices, 1800-1914'.
7. See chapters on 'Apprenticeship in Printing' and 'Conditions of Apprenticeship' for examples of this practice.
8. See chapter on 'Conditions of Apprenticeship'.

Age was yet another important restraint. The socialisation of the child into subordination to parents and teachers, and other authority figures, was carried into the workshop. Here the apprentice was expected to act as a subordinate to the journeyman and/or foreman. They assumed a quasi-parental authority over the apprentice, which was reinforced in numerous ways, for example, by the relatively harmless, but nevertheless demeaning, tasks of running errands, sweeping up after the journeyman; or by the more punitive actions of the journeyman in administering the occasional kick, slap, punch, and so on. Many apprentices, not unsurprisingly, tended to view the journeyman and not the employer or master as the source of his antagonisms. Socio-economic discontent in this context could easily be directed against the immediate chief - the adult worker.

Moreover, apprenticeship was seen by the young as only a brief phase in their life-cycle. Its very transience created a sense of fatalism similar to that found amongst many female workers, who see work as a brief interlude between school and marriage. The trade union policy of recruiting only time-served men tended to emphasise the demarcation line between adolescence and manhood.

9. This sense of fatalism is well captured in the phrase of Thomas Wood, in his autobiography, when he says, 'I bore the burden as well as I could in silence, and looked with mistful eyes to the future....' (The Autobiography of Thomas Wood, in Useful Toil, Allen Lane, London, 1974, ed. by John Burnett, p.308).
Age was also significant in matters of training. Apprentices learnt their trade by a system of age-gradation. The work experience of an apprentice joiner will serve to illustrate this point:

'...each foreman...believes in keeping the boy running about the shop for a few months to serve the men and so learn the nature and uses of tools and materials. The next year is occupied in various small jobs, sandpapering, planing-up and, perhaps, making a small dovetail. Then he will probably go to the bench with a man for a year or two, the foreman seeing that he gets suitable work, and then he is given work to do by himself, such as to make a small door. Sometimes he will be moved backwards and forwards, working first with a man, then alone, then with a man again and so on, having once mastered the different tools, will learn other and more difficult parts of the trade as opportunity offers'. 10

Thus by this method of trade teaching the labour of the apprentice only becomes useful in the later years of his apprenticeship, and by this time the process of socialisation had weakened his loyalty to the body of apprentices and transferred it to the journeymen. 11 It also meant, and this is of significance, the bargaining power of the apprentice(s) was minimal: the withdrawal of his labour was only an irritation to the employer. Although, this would be less true in establishments where the employers were coming to rely more on squads of cheap apprentice labour.

In view of such obstacles towards organised dissent by apprentices and the difficulty with which their grievances could be

11. See chapter on 'Workshop socialisation and the Apprentice'.
institutionally expressed, apprentice protest took the form of dropping out individually.

'Turning-over' was by far the most common and effective means of protest available to apprentices. It became easier as verbal agreements became the dominant method of taking apprentices in the skilled trades. Without the legal constraints provided by the indenture there was little the master or employer could do to prevent his apprentice leaving to take up employment as an improver ('picker-up') with a rival firm, even although the original master had borne the cost of the early years of training. The printing trade was notorious for 'turning-over', as was building. But to an extent the youth was only following the example of contemporary political economy, that is, acting as a free labourer, selling his skill to the highest bidder.

Another form of protest was simply to give up the job in favour of something more immediately remunerative. Dr. Alexander Scott, the certifying factory surgeon of Glasgow, estimated that, in 1906, 'not more than from 50 to 55 per cent. (of engineering apprentices) completed their time'. Of those who did not, Scott says, '15 per cent. deserted the trade voluntarily before the completion of their time, 22½ per cent. left to join other trades, death or ill-health

12. James Miller Jack, general secretary of the Associated Iron Moulders of Scotland, said that some employers had appealed to the Association to 'regulate' apprentices 'as they are not able to keep them to the seven years' Apprenticeship, as boys will shift about to where they can get more money', R.C. on Labour, op. cit., Q. 23,459 p.196

13. See chapters on Printing and Building.
accounts for 7 per cent., while no fewer than 15 per cent, were discharged for insubordination, including bad time-keeping'.

Some years later the Ministry of Labour found that the overall number of apprentices who had failed to finish their apprenticeship with 'the firms with which they started and... (were) entirely lost to the industry' numbered '10 per cent in shipbuilding, 9.2 per cent, in engineering, 2.2 per cent, in building, 1.3 per cent, in printing, and 1.8 per cent in woodworking'.

The 1912 strike in the engineering and shipbuilding industries proved an alternative to individual protest. But, then, there were exceptionally favourable circumstances existing in these important industries which might be expected to encourage the growth of occupational solidarity amongst apprentices. In the first place, there was a high concentration of apprentices in a number of large establishments. In addition,


16. In the British Westinghouse Works, Trafford Park, Manchester, 700 apprentices were employed (Guardian, 25th September, 1912) and in the Neptune Yard of Swann Hunters, Newcastle, some 400 apprentices were employed (Sunderland Daily Echo, 26 August, 1912). See sub-chapter on the 1912 strike for more examples.
production was centralised in a few areas, such as the Clyde, Tyneside, and so on. Thus the work experience of the apprentices was essentially standardised, and any grievances which arose out of this could easily be communicated through day-to-day contact. Moreover, the apprentice had become an important figure in the occupational structure of the industry from the late 1880's onwards. This was due to the importation of revolutionary semi-automatic machinery from the United States, which, through specialisation, meant an apprentice could become competent in one operation in a relatively short space of time.

In this context the age-gradation process was modified to an intensive system of instruction. Thus the lack of self-confidence and immaturity engendered in the apprentice could, in some measure, be overcome in his new found status.

Thus it came as no surprise that the first mass strike of apprentices should occur in these areas of industry. And when it came the result was not unimpressive.

17. In industries dominated by the petty producer, such as building and printing, the solidarity of the apprentices was minimal. This is emphasised by the fact that the Labour Gazette recorded no actions by apprentices in the period 1893-1914 in pursuit of instrumental or solidarity grievances, in either building or printing. In contrast, the North West Engineering Employers' Association's (Scotland) 'Record of Cases' show a total of twenty-three disputes concerning apprentices during the same period of which, eight were directly connected with wages and nine were associated with solidarity that is, striking in support of fellow apprentices who had been suspended or dismissed.

18. See chapter on Engineering and Shipbuilding for a fuller discussion of the effects of the new technology on the role of the apprentice within the work-force.
The big bees work the little bees,  
The little bees make the honey;  

The apprentice does the dirty work,  
and the Company makes the money.  

(Strike song, Scotsman, 1912)

The apprentices' strike against the introduction of compulsory national insurance contributions was the most impressive display of solidarity between apprentices in the entire period, 1800-1914, and even then, it was limited to engineering and shipbuilding. Lasting, with greater or lesser intensity, through the months of August, September, to mid-October, and the strike involved almost every major engineering and shipbuilding establishment in Scotland, the North-East Coast of England and Manchester.

The cause of the strike was initially the imposition by central government of a 6½d. weekly deduction from the wages of apprentices. As the wages of first year apprentices varied from around four to five shillings, it was seen (quite correctly) as a massive reduction in earnings by the young workers, who interpreted the deduction not in terms of improved health and social benefits but as a simple wage decrease. In a telegram to the liberal chancellor, Lloyd George, the apprentices make this quite clear:

"May we respectfully ask if it is the wish of the Government that we apprentices should be compelled to pay sixpence half-penny per week out of our small earnings which we did not soak. Every firm assures constant employment"

19. Scotsman, 16 August, 1912. The apprentices were, in times of slack trade, temporarily dismissed on no wages by their employers in many cases, so their telegram is misleading. See chapters on Engineering and Shipbuilding.
to its apprentices, and in the case of illness we desire no chance; therefore we feel it an injustice to have our money stopped to pay for something we can do without'.

However, although the deductions for insurance acted as a catalyst in creating the strike in all districts, it soon became apparent that the dispute was essentially a wages question. As the Aberdeen Daily Journal reported, 'a number of lads are carrying forms on which claims for exemption may be made, but they seem somewhat appalled at the task of filling up these forms. They frankly admit it is not so much exemption from insurance they want as an increase in the rate of wages'. This is made all the more obvious when it is remembered that under the terms of the National Insurance Act (1910) apprentices could claim exemption from payment of contributions under the clause of the Act which provided that where any person employed could prove that he was dependant for his livelihood upon some other person he should be entitled to claim exemption from the liability of being insured. All apprentices who were indentured apparently came under this heading. George Bernard Shaw wrote to the Glasgow Herald to inform them of this, although he argued that they would, under the 'Health Section' of the Act, be liable to pay 2½d. but not the extra 4d. under the 'Unemployment Section'.


21. 14 August, 1912.

22. 19th August, 1912.
However, the apprentices were in no mood to accept assurances from playwrights, employers, or anyone else, to them it was a wages issue pure and simple. As one young orator said at a meeting in Edinburgh'...in the last thirty years the wages of journeymen had risen by 12s. or 14s., but the wages of the apprentices had remained unchanged. The time had come for them to demand an increase. The Insurance Act had brought matters to a crisis. Their wages were too low to allow a deduction of 62d.'23 The Sunderland apprentices emphatically stated that 'their action was not against the National Insurance Act....',24 as did those in Manchester.25

In the Tyne and Wear districts the picture was more complex. Here the question of 'black time' was as important as the demand for an advance in wages. Under this heading all lapses of employment, whether through absenteeism, strikes or economic crises, had to be made up by the apprentice at the completion of his service before he was eligible to receive the full journeyman's rate. As a representative of the strikers explained to the Sunderland Trades' Council, 'for a long time apprentices had a grievance over 'black time' the National Insurance Act had simply provided them, he added, with 'a very good opportunity to fight the question'.26 However, to complicate the matters ever more so, 'black time' was not practiced in all establishments on the north-east coast,

23. Scotsman, 8th August, 1912.
25. Guardian, 18 September, 1912. The Manchester apprentices stated that they wanted an increase in wages because, 'the cost of living (had) increased since their present rate of payment was fixed....'
therefore, when it came to presenting the claims of the apprentices they were by no means uniform, and in the initial stages much confusion existed.

One group, for example, including the North-Eastern Marine Engineering Company (N.E.M.E), Wallsend, Messrs. Richardson Westgarth and Company, Middlesbrough, Doxfords, Sunderland, and the Wallsend Shipway and Engineering Company, simply wanted an increase of ls. per week in wages. The next group, including Messrs. Parsons, Wallsend, and N.E.M.E., Sunderland, wanted a ls. advance in wages, bonuses to be abolished or replaced by a fairer system, and overtime to be set off against black time. Yet another group, including the Northumberland Shipbuilding Company, Howdon, simply desired that overtime be counted against black time. Lastly, those apprentices employed at the Neptune yard of Messrs. Swann Hunters, of Newcastle, wanted the abolition of black time and an increase of ls. a week in wages. To encourage a sense of solidarity amongst the strikers the Sunderland apprentices came out for a blanket demand for the abolition of black time and an increase of ls. on wage rates. When, however, the latter objective seemed unrealistic in face of employer intransigency

27. ibid., 21 August, 1912.
29. ibid., 30 August, 1912. 30. ibid., 24 August, 1912.
32. Ibid., 24 August, 1912.
33. Newcastle Daily Chronicle, 3 September, 1912.
34. ibid., 26 August, 1912.
35. Sunderland Daily Echo, 6 September, 1912.
it was dropped, and black time became the sole point of issue. 36 At the Neptune Yard the apprentices, reacting against the company's attempt to indenture them, agreed to drop their original demands if the indentures were also withdrawn. 37 Most of the other establishments remained out for their own reasons. In both Manchester and Scotland the issue was more clear cut. The demand was for an increase in wages. However, the sum demanded showed a certain amount of vacillation. When the strike first broke the apprentices in Scotland demanded a rise equivalent to their expected contribution, 6½d. 38 This later escalated to a demand for 1s. a week increase. In Glasgow the apprentices, at the beginning of the strike, were apparently out 'for a uniform rate of wages of 6s. per week at the commencement of apprenticeship, and yearly increases of 1s.' This was increased, as a result of a mass meeting in Glasgow, to a demand for 1s. 6d. a week rise following a resolution put forward by delegates from Greenock. 39 In Manchester 'a uniform increase' of 1s. per week in wages was claimed. Later this flat-rate demand evolved into a claim for a new pay structure, which would give an apprentice at fourteen years of age, 6s. per week; at fifteen, 7s. 6d.; at sixteen, 9s.; at seventeen, 11s.; at eighteen, 13s.; at nineteen, 15s.; and at twenty, 18s. per week. 40

36. ibid., 11 October, 1912. As Doxfords did not operate the black time system it meant that their abandonment of the struggle had at this point been conceded by the strike committee.
38. Scotsman, 8 August, 1912.
40. Guardian, 1 October, 1912.
Until the formalisation of these programmes, the vacillation of the apprentices reflected their lack of maturity and inexperience in the running of an industrial dispute. Moreover, the fact that the main core of support was located among the younger apprentices denied to the movement the potentially invaluable assistance of many of the senior apprentices. Those older apprentices whose time was almost completed refused to join the strike on the grounds that they might be suspended or forced to make up time lost through strike action. Thus leadership was placed in the hands of the junior apprentices.

The apprentices first came out in Dundee on Thursday, August 8. Those at Dundee were shortly followed by their comrades in Glasgow, who first downed tools at the G. and J. Weir and British Locomotive Works. Aberdeen was next, closely followed by Coatbridge and Kilmarnock on the following Tuesday. From here it spread to Edinburgh, reaching the capital on the fourteenth of August, and then rapidly to other shipbuilding and engineering centres in Scotland, such as Arbroath, Renfrew, and so on. By August 16 there were reckoned to be at least 5,300 apprentices on strike, 2,500 of whom were out in Glasgow and surrounding districts. This later grew to around 6,300, but this excludes places like Kirkcaldy, Johnstone and Lochee, and more besides.

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41. One might also argue that there was also psychological problems of identification with the younger apprentices. See chapter on 'Workshop Socialisation and the Apprentice'.
42. Scotsman, 8 August, 1912.
43. ibid., 13 August, 1912.
44. Dundee Advertiser, 16 August, 1912.
45. I have arrived at this figure by adding the reports of the districts together. This, of course, is the number at the peak of activity.
It seems as if Scotland acted as a catalyst and other districts were content to follow its lead. In fact, a kind of domino pattern emerged. The strike on the Tyne broke first on August 19 when 300 apprentices of the N.E.M.E. gave notice to quit. Two days later, 50 apprentices in the employ of Messrs. Parsons, Wallsend, came out, as did those at Messrs. Noble and Lund, Felling. The next few days saw the apprentices at the Neptune Yard, numbering 400, come out on strike. By the end of August there were between 300-350 apprentices in Sunderland following the Tyneside example. At its peak there were 800 out on strike in Sunderland.

Just as the north-east showed some signs of cracking, as will be shown later, under the weight of strike imposed hardships, the Manchester apprentices began to walk out. The action started on September 11 when three hundred apprentices downed tools, to be followed in the next few days by another 400.

46. Sunderland Daily Echo, 20 August, 1912.
47. ibid., 22 August, 1912.
48. Newcastle Daily Chronicle
22 August, 1912.
49. Sunderland Daily Echo, 26th August, 1912.
50. Newcastle Daily Chronicle
21st August, 1912.
51. ibid., 4 September, 1912. No total figures are given for Newcastle, but in Sunderland the breakdown of firms affected was as follows: Doxfords, 200; N.E.M.E., 200; Clarkes, 200; McColl and Pollocka, 95; Mighans, 30; H.G. Davies, 23, ibid., 5 September, 1912.
52. Guardian, 13 September, 1912.
From this small start the movement grew rapidly in strength. On September 20, it was reported that almost 4,700 apprentices were out in Manchester, in 27 different firms, and that outlying places such as Salford and Pendleton were affected. The next day the number rose to between 5 and 7,000, and by September 23 the figure was put at 7,000 apprentices, with 53 different firms involved. In addition to Manchester, several other districts were affected namely Hyde, Altrinchinham, Broadheath and Eccles. In Salford alone 2,000 apprentices were out on strike. Even areas as far away as Liverpool, Birkenhead and Oldham were brought into the dispute through picket missionries, although the response was minimal. Manchester, particularly the Gorton and Openshaw districts, remained the focus, however. To realise their demands, the strikers adopted legitimate forms of trade union activity, that is, processions, mass meetings, picketing, and so forth. These were normally orderly affairs and the Scotsman commented favourably on the 'General absence of disorder' attending apprentice demonstrations, as did the Guardian. But as the strike progressed the intensity to which it was pursued varied from place to place.

53. ibid., 20 September, 1912. 54. ibid., 21 September, 1912. 55. ibid., 23 September, 1912. 56. ibid., 24 September, 1912. 57. ibid., 58. ibid., 27 September, 1912. 59. 14 August, 1912. 60. Guardian, 21 September, 1912, 'in the main they (strikers) have adopted methods of peaceful persuasion'.
In the Tyne and Wear areas the strike action was extremely peaceful and orderly with no outbreaks of violence, whether against person or property. Picketing for example, was not introduced on any serious or systematic basis until September 20, when it was agreed that 'the pickets should be placed outside the engineering shops (of Sunderland) at 5.30 a.m. every morning'. In Manchester, the strike committee, conscious of the need to maintain discipline in, and control of, the rank-and-file issued orders to pickets not to 'provoke disorder', and this command was generally obeyed. In fact, only one incident was reported in which scuffling between strikers and 'blacklegs' took place, and that was in Altrincham, where 'some youths who intended to continue at work were held back by force'.

The relative calm of these areas was more than contrasted by increasing bitterness and violence in some Scottish areas. In Aberdeen, in an effort to bring out half-a-dozen strike breaking apprentices at Messrs. Hall, Russell and Company's Yard, the strikers charged the doors, but were repelled by a 'posse of police officers'. From Hall and Russells, the apprentices switched their attention to the works of Mitchell and Company in an attempt to bring out the non-striking lads. But, having been denied the opportunity to present their case to their fellow apprentices by the management, the strikers in frustration 'took a large plank and...smashed in the doors'. However, as before, they were dispersed, this time by jets of water from the work's hose-pipe. Regrouping, in a mood of heightened frustration, the youths, according to the Scotsman.

61. Sunderland Daily Echo, 20 September, 1912
'made for the works of Mr. Richard W. Lewis, engineer....

Invading the works, the lads siezed a lorry laden with scrap iron standing there, and, rushing the vehicle across the quay, pitched it over the side. The lorry, which contained several tons of metal, fell upon a punt and a boat, and carried them to the bottom'. Needless to say, police reinforcements 'were hurried to the spot'. 62

Employers, however, were not always as passive as Mr. Lewis, Indeed, at the works of Messrs. Allan Bros., of Aberdeen, an official of the works thrust a gun into the face of one of the strike leaders and threatened to shoot the rest of the strikers if they attempted to force their way into the works. 63

Earlier in Dundee, the firm of Thomas Keay was attacked by a 'large band of strikers' trying to convince those apprentices still at work to join them. Finding their way blocked, the strikers used a battering ram (a 'stout' plank) to burst down the doors, and 'swarmed' into the workshop, turning-off the electrical power and bringing the 'machinery to a standstill'. The sabotage was soon brought to a halt by the arrival of the police who drove them out of the works and 'cautioned' them. 64

63. Scotsman, 16 August, 1912.
64. Aberdeen Daily Journal, 17 August, 1912.
Elsewhere in Scotland the scene was somewhat calmer. In Glasgow, seven apprentices were charged with creating a disturbance in Dalmuir and Radnor Park, on August 15, by overturning three barrels of potatoes at different shop doors, and with breaking seven panes of glass in street lamps. Edinburgh showed no signs of violent confrontation between the strikers and the authorities. Therefore, despite the exceptionally heated situations in Dundee and Aberdeen, the offences of the apprentices tended to be confined to those used to pursue their claim, that is, causing an obstruction, creating a disturbance, intimidating a 'blackleg', and so on.

The national and local press, with the exception of the Aberdeen Daily Journal, which viewed the strike as an event which 'grows daily more serious' treated the activities of the apprentices in language which sought to play down the seriousness of the strikers' case and highlight its frivolousness. Thus the Aberdeen incident was described as 'horseplay', or 'fun' in the case of Dundee, or 'excitement' in that of Glasgow. In fact, when the strike broke out in the Dalmuir district of Glasgow on August 14, the Scotsman described the action of the apprentices as a 'spirit of frivolity'. On the whole, the English press tended to view the affair with a good deal more respect and objectivity than its Scottish counterparts, displaying none of the overt paternalism.

65. Scotsman, 14 August, 1912.
66 17 August, 1912.
The employers, particularly those who were members of the Engineering and Shipbuilding Employers' Federation, adopted a negative attitude to the strike. From the outset they refused to deal with the strikers insisting that they first had to return to work before any negotiations could begin. The East of Scotland Engineers' Association, like other employers' organisations affiliated to the Federation, resolved at their meeting on August 15, 1912, 'to recommend that no concessions should be made to the apprentices, and that work must be resumed on the old conditions; further...no anxiety should be evinced on the part of the employers to have the apprentices return to work'.

And in spite of repeated attempts to bring about conciliation between the two sides, firstly, in Scotland, by the Lord Provost of Dundee, Mr. Urquhart, and the Lord Provost of Glasgow, Mr. Stevenson, and, secondly, and later, by the Lord Mayor of Sunderland, Mr. C.H. Brown, Federation employers remained impassive. As the Dundee Advertiser said, 'The strikers...have now been locked-out'.

Not content with simply locking-out their young employees, some employers tried to force the pace by using intimidatory methods designed to coerce the strikers into returning to work. For instance, the Aberdeen employers issued notices to parents, 'intimating that unless work be immediately resumed by the...

67. Minutes of the East of Scotland Association of Engineers; see also Minutes of the Clyde Shipbuilders' Association and the Minutes of the North West Engineering Trades Employers' Associations.
68. Scotsman, 21 August, 1912. 69. Ibid.
70. Newcastle Daily Chronicle. 71. 16 August, 1912.
(apprentices)....the fathers will be held jointly responsible. Others threatened dismissal....' The Manchester Trades Council also reported that there was clear evidence of intimidation by several firms, taking the form of the threat of dismissal of apprentices' fathers', if the strike was not ended.73 Some firms simply sacked their refractory apprentices. The N.E.M.E., of Sunderland, on September 2, issued checks to some 150 apprentices to hand in their tools.74 In Manchester, the Guardian reported that around 1500 apprentices during the duration of the dispute had their insurance cards returned to them, which in effect meant they had been fired.75 Yet other establishments resorted to indentures to force a return to work. A large engineering firm in Renfrew employing 300 apprentices informed them that they would be prosecuted under their contract of apprenticeship in the Sheriff Court if they continued with their protest.76 Swann Hunters, Newcastle, served indentures on their apprentices and warned them that if they did not sign them they would not be allowed to start.77

71. 16 August, 1912. 72. Aberdeen Daily Journal, 16 August, 1912.
75. 23 September, 1912. 76. Scotsman, 17 August, 1912.
77. Newcastle Daily Chronicle, 30 August, 1912.
Some employers, who were either non-members of the Federation, or who had refused to abide by its dictate, did make concessions to their apprentices in return for a resumption of work. Most notable was the example of Mather and Flatt, Newton Heath, who agreed to increase their apprentices' wages by two shillings a week.78 In Scotland, Messrs. McLarens, of Dumberton, granted to the apprentices a shilling a week rise.79 On Tyneside, a derisory offer was made by the manager of N.E.K.E., Mr. Hunter, who offered to start a 'football club or other recreation' for the apprentices if they would resume working. This was not unexpectedly roundly jeered by the strikers.80 However, such concessions were rare, and for the most part the employers were content to toe the Federation line.

The trade union movement was rather slow to assist the apprentices in their struggle, and at times, downright unwilling. In Aberdeen, the local trade union secretaries refused 'to take up the question'.81 Mr. John Drummond, of the Glasgow Trades' Council, condemned the various engineering unions for taking 'no interest in the apprentices' dispute'.82 Similarly on the north-east coast, and despite the fact that there existed

78. Guardian, 20 September, 1912. Even this 'generous' offer did not placate their apprentices, some objected because, in the first place, it was only 'verbal' (ibid), and, in the second, even when it was clear that the offer was good a number of apprentices remained out on strike in sympathy with their fellow apprentices, ibid., 21 September, 1912.

79. Scotsman, 20 August, 1912.


82. Glasgow Herald, 22 August, 1912.
a junior section of the Boilermakers' society and
that a 'fair number of the apprentices on strike at Wallsend
(were)....in the A.S.E.', the officials of these unions were
described by the Newcastle Daily Chronicle as 'merely "looking-
on"'. In fact, the apprentices' strike committee had written
to the A.S.E. in Sunderland asking them to take over the
running of the strike and had been informed by the local official,
Mr. Ratcliffe, that 'he could not interfere in the matter',
and just to emphasise the inertia of the A.S.E., the general
secretary, Jenkin Jones, had also intimated to them 'that
the society could not interfere'.

In contrast to Scotland and the north-east, the A.S.E. in
Manchester was quick to intervene in the dispute, for two reasons.
Firstly, the effectiveness of the strike. The methods of
peaceful persuasion used by the Manchester apprentices were
quite effective in their own right in causing the maximum
amount of disruption in the workshops. In Salford, in the
first few days of the strike, it was reported that 'several
workshops had been stopped almost entirely as a result of the
strike'.

83. 23 August, 1912.
84. Newcastle Daily Chronicle, 12 September, 1912.
The Guardian claimed that in Manchester itself; 'a good deal of unemployment among adult workers' had resulted from the strike.  

The Manchester branch of the A.S.E., in fact, was forced to pay out-of-work benefit to some 100 of its members laid-off because of the dispute. Many skilled engineers were only being kept on, it was said, 'because there is at present enough work for them to do in the way of preparation for more regular jobs'. In view of this disorganisation the Guardian shrewdly pointed out that this 'will no doubt' encourage the A.S.E. 'to devise some means of mediation'.

Secondly, it appears that a serious attempt was being made to organise those apprentices between the ages of fourteen and twenty into a union. Indeed, formal plans of organisation were laid. The new union was to work in co-operation with the A.S.E., with the Boilermakers' Society, and with other skilled unions, to whom it would pass on its members, into full benefit, as they reached the age of twenty-one. To finance the organisation it was proposed that a weekly subscription 'ranging from ½d. to 1½d.' be paid by all members which would entitle them 'to all the usual benefits except sick pay'.

Therefore, under the double threat of mounting expenses and a rival organisation, the local A.S.E. officials willingly

86. ibid., 21 September, 1912. 87. ibid. 88. ibid., 23 September, 1912. 89. ibid., 24 September, 1912. 90. ibid., 23 September, 1912. 91. ibid.
'offered to mediate between the apprentices on strike and the Engineering Employers' Association'. By October 9, the control of the movement had formally passed into the hands of the A.S.E., and the next day the Guardian declared that the strike was over.

In Sunderland the lack of interest on the part of the unions concerned was strongly disapproved by the Sunderland Trades' Council. In contrast to union inaction, the local trades' council was sympathetic and active in the cause of the apprentices. It was the Council's policy 'to advise the lads to stand out and do all they (could) ... to arouse public sympathy and support'. To this end the campaign of the apprentices was orchestrated by a member of the trades' council, David Bell. Under his direction a co-ordinating committee was formed staffed by delegates from each of the affected yards and workshops. Premises were found for the committee in the local Labour Party rooms. Bell himself addressed meetings of the strikers, arranged collections, picketing, as well as evening strike meetings outside of engineering and shipbuilding establishments whose apprentices had either not come out, or had gone back in.

92. ibid., 1 October, 1912.
93. ibid., 10 October, 1912.
94. Sunderland Daily Echo, 20 September, 1912.
95. ibid.
96. ibid., The meetings were fairly successful. One hold at Doxford's shops encouraged 25 apprentices to rejoin the strike, ibid., 26 September, 1912.
But by this time, as we will see, it was all a little too late. The irreversible drift back to work had already begun, not in a climactic manner, but in a slow ebbing fashion.

In Scotland, it was the infant Labour Party which did most to assist and support the young strikers. In fact, Councillor Crawford, of Edinburgh, explicitly stated that 'the lads must...look to the Labour Party for any assistance they might require'.

In Dundee a Labour Party organiser was recruited to present the apprentices' case to the employers but the latter refused to meet the apprentices or their representative in conference. Councillor A.R. Turner, of Glasgow, district secretary of the Municipal Employees' Association and President of the Scottish Trades Union Congress, allowed the apprentices to use his office as their head quarters, and took an active part in the organisation of their campaign.

However, it was not until August 26, a few days before the strike ended, that the Engineering Unions, in the shape of the A.S.E., made an offer to take up the apprentices' case, always providing, of course, that they returned to work.

The awakening of union interest was no doubt partly due to pressure from the Glasgow Trades' Council, and also, in part,

97. Glasgow Herald, 19 August, 1912.
98. Scotsman 16 August, 1912.
99. Ibid., 20 August, 1912.
100. Ibid., 26 August, 1912.
due to reports that the Glasgow apprentices were 'making some efforts to organise themselves as a union', and that to this end, 'an Executive Committee of their number had been formed'.

The Edinburgh apprentices actually went as far as to form their own (short-lived) union, known as the Edinburgh and Leith Apprentice Engineers' Union, with its own elected officials.

However, it was shortly after the Glasgow announcement and the mass meeting which followed it, attended by 3,000 apprentices, that the fateful meeting held in the Glasgow Trades' Council took place with 'the purpose of considering what steps may be taken in regard to the formation of a trades' organisation for apprentice engineers'. The outcome was the A.S.E. initiative.

However, as in the other regions, by the time assistance was forthcoming the strike had shown signs of collapsing. In Scotland, the first sign of collapse was visible when the strike was only nine days old. At Bertrams, Edinburgh, most of the apprentices resumed normal working after agreeing to become indentured and to 'claim exemption from the operation of the act with regard to both health and unemployment'. Three days later, the apprentices at the famous John Brown's yard on Clydeside served the protest a crushing blow to its

101. Ibid., 19 August, 1912.
102. Glasgow Herald, 17 August, 1912.
103. Scotsman, 21 August, 1912.
104. Ibid., 22 August, 1912.
105. Glasgow Herald, 17 August, 1912.
morale by voting to return to work. Their lead was soon followed by apprentices in Coatbridge, Arbroath, and Motherwell. Although in other important areas, notably Dundee, Aberdeen, as well as parts of Glasgow and Edinburgh, the strike remained remarkably solid. However, by August 28, the strike was reported to be 'nearing an end' in Glasgow, and by the thirtieth of the month, the Dundee strike was over. All in all the strike had lasted in Scotland a total of twenty-three days.

Tyneside was the next region to collapse. As early as August 31, around 50 per cent of the apprentices had returned to work and had signed the company's indenture forms at the Neptune Yard. Three days later the other half signed, and Parsons' apprentices had also returned. On September 12 a crucial blow was struck at the morale of the Wallsend strikers when the boilershop apprentices voted unilaterally to return to work, announcing that the 'fitters could remain out if they liked'. The engineering apprentices battled on bravely for another eight days, but by then their resolve was broken. On September 20, the apprentices at the N.E.M.E. works, Wallsend, the last important stronghold of the strike on Tyneside, returned to work. It was left to those on the Wear to stand alone. However, stunning blows had been struck at the solidarity of the apprentices a number of days

110. ibid., 3 September, 1912. 111. ibid., 12 September, 1912.
previous with the return to work of McColl and Follocks' apprentices (about 100) on September 11, only to be followed by another 200 at Messrs. Clarks.\textsuperscript{113} By the twentieth the press had discerned a marked trend of 'small caches' of strikers to return to work, and this pattern was maintained until October 18, when the strike was declared officially over.\textsuperscript{114} The strike had lasted something like five weeks.

In Manchester, as early as September 20, there were some noticeable withdrawals from the strikers' ranks, when 200 apprentices from Mother and Flatts resumed normal working after receiving an advance in wages. On September 25, it was reported that of the 700 apprentices on strike at the Trafford Park Works of the British Westinghouse Company about 300 had returned to work, and at the works of Messrs. Broke and Doxey another 150 had gone back in on the same day.\textsuperscript{115} By Friday, September 27, it was estimated by the Guardian that the number of apprentices who had returned to work in Manchester stood at 1500. However, although it would seem that large cracks had appeared in the ranks of the Manchester apprentices, it was reported, at the same time, that continuing 'success' was being met with in 'many of the neighbourhood towns'.\textsuperscript{116}

\textsuperscript{113} ibid., 18 September, 1912. In fairness to those apprentices at Messrs. Clarks it should be pointed out that all were indentured apprentices and, according to the Sunderland Daily Echo (3 September, 1912), laid, 'themselves open to proceedings and a penalty of £5 should they cease work'.

\textsuperscript{114} ibid., 15 October, 1912.

\textsuperscript{115} Guardian, 25 September, 1912.

\textsuperscript{116} ibid., 27 September, 1912.
So it would seem that here it was the A.S.E. initiative which acted as the major determinant in bringing the strike to a close.

Despite its length, the strike failed to achieve its primary object of a rise in wages. The reasons for this are fairly obvious: the small wages received by the apprentices made the organization of a strike fund impossible, collections from sympathizers were no substitute; the refusal of the employers to negotiate with representatives of the strikers turned the whole affair into a lock-out in which the employers could easily win, as in most establishments the apprentices had only irritational value as disrupters as long as the adult workers remained at their benches; the inexperience and immaturity of those who took part. On a less obvious note, the Insurance Act was used, at times in Scotland, to side-track and confuse the apprentices. Their argument concerning low wages could be deflected into an attack on Lloyd George, as one young speaker did when he said, 'the exact reason why we are not working is because that human devil of a Welshman, Lloyd George is trying to starve us. It is the only way he can get rid of honest Scotsmen'.\footnote{Aberdeen Daily Journal, 19 August, 1912.} It also made them unclear as to their objectives - if it was against Lloyd George and national insurance it was silly to demand higher
wages, if it was against low wages it was equally fatuous to attack Lloyd George. But there does seem to be some slight evidence of anti-national insurance groups involving themselves in the apprentices strike in Scotland. Council Turner himself warned of the interference of politically motivated people who were endeavouring to turn the apprentices' strike into 'a war against Mr. Lloyd George or the Government'.

As proof of his allegation, Turner said that an anti-state insurance organisation, the Insurance Tax Registers' Defence Association, had received a telegram from Glasgow stating that 'Thousands standing out firm; send literature'. Whether the charges of Turner were true or not, and there seems no evidence of such interference in the southern districts, is hard to say, but as it stood the apprentices, in the vast majority of cases, had gained nothing by their efforts and were forced back to work on their employer's less than generous terms.

As part of the conditions of returning to work, each apprentice in Scotland was required to make up the lost time whilst on strike. Indentures were revived by many firms in order to prevent a repeat of the action taken by the apprentices in these troubled months of August, September and October. The indenture used by Swann Hunters was particularly severe in its

118. Glasgow Herald, 23 August, 1912.
119. ibid.
120. Minutes of the Clyde Shipbuilders' Association, 20 August, 1912.
commands. Under its terms apprentices were to 'work as re-
quired in or out of the company's works on new or old work,
at time of piece rates. Apprentices could not leave the
service of the company without the permission of the company,
and they must conform to the rules and regulations (of)...
the company.... All lost time during any year had to be made
up before the next was entered upon.... The company had the
power to terminate the agreement at any time in case of miscon-
duct on the part of the apprentice. The parents or guardians
of the apprentice would be held responsible for the fulfill-
ment of the agreement....'121 However, in the Employers'
Federation, as a whole, it was felt that as far as indentures
were concerned 'the advantages to the employers... were more
than outweighed by the disadvantages'.122
What had concerned the Federation most was that under an
indenture the apprentice could not be 'suspended, discharged,
or have any part of his wages withheld....'123 To overcome
these legal drawbacks the Executive Committee suggested that
a model contract of service be drawn up which would give
the employer the disciplinary powers over the apprentice
afforded by the indenture but without the constant assurance
of employment. Thus as formally constituted the form of
agreement for apprentices contained the necessary constraints

121. Newcastle Daily Chronicle, 28 August, 1912. A deputation
of the strikers were informed, according to the Chronicle,
that misconduct could be interpreted in any way management'
chose, for example 'an apprentice could be dismissed if
two quarters were lost in any one week'.
122. E.E.F. Executive Reports, 28 February, 1912.
123. ibid.
as well as a clause which stated that 'the employer reserves specifically the right to suspend for a reasonable period without wages or to instantly discharge at any time without a certificate of service any apprentice who may take part in a trade dispute...'.

It would appear that the apprentice had returned to work on worse terms than he had before he went out. But there were some grounds for believing that it was not total and abject surrender. The apprentices themselves had shown a hidden capacity for organisation and self-discipline which augured well for the future of the trade union movement. Moreover, the strike had created an awareness of the apprentices' special needs and problems in trade union circles, as a result of the strike, and the growing importance of the apprentice in the structure of the work force. The unions became more intimately concerned with the training and conditions of apprenticeship, and for this reason alone the strike was not a complete failure.

124. ibid.
125. See chapters on Engineering and Shipbuilding.
THE APPRENTICE AND TECHNICAL EDUCATION

Despite the use of the term technical education in the title, this chapter in no way will attempt to detail the history of the origins and development of technical education in Britain. Its main concern is to provide an explanation of why, in the first place, the demand for a more systematic and scientific method of skill acquisition arose, and, in the second place, why, given the support it received, at first, from some artisans, educationalists and social reformers, and, later, from trade unionists and a large minority of employers, technical training failed to supplant workshop training as the dominant method of instructing apprentices in their trade.

From the 1820's onwards the practice of indoor apprenticeship began to seriously decline in favour of outdoor apprenticeship. This in effect meant the removal of the apprentice from the master's house. In the process the apprentice was transformed from a servant to a (small) wage earner. The master, in turn, was changed into the boss, who increasingly devoted less time or concern to the training of his apprentice(s), and more to the day-to-day problem of running his establishment.

This, in practice, gave responsibility to the foreman or journeyman for ensuring that the apprentice learnt his craft, which

of ten resulted in neglect. Too often the apprentice was merely expected to 'pick up' his trade.

In industry itself, the tendency of the unit size to grow, the greater use of subdivided labour, as well as the spread of product specialisation in the 1830's and 40's, not only sharpened the differences between employer and employed, it also led to a certain amount of deskilling. For instance, in the engineering trade, by the 1830's, the millwrights' trade was broken down into a series of operations performed by a number of specialist workmen. The railways brought with them specialisation of product and process as engineering firms concentrated solely on producing engines. And a similar story might be told of other trades.

In order to combat the displacement threatened by the changes outlined above, some artisans, in the years 1820 to 1850, sought to obtain a greater all-round knowledge of their trade by increasing their awareness of the scientific principles underlying their work. Timothy Claxton, in his book, *Hints to Mechanica on Self-Education* (1839), urged them to do so immediately:

'I believe that mechanics too exclusively fastened down in this country to one routine. A man must mind his business .... But that is no reason why he should be chained... like a convict... to his work. It is no reason why he should be so much as he is now the slave of his employer or of his trade, for whatever reason—by oppression, competition, decline of the market, improvements in machinery... he should be left, as now he commonly is among us, a helpless, shiftless, starving wretch... compelled to almost to take refuge in vice or crime... who can doubt that much of these (sufferin's)... might be mitigated or avoided by...
general information and scientific principles, and good intelligent habits, previously "laid in", as it were, for this winter in man's condition. Who can fail to see how vast an advantage the wide-awake and well-informed man must have in such a case over his ignorant associate". 2

To assist in minimizing the numbers of 'ignorant' tradesmen, the London Mechanics' Institute produced a bi-weekly journal, the Mechanics' Magazine, to encourage interest and knowledge among artisans of the new developments taking place within their respective trades. Of course, the Mechanics' Institutes had associated themselves from an early date with the problem of skill acquisition. In 1821, with the setting up of the Edinburgh School of Art, and other establishments, there existed in certain quarters an awareness of the need for an artisan to have more than just a store of inherited empirical knowledge from which to work from. The prospectus of the E.S.A. says that its intention was to

'...afford to workmen instruction in the various branches of science which are of practical application in their several trades, so that they may better comprehend the reason for each individual operation that passes through their hands and have more certain rules to follow than mere imitation of what they have seen from another'. 3

2. Claxton, op. cit., p.137.

However, although the Institutes did hold classes in the physical sciences, the curriculum tended to be dominated by the '3R's, supplemented with additional classes in literary and historical subjects. Moreover, the instruction was more in the form of entertainment and relaxation than vigorous technical study. As James McConnell rightly observed: 'In England, our mechanics institutes are more like reading clubs... and in consequence, when a good workman is selected for a foreman's place, he is generally found wanting in technical knowledge'.

These early attempts to overcome the debilitating effects of machine specialisation on the artisan were by their nature unsystematic and sporadic. Again they were normally dependant for their success on the interest shown and the benevolence given by well-to-do individuals. Little attempt was made to link scientific lectures to the practices of the trade, and given the low level of education amongst many journeymen, the science courses were too abstract for most of them to understand. In any case, the demands for a new and more scientific approach to acquiring a skill were short-lived. The stabilisation of the rate of technological change and the growing prosperity in the 1850's were the chief causes.

The immediate reason behind a revival of interest in technical education, in the late 1860's, was the shock received by


5. ibid., p.14.
British industry from the Paris Exhibition of 1867. The British jurors were literally astounded at the progress made in Continental and American manufactures. The jolt was of such force that a very disquieted Dr. Lyon Playfair, one of the Paris jurors, circulated on open letter preaching the end of British industrial supremacy if steps were not taken to provide adequate facilities for technical education. Following his warning a Schools Inquiry Commission (1867) was set-up to investigate the claim that British industry as compared with its foreign rivals had made an 'inferior rate of progress... and that it is due in great measure to the want of technical education....'6

Many of the British jurors at the 1867 Exhibition were consulted by the Commissioners as to their opinion on the relative progress of European and American industry and technology. And although a number were aware of the fact of impressive industrial growth among Britain's trading rivals and were also favourable to the idea of introducing some system of technical education into the country, some expressed significant reservations. A.J. Mundella, for example, thought that before a system of technical education could be inaugurated a 'thoroughly organised system of primary education' was an essential precondition.7 Peter Graham, of Messrs. Jackson and Graham, another jurist, argued that whilst Britain's main competitors had made progress in 'some branches of industry, we have made greater relative progress in others....'8

6. ibid., p.3. 7. ibid., p.27.
Mundella's view was shared by others. A London mechanic, in a letter to the Beehive, complained that the Department of Science and Art's 'syllabus is by far too difficult; in fact, they expect the impossible' of a workingman. But many eminent educationalists were of the opinion that technical education was not designed to include workers. F. Jenkin, Professor of Engineering, University of London, advised the artisan against the 'wholly fallacious and misleading idea of attaining technical education otherwise than from his fellow-workmen'. William Hawes, chairman of the Society of Arts, was even more strident, saying, 'that the superintendence of the masters... was more beneficial to the advancement of those industries than if each of the workmen themselves dabbed a little in the sciences bearing upon the manufactures they were engaged'.

Apart from a slight, temporary downswing in trade in certain areas of manufacture, notably engineering, shipbuilding and the metal trades, in the late 1860's, Graham's view was borne out. In world markets British industry remained pre-eminent, as Habbakuk confirms: 'Even as late as 1870 the U.K. still had 31.8 per cent of the world's manufacturing capacity, compared with 23.3 per cent for the U.S.A. and 13.2 per cent

8. ibid., p.9. Graham's view was shared by the French jurors, who stated that 'The upward movement is visible, above all among the English. The whole world has been struck with the progress which they have made since the Great Exhibition....', cited by P.W. Husgrave, 'Constant Factors in the Demand for Technical Education, 1860-1960', British Journal of Educational Studies, 1956-57, Vol. XIV, p.175.


for Germany'. 12 More specifically, in terms of iron and steel manufacture Britain led the world, producing 'half the world's pig iron in 1870, three-and-one half times as much as the United States, four times as much as Germany, more than five times as much as France'. 13 In other trades, like textiles, the picture was much the same. 14 All of which left the British employers with a less than urgent need to adopt a costly system of technical education of uncertain worth. It was a view shared by the trade unions, but for different reasons.

Trades union opposition to the idea of technical training stemmed fundamentally from notions of craft pride. For even although great strides had been made in substituting machine for hand labour, the level of technology was still such that in many trades, especially those in which the consumer remained king, labour retained some of its idiosyncratic methods of working. 'Trade secrets' were often still only known to a few men. Highly individualised ways of saving labour, time and materials were still possible. The journeyman feared that if these empirical and inherited working practices were scientifically analysed and the training of the apprentice(s) standardised through attendance at an educational establishment, the independence of the craftsman would be lost, and his value on the labour market lowered as a result. Furthermore, the promise of skill as a birthright bequeathed from father to


son would be rendered to no account, particularly so if technical 
education opened up the possibility of initiating a large number 
of trainees into the trade(s). 15

Neither did the unions accept that the quality of the British 
artisan was deficient. If it was, then it was the fault of 
the bosses, who demanded 'quantity' before 'quality' and were 
prepared to eschew good workmanship in favour of inferior to 
that end. 16 T. J. Dunning argued that in comparison to the 
rest of the world 'British workers (were)... second to none', 
notwithstanding the 'alleged better education' of the Continental 
artisans. 17

Amongst trades unions only the Amalgamated Society of Carpenters 
and Joiners (A. S. C. J.) responded with any enthusiasm, and this 
was mainly due to the interest shown in the subject by its 
secretary, Robert Applegarth. Under his influence the A. S. C. J. 
organised classes in 'mensuration, drawing... elementary 
geometry, mechanics, the construction of stairs', as well as 
made loans to any of its branches desiring to form 'a school' 
to this end. 18 And although the T. U. C. passed a resolution, 
in 1870, recording their opinion that a 'good and efficient 
system of Technical Education should be open to every person

14. ibid., p. 215.
15. T. U. C. Report, 1868, published in the Beehive, 13 June, 
1868. The remarks made are concerned with a justification 
of limitation of numbers but they also show why the artisan 
would reject technical education as a blow to his status 
and pride.
16. ibid., 28 March, 1868; see also The Builder, 31 July, 
1869 and 1 October, 1870.
17. Beehive, 23 December, 1871.
engaged in the several industries of the country', 19 few societies or trade unionists outside the A.S.C.J. responded favourably to the call.

The cause of technical education was left, at this time, to the educationalists and social reformers to fight. Men such as Silvanus P. Thompson, Professor of Experimental Physics at Manchester University, Thomas Twining, F.R.S. and author, Henry Solly, founder of the Trades' Guild of Learning, 20 and others besides, did their best to popularise the need for technical instruction because of the distinct danger that 'if the progress of our rivals continues we must be overtaken and outstripped, and chiefly because Technical education is studiously encouraged by them and undervalued and neglected by us'. 21 But until the newly created system of elementary education (1871) had been established and was working with some success, it was, in most cases, another example of putting the cart before the horse.

However, it might be pointed out, at this stage the advocates of technical education were as much interested in bringing the facilities and knowledge of technical education to the artisan as they were to the apprentice. It was only later that the apprentice became the centre of attraction. They did this

20. See chapter on 'Apprenticeship and Middle-Class Voluntary Societies' for an assessment of Solly's work.
because they saw in their work not only the need to combat foreign competition, but also the necessity of promoting greater social cohesion through the creation of a mutual bond between capital and labour. Thomas Twining, for instance, in one of his first books on technical education, expressed the desire that its spread would be active in promoting class harmony:

'The enlightened Employer will see more clearly how much the interests of his men are his own, and the clever Workman, Alive and active in all the concerns of Daily Life, earnest and industrious in applying his attainments to his work and intelligently thoughtful in turning them to best account for the welfare of his home circle will be ever ready to apply the same clear-headedness to his social relations in a spirit at once conscientious and conciliatory'. 22

In spite of their economic patriotism and grandiose social designs, the proponents of technical education were largely ignored by employers and men alike. However, with the onset of the 'Great Depression' in the late 1870's, and particularly in the years 1884-86, confidence in the continuing dominance of British manufactures in the world was shaken. In such an uncertain atmosphere the views of those deeply connected with technical education did not sound so fanciful.

What led to this climate of despondency was the changing position of Britain as the 'workshop of the world'. For by 1875, for all its dominance in terms of world manufacturing

output, Britain's 'capacity to grow... had disappeared'.\textsuperscript{23} And whilst Britain's technological development had noticeably decelerated, its rivals, because of their industrial backwardness, were 'free... to pick methods and opportunities' which markedly increased output through 'selective' investments in 'certain areas' of manufacture. The upshot of this was that they could now 'compete with Britain' at no distinct advantage over a limited range of goods.\textsuperscript{24}

By 1879 foreign progress was already reflecting itself in the export and import of particular commodities. In cotton, woollen, silk, glass and iron manufactures Britain had lost a not inconsiderable share of the market to its competitors. Total exports of these commodities fell from £112,759,000, in 1872, to £81,608,000, in 1879, a decrease of 28 per cent. In the same period total imports increased from £17,321,000 to £24,062,000, or by 39 per cent.\textsuperscript{25}

In addition to the loss of trade, industrial production also declined. Between 1875 and 1894 it was just over 1.5 per cent per annum. Output per man also fell by a similar proportion in the same period - from just over 2 per cent per annum to just under 1 per cent. Meanwhile growth rates and productivity rates in Germany and American economies were advancing between two and three times faster than Britain's.\textsuperscript{26}

\begin{itemize}
\item \textsuperscript{24} ibid.
\item \textsuperscript{25} Hansard, April, 1881, Vol. 260, col. 530.
\item \textsuperscript{26} Mathias, op. cit., p. 400.
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Moreover, real wages began to outstrip prices, and this was due more to falling prices than rising money wages, which, on the whole remained sluggish. In the late 1870's alone, 'prices tumbled by over 40 per cent', and overall in the period 1860 to 1900, 'the gain in real wages of the average urban worker was probably of the order of 60 per cent or more - even allowing for unemployment'.

As the economist Alfred Marshall put it, in 1888, 'I believe that a chief cause of the depression of profits is that the employer gets less and the employee more'.

In this situation of falling profits, lower industrial production and technological stagnancy all the employer could do to restore the balance in favour of capital was to either cut wages, and increase the length of the working day, neither of which occurred, or improve, with what means were available, the productivity of the worker. It was small wonder, then, that the idea of greater efficiency through more systematic training should have held a powerful appeal for a number of employers, and this did not go unheeded by the proponents of technical education. Lyon Playfair warned employers that in the case of the silk industry, 'while Coventry and Spitalfields were loosing their silk industries, the town of Crefeld, in Germany, was spending £215,000 on its lower schools, and £42,500 on a

27. ibid., p.378.
29. As Hobsbawm points out, another way out was through 'imperialism': 'The era of the Great Depression this also initiated the era of imperialism: the formal imperialism of the 'partition of Africa' in the 1880's, the semi-formal imperialism of national or international consortia taking over the financial management of weak countries, the informal imperialism of foreign investment', Industry and
special weaving school. It has doubled its population and quadrupled its trade, and now sends to us as imports silks which we have lost by a failure of our own industries. 30

Playfair and others advanced the view that by systematising and standardising the training of the apprentice the cost of production in British industry could be lowered and, like Crefeld, output raised. It was an idea which had an unarguable logic about it. For all things being equal the well-trained man is relatively cheaper, and the badly-trained man proportionately dearer, as Mr. H.S. Cropper, engineering employer, argued, in reference to the Nottingham lace industry, 'An instructed workman produces more lace, of a better quality, with less wastage of material, and less wear and tear to the machine...'. 31 Sir E.J. Reed, M.P., in the same spirit, claimed that 'men perform more work-unless it be purely physical - for understanding what they are about'. 32

Allied to the dissatisfaction concerning the low efficiency of labour was the complaint that much of industry was still based on 'rule-of-thumb' methods of working, and therefore the results were often uncertain, leading to further wastage of time and materials. A master cutter highlighted this point

29. Contd/...
when, 1884, he declared that 'The finest steels in the world are made in Sheffield at this moment; but we do not know why it is. We do it, but it is really by rule-of-thumb.... But with further knowledge and more instruction we should arrive at more certain results'.

Given such views the better training of the apprentice was of paramount importance. At present, it was argued, he received a poor training: no systematic attention was paid as to the way he acquired his skill and no safeguards were laid down to ensure his competency. In fact, the acquisition of skill was an extremely haphazard process, as a former engineer explained to Norman Dearle. According to the former, the typical workshop training of a boy in the 1870's consisted of the following:

'The foreman would give me a bit of work... which I had to do as best I could without help, being merely sworn at, and told to do it again, if I did it wrong. So I had to learn for myself. When I had mastered one job, I was put on to another, and the quicker I learnt, the quicker I was pushed on because in my trade it pays the employer to do this. I got no help from the foreman, who merely gave me the work to do and seldom showed me anything only what was absolutely necessary. The tools were put in my hands, and I had to find out for myself'.


The apprentice was, then, at the mere whim and caprice of the foreman and journeymen as to whether he acquired a thorough or just a passing knowledge of his trade. The Rev. Solly complained: 'In general it is only the lads who can tip or treat and "stand bear" that get any teaching, while the rest have but a poor chance even of these hints'. It was the task of technical training to reverse this unsystematic apprenticeship in favour of a more scientific method of skill acquisition, that is, from mere imitation to the understanding of why things happened and how. The former method allowed too much scope for favouritism and, hence, too great a range of skill in a given trade. The latter produced more standard and certain results.

However, as well as increasing the productivity of the worker, some of the advocates of technical instruction thought that increased educational facilities would lead the apprentice/journeyman to eschew some of the more objectionable practices, from an employer's point of view, of trade unionism, such as demarcation, restrictionism, minimum wage, and so on. It was also thought that it might result in a greater measure of class harmony. *Capital and Labour*, the employers' journal, for example, called upon artisans to give up making 'war... with capital' and instead devote more time and energy 'to the acquisition of technical knowledge'.

35. R.C. on Technical Instruction, op. cit., Q.2096; pp.204-05.  
But one might well ask how a system of education, whose primary goal lay in improving the skill of a boy/man in the exercise of his trade by increasing his awareness of those scientific principles underlying the empiricism of his work, was to be used to inculcate anti-union and class views and attitudes in the minds of the workers? The answer lay in self-reliance, as *Capital and Labour* pointed out:

'By acquiring such (technical) knowledge they would render themselves more effective as workmen, and so be in a better position to command trade; and through this the better to command wages....' 37

By attaining self-reliance the artisan would have no need for trade unions. For the getting of employment and the wages received therein would be the result not of strikes, nor of union, but the worker's own ability, determination and sacrifice. 38

Once this initial stage of self-reliance had been reached, it was argued, that this would lead to 'mutual reliance', a relationship which involved the recognition by the artisan and the employer of the 'great power of interdependence binding the whole of society together'. 39

37. ibid.

38. The determination would involve attending evening classes in all weathers after a long day's work - usually 6 a.m. to 6 p.m.; the sacrifice would include laying out for materials, classes, transport, giving up the extra money to be made from working overtime, and so on.

The arguments in favour of a system of technical education bore far more substantial fruit this time. In 1879, the London Livery Companies contributed large sums of money to the Founding of the City and Guilds of London Institute. In 1881, the Government held its own inquiry into the position of technical education both in Britain and abroad, and recommended:

'That it be made a condition by employers of young persons, and by the trade organisations, in the case of industries for which an acquaintance with science or art is desirable, that such persons requiring it, receive instruction therein either in schools attached to works or groups of works, or in such classes as may be available; the employers and trade organisations, in the latter case, contributing to the maintenance of such classes'.

The culmination of these reforms was the passing of the Technical Instruction Act of 1889. Under this Act local authorities were given the power 'to levy a penny on the rates in support of technical education'.

However, despite the approval and backing of government, few employers were willing to become converts, and this is reflected in the attendance records of the technical classes. In London,


41. Abbot, op. cit., p.35. In 1890, through the Local Taxation Act, the Local authorities were able to use license surpluses from the drinks' trade ('whisky money') to support technical education.
for example, in the printing and lithographic industries, out of a total workforce of around 30,000 'only 140... were in 1891 getting any kind of technical with their work'; in cabinet-making, only 121 out of a total of 46,000 workers, of which 7,000 were under 20, received technical instruction in 1891; and in the tanneries, only 3 out of 10,000 persons 'employed... were learning any branch of chemistry'. In Glasgow, Anderson's College, in the session 1892-93, enrolled a total of 397 evening class students in its trades' classes, including 7 platers and shipwrights, 8 iron-moulders, 62 joiners. And in other cities the picture was equally depressing for those who advocated technical education. Why?

The reasons for the existence of such a large pool of employer opposition, or indifference, towards the provision of technical education for their apprentices remained virtually unchanged from those advanced in 1868.

In regard to the dominance/superiority of British manufacturers and workmen thesis most employers still wholeheartedly believed in it, even if the evidence was wearing rather thin in some trades. In 1886, John Price, managing director of the Palmer Shipbuilding Company, Jarrow, when asked if he would 'engage


a foreign workman and pay him the same wages as you would pay to an English workman', replied 'No.... an English workman is 50 per cent better than a German workman'. Messrs. Holden and Sons, who had a manufacturing business in Bradford and Roubaix in France, stated that they can produce 'in England at a price leaving a profit, which in France would barely cover the cost'. Ten years later the Engineer could say:

'The German does not, after all, possess better machinery or turn out better work than the Englishman. His technical education has not taught him to build better locomotives or marine engines than we have; his spinning machinery and his steel castings are in no sense or way better than ours....'

The confidence expressed above in British workmanship was, the product of the widely held belief among employers that workshop training was superior in all ways to technical education. The East of Scotland Engineering Employers' Association came to the opinion, in 1897, that 'while Technical schools are of great service in raising the general intelligence of the young artisans, they must not be held as abrogating the necessity of apprenticeships, but only as a useful adjunct to workshop practice....' In contrast to the abstractness of technical training, workshop practice constituted reality: a place where speed and accuracy essential to the creation of an efficient (but not necessarily more skilled) craftsman could be found.

44. R.C. on Depression of Trade and Industry, op. cit., Y.11,082, p.150.
45. ibid., Final Report, P.XXI.
46. The Engineer, 18 September, 1896.
47. Minutes, 14 January, 1897.
Underpinning much of the employer hostility, or neglect, towards technical education was the oft expressed view that only a minute number of boys from a working-class background could hope to benefit from this type of instruction - their intellects being too weak and undeveloped. Professor G. Ramsay, of Glasgow, arguing from what would appear to be a social-darwinian premise, said that technical education was unnecessary for the bulk of artisans because ‘nature’ had rationed out intellectual power on an elitist basis, and this excluded all but ‘four or five per cent of the population’. Lord Armstrong, the engineering employer, shared Ramsay’s elitist views. ‘The number of persons’, he thought, ‘who would be benefited... by scientific education of a technical nature, and who have the zeal and capacity, and perseverance necessary to its attainment, constitutes only a small proportion of the population’. According to Armstrong, if money was to be spent on technical education it was to be on ‘those who direct’, that is, engineers and managers, and not on those destined to become mere journeymen.

The employers also rejected the idea of building harmonious class relations through improved educational facilities. In fact, in their hands the argument was reversed: technical training might produce rising expectations and make the apprentice highly conscious of his depressing and boring surroundings.


50. ibid. If one disregards the absurd elitism of Armstrong’s position, he did have a point. As Cotgrove points out, ‘For all practical purposes... technical education in the nineteenth century meant the teaching of science... It was only in 1901... that (the Department of Art and Science) ... made grants for teaching practical subjects’, op. cit., p.36. The low level of working-class education must have acted as a strong barrier to an apprentice receiving much of value from these classes.
and, as a result, make him discontented with his lot in life.

Henry Dyer caught the essence of this argument when he said:

'I would strongly deprecate making of the passage from the workshops too easy, as those who were not able to overcome considerable difficulties by their own perseverance, industry and ability had better remain in the workshops. The tendency for young men to go in for some occupation in which they do not require to soil their fingers, is becoming far too common in all departments of life, and should certainly not be fostered by unfitting workmen for manual labour....' 51

The 'dirty fingers' argument was put more succinctly by Sir Henry Roscoe, who said 'In England the people are much too fond of thinking that the real use of education is to fit them to wear a black coat and go into an office'. 52

In some ways these prejudices were a smoke-screen masking more material interests. A large number of employers feared that once trained, at their expense, the apprentice in his later, and more profitable, years might over-indulge in horizontal mobility, skipping from one firm to the next, under no control, content to pick-up what wages he could as an improver. Even worse he might emigrate to another country. Mr. H. Mitchell, president of the Bradford Technical School, laid bare these fears in his evidence before the R.C. on Technical Instruction (1884), when asked:

52. Liverpool Post, 30 January, 1886.
'How do you account for the apathy of the greater number of manufacturers in regard to your technical school? (Some) are afraid that we shall train a considerable number of young men who will go out to America and other countries, and that those countries will get the benefit of the instruction which we give them'. 53

The fear of extensive labour mobility was more than complimented by the adverse reaction induced by lateral competition. Professor Ayrton noted that English employers would not allow technical instructors to come between them and their workmen 'especially if we remember how carefully guarded at present are the secrets of any trade....' 54 For the same reasons in the 1880's management objected to examinations in technology to the Art and Science Department on the grounds that, one, 'it would mean interfering with details of manufacture'; two, 'they were not going to encourage something which would bring together workmen from different works to discuss matters in which trade secrets were involved'; and, last, 'so far as assisting the scheme they would do everything they could to stop it'. 55

Trade unions shared some of the objections of the employers, although not always for the same reasons. In fact, the basis of trade union opposition in this period lay in unemployment and overstocking. During the years 1875-1896, even although

real wages were rising, those out of work amounted to 5.4 per cent of the working population. And whilst this only represented a slight increase (0.9 per cent) over the previous twenty years\textsuperscript{56}, some trades, particularly those in manufacturing, were badly affected in certain years. For example, unemployment among members of the engineering, shipbuilding and metal trades unions reached 15.3 per cent, in 1879, and during the years 1884 to 1887 never fell below 10 per cent.\textsuperscript{57} Even in the less (internationally) competitive trades, such as carpentry and joinery, relatively high levels of unemployment were experienced. Those members claiming out-of-work benefit in the A.S.C.J. amounted to 8.2 per cent of the total membership, in 1879; 7.1 per cent, in 1885; and 8.2 per cent, in 1886.\textsuperscript{58}

After twenty years of almost unbroken prosperity (1850 to 1870) these statistics could not but be considered disastrous by the unions. Therefore, any proposals, no matter how worthy or innocent, which seemed likely to increase the labour supply were strongly opposed. For example, the A.S.C.J., hitherto strong supporters of technical education, tried to win the support of the Parliamentary Committee of the T.U.C. to organise a campaign against the passing of the Technical Education Act of 1889.

\textsuperscript{56} Mathias, op. cit., p.380.
\textsuperscript{57} Mitchell and Deane, op. cit., p.64.
\textsuperscript{58} ibid.
What particularly upset the membership of the Carpenters' Society about the bill was a clause which allowed school boards to use public funds to provide facilities, such as rooms, tools, materials, instructors, and so on, for the teaching of woodwork in classes open to all. A motion from the Pimlico Branch catalogued the reasons behind the A.S.C.J's resentment:

'... in the opinion of this branch the passing of this clause will be subversive of the best interests of both trades unions and the community. That it will upset the apprenticeship system and be an abuse of public money for the benefit of the employers, giving a bias to the minds of boys in favour of entering this trade, further and necessarily increasing the numbers in our trade. That this branch does not believe the depression in our trade is either caused by any lack of technical education on our part, and cannot see how our position is to be improved by further unrestricted competition in our ranks'.

For the same reasons the Typographical Societies opposed unrestricted access to technical instruction. In 1886, a conference of all the printing societies forbade members, who were technical instructors, from 'imparting... technical knowledge in technical or board schools' to anyone but 'duly bound apprentices and journeymen printers' for fear of flooding the trade with 'illegal' men. 60

60. Typographical Circular, November, 1886; September, 1888.
official of the A.S.E. in Manchester giving evidence before the R.C. on Labour (1893), likewise attacked technical schools, accusing them of being agents for overstocking what was already an overcrowded trade:

'Of course, I do not want to speak against technical education, but we find that from technical schools and from boys' institutes and those places, there is a preponderance of lads drafted into our trade more than into any other'. 61

Reinforcing trade union opposition at this time was the widely held feeling that as the employers themselves were indifferent as to the workshop training of their apprentices, why transfer the responsibilities to some educational establishment. The Typographical Circular, in 1891, echoed this view when it said 'There would be little need for technical schools to enable a boy to learn his business if apprentices were limited to association rule, and the masters performed their part of the contract (of apprenticeship). 62

Therefore, in both employer and union circles there existed entrenched opinions decidedly opposed, but for different motives, to the general introduction of technical training. However, what underlay many of these objections was the traditional allegiance shown by both sides towards conservative working methods.

62. Typographical Circular, June, 1891.
On any level the introduction of technical education promised changed methods and practices of working. Change itself might mean the displacement of men who were not familiar with the new practices. At the very least, it meant a challenge to established work patterns and to the authority of those reared on them. For these basic reasons it was quite understandable that men should offer some resistance to the general introduction of technical education. George Shipton, secretary of the London Trades' Council, said that any new ideas picked up by apprentices attending technical classes would soon be 'scouted if they attempt to put them into practice on their job or in the workshop the next day'.

Voluntary organisations, who attempted to influence young apprentices as to the benefits of technical training, found their efforts frustrated by the 'manifest lack of sympathy on the part of the older artisans, who sought not only to disparage the action of the (voluntary) committee, but also ridiculed their young brethren for supposing that any assistance in trade instruction could be obtained in a technical school'.

Similarly, an adherent to the cause of technical education, said of management, 'I think the older manufacturers are probably a little bit conservative. I have heard the feeling expressed, "You may over-educate the men"....'

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Therefore, it would seem that despite a growing awareness shown by both management and men in the need for technical instruction to supplement workshop practice, because of the deficiency of the latter, the opposition at this stage was too formidable for a general system to be established. And whilst that remained the case after 1914, the years 1896-1914 saw a greater desire evinced by both sides of industry towards the creation of a more universal system of technical education than had been witnessed previously.

This new found attraction for technical training is perhaps best reflected in the increased numbers of students attending trade classes at evening schools. In London, for example, in 1901, out of a total of 9,973 boys, between the ages of 14 and 20, in the building trade, 3,416, or 34.3 per cent, attended evening classes in technical subjects; in the engineering and metal trades, the figure was slightly lower at 31.2 per cent, or 3,321 out of an estimated total of 10,641 boys; in the printing trade, the respective figures were 27.4 per cent, or 2,845 out of a total of 10,395 boys; and, lastly, in the wood and furniture trades, the situation was somewhat better at 32.4 per cent, or 2,069 out of 6,391 boys in attendance.66 In Glasgow, the figures were substantially lower, although they still constituted an improvement over past years. In the building trade, there were 3,682 boys between the ages of 14 and 20 (of whom nearly all were apprentices) of this number 360, or 9.8 per cent, were attending

evening classes; of those working in metals and machines 2,334, or 25 per cent, out of a total of 9,333 boys attended night classes. 67

Employers were also more willing to cooperate with local education authorities in schemes designed to encourage apprentices to attend evening or, where the facilities were given, day trade classes. In 1906, the Record, the Journal of the London Technical Education Board, carried out a survey amongst the technical institutes of England and Wales to 'Ascertain the employers' attitudes to technical education'. On the basis of sixty returns it was found that in 45 areas of England and Wales there existed a definite scheme of cooperation between the technical institute and the local employers; only 14 areas replied in the negative, and these included, Darlington, Darwen, Stockton-on-Tees and Wigan. It was also discovered that in only 4 areas did the employers do nothing whatsoever to encourage their workers to attend evening classes. 68

In Edinburgh, the school board found the local employers, 'very cooperative' in allowing representatives of the board to hold meetings 'in the workplace, the employers ensuring a full attendance' in order to speak of the benefits of continued education. 69 Tawney noted also in Glasgow a willingness

68. The Record, January/March, 1906, Vol. XV, pp.100-05.
amongst employers in the metals and machines, building, wood-working and printing trades to encourage apprentices to attend evening school. 70

In addition to state assisted technical education, many of the larger employers, particularly in engineering, set up their own works training schools and/or developed their own schemes of technical instruction. Among those employers providing these facilities were the British Electric Plant Co.; Mather and Platt, Salford; Weir, Cathcart; Clayton and Shuttleworth, Lincoln; Richardson, Westgarth, Co., Hartlepool; Hawthorn, Leslie and Co., Tyneside, Armstrong, Whitworth, Manchester, and many more besides. 71

Trade unions had also become more favourable towards the idea of technical training for apprentices. In 1909, the T.U.C. passed, without opposition, a resolution on technical training which stated:

'This Congress, recognising the difficulty of lads receiving a thorough training in their respective trades, as also the impossibility of securing the same now as formerly in most crafts, owing to the sub-division of labour and specialising, etc., is of the opinion that the matter can only be properly dealt with by the State recognising its responsibility in the way of providing

70. Tawney, 'Memorandum on Evening School Attendance', loc. cit. Of course, encouragement was a far cry from compulsion, as the already cited figures for attendance in Glasgow show.

71. I will include a typical example of an employers' training scheme in an appendix (No. 4).
full facilities for such training, in the direction of establishing technical institutes in all parts of the country to which the employers should be compelled to send their apprentices for a certain number of hours during the ordinary working week, so that such apprentices may be enabled to obtain a general all-round knowledge of the craft to which they may be indentured'.

Even the normally hostile Typographical unions were converted to the cause of technical education. In July, 1909, the Typographical Association passed a resolution favouring 'the more careful selection and better training of boys as apprentices to the printing trade', and this was reaffirmed in August, 1910, when the Association was called upon to support the 'necessity of youths receiving a proper training during their apprenticeship' to offset the destructive effects of 'specialising on skill'.

As the quotations above suggest, trade unions held technical education in increasing favour because of the greater drive towards specialisation, which not only lowered the status of the journeyman, but also augmented the competition from the ranks of the semi- and unskilled workers. It also meant that by being specialised to a machine at an early stage, the labour of the apprentice became cheaper and efficient viz-a-viz the journeyman. Hence, what the production of a 'better' workman was intended to achieve was not only an increase in all-round skill, but also to raise the cost of apprentice

73. Typographical Circular, July, 1909.
74. ibid., September, 1910.
75. For details of this process see case studies in engineering, shipbuilding, building and printing.
labour. As Cannon noted, in his study of the London compositor, the journeymen advocated improved training facilities and provisions for apprentices because 'This would slow down the productive output of the Apprentices and would minimise the extent to which they were employed on more profitable work to the detriment of journeymen'. Moreover, it would also increase the length of time required to gain mastery of the trade, especially as it meant training in all aspects, and this would further decrease the amount of apprentice labour and increase its cost.

However, as Gillis points out, much of the interest shown by the skilled workers in industrial training was the product of social anxiety. The skilled worker, Gillis argues, began to desire a greater regulation of his children's lives by encouraging them to join clubs and church organisations and in working to improve their opportunities in life by acquiring better educational facilities for them.

What dispelled opposition among many hitherto hostile employers towards greater technical training for apprentices was the old bugbear of foreign competition. No longer thought of as an alarmist spectre but as a concrete statement of fact in many areas of manufacture, the progress of Britain's industrial

rivals became a deep cause of concern in employer circles. In engineering, for instance, despite continuing dominance in the production of textile machinery, Britain had lost its lead in the export of steam engines and turbines, agricultural machinery and other engineering products. In fact, in terms of the total export of mechanical engineering products, in 1913, Britain's share of the market amounted to £34,800,000, United States' £29,600,000, and Germany's £37,200,000. In other industries an analogous situation existed. For instance, in the production of steel, by 1910 'the U.S. produced almost twice as much basic steel alone as the total steel production of Great Britain'. In terms of world trade in manufactures Britain's share had fallen from 37.1 per cent, in 1883, to 25.4 per cent, in 1913, whilst in the same period Germany's grew from 17.2 to 23.3 per cent, and the United States from 3.4 to 11 per cent.

Faced with the prospect of a continuously declining share of the world market British employers paid more attention to the need to provide greater opportunities for the young worker to receive industrial training, particularly as reports received from Germany and America tended to confirm the view that technically educated workmen increased production. For

79. ibid., p.206.
80. ibid., p.227.
81 ibid.
82. Hobsbawm, Industry and Empire, op. cit., p.181.
example, in a survey of the American metal trades conducted by Carroll D. Wright, U.S. Commissioner of Labour, it was found that of the 80 establishments investigated 'Eight report(ed) that the special training of their workmen in trade or technical schools... resulted in increasing the amount of the product from 10 to 20 per cent, and in one case 50 per cent; 25 report(ed) improvement in the character and quality of the product'. It was also discovered that technical training made a workman flexible and adaptable when it came to handling new processes and/or machines.84

The American experience was shared by some British firms, Kessrs. Cadbury's, for instance, were convinced that improved education amongst the workpeople led to increased output at the works, and avoidance of waste. At a conference in July, 1907, held between the Bootle education committee and local employers, Mr. Hewitt, of Kessrs. Brumer, Bond and Co., said that industry had gained two benefits from technical education. Firstly, apprentices had improved their understanding of mechanical drawing to the extent that the 'lads now show great ability in hand sketching with chalk or pencil, and can be employed in measuring up for alterations and repairs ....' Secondly, apprentices had shown a greater ability in setting out their own work to the point that what used to

86. The Engineer, 5 July, 1907.
be the 'most difficult of all things to teach an apprentice', in Hewitt's view, had 'now in many cases... come... naturally' to him. 87

However, there were also other reasons of an uneconomic nature why employers became increasingly attuned to the need for technical training. As Roy Hay has noted 88, the opening decade of the twentieth century was remarkable in as much as it witnessed an unparalleled growth of interest among employers in social welfare. This, Hay argues, was a response to the rise of the Labour Party and militant trade unionism. In order to inhibit and check the spread of these organisations and the ideas and principles they embodied, the employers, Hay says, adopted a range of tactical approaches:

'At one end of the spectrum was the repression of socialist movements and militant trade unionism, while at the other was the promotion of a moral and ideological consensus as to the inseparable links between capital and labour, and hence the value of capitalism as a social system. In the middle stood the use of free labour, the promotion of internal and public welfare schemes and the encouragement of individual responsibility and self-reliance on the part of the worker'. 89

Towards this end it seems as if apprenticeship training was allotted a role. According to Paul Robertson, in his study of the origins and growth of technical education in the British

87. ibid.


89. ibid., p.436.
shipbuilding industry, it was a major one. In fact, Robertson came to the conclusion that 'technical education was favoured by employers for reasons of discipline and the inculcation of good habits of work and life rather than for its role in improving the knowledge of the artisans in the principles of shipbuilding and engineering'.

However, it is by no means clear how technical education by itself could attain the ends ascribed to it by Robertson. For, in essence, as we have said above, all that was involved in technical training was the teaching of scientific principles and the development of all round skills by providing a greater variety of work experience. Both were thought necessary to improve the efficiency of the worker and counter alienation from over-specialization; and both were supported by trade unions and employers. Therefore, if we wish to fit technical education into some schema of social engineering it cannot be done by exclusive preoccupation with the subject itself. Only by placing it within the wider framework of apprenticeship training schemes can it be seen as an adjunct to the maintenance of employer hegemony.

Outside of making youths efficient from the point of view of production, the schemes were designed to promote the values of competition and individuality amongst apprentices. In other

words, to provide a programme of socialisation which was at odds with the guiding principles of the labour movement — cooperation and collectivity. Under the schemes marks were awarded for such things as conduct, progress in the works and at technical school, attendance, time-keeping, etc. At the end of each year the results achieved in each markable category were added together. Any apprentice receiving a pass or better would be rewarded by a small increase in wages, a bonus, or a prize. The most able were given the opportunity of continuing their studies at a higher or university level. The British Electric Plant Co., for example, gave all those apprentices in its employ who gained 60 marks the 'sum of 6d. added to (the) ... weekly rate of pay for the following year' and for those achieving a result in excess of 60 '1d.... for every ten marks'. 91 In addition, 'Promotion in the workshop and admission to the drawing-office will depend on marks obtained'. 92 Of course, those apprentices who did not reach the target pass of 60 marks did not receive an additional payment, and if their record was one of no progress whatsoever they were liable to 'dismissal'. 93

Given the nature of the scheme — and there were many exactly like it — it would appear that the intention was to breakdown what occupational solidarity existed amongst the young workers and replace it with individual goals and aspirations, as well as to encourage a greater amenability towards supervision.

91. Engineering, 6 October, 1905.
92. Ibid.
93. Ibid.
and discipline. Engineering, in an investigation of such training schemes, said of them:

'\textit{The foreman will have to keep in touch with the apprentices, and will also have a powerful means of distributing rewards or punishment, for the lads will recognise that their immediate gain and future prosperity are largely in the hands of those under whom they work}'. 94

The welfare supervisor of the Fairfield Shipbuilding and Engineering Co., Govan, said that the training schemes allowed the company to develop a 'greater grip on the boys'. 95 The schemes also provided for greater upward mobility in which those apprentices, who possessed determination and talent, would gain their just reward in the attainment of quasi-managerial status. According to A.P. Fleming, this was one of the 'best means of democratising industry'. 96 He might have added that it also creamed-off those young men, who would have otherwise felt frustrated if their ability was unused or denied scope for development, and who might have gravitated towards an anti-bourgeois viewpoint as a result. The offer of petty-bourgeois status, then, denied to the growing labour movement men of ability.

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94. ibid.
96. ibid., pp.108-09.
However, most of these schemes, not directly situated in the workplace, were tied to the evening school, attendance at which was made a condition of employment. 97 Outside of the compulsory schemes attendance was, of course, voluntary. As we have noted above, all the statistics would show that only a minority—albeit a sizeable one—regularly attended these evening schools. This meant that only a minority of apprentices were subject to schemes designed to increase the employer's dominance over them and to inculcate them with a pro-capital world view. Therefore, any attempt to build a system of class control inevitably floundered on the issue of participation, and as such would only operate on a selective workplace level. 98

The main reason why the attendance of evening school was poor lay in the physical problems of attending. Arthur Balfour, engineering employer, of Sheffield, said it was 'a very great strain for boys and girls under twenty to work the whole day,  

97. In the works of Mather and Platt, for example, apprentices were required 'throughout the whole term of their apprenticeship to attend evening classes at the Manchester or Salford Schools of Technology', Engineering, 17 January, 1913.

98. The failure was underscored by the report of the Departmental Committee on the Engineering Trades (1918), which stated that in respect of training 'We think that some system of close sympathetic control... should be more generally introduced', op. cit., p. 38. Obviously they were still some way short of their goal of producing 'good citizens'.
and then go to Evening Schools...."99 Another employer, W.G. Spence, recognised the problem of fatigue when he said 'only a very exceptional youth, strong both mentally and physically can make any great headway by evening study, and at the same time work regularly and well in the works from 6 a.m. to 5 p.m.'100

However, the problem of fatigue was not just tied to the length of the working day. In large cities, like London, where the distance between a youth's home and the technical institute might be considerable the problem was compounded. As much as two hours might be added to an apprentice's working day in travelling to the classes and back. And if one includes the two hours in which instruction was given (7p.m. to 9 p.m.) one can only admire the drive and perseverance of those who attended night school on a regular basis. But it hardly comes as a surprise that an evening school inspector, William Edwards, of Merthyr Tydfil, could report that 'it was not uncommon to see (in evening school) a colliery boy sleeping at his desk....'101

Yet another problem was that of systematic overtime working amongst apprentices. The A.S.E. complained, in 1901, that the prevelance of such a practice militated against a worker adding to his 'store of technical knowledge'.102 The Birmingham Education Committee highlighted the problem

99. Final Report of The Departmental Committee on Juvenile Education in Relation to Employment After the War, BPPXLI, 1917-18, p.11.
100. Clarke, op. cit., p.188.
of overtime in reducing attendance at evening school.
Attendance, they said, was good during the months of September
and October, but in November and December the apprentices had
to work excessive overtime, due to the seasonal pressure of
orders, and 'they gave up classes and did not return till
January'. An evening class instructor in the north-east
of England also reported that he 'had seen classes completely
broken up by students having to work overtime'.

In order to combat the debilitating effects of fatigue and
to reduce overtime working by apprentices proposals were made
to introduce a half-time system of continued education, in
which the apprentice's time would be divided between the work-
shop or factory and the technical school. The idea had first
originated in Britain with the ubiquitous Rev. Henry Solly, who
in 1884, had advocated 'afternoon technical school, say, at
least three afternoons a week'. Solly, however, did not
invent the scheme, it was well-established in Germany and
France, and he simply adopted it wholesale. But through his,
and others', efforts the scheme eventually gained a large
following amongst social reformers and trade unionists.

102. The Amalgamated Engineers' Monthly Record, July, 1901.
104. Clarke, loc. cit.
105. R.C. on Technical Instruction, op. cit., q.2696, pp.264-05.
in the early twentieth century.

At the risk of digressing somewhat, it must be said at this point that over the years Solly's scheme had come to acquire a more universal application. It became part of a wider issue as to whether children as a whole, and not simply those apprenticed, should receive continued education on a compulsory basis on leaving elementary school. The impetus behind such farsighted social engineering was of a threefold origin; first, the continued progress of German manufactures, which was adduced to have resulted from their superior educational system; second, the need to stave-off the wasteful use of the 'moral and physical capital of the rising generation'¹⁰⁶, brought on by the proliferation of blind-alley employment; and, third, to uplift the moral tone of British youth by preventing them, through education, from attending, 'the street corner, the lane end, the gambler's haunt, the betting rendezvous, the singing saloon, the public house', that every day, 'are filled... with young people'.¹⁰⁷ But it is not within the ambit of this chapter to deal with the whole controversy surrounding compulsory continuation schooling for British youth; our attentions are necessarily fixed on one section-trade apprentices. It will suffice to say that in general the reason why the system failed to establish itself lay in the fact that the majority of girls were involved in domestic service. If compulsory education was introduced

they would have to be released from employment to attend classes, which was unacceptable to the bourgeoisie. 108

As one might conclude from foregoing statements, the trade unions pressed strongly for compulsory day-time technical instruction. In 1909, Mr. J. W. Morgan, Chairman of the Birmingham Trades' Council, exhorted the Government for 'an act (to) be passed compelling young persons to attend (technical classes) during the afternoon', and also demanded that an 'employer should be under statutory obligation to allow the employee to leave off work earlier on certain days of the week....' 109 He added weight to his proposals by mentioning that they were put to the various trade unions of Birmingham and 'forty out of forty-five of them supported it'. 110 In the same year, the Dundee printers demanded that technical education be given 'in the employers' time throughout the day'. 111

The demand for compulsory day-time instruction by the unions was made, in part, to raise the cost of apprentice labour. For it was transparently obvious that if such a scheme were introduced on a universal basis by state legislation it would

108. Walter Runciman, President of the Board of Trade, when pressed on the question of day-time instruction by the Parliamentary Committee of the T.U.C. said, '... in legislation upon a subject of this kind we have to deal with small employers as well as large ones, and you know very well that the largest number of employees are domestic servants.... There are more girls in domestic service than in any other trade in the country, and that has presented difficulties which may be able to overcome, but upon which for the moment I cannot say anything'. 5th Quarterly Report of the Parliamentary Committee of the T.U.C., 1910, p. 57.


110. Ibid.
increase the demand of the craft founded industries for labour, because it was axiomatic that if a large section of the workforce in any one enterprise were to leave off work at regular times and for prescribed hours others would have to be available to fill their places. George Carson, secretary of the Glasgow Trades' Council, said that 'In nearly all trades there were probably five or six per cent of unemployed men whose services could be utilised if the boys were taken away'.

In trades, such as shipbuilding and engineering, where a squad or team system existed replacement labour was even more essential unless wide-scale disruption to production was to result. Therefore, either the employer would have to recruit more apprentices, which in effect would raise the price of the latter's labour viz-a-viz the journeymen, or alternatively he could reduce his dependence on youthful in favour of adult labour.

Moreover, in these trades, if apprentices were prevented from working overtime on a regular basis similar consequences would result. All in all, Mr. R.A. McLaren, vice-president of the I.E.S.S., doubted whether 'employers generally (would) find it worthwhile to take apprentices' in view of such prospects.


113. These points are well illustrated by the remarks of the Departmental Committee on Shipping and Shipbuilding (1918): '... working in groups along with journeymen as apprentices generally do, the absence of the apprentices during any part of the daily working hours upsets the work, (and) is agreeable, neither to the men of the squad nor to the management...,' op. cit. p.37.

Some employers, however, as we have noted, were sympathetic to the problems faced by apprentices in attending evening classes. Consequently a number agreed to allow some time off to apprentices engaged in furthering their studies. In London, for example, Cyril Jackson found that among the 28 engineering companies interviewed by him 'seven... (said) they gave time off for the purpose (of attending evening school), six others allow(ed) time off when... necessary, whilst another employer allow(ed) freedom from overtime'.

Professor Sadler found that out of the 17 great railway companies, seven of them, 'excuse day work under certain conditions to apprentices... to attend day technical classes'. Firms, such as Palmers and Swann Hunters, in the Wear district made concessions on the working of overtime on 'class evenings', although in the latter's case it was only made to those apprentices 'who show(ed) exceptional ability'.

These concessions were made on a minority basis, the majority of employers were actively hostile to making reductions in hours, although they were not necessarily opposed to voluntary attendance at evening classes. As such they hotly contested the problem of fatigue as a barrier to a boy or girl receiving instruction in the evening. The president of the Institute of Mechanical Engineers, Mr. T.H. Riches, considered evening study a positive good for boys as the work in the class was in the nature of recreation being so very different to day

117. Clarke, loc. cit.
William Marshall, engineer, added that 'If they are not attending the evening classes they get into mischief'; whilst Peter Anderson, building contractor, Glasgow, thought 'boys now worked too little'.

These views were not surprising considering a fair number of employers were self-made men who looked to their struggles in life as an example for others to follow. The ethos of hard work, thrift and determination were deeply embedded in their psyche. An example of this outlook was given by a shipbuilder who glorified the difficulties imposed by a regime of long hours and evening study, saying:

'I think that many of our best men who can doubtless look back with a great deal of pride on the education and training which they have obtained at evening classes would consider the matter in precisely the same way. I think that if their path had been made smoother by having facilities only for day instruction they would not have made perhaps such good men as they appear to be at the present time'.

118. Some firms offered inducements to encourage apprentices to attend evening school. These included increasing pay for examination success, the payment of fees, the awarding of prizes, books, and so on. For numerous examples of these kind of incentives see Edinburgh School Board, 'Report on the Question of Day Trade Continuation Classes', (Edinburgh, 1914).

119. Report on Continuation Schools, op. cit., p.359; see also Engineering, 15 October, 1909, for a similar view.

120. R.C. on Poor Laws, Q.87,861, p.455.


But reductionism was not objected to on the basis of ideology alone, it was also contested on economic grounds. The employers argued that the adoption of such a scheme would lower profits and raise costs. For instance, the shipbuilding employers argued that 'in large shipbuilding yards with 1500 apprentices, if boys were to attend two afternoons a week at least 600 would be absent from work on any day.... the cost to the firm would be as high as £15,000 to £30,000 per year'. The Scottish Chamber of Manufacturing Industries in a memorandum to the Glasgow School Board said that employers were opposed to giving time off to boys 'to attend school during the working hours' on the grounds that; one, 'In many of the working processes adult workers depend a good deal upon the young workers, and if... young workers are to be allowed away... such a state of matters will mean... additional handicaps on production'; two, 'as competition is very keen (particularly in textiles) the effects of four hours' reduction in the hours of labour will be much to the prejudice of Glasgow industries'; and, last, running costs would not be reduced despite the fact that a sizeable portion of the workforce was elsewhere, 'which would mean more loss to the employer'.


124. Under the Education (Scotland) Bill, 1908, Clause 9, local authorities were given permission 'to make bye-laws for the compulsory attendance of continuation classes of young people between fourteen and seventeen'.

Fundamentally what the employers wanted was not a rigid compulsory system sanctioned by law, but rather a flexible one based on voluntary attendance and attuned to local and individual needs. In contrast to the demand of labour for a state organised and controlled system, the employers wanted to place the responsibility in the hands of the local authorities.

The local authorities could, of course, introduce a system of compulsory continued education but there were good reasons to suppose they would not. For, in the first place, the local authority was arguably more responsive to employer pressure than a centralised structure, taking an overall view of the needs of the nation state and less attentive to, or knowledgeable of sectional or regional demands and needs, would be. Furthermore, if the area was dominated by one particular industry and set of employers, such were the shipbuilding towns of Jarrow and Clydebank, the local authorities would be under even greater pressure to adhere to the wishes of the economic power centre. And given the competitive nature of the capitalist economy no locality would be liable to introduce bye-laws which would place the area at a disadvantage viz-a-viz other areas. The essence of this was captured by Alderman Oulton, chairman of the Liverpool Education Committee, when he said, 'To apply it (compulsory continued education) in some towns and not others would give manufacturers an unfair advantage over others'. 126 Cyril Jackson argued that if such

a scheme were left to the discretion of the local education committee 'in London and not in the surrounding areas, London employers would simply employ boys living in places like Enfield, which... are not included in the London educational area...' Therefore, when in Scotland, in 1908, local authorities were empowered to organise compulsory classes none of them took up the option.

For these reasons little day-time instruction was given to apprentices. In fact, the Edinburgh School Board, investigating the problem of day trade class attendance, in 1914, could find little evidence in Britain of any apprentices attending in large quantities the technical institutes. For example, in Sunderland there was 'no system of day trade classes'; in Glasgow, 'apart from the students in the engineering departments ... the only day classes in the Royal Technical College (were) ... those in breadmaking and for painters', whose numbers amounted to twelve and fifteen respectively; in Halifax, 'about 60 engineering apprentices and some painters were receiving day-time instruction at the Municipal Technical School'; and a similar picture emerged elsewhere.

Therefore, no systematised scheme emerged which might create the desideratum of a standardised training for all apprentices. The goal of creating an all-embracing participatory scheme of

127. ibid., p.471.
128. 'Report on Day Trade Continuation Classes', op. cit., p.3.
129. ibid., p.17.
130. ibid., pp.7-8.
training which would produce a flexible workman not tied to an insular knowledge of a sub-divided part of a process, but armed with a comprehensive understanding of the whole, and able in turn to overcome the shifts in technology by assimilating new ways of working and adapting his skill to suit changed conditions of production, was never totally realised, as the statistics show. All the fears of German competition; the promises of a more sober and efficient workforce; of a deradicalised working class, were not enough to induce more than a minority, albeit an important number, of employers to tamper with time-proven methods of training and working, which had guaranteed a steady, if not spectacular, flow of profit. As Professor Payne has said in reference to the British entrepreneur and technological innovation, although it might equally apply to innovations in the acquisition of skill, in the years 1870-1914:

'If innovations do not yield reductions in average unit costs, then it would be irrational for a businessman to introduce them even if the innovations would benefit the future growth of the economy. The individual businessman cannot be expected to estimate external economies'.

The majority of employers were never convinced that the improved technical education of their young apprentices could realise substantial increases in production and reductions in costs. Most believed that workshop training was still

the best method of acquiring a skill. As one engineering employer from Bradford, Mr. F.J. Pybus put it in 1918:

'The Technical College of to-day can teach a boy to machine a particular part of an engine with reasonable accuracy, but to produce it any way except at minimum cost and by the very latest machinery is a pure waste of time.... The life of a machine tool is not the time taken to wear it out; the tool is scrapped whenever another device does better work at less cost'. 132

Hence, new methods of training apprentices remained sporadic in their effect. Continual practice rather than theoretical understanding remained for the majority of apprentices to be the clay from which they, as future journeymen, would be modelled. 133

132. Departmental Committee on Juvenile Education, op. cit., p.16
133. In 1918, the Departmental Committee on the Shipping and Shipbuilding Industries criticised the fact 'that this important problem (technical education) should (have been) left to the efforts of a few well-intentioned employers', op. cit., p.37.
One aspect of middle-class interest in apprenticeship assumed a moral rather than a purely economic form, and derived from a preoccupation with social order. Apprenticeship was seen by them as an aid to social stability in face of potential disorder and conflict. The steady disciplined method of training and the obedience and self-sacrifice involved in acquiring a skill were thought to be productive of moderate and conservative habits in life. It was, in short, thought to be a status quo enforcing agent: contentment with work equalled contentment with the socio-economic and political arrangements in society at large.

This view was first expressed by William Playfair, in 1814, in a 'Letter...on the Advantages of Apprenticeships'. In the Letter, Playfair advised parents to bind their children to prevent them from 'becoming vagabonds and blackguards'.¹ According to Playfair, unskilled youths were 'squalid, emaciated' creatures 'with careless and impudent looks'.² In contrast, skilled or apprenticed youths were depicted as 'neat, clean, and respectful...with the appearance of laborious industry'.³ Thus at an early stage in the nineteenth century a connection was established between apprenticeship and youthful discipline

1. William Playfair, 'A letter...on the Advantages of Apprenticeships', (London, 1814), (ms. pub Collection, British Library of Political Science, S.B. VI.1.)
2. ibid.
3. ibid.
and respectability. Habits which were thought to be carried on into adulthood.

This relationship between occupation and social quiescence was also characteristic of middle-class thinking on the subject later in the nineteenth and early twentieth century. In the 1870's and 80's it was associated with the technical education movement and class conciliation, and in the 1890's to 1914, with major social problems, such as crime and unemployment. And just as the nineteenth century began with a ringing celebration of the advantages of apprenticeship, likewise the first decade of the new century received the same strident affirmation of the value of apprenticeship to society:

'The beneficial effect of systematic, continuous training in any direction is well-known. The habits of careful work, and necessity for mental activity called forth in the training of a first-class workman, have been as important in determining our standard of natural character as other specialised courses of training in our public schools, our universities....In virtue of the industrial supremacy of Great Britain, we have in the past been able to afford the benefits of careful workshop training....Private employers in many trades and industries could not have won success, unless their apprentices and learners had received an almost individual training in the workshops. The advantages to the employers coincided with the advantage to the nation, and it built up generation after generation of self-respecting, well-informed work-people from whom our middle classes have been largely recruited'.

The first important work by the middle-class in connection with apprenticeship was that of the Trades' Guild of Learning, formed in 1873, in London, by the Rev. Henry Solly and some of his friends. However, it was Solly who was the motivating force. It was he who organised a meeting with the London Trade Delegates at the Bell Inn in April, 1873, with the purpose of setting up the T.G.L. Most of the important London trades, including printing, cabinet-making, engineering, and so on, were in attendance at the meeting. Although doubt was expressed as to the cooperation of trade societies generally, it was agreed by the delegates that in spite of this, 'it was of the greatest importance to trade unionists themselves to make working men thoroughly skilled'.

The note of apprehension at the deterioration of skill was in fact the moving force behind trade union involvement. The artisans were concerned at the amount of 'inefficient workmen' employed in the trades of London. If this regression was allowed to continue unabated, it was feared that it would lead to a rapid and irreversible lowering of 'skill and wages', and this would cause the 'English artisan ... (to) sink into the condition of the agricultural labourer'. To avoid such a parlous prospect, the T.G.L. argued it was necessary to increase the efficiency of skilled labour.

5. Rev. Henry Solly Collection, (British Library of Political Science), Vol. XII, Section 11 (c), k.86
6. ibid.
7. ibid.
8. Address from the Executive Committee of the T.G.L. to the Trades' Councils, Committees, and Members of the Trades Unions of the United Kingdom, ibid., k.87
To achieve this end the T.G.L. advocated the setting-up of classes for technical instruction managed 'by the Trade Societies' through their membership of the Guild. The teaching of those classes was to be practical and in the hands of men 'who have themselves worked, or are working, at their trade'. Instruction was to be available for journey-men and apprentices alike.

However, Solly did not just see the function of the T.G.L. as the improvement of skill, it had another equally important task, that of 'promoting a good understanding between employers and workmen, and securing to apprentices necessary instruction which might materially assist in ...(the) elevation of the working classes'. Indeed, the promotion of good class relations was a constant theme of the T.G.L. under Solly's chairmanship. In a letter to The Times (30 October, 1873), Solly appealed to the readers to contribute 'money and books, teaching power, sympathy and influence, to aid the progress of this important national movement'. In doing so, he argued, they would 'avail themselves of a golden opportunity for promoting not only the education, skill, and refinement of working men, but the growth of kindly feelings between them and the other ranks of society'.

9. Ibid. 10. Ibid.
11. Ibid. 12. Ibid.

k. 117.
Solly's interest in furthering class conciliation and improving the morality of the working-class in accordance with bourgeois standards stemmed from his experiences during the Chartist struggles of the 1830's and 40's. As a Unitarian minister in Yeovil, Solly took to attending the local Technical Institute, and it was here he was introduced by some of the artisans to Chartist. Solly on reflection could find 'no great opposition' to the six points of the Charter, except the last (annual parliaments), which he considered 'too short a period'. However, Solly had no love for the 'physical force' elements of Chartist, 'and was proportionately relieved and rejoiced' when he learnt that the Yeovil artisans subscribed to the 'moral force' views of Lovett and others. Through time Solly came to see the middle-class inspired Complete Suffrage Union of Joseph Sturge as the best method of achieving the political goals of the Chartists. The Union advocated universal male suffrage, to be achieved through joint cooperation of the middle and working-class. The main impetus behind this organisation was to wrest control of the movement for the Charter from the hands of the more dangerous socio-political leaders such as O'Connor, O'Brien, and others, and channel it along lines where the middle-class could bring its influence and opinion to bear. Its emphasis on class conciliation and mutuality rather than antagonism received Solly's heartiest approval and support.

14. ibid.
15. ibid., p.408.
The Union failed to realise its desired end: Chartism remained a predominantly independent working-class movement. The failure of the C.S.U. and other middle-class voluntary organisations, including Solly's own Mutual Improvement Society (1842), and the Mechanics' Institutes, to make a significant impact on the working-class' morals and politics caused Solly to reformulate his approach. In past years social reformers had tended to consider workers as inferior social beings, and, in consequence, incessantly preached to them about their bad habits and sinfulness. Solly rejected the idea that workers were inferior, as a result, he put his faith in educating them to their responsibilities as citizens, and in 'civilizing' them by offering them congenial and pleasant surroundings for social intercourse, study and amusement as a counter-attraction to the pub and other places of bad reputation. To this end he organised clubs and institutes, nominally under working-class control, but with a large and visible middle-class presence, especially on the important management committees. It was the task of the middle-class representatives to remake, by subtle and gradual means, the working man in the mirror image of the respectable middle-class man. This would be achieved by mere association of working men with the middle-class, and by the acquisition

16. For reasons behind its failure see, for instance F.C. Mather, 'Chartism', (Historical Association Pamphlet), and any other standard text book dealing with the period.

of civilized habits and pursuits, which by degrees would make the former more acceptable to the latter, resulting in the creation of a spirit of mutuality between the classes. Thus the political and social stability of the country would be ensured. 

Therefore, in discussing any of Solly's ventures, whether in the field of technical education or temperance, it is well to understand that the underlying goal was more than the production of skilful and sober workman, but to safeguard the socio-economic and political fabric of British liberal capitalism. It is also pertinent to point out that given the existence of these aims the programme of technical instruction was as much aimed at the journeyman as it was the apprentice, although the classes tended to be more often frequented by the latter.

However, the T.G.L. did not realise the grandiose social designs laid out by Solly. By November, 1873, the T.G.L. had collapsed amid financial bankruptcy and members' apathy. At a special council meeting, held on 21 November, it was stated that '...the attendance of the members...has very much fallen-off...and...the pecuniary liabilities of the Society, are between £50 and £60, towards which there is only

18. Solly's autobiography contains numerous references to his views on the working-class and the role of his clubs and institutes, see, for example, Vol. 11, pp.51,157,158 161, passim.
around £15 in hand'.

The wisdom of Mr. Micawber was
never better illustrated.

Undeterred, Solly organised a new institution just two years
later, the Artisans' Institute (later the Artisans' Institute
and Technical School). Like its predecessor, the new
Institute had as one of its prime objects the promotion of
class collaboration. At a soiree held on 1 March, 1875,
to launch the A.I. it was proclaimed that what the artisans
wanted was that they 'and their whole class should be raised
in the social, moral, and intellectual scale, so as to become
worthier of social respect and political power by habits of
study and self-control, by the acquisition of knowledge and
custom, as well as by general culture and technical skill'.

But unlike the T.G.L., the A.I. enjoyed more influence and
greater longevity.

The meetings of the Institute were top-heavy with middle-
class representatives. Adam Soder, a cabinet-maker, in a
letter to Thomas Brassey, M.P., complained that none of the
meetings were attended by 'more than twelve to fifteen real
workingmen'.

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20. ibid., Vol. XII, k.219.
21. ibid., k.239-40.
language of class conflict emerged, and reached the stage of causing some members of the Institute great concern. Indeed, in April, 1875, one of Solly's friends in the A.I., a Mr. Robert, wrote to Thomas Brassey attacking the anti-conciliatory behaviour of 'Messrs. Odger, Broadhurst, Connolly'. According to Robert, these three had been instrumental in placing 'labour in direct antagonism with capital', and undermining the 'good qualities' of the working man 'by...delusive and dangerous teachings'.

This was a rather strange accusation considering that both Odger and Broadhurst were among the more notable class collaborationists in the trade union movement of the period. It serves to remind us that whilst the 'labour aristocracy' may have been outwardly class conciliationist, rejecting the strike weapon, they still clung to the view that the interests of labour and capital were by no means one and the same. As such they refused to accept the doctrines of classical liberal economy, which saw capital and labour as inseparable dependencies.

22. ibid., pp.231-33. George Odger was 'a prominent member of a highly skilled makers of ladies shoes' society and an influential leader of working class radicalism', Henry Broadhurst was one of the leaders of the stonemasons and the first working-class Cabinet Minister. Thomas Connolly was President of the Operative Stone- masons. All were members of the London Trades' Council and were either direct members of what the Webbs called the 'Junta', in the case of Odger, or were extremely friendly towards it. (Webbs, The History of Trade Unionism, op. cit., pp.125,222).
In terms of practical work the A.I. was able to hold classes for 154 students in 39 different trades. However, it was only the carpentry trade which responded to any significant degree, with 36 members enrolled in classes. Although the numbers were rather disappointing, a sub-committee of the London Trades' Council investigating the work of the A.I., in 1878, thought the work useful enough to recommend 'the attention of the Trade Societies to use every effort to secure and utilise the many advantages which this Institution affords'.

Around the time of the publication of the Council's report Solly resigned from the A.I. due to ill-health. With Solly gone the Institute lost its creative force and by the end of 1878 it was in deep financial trouble. Donations and subscriptions had petered out with the departure of Solly and the trustees were faced with the 'payment of a heavy rent for two years'.

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24. Annual Report of the Artisans' Institute, June, 1877, Solly Collection, op. cit., k. 274. The report said that the A.I. had enrolled 40 bricklayers in one of its classes. This was quite untrue. They merely rented a room at the Institute and none of them were either students or members. (Letter to Solly from Mr. Dawson, ibid., k. 276-77, 12 June, 1877).


26. ibid., k. 358-61.
In desperation the trustees took up an offer from Mr. Gray, ex-officer in charge of the Government workshops in Bombay, to run the Institute on profit-making lines. Under his scheme the apprentices would execute orders of work, which Gray had procured, in return for instruction. For these services Gray agreed to cover the cost of the rent of the Institute building, which amounted to £115 per annum. The experiment was to last for six months. However, it seems that Mr. Gray did not live up to his side of the agreement. No payment for rent was ever received by the trustees, and Gray's connection with the A.I. was duly severed in June, 1878.27 By 1879 the A.I. had collapsed.

Lack of finances, indifference and apathy amongst the members had brought the A.I. to an end. But with Micawber-like optimism, and now seemingly recovered from ill-health, Solly agreed to head yet another organisation, the Artisans' Association for the Advancement of Technical Education (1882). According to Solly, the initiative had come from working men after a decision to appoint a trade union committee to give evidence before the Royal Commission on Technical Education (1884).

'I (Solly) did not recommend its (A.S.A.T.E) formation and proposed only the appointment of an Artisans' Committee after the interview with the Royal Commissioners; but all the working men present at the meeting contended that a committee was not sufficient and that a society must be organised'. 28

27. ibid. 28. ibid. 413-14.
The objects of the new society were similar to its predecessors. It saw as its function the bringing together in a spirit of mutuality employers and workmen. However, perhaps learning from previous errors, this time there was a far greater emphasis on technical education and less on the grander design of class collaboration. Under the terms of the first object, the A.T.A.T.E. sought to assist workmen 'in putting their views and experience in regard to Technical Education' to bodies such as Royal Commissions, Charity Commissioners, Society of Arts, and so on. It also intended, under the second object to promote 'the training of skilled foremen and workmen for the office of Technical Teachers', as well as forming Technical school(s) and classes'. And, finally, under the third object, it hoped to supply workmen with all the latest information concerning developments in their trade, both at home and abroad. 29

There was also greater scope given to artisan involvement in the running of the organisation. There was formed a committee of management made up of representatives of most of the London trades, including engineering, tin plating, shoe-making, carpentry and joinery, and so on, under the chairmanship of Solly. However, in keeping with previous practice, most of the important office holders were members of the middle-class, for example, the vice-presidents included Hodgson Pratt, a retired member of the East India Company, 30

29. ibid., k.382.

30. Price, op. cit., p.131. Pratt was considered for the Nobel Peace Prize in 1906, but according to Price, was 'rejected in favour of Theodore Roosevelt, ibid.'
G.N. Hooper, 'the great manufacturer', and Thomas Twining, a fellow of the Royal Society.

No doubt the reasons behind the new organisational structure and the overtly practical basis of the undertaking were, firstly, that Solly was trying to win the (financial) support of the City Guilds, and, secondly, to attract the interest of artisans, who might have otherwise rejected the overwhelming middle-class patronage and control associated with the Associations' forerunners, the T.G.L. and A.I. However, in spite of such promising beginnings, flagging support, both financial and physical, forced Solly to write letters to well-to-do individuals and others pleading for them to exercise their generosity by injecting some cash into the dwindling coffers of the A.T.A.T.E. In a letter to the Worshipful Company of Mercers (2 January, 1886), Solly catalogued the reasons for the poverty of the Association and its failure to make an impact on the general body of artisans. According to Solly, it was 'only the elite of the working classes ... who are willing to contribute to the cause of Technical Education, however, 'the income from this source ...(was)both uncertain and inadequate'.

31. Solly, These Eighty Years, op. cit., p.549.
32. ibid., p.548.
33. The London Trades' Council's report on the old Artisans' Institute had criticized middle-class patronage and insisted that it must 'ultimately become self-supporting', Solly Collection, op. cit., k.235-36.
34. ibid., k.408-10.
of the revenue raised so far, explained Solly, had gone into paying the running expenses of the society, for example, rent, salaries, and so on, that spent on the promotion of the practical activities was said to be negligible. And despite extensive distribution of hand-bills through all the builders' workshops of Blackfriars bringing to the attention of the apprentices the holding of a class in carpentry and joinery, only one applicant came forward. In fact, the Association had only been successful in establishing one class of any duration, 'the sheet-metal workers' class...in Stamford Street.'

In March, 1886, the A.T.A.T.E. was dissolved. Solly claimed the failure on the 'want of funds' and the misconduct of some of its leading members, particularly the secretary. However, there were more deep-seated reasons for the failure, not just of the Association, but its predecessors as well.

In the first place, there was the autocratic figure of Solly himself, whose outsized sense of his own importance made him unable to delegate responsibility or let others play a role in the organisation(s) of comparable prestige to his own. Adam Weder, in a previously cited letter to Thomas Brassey, said that Solly was mistrusted by working men, unscrupulous, self-seeking, and dictatorial:

35. ibid. 36. ibid., k.413-14
37. ibid., Solly does not name the secretary.
38. Price calls him Adam Weiler (ibid., p.131), however, I have translated Solly's handwriting in such away as to make it Weder.
'He (Solly) has never worked unless he was allowed the lead as well as good pay (his salary was £150 per annum) and has never been over scrupulous in obtaining his ends. This is the reputation that gentleman has among the working men who knew him....' 39.

In the second place, the need to attract well-to-do patronage; the predominance of bourgeois representation on the management committees of the various organisations, the underlying class conciliatory function, acted to discourage the active involvement of artisans, who were denied the chance to play an equal role. 40 Lastly, the cause of technical education was still a minority one at this time, neither trade unions nor employers were totally committed to it as a method of trade teaching. 41

However, in spite of the evident failure of the Solly organisational initiatives, the various institutions did create a greater awareness, at least in London, of the need for technical education. Solly's epitaph for the A.I. serves as a fitting comment to these years of pioneering:


40. As has been mentioned Solly was also active in extending middle-class patronage and control to the Working mens' Club Movement. However, middle-class control was usurped by the working-class members who resented their dominance. Price, op. cit., pp. 131-39.

41. See chapter on 'Technical Education and the Apprentice'.
'An institution that has made a commencement for the first time in this country of giving that Technical teaching by skilled workmen, which is an essential need of the present day: that has thus indicated that direction that all Technical instruction must for the future, to a considerable extent, follow out... can hardly be considered to have borne fruit wholly insignificant'. 42

To Solly, then, this was not total failure: but it was failure nevertheless. The schemes in any case, were too grand, too subtle, and the means too slender and unacceptable to those whom they were aimed at.

The second phase of this type of middle-class involvement with apprenticeship was connected with the problems of casual labour, unemployment and crime. Faced with chronic unemployment patterns amongst the low skilled in the closing years of the nineteenth century and in the early years of the twentieth, middle-class reformers thought the abolition of 'blind alley' employment and the growth of industrial training would gradually improve the condition of the people. C.B. Hawkins summed up the attitude well when he said that the value of an apprenticeship was that 'a man who has once learned to apply skill and judgement in any kind of work is never likely to be quite at a loss whatever happens to his particular trade. His labour will be in demand in more than one market'. 43

42. Solly Collection, op. cit., k.340-47.
Investigations into poor relief found that a substantial number of those qualifying for assistance were young people. Professor Sadler, in a letter to the *Morning Post*, 27 August 1908, said that 'more than one-half of the total number of applicants who ...qualified for assistance under the Act were under 40' and 'more than one out of every four (25 per cent) of the total number of qualified applicants was under 30'.

A survey of applicants applying for relief to the Glasgow District Committee found that 'out of 2,199 men investigated in 1906-07, 20.9 per cent had applied to the Committee in previous years' and that there were a 'large number of young men amongst the applicants'. In fact, 'during the last three winters (1904-5, 1905-6, and 1906-07) 3,273 men under 30...applied for relief to the...Committee'.

It was discovered in other studies that not only were a large number of poor relief applicants young, they were also unskilled. The Stepney Distress Committee conducted an enquiry into the industrial history of all applicants under the age of 35 residing in Stepney. Out of the 333 applicants who filled in their questionnaire it was found that 'only fifteen or 4.5 per cent stated that they had been apprenticed; 23 (6.9 per cent) said that "they had picked up some kind of skill". All the rest had gone to unskilled work on leaving school. Up to the age of 21 each of them had held an average of three different situations'.

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45. Consultative Committee on Attendance at Continuation Schools, *op. cit.*, Memorandum by R.H. Tawney, p.314.
The problem of unemployment amongst low skilled young people was also linked to crime. Tawney, in his study of boy labour in Glasgow, found that those most liable to lapse into criminal pursuits were employed in 'low skilled, non-educational' occupations.\(^4\)\(^7\) According to the Chief Constable of Glasgow, '81 per cent of 1,454 youths between 14-21 charged with offences inferring dishonesty were drawn from non-educational ('blind-alley') occupations'.\(^4\)\(^8\) Cyril Jackson found that out of a total of 1,431 inmates of local and convict prisons under the age of 20 there were 380 general labourers, 49 street sellers, and 66 carmen, as against 20 printers and 26 tailors. The unskilled inmates were obviously in undue proportion to their skilled counterparts.\(^4\)\(^9\)

Alarmed at the extent of the involvement in crime of unskilled young workers the middle-class reformers thought that part of the problem lay in the alleged breakdown of the apprenticeship system.\(^5\)\(^0\) Reginald Bray, in his influential book, *Boy Labour and Apprenticeship*, argued that as apprenticeship declined there was no adequate substitute for disciplining young people, who were drifting in a vicious circle of unskilled work and bouts of unemployment, which was especially worrisome to Bray because they were at an age when the 'forces of sin and those of virtue struggle so hotly for possession of the youthful soul'.\(^5\)\(^1\)

\(^4\)\(^7\) Tawney, *Economics of Boy Labour*, op. cit., p.533.

\(^4\)\(^8\) ibid.

\(^4\)\(^9\) Jackson, op. cit., Table 11, p.43.

\(^5\)\(^0\) For a discussion on whether the apprenticeship system was really in the process of decay see the chapter on 'British Apprenticeship, 1800-1914'.

\(^5\)\(^1\) Reginald Bray, *Boy Labour and Apprenticeship*, (Constable, London, 1911), F.VI.
Thus a strong connection was made between unemployment and blind alley work with the criminal potentialities of an individual. This, it was argued, could be offset by 'the regularity of habits and the mental discipline involved in learning a trade', all of which constituted 'an excellent preparation for the duties and responsibilities of social life'. Numerous voluntary societies grew up with these words in mind.

Most of the societies drew their ideas and inspiration from the apprenticing work of the Jewish Board of Guardians. In 1873, the Board set up an Industrial Committee to find suitable skilled occupations for young Jewish workers, both male and female. This was done under pressure of competition from the 'East End foreign working classes (who) were crowding in undue proportions into certain ...so-called "Jewish trades", like slipper-making, cap-making, and hawking'. With a grant of £50 from the Rothschild the Industrial Committee set about expanding the occupational base of the Jewish community.

To implement this desire a scheme was drawn up which allowed for personal supervision and good training. Basically it worked like this: the Committee obtained a list of masters willing to allow a boy or girl time-off on the Jewish sabbath; then a premium was agreed upon and a boy or girl selected. To ensure that the boy was receiving a proper training a 'guardian' was appointed to watch over the boy and make regular visits to the workshop to ascertain his progress. The guardian was also expected to act as a conciliator should any trouble or disagreement arise between the apprentice and the employer. This father-like supervision lasted for the whole of the apprenticeship. There was also a proviso which insisted that the premium was a loan and had to be paid back over a number of years.\(^5\) This was designed to impress upon the boy the seriousness of the undertaking. A fact reinforced by the periodic visits of his 'guardian'.

The activities of the Committee were fairly successful in broadening the occupational opportunities for young Jews. By 1899, it had 500 apprentices under its care, including compositors, upholsterers, cabinet-makers, bicycle-makers, plumbers, electro-platers, amongst many others.\(^6\)

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56. ibid., p.58.
However, the interest of the Committee in providing new occupational outlets for young Jews was not just confined to widening the work base of the Jewish community but, like the Christians, extended to areas of social control. Ernest Lesser, of the Jewish Board of Guardians, in a letter to the Toynbee Record, argued that the Board's interest in apprenticeship stemmed not simply because it gave a boy a 'thorough knowledge of his trade' but because it also 'subjects him to a measure of discipline and control'. And to Lesser this was especially important for a 'working class boy', because he argued, 'in no other class of society do boys attain at so early an age so large a degree of independence as among our working classes'. By ensuring that a boy passed through a period of 'semi-servitude', Lesser argued that he would pick up habits of discipline, and obedience and regularity which was 'conducive to our social well being'.

The success of the J.B.G. encouraged Christians to emulate their achievements. The first organisation in London of this kind was the East End Apprenticing Fund (1886). Based on exactly the same lines as the Board, it undertook the work of finding skilled employment for Christian children. The Fund began as a donation from Sir Samuel Montagu, M.P., but soon grew. By 1901, it had apprenticed 565 boys and girls at a cost of £11,374. Montagu said it was the aim of the organisation 'to encourage others to work in the same direction'.

and to form a body of East-enders which would be 'good for
visitors to know'.\textsuperscript{58} In other words, it saw as its function
the elevation of the East-end working-class.

Twelve years after the E.S.A.F. was organised there emerged
another voluntary society, the National Institution of
Apprenticeship. The Institution was inaugurated at a confer-
ence held in the Draper's Hall, London, in June, 1898.\textsuperscript{59}
Among those appointed to its executive council were the Lord
Mayor of London, Sir John Lubbock, the Chairman of the
London Labour Conciliation and Arbitration Board, the Secretary
of the London Chamber of Commerce, the Chairman of the Technical
Education Board, and Alderman Taylor of the Building Trades'  
Federation.\textsuperscript{60} It was candidly admitted at the conference
that the inspiration for the new organisation had come from the
work of the J.B.G., but it was intended to carry out this type
of work 'on a much larger scale'.\textsuperscript{61}

The objects of the Institution were to, one, 'provide apprentice-
ship premiums for boys and girls likely to profit by apprentice-
ship'; two, 'to bring together suitable masters and apprentices
and to arrange the terms of apprenticeship'; three, 'to main-
tain an oversight of the apprentice in the interests both of
apprentice and master'.\textsuperscript{62} By these means it was hoped that
the amount of 'unskilled labour' would be reduced.\textsuperscript{63}

\begin{itemize}
\item \textsuperscript{58} ibid., Vol. LXX, December, 1901, p.47.
\item \textsuperscript{59} London Technical Education Gazette, 1899, p.316.
\item \textsuperscript{60} ibid. \hspace{1cm} \textsuperscript{61} ibid.
\item \textsuperscript{62} ibid. \hspace{1cm} \textsuperscript{63} The Builder, 6 July, 1907.
\end{itemize}
However, despite the high initial expectations of greatly improving on the record of the J.B.G., the N.I.A. in its first year of operation (1899) only apprenticed 56 boys and 9 girls, and in 1906 it was only 'double that number'. With all its impressive personnel and strong inaugural hopes, the results were nothing less than very disappointing.

A more successful venture, and vastly more important, was the setting-up of the Apprentice and Skilled Employment Committee(s). It began life as an attempt to coordinate the activities of various isolated bodies working to find skilled employment for girls on leaving school. This led to the formation, in 1902, of a central agency, the Central Industrial Bureau. The C.I.B. immediately set-up local committees in different parts of London, and by 1905 there were nine in operation. In 1906, the scope of the agency was widened to include finding apprenticeships for boys, and this led to the inauguration of the A.S.E.C. By 1908 there were 'sixteen London and eight provincial committees affiliated to the A.S.E.C.' In April, 1909, the number had risen to seventeen London and ten provincial committees, including Glasgow, Edinburgh, Liverpool, Oxford and Cambridge.

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64. ibid.
65. R.C. on Poor Laws, op. cit.; Evd. of Miss. M. Dalgleish, Secretary of the A.S.E.C., Appendix No. LXIII, p.913.
67. R.C. on Poor Laws, loc. cit.
The aims of the organisation were defined by Jocelyn Dunlop as follows:

'...to promote the entry of young people into good trades and occupations which promise after-employment, and to give advice, when desired, to parents...(to) collect industrial information, find suitable openings for boys and girls who apply to them for help, and make better terms between the employer and the apprentice or 'learner' with a view to securing fair conditions to the employee and satisfactory workers to the employers'. 68

A formal structure, not unsimilar to that of the J.B.G., was created to put these aims into effect. Working in close collaboration with the local schools, the committees would make known to school-leavers vacancies in skilled employments. Once a boy or girl had been selected and a suitable employer found a supervisor, or 'visitor', would be appointed to inquire into the progress of the apprentice and a report submitted to the committee. 69 The apprentice was also encouraged to attend evening classes as well as joining a 'thrift club or juvenile friendly society...and perhaps...an evening recreation club....'70

In its first year of existence the A.S.E.C. had 'satisfactorily placed' 354 boys and girls; in 1907, the number increased to '512 boys and girls besides giving advice and help in many other cases'. 71

68. Dunlop, op. cit., p.327.
69. R.C. on Poor Laws, op. cit., p.914.
71. R.C. on Poor Laws, loc. cit.
The total number of children placed by the committees in 1909 amounted to 187 male apprentices and 180 male learners, and 259 female apprentices and 559 female learners. 72

However, the work of the committees in many areas lost much of its impetus due to the extension of Labour Exchanges throughout the country following the 1909 budget and the setting-up of employment bureaus by local authorities. For example, the Edinburgh Committee wound up its activities in 1909 after the school board there had established an Educational Information and Employment Bureau 'to deal with the question of employment for boys and girls leaving school'. 73

Before going on to assess the value of such voluntary initiatives into the area of skilled employment provision, one other organisation deserves some mention, the National Industrial Education League. Formed in 1911, the League set out to initiate 'a national scheme of industrial training of all boys passing out of the elementary school...to make it compulsory for every boy on leaving elementary school to pass into a trade school, in which he will be trained at the expense of the State, in the particular craft he desires to learn...'. 74

72. Keeling, loc. cit.
73. Minutes of the Edinburgh School Board, 3 November, 1909.
74. James Heaviside, 'Industrial Training and the Apprentice Question', Typographical Circular, No.703, April, 1911.
Although no record of its activities appears to have survived, according to Heaviside, the social composition of the League was predominantly middle-class. It contained an overwhelming amount of London businessmen, 'a good number of ladies, a few representatives of educational bodies, (and) about a half a dozen trade unionists...'. 75

It seems as if the League had been formed in response to the proposals of the Minority Report of the Royal Commission on the Poor Laws, which called for an amendment of the Factory Acts to allow for all young people under the age of 18 'to attend for 30 hours per week at suitable trade schools'. 76 However, perhaps the onset of hostilities between Germany and Britain forestalled any significant developments in this area of educational reform. 77

However, taken as a whole, and including the J.B.G., the work of the voluntary societies was unspectacular in its effects. Their efforts only scraped the surface of the problem of unemployment and casual labour. Much of this failure was due to their method of approach, and much was due to their ideological misconceptions concerning the nature of the problem they were confronted with.

75. ibid.
76. Scottish National Committee to Promote the Break-up of the Poor Laws, 'Minority Report' (pamphlet 1909), p.10.
77. See chapter on 'Technical Education and the 'Apprentice' for a discussion on the failure to provide continued education for apprentices.
The societies had taken as their task the improvement, both moral and economic, of the low skilled by obtaining for the youngsters opportunities for skilled employment. However, as apprenticeship involved in the early years of training the acceptance of small wages, and given the impoverished circumstances of families in the low wage sector of the economy, working-class youths were, either through parental pressure or poverty, or both, put off the idea of learning a trade. More could be earned pushing a barrow than learning a trade. Moreover, the wages of an apprentice were 'often fully absorbed by the expenses of daily travel and the keep of the boys', and since some organisations, like the A.S.E.C., had a clause inserted in their indentures insisting on attendance of evening classes further, impossible, burdens were placed on the already meagre resources of a poor family. Not surprisingly the J.B.G. found, in 1902, that 'up to 50 per cent', of those youths indentured by the Board 'did not stay the full seven years'.

The breaking of indentures by such large numbers of apprentices was found by the J.B.G. to be the result of poor supervision. According to a committee investigating the problem, in 1902, '30 per cent of the boys' under the Board's care were, either ill-visited or unvisited'. Norman Dearle also found the

79. For an example of an A.S.E.C. indenture see the R.C. on the *Poor Laws*, op. cit., pp.914-15.
81. ibid.
voluntary workers of the A.S.E.C., outside of those in higher positions, to be 'inexperienced', and, in consequence, had made 'mistakes in accordance with their years'.

However, it was thought by some not just to be a result of youthful inexperience; the problem went much deeper than that. R.H. Tawney, for instance, attacked the work of the voluntary societies on the basis that they were failing to get to the real root of the question, which for Tawney was 'the low efficiency of the great mass of workers outside the so-called "skilled occupations", which causes them to overcrowd the easiest occupation, viz., that of general labouring'.

According to Tawney, all that was resulting from the work of the various apprenticeship committees was that employers were being persuaded 'to take their nominees as apprentices or learners, instead of boys obtained through ordinary channels'. Frederic Keeling succinctly summed up the object of the committees when he said their function had been to find 'select children... select work'.

Indeed, there was much truth in such critical statements. The N.I.A., for example, saw as one of its aims 'to invite and receive applications from respectable boys and girls'. Workers in the A.S.E.C. were advised 'that discrimination (ought to) be used in introducing the particular child to the particular employer....'.

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82. Dearle, op. cit., p.461.
83. R.C. on Poor Laws, op. cit., p.334.
84. ibid. 85. Keeling, op. cit., p.29
86. The Builder, loc. cit.
Therefore, the paramount need to maintain and cultivate the goodwill of the employer meant that only respectable working-class children were considered worthy of apprenticing. All of which necessarily conflicted with the original idea of assisting poor parents to apprentice their children.

There was also much damning criticism from those who objected to the voluntary societies' interference with the labour market. James Heaviside attached the N.I.E.L. on the basis that its end product was to increase the number of apprentices in what was an already 'overstocked' market in which there existed a 'standing army' of five per cent. of unemployed skilled men, averaging all trades....88 Any further additions, argued Heaviside, to the supply of labour would further depreciate the wages of those in employment and add to the number unemployed.89

From a more conservative perspective, E.J. Urwick argued that cities, such as London, had a definite need for a pool of casual labour 'to be used in the busy times of many industries, such as the Post Office, railways, carrying...etc.'90 If a boy entered these blind-alley employments it was, said Urwick because of the high wages offered. To choke-off the supply of this essential type of labour, he continued, would in no way benefit the nation, as it would lead to the substitution of adult labour 'at 28s. a week' for the casual labour of

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88. Heaviside, loc. cit. 89. ibid.
91. ibid., pp.103-04.
'boys at 7s. a week'. Finally, if such a method of industrial training was universally introduced there would have to be, in Urwick's opinion, a massive controlling mechanism - the State - which would involve such a fundamental reorganisation of the economy that the outcome would not be 'reform' but 'revolution'. In short, leave it to market forces to sort out, advocated Urwick.

Such stinging criticisms did not go unanswered. Speaking for the voluntary societies, Miss Winifred Jevons argued that the State had interfered in the past in the labour market, and ought to in the present. And it not previously introduced legislation to limit the hours and improve the working conditions of women and children, with no visible retardation of the economy, she asked. At present, she continued, one section of the employers was unscrupulously exploiting the labour of the 'young' and then 'rejecting them with undeveloped powers in later life'.

Furthermore, Miss Jevons rejected the idea that the voluntary societies were working on unsound economic lines. She argued that the more you increase the skill of a worker, the greater becomes his earning power, and consequently the greater his consumption. By acting so the total demand of the community increases, which results in 'new openings for other workers,'

92. ibid., p.104.
93. H. Winifred Jevons, a letter to the Toynbee Record, June 1907, p.123.
94. ibid.
unskilled or skilled', by reason of increased production.95

Replying to the charge of 'revolution', Miss Jevons said:

'These Committees will develop parental responsibility, they will steady the boys by the watch they keep over their actions, and lastly they may help in creating an interest and sympathy between employer and employed.... In all this work there will be no "revolution" only a very slow reform'. 96

Despite the passionate defence of Miss Jevons in affirming the positiveness of the voluntary societies in dealing with these major socio-economic problems, by and large the critics were correct. Firstly, the size of the problem was way beyond their capacity to effectually deal with it. Lipman said of the J.B.G. that 'it could not be responsible for the apprenticeship of more than 10 per cent' of the '4,000 or 5,000' Jewish children in London, 'leaving elementary school each year'. 97 The same was true of the Gentile associations. Moreover, there were only a limited number of 'suitable' masters and trades for young people to be apprenticed too. Secondly, there was the caserism of the labour market. The reformers operated in an ideal market in which no cyclical or structural unemployment occurred. As Beveridge said, 'To cut off the supply of unskilled labourers it would be necessary to secure not only that every one learnt some trade, but that every trade was

95. ibid., p.139; see also Parsons, op. cit., p.29.
96. ibid., pp.139-40.
Finally, there was the reality of poor working-class existence which meant that the earnings of the young were essential to the family's survival. Unless the wages of apprentices were brought more into line with those of young unskilled workers, or the poverty of the family alleviated in some way, say, through Government aid, no significant inroads would be made to change the occupational structure and social life of this section of the working-class. And at this moment in time there is no evidence to suggest that the Government was willing to interfere.

However, although the odds against success were heavily stacked against them, the voluntary societies did bring to the attention of the public the vital problems of child or youthful labour and highlighted its abuse and, in some cases, gross exploitation. As Dunlop says, the real significance of these voluntary efforts in the field of social engineering was not in finding employment for large numbers of school leavers, but 'in spreading information and awakening the public conscience to the plight of uneducated boy labour'. However, Je Solly they were not content with this humble design but sought the more grandiose task of solving deep rooted problems of industrial capitalism with insufficient resources. To effect a lasting solution to unemployment, crime, and other social problems, did, as Urwick said, involve a revolution.

in the economic structure of society. Faced with such an immense challenge the middle-class reformers had neither the will not the courage to undertake it. Instead they championed apprenticeship as a panacea for the social ills of capitalist society, a role that it was unsuited to play.
A) APPRENTICESHIP IN THE ENGINEERING INDUSTRY.

The engineering industry was the offspring of the industrial revolution. It developed in response to industry's need for steam power. The spectacular technological developments associated with its growth in the nineteenth century transformed engineering from a labour intensive to a capital intensive industry employing semi-automatic processes. This development was not, however, a continuous one; it involved a definite period of stasis lasting for about thirty to forty years (1850's to the late 1880's), in which organisational changes, that is, the drift towards specialisation, were not matched by similar developments in engineering technology. Thus the effects of machine developments in engineering on the institution of apprenticeship have been restricted to two main periods of intensive technological change, 1800 to 1850 and the 1880's to 1914.

The early engineering industry was based on the skill of the millwright, a pre-industrial craftsman. Most of the work performed by him was of a handicraft nature using only a chisel and a file. To be sure, the lathe existed but it was 'constructed chiefly of wood ...driven by hand labour or by a foot treadle, and the turning tool was held in the hand or under the arm on a rest against the job'. And as

'for producing plane surfaces no machines-tools of any sort were available'.  

To become a millwright it involved, in the first instance, a payment of twenty pounds as a premium, and, in the second, a long period of apprenticeship and a great deal of post-apprenticeship experience, which meant that the supply of millwrights was necessarily restricted. In response to labour supply difficulties some employers attempted to introduce innovations in the deployment of their workforce, for example, at their Soho Works, Watt and Boulton introduced an early example of the division of labour. Men were trained to perform a single task and little else in a short period of time. 'Its effect was to lessen the employers' dependence upon all-round skill, which the millwright acquired from his seven year apprenticeship'. However, despite, such innovations, the millwright/engineer was still an independent craftsman 'able to make (his), own decisions as to how work was to be done'.

2. ibid.  
Effective manipulation had to be, if it was to succeed in reducing employer reliance on the millwright, complimented by advances in technology: Henry Maudsley provided the solution. In 1800, he developed 'the slide-rest combined with a lead screw in an all-metal lathe', which 'gave speed, accuracy, and uniformity and combined with gear wheels and the lead screw, gradually shifted turning and screw-cutting ...(into) standardised production'. Maudsley's invention was the starting point for the growth of machine tools and an effective division of labour. In its wake came the plane, the shaper, the slotter, the borer and the self-cutting drill, which although existing in 'rudimentary form for machining wood...were now copied and improved for metals'.

The developments in machine tools created entirely new categories of work. An observer of the 'labouring classes', in 1817, did not even mention engineers or millwrights in his book. But in a relatively few years 'there were classes of men specialised to such work as planers, turners, fitters, etc., actively replacing the millwrights in engineering establishments. And as engineering became primarily concerned to build steam engines and machinery for the rapidly growing cotton and railway industries, the need for the millwright's

all-round skill with its lack of precision was felt less and less. The linkage of cotton and railways with engineering also initiated a movement away from London, the traditional home of the millwright, to South Lancashire, which was 'the focal point of cotton textiles and railways'. As south Lancashire 'lacked the reservoir of skilled men trained in labour intensive techniques which existed in London...the acceleration in demand after 1830 made capital intensive techniques essential' in this part of England. 10

There was also a drift towards larger units of production which could benefit from economies of scale and a higher rate of investment. Burgess noted that 'between 1845 and 1851 alone, Kitson and Company, the Leeds locomotive firm, increased its work force from 251 to 431; and Whitworth's employed 636 men in 1854; compared with 172 in 1844'. 11

However, as a whole, the engineering industry remained dominated by the general workshop, as Chapham shows:

10. Burgess, 'Influence of Technological Change', op. cit., p.27. Burgess, using census reports, provides statistical evidence for the decline of the millwright and the growth of specialised skills. In 1841, according to the census, 'There were 41, 566 workers in the categories of millwright and engine - and machine - maker, of this total, 32,667, workers designated millwrights'. Census returns for 1851 give a total of 57,991 workers' in the two categories', 48,030 engine - and machine - makers, and 9,941 millwrights, ibid., pp.143-144.

'The Census Commissioners of 1851 secured employment figures from 677 English "engine and machine makers" of these 457 employed less than 10 men; 147 employed 10 to 39; 39 from 40 to 99; 9 from 100 to 199; 8 from 200 to 299; 3 from 300 to 349; and 14 employed 350 men and upwards....

Despite these qualifications it does seem as if there was a tendency towards the concentration of capital within a few large combines.

These developments could not but have had an effect on engineering workers and apprenticeship. As the industry became increasingly mechanised it opened its doors to an influx of semi- and unskilled labour. Increased labour competition led to a rapid growth in unionisation amongst the apprenticed men. These early trade organisations had as their main object the control of apprenticeship. One of the first was the Mechanics' Friendly Union Institution, formed in 1822 in Bradford, but soon with branches all over the West Riding. The Institution insisted on a five years' apprenticeship as a condition of membership, as well as the right of a members' eldest son to join the society without the usual apprenticeship qualification. 13 It was, however, the Friendly Union of Mechanics, (later the Journeymen Steam Engine Makers and Mechanics' Society in 1838), which became the first recorded engineering society to strike over apprentice limitations.

The Bolton Machine Makers at the firm of Dobson and Barlow struck for six months (beginning in June, 1833) for a reduction in hours and that 'the lads....be reduced in proportion

to the men allowing one lad to four men, and the lads to serve
five years before 21 ...and that by legal Indenture'.\(^{14}\) In
the same year, in Glasgow, the journeymen were locked-out by
a firm, which employed 108 men and 78 apprentices, after pro-
testing about the unfair ratio of journeymen to apprentices.
And although the outcome of the dispute remains a mystery, the
Glasgow men took the opportunity to address their fellow engin-
eers in a circular entitled, 'The Operative Smiths, Mechanics,
Millwrights and Machine and Steam Engine Makers of Gt. Britain
on the subject of apprentices. According to the circular, 'the
employers were not willing to allow any control over the number
to be employed, their ages, or the number of years they were
to be bound'. In contrast, what the journeymen of Glasgow
wanted was for 'apprentices to be limited to not more than
one to every four journeymen, five years' apprenticeship....
and no apprentice to be accepted if over the age of 16'.\(^{15}\)

The strikes were symptomatic of the tendency of the new
technical processes to downgrade the general level of skill,
allowing easier access to the trade by those not 'regularly
bred' to it. James Naysmyth, the engineer, for instance,
practised a system of training youths which he described as
an application of the principles of free trade to ability.
Disliking indentured apprenticeship on the grounds that it
produced 'careless' apprentices, Naysmyth, in his Bridgewater

\(^{14}\) McLaine, op. cit., pp.146-47.

\(^{15}\) ibid., pp.148-49.
Foundry, opened his doors to 'intelligent well-conducted lads, the sons of labourers of mechanics', and, promoted them by 'degrees according to their merits'. Once inside the foundry the youths were encouraged to 'emulate' each other in the performance of their work, with 'an extra weekly wage' going to those who performed exceptionally well. The youths were under no formal agreement or indentures, each one was a free labourer able to leave Naysmyth's employ 'at the end of each day's work'. Their wages, said Naysmyth were 'measured by their value to me, (and) not by the length of time they took to learn the trade'.

What Naysmyth had created was a system of learnership as opposed to apprenticeship. Under the former system the onus was placed on the individual to learn his trade, as opposed to being actually taught it, which was the hallmark of apprenticeship. Moreover, learnership was less exploitative in the sense that apprentices worked to a kind of piece-rate system, but, on the other hand, it involved no responsibility on the part of the employer to the learner, who could be dismissed instantly in times of slack. Apprenticeship, however, carried with it a high degree of responsibility on the employer side to the young worker, but it also exacted an equally high rate of exploitation, as the apprentice never

received the full rate for the job. But under the latter arrangement the apprentice was normally guaranteed to be taught his trade, whereas the learner was not.

Despite these distinctions, it would be an exaggeration to say that by 1850 apprenticeship had been superseded by learnership as the predominant method of training. There were a number of obstacles to overcome. Firstly, there was journeyman resistance. As firms grew in size, the master was so immersed in the commercial running of the firm that he had no time to personally supervise the training of the apprentices, the task was therefore left to the journeyman. The masters, in order to ensure a regular supply of skilled labour, had to comply to a certain extent with his wishes, and among those wishes was the desire to maintain apprenticeship, as a source of livelihood for the rising generation. Secondly, the general engineering establishment, with its need for highly skilled and adaptable labour, was still the most numerous organisation in the industry. In these small workshops, the masters could not do without the profits made in the last few years of the apprentices' time. Finally, not all employers were convinced that a lad could be trained in a short time to execute skillful work, notwithstanding the improvements made in machine tools. John Martineau, for example, in 1825, 'thought it not possible' to take a common labourer and make a tolerable workman of him without some sort
of apprenticeship'. As McLaine points out, 'from 1824, the more exacting requirements of machine production made it clear to employers, that while many of the operations previously done by hand could be done by machines, the machines must be operated by skilled men, since an unskilled operator could spoil more work on a machine than he could if engaged on handwork. And so apprenticeship ... became as much a passport to the job as it ever had been'.

The period 1850 to 1880's saw no major innovations in engineering technology. As Jeffreys notes, 'the fitter and turner in an up-to-date shop of 1850 would have been quite at home in a shop in the 1890's....' The developments which did occur were mainly concerned to sophisticate and improve extant tools and to consolidate in all engineering establishments the early improvements. Organisationally, however, there was a greater move towards specialisation. The engineering shop was redesigned into a series of compartments containing its own particular trade. In the new shop there would be a machine shop, a fitting and erecting shop, a pattern-maker's shop, a smith and press shop, separated but all housed under the same roof.

Moreover, firms became to be associated with a certain type of product. In the 1850's and sixties companies such as George Stephenson, maker of locomotives, 'also made iron bridges and undertook marine and dock-work'. Armstrong, at the Elswick Works, in 1847, made a wide range of products including 'hydraulic equipment, lock gates, iron bridge and cranes as well as armaments and some marine engineering'. But by 1874 product specialisation had increased to such an extent that the President of the Institute of Mechanical Engineers could say, '...within the last few years ... the business of mechanical engineering had divided itself into distinct branches so that locomotive builder is little more than a locomotive builder'.

These structural developments accelerated the trend towards the specialisation of labour. Apprentices began to be confined to one section of the engineering craft, either fitting or turning. This meant that proficiency in the exercise of one's trade could be gained more rapidly and was a direct inducement to applying Naysmyth's methods.

In his report to the Children's Commission (1865), Mr. H.W. Lord stated that among machinists and engineers in Lancashire 'the system of apprenticing has been very greatly abandoned ...there is no tie beyond that of mutual interest, and as

21. ibid., p.53.
22. ibid.
lads become experienced, they frequently change their masters.24 Mr. T. Hetherington, of Messrs. John Hetherington and Sons, machine-makers, of Manchester, in evidence, said of his apprentices that 'none of them are bound to stay with us, and when trade is brisk, they change about a good deal'.25 A Manchester locomotive engineer, John Robinson, probably overstating the case, said that such were the advances in engineering over the past years that apprentices now had 'very little more to do than put their hands in their pockets and mind the machines'.26

The pattern of apprenticeship in Lancashire, however, was not a national model. In fact, various apprenticeship practices existed, which were the outcome of local or regional customs. If the answers given by the different branches of the Amalgamated Society of Engineers. (A.S.E.) to the Royal Commission on the Depression in Trade and Industry (1886) are acceptable, no national system of apprenticeship emerges. In reply to the question, 'What is the mode adopted by the employers in your trade of teaching young persons the business', Glasgow district stated that it was a 'term of apprenticeship, generally five years, on agreements renewed year by year'.27

25. ibid., p.182.
27. 'Questions addressed to Associations Representing the working Classes', op. cit., p.8.
In contrast, Coventry stated that there was 'no regular apprenticeship....Young persons are simply employed as long as they can suit, rising by degrees from errand boy (1d. per hour) to the position of assisting skilled hands (5d. per hour) ....'28 In the case of Liverpool, apprenticeship lasted seven years; the same position prevailed in London.29 In Heath, Nottingham, Oldham, Preston and Swindon the term of servitude varied between five and seven years.30

There were also expressed mixed feelings regarding the question of whether skill in the execution of work had depreciated over the years. Coventry district stated that 'The quality (of the product) has been steadily increasing by reason of the increased skill of the workmen being devoted entirely to the machine....'31 Glasgow took the opposite, and more pessimistic, view. Here it was said 'that the quality of work....is not equal to what it was twenty years ago....'32 Oldham disagreed. They maintained that 'The quality of work produced is in every respect superior'33, whilst Heath bemoaned the fact that 'there was no encouragement to do your work well'.34

28. ibid., p.7.
29. ibid., p. 10.
31. ibid., p.7.
32. ibid., p.8.
33. ibid., p.12.
34. ibid., pp.11-12.
But problems, such as the quality of the training of the apprentice, whether or not it was under indenture or verbal agreement, how long it lasted for, seemed not at this stage to trouble the A.S.E. or the journeymen. During this period of technological stagnancy what concerned the A.S.E. and its members was the perennial problem of apprentice limitation. The preface to the 1864 edition of the A.S.E. rules expressly states that 'if constrained to make restriction against the admission into our trade of those who have not earned a right by a probationary servitude, we do so, knowing such are productive of evil, and when persevered in unchecked, result in reducing the condition of the artisan to that of the unskilled labourer, and confer no permanent advantage on those admitted'.

William Allan, secretary of the A.S.E., openly stated that the object of limitation was 'to keep wages up; no question about it'.

As the numbers in the engineering industry grew this policy of restricting entry into the trade became more important to the A.S.E., particularly as the practice of patrimony was breaking down.

Patrimony, in the past, had been used to exercise some control over the numbers entering the trade by restricting the area of recruitment to the oldest sons of journeymen, although

not in an absolute sense. However, 'with the expansion of the industry the supply of eldest sons did not meet the demand for engineers and second and third sons, and sons of fathers out of the trade joined the ranks...'.

In fact, of the numbers enumerated by Booth to be involved in the manufacture of machinery and tools in England and Wales, 9,200 out of a total 53,000, in 1841, were under 20, in 1851, it grew to 19,200 out of a total of 96,000; in 1861, it grew to 33,600 out of a total of 151,000; in 1871 the respective figures were 35,600 and 185,600; and in 1881 they had increased to 36,700 and 213,500. In Scotland, the comparable figures were as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Under 15 (ooo's)</th>
<th>15-20 (ooo's)</th>
<th>20-25 (ooo's)</th>
<th>25-65 (ooo's)</th>
<th>Over 65 (ooo's)</th>
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<tbody>
<tr>
<td>1841</td>
<td>1.4</td>
<td>2.1</td>
<td>2.5</td>
<td>4.9</td>
<td>6.3</td>
</tr>
<tr>
<td>1851</td>
<td>0.4</td>
<td>3.8</td>
<td>3.9</td>
<td>5.7</td>
<td>12.1</td>
</tr>
<tr>
<td>1861</td>
<td>0.6</td>
<td>4.9</td>
<td>5.7</td>
<td>6.6</td>
<td>17.7</td>
</tr>
<tr>
<td>1871</td>
<td>1.0</td>
<td>6.7</td>
<td>9.1</td>
<td>14.1</td>
<td>26.1</td>
</tr>
<tr>
<td>1881</td>
<td>1.0</td>
<td>9.1</td>
<td>14.1</td>
<td>19.8</td>
<td>34.4</td>
</tr>
</tbody>
</table>

37. Jeffrey, op. cit., p.58. The amount of recruitment outside of engineering families should not be over-estimated. Cyril Jackson, in 1909, found that recruits to engineering came largely from the sons of employees ('Report on Boy Labour', op. cit., p.132.). And despite the dilution of the war years (1914-18) as late as 1925, the Ministry of Labour found that, 'A substantial number of firms relied largely upon recruiting the sons or other relatives of their employees' (Report of an Enquiry into Apprenticeship and Training, 1925: Vol. VI-Engineering, Shipbuilding, and Ship-Repairing and other Metal Industries, H.M.S.O., 1928, p.15).

38. Booth, 'Occupations of the People', op. cit., p.355. Booth's figures are drawn from census reports and must be treated mainly as trend indicators and not as accurate statements on apprentice/journeyman ratios. He fails to discriminate between, labourers, managers, foreman, errand boys, apprentices, and journeyman. These categories were not enumerated in census reports in...
This meant, in respect of England and Wales, ratios of journeymen to apprentices of about 6:1 in 1841; 5:1 in 1851; 4:1 in 1861; 5:1 in 1871; 6:1 in 1881; and for Scotland 3.5:1 in 1841; 4:1 in 1851; 3:1 in 1861; 3.5:1 in 1871; and 3.5:1 in 1881.

J. F. Clarke, in his study of engineering and shipbuilding on the north-east coast of England, demonstrates that, in respect of the north-east, Booth's figures over-estimate the ratios of journeymen to apprentices:

**Table 2.**

<table>
<thead>
<tr>
<th>Place</th>
<th>1851</th>
<th>1861</th>
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<tbody>
<tr>
<td>Durham</td>
<td>3.6:1</td>
<td>2.8:1</td>
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<tr>
<td>Northumberland</td>
<td>3.6:1</td>
<td>3.1:1</td>
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<tr>
<td>Newcastle</td>
<td>3.9:1</td>
<td>3.6:1</td>
</tr>
<tr>
<td>Gateshead</td>
<td>4.6:1</td>
<td>3.2:1</td>
</tr>
<tr>
<td>South Shields</td>
<td>4.7:1</td>
<td>2.3:1</td>
</tr>
<tr>
<td>Sunderland</td>
<td>3.5:1</td>
<td>2.6:1</td>
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Even within Clarke's figures wide disparities existed.

For example, in 1883, one of the largest strikes in the engineering industry took place on the north-east coast over apprentice limitation. Its immediate cause was the employment policy of six firms, Clarke's, Dickensons, North-Eastern, Carr and Company, Wilson and Company, and Doxfords. Between them these firms employed a total of

38. this period. Moreover, apprenticeship ended at the age of 21 and not 20.

39. ibid., p. 376.

672 men and 478 apprentices; a ratio of 1.39 journeymen to each apprentice.\footnote{41}

Feeling that they were being supplanted by cheap apprentice labour, the men struck and demanded that:-

First - No apprentices to start at the trade after the age of 16 years.

Second - No apprenticeships to terminate before the age of 21 years.

Third. - that the proportion of apprentices be not more than one to two \textit{bona fide} mechanics.\footnote{42}

The employers refused, and in retaliation formed the 'Near Engine Builders' Association', to oppose the demands of the strikers on the grounds that, one, 'the general standard of wages would be forced up ... without any corresponding benefit to ourselves....'; two, to concede would be an 'invasion of their just right to conduct their works in such a way as they thought fit'; and, last, by agreeing to limitation it 'would tend to reduce the lawful employment for the rising generation'.\footnote{43} It is interesting to note that the wage demands put forward by the men at this time - 'were conceded by the employers but they would not move on the apprenticeship demand'.\footnote{44} No clearer case could be made in showing that employer attitudes to apprentices were governed to a large extent

\footnote{41} Strike Bulletin issued by the Strike Committee and published in the 'Sunderland Echo', 17 August, 1883, cited by Clarke, ibid., p.359.

\footnote{42} ibid., 4 and 11 May, 1883.

\footnote{43} ibid., see also evd. of John Haswell, sec. of the West Shipbuilders' Association, to Third Report of the R.C. on Labour, op. cit., Q.25704-11,p.353.

\footnote{44} Jeffryys, op. cit., pp.102-03.
by their ability to use them to keep wages in check. This is no doubt why the employers of Sunderland receive the support of employer associations throughout the country. The Clyde shipbuilders contributed £500 to the Sunderland employers' fighting fund. Most employers realised that a victory for the A.S.E. in Sunderland would be the signal for a national campaign to effectively place apprenticeship recruitment in the hands of the union.\footnote{\textit{ibid.}}

Employer resistance turned the strike into a \textit{cause celebre} for the A.S.E. The strike was given the full official backing of the union. The employers tried to counteract the effectiveness of the strike by importing 'blacklegs'. This action brought many of the apprentices out in sympathy with the journeymen, affirming that 'We...pledge ourselves not to resume work until the strange workmen now employed in our shops are removed, as we do not consider them qualified to teach us our trade'.\footnote{\textit{Sunderland Echo}, 5 October, 1883, cited by Clarke, op. cit., p.363.} Apprentice solidarity with the strikers, was, however, short-lived, as within a week, as Clarke says, 'the process of the law had operated and the lads agreed to return to work'.\footnote{ibid.}

\textit{Minutes of the Clyde Shipbuilding and Engineers' Association}, 27 June, 1883 (Glasgow City Archives, Ref. No. TD 244). On 16 October, 1883, the Clyde-side employers passed the following resolution:

'The employers throughout the country should contribute to the expenses which are being incurred by the Sunderland employers in connection with the strike....'

\footnote{\textit{ibid.}}
the young strikers to return to work by threatening to prefer charges against them on the grounds that they had violated their contracts of service by joining the strike.\textsuperscript{48} Meanwhile, the strike dragged wearily on for two years, resulting in an entirely unsuccessful conclusion for the A.S.E. The cost of the strike to the union was enormous. By May \textsuperscript{3}3, 1885, it had cost £43,000 in strike pay, and its Sunderland branches had been decimated.\textsuperscript{49} After this industrial disaster, no large-scale attempts to restrict apprentices were ever again made by the A.S.E.

The increase in youthful labour, which resulted in the 1883 debacle, could not be stemmed. Giving evidence before the \textbf{Royal Commission on Labour} (1893), John Lindsay, ex-president of the Dundee Branch of the A.S.E., said that in recent years the apprenticeship problem had got much worse, 'In fact', he continued, 'if you were to go to a time of depression you would find three (apprentices) to one journeyman'.\textsuperscript{50} Similar complaints were made by William Glennie, secretary of the Tyneside District of the A.S.E.,\textsuperscript{51} and John Whittaker, resident official of the A.S.E. in

\textsuperscript{48} See chapter on the 'Components of Apprenticeship' for the legal position of the apprentices working under indentures.

\textsuperscript{49} Clarke, op. cit., p.366; Jeffreys puts the loss at £100,000, loc. cit.

\textsuperscript{50} Third Report of the R.C. on Labour, op. cit., Q.23,289, p.183

\textsuperscript{51} ibid., Q.23,234-23,242, p.181.
Manchester, concerning the undue proportion of apprentices in the engineering trade.

Seven years after the Royal Commission's Report, the situation as regards the ratio of apprentices to journeymen was not significantly altered. Based on reports of the Engineering Employer's Federation, the ratios were as follows:

52. ibid., Q.23,022-23026, p.169.
54. ibid., 20 May, 1901.
The low figures for those in engineering were due to them not being recognized by most employers as trades.

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</table>

100 proportion of apprentices to every 100 journeymen. January, 1901. 53

Table 3.
<table>
<thead>
<tr>
<th></th>
<th>Scotland</th>
<th>England</th>
<th>Ireland</th>
<th>Trades</th>
<th>Guatemala</th>
<th>Mexico</th>
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<td>18.09</td>
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<td>18.85</td>
<td>22.65</td>
<td>18.56</td>
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<tr>
<td>102.44</td>
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<td>24.85</td>
<td>64.05</td>
<td>71.69</td>
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<td>16.00</td>
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<td>38.08</td>
<td>24.74</td>
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<td>75.26</td>
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<tr>
<td>17.65</td>
<td>22.55</td>
<td>25.39</td>
<td>24.76</td>
<td>77.52</td>
<td>45.78</td>
<td></td>
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</tr>
</tbody>
</table>

Every 100 juvenile, January

Proportion of apprentices to

Table 4.
The figures obviously show a certain amount of national and regional variation; England maintaining a ratio of around two journeymen to each apprentice; whilst Scotland was nearly in the position of one to one; and Ireland, especially in the fitting trade had more apprentices than journeymen. However, for the Federation, as a whole, it would appear that the English ratio was the norm.

Taken together, these statistical ratios and the complaint of the A.S.E. officials, were symptomatic of a 'second revolution' occurring in the engineering industry, which saw an intensification of the move towards semi-automatic machines.

The main forward technological thrust of this period (the late 1880's to 1914) was in the introduction of the turret or capstan lathe. Its distinctively revolutionary feature was a rotating head containing a varied amount of cutting edges designed to complete a turning job with the minimum of interruption. Once the cutting edges had been set they would automatically rotate in the precise order of need, under the watchful eye of the machine-minder. All the skill involved lay in the preparation, the rest was minding work easily performed 'after a few hours' instruction. Complementing this important

55. Levine, op. cit., p.121.
56. ibid., pp.462-63.
innovation in lathe-turning was a specialised boring machine, dating from the early 'nineties, and, from the early twentieth century, a new grinding machine. The combined effect of these innovations was to reduce the function of the lathe to turning alone. Previous to this, the lathe had been responsible for many of the finishing tasks, including boring, screw-cutting, drilling, polishing, and so on, it was now not the case.  

The journeyman turner suffered as a result. He became, in Levine's words, 'literally a "turner" and little else - even some of the ancillary functions directly connected with the work of metal turning', he adds, 'were taken from his hands.... usurped by specialists. One such specialist relieved him of the "marking-out" of his work, another determined the "speeds 'and feeds" for him, and yet another ground his cutting tools'.  

So great was the encroachment into the turner's skill by the semi-skilled handymen that the Employers' Federation could claim in 1906 that 'out of 46 (Federated) districts employing (turret) lathes, there (were)....only seven where these lathes ...(were) manned by skilled men. The whole of the other 39 districts are manned by handymen'. However, although there was a general decline in the demands made on the versatility of the turner and on his manual dexterity it could be argued that due to the intricacy of the new machinery

57. ibid., p.167.
58. ibid., pp.156-57.
there was a greater demand made on the turner's mental faculties and on his 'store of technical knowledge'. But the trend towards the specialisation of the turner's skill was clearly demonstrable.

In similar fashion, the skill of the fitter was being undermined by specialisation. The old-style fitter was a rectifier of inaccurate workmanship. His chief task had been to ensure, in an era which did not permit tolerances, that an exact and lasting fit was made. To achieve such high standards of exactness, the fitter was equipped with only a hammer, a chisel and a file. Erecting (that is, the assembling of the parts together) was also within his sphere of work. However, the growth of interchangeable parts meant that greater tolerances were allowable, hence, there was less need for the dead fit. Moreover, specialisation of labour created a class of semi-skilled workers, known as erectors, who usurped the assembly work from the fitter. 60 This reduced the variety of processes to which the skilled fitter was accustomed to practicing, and the new machine tools meant that less scope was available for the fitter to use his talents. All this did not mean that the fitter was suddenly made redundant or his skill anachronistic. There were still opportunities available for the fitter to exercise his skill, particularly in heavy engineering. Here, as Levine points out, 'the fitter's adjustments would still be required for pieces of great size and weight, as for example, certain parts of great dynamos. Distortions due to

60. ibid., pp.462-63.
internal strains were often unavoidable in these heavy items, which, therefore, frequently stood in need of the skilled fitter's ability to rectify errors', which was also true of those 'classes of work, whether large or small in size, which necessitated a most extreme degree of accuracy...'.\(^\text{61}\)

At this juncture it would be well to add a few notes of caution. From what has gone before it seems as if there was a rapid, irresistible drive within the engineering industry towards a system of production based on specialised products and processes, using a system of interchangeable, parts employing mainly semi-skilled labour. This is obviously somewhat exaggerated (although it does show quite clearly the future trend of the industry) and has to be modified in the face of hard fact. In the first place, the general engineering establishment had not disappeared, it was, in fact, in a relatively good state of health. For example, in the area of most specialisation, the West Midlands, where the new cycle and automobile industries were based there was 'a multitude of small independent producers. (in the brass screw, nut and bolt, paint, pressed steel, tube, iron foundry, leather, spring....trades) who could adapt themselves to the manufacture of motor parts'.\(^\text{62}\) However, these firms 'collectively failed to produce "standard components" in sufficient quantities'.\(^\text{63}\) Even as late as 1918, the Departmental Committee on the Engineering Trades (1914-18) was 'impressed ...

\(^{61}\) ibid., pp.490-92.


\(^{63}\) ibid.
each producing a multiplicity of articles....'64. In the second place, as Britain was by this time a notable exporter of engineering goods, it 'had of necessity to adapt its production to suit a multitude of widely varying foreign needs'.65 In the third place, did skill dilution go as far as to replace the skill of the engineer with semi or unskilled labour? In certain classes or work, as has been mentioned, the spread of precision and specialised tools had reduced 'the need for a good deal of manual dexterity, but at the same time, the growing complexity and intricacy involved in working highly sophisticated machinery increased the demands made upon the intelligence of the engineers. George Barnes, M.P., in his evidence before the Royal Commission on the Poor Laws (1910) when asked was 'there...less necessity for apprentices to learn the engineering trade generally, because of the introduction of machinery?'; replied, 'No; I should say the skilled men require even more skill now than they did, because of the finer work and more intricate machinery. So far as they are concerned side by side with automatic machinery there has come about more intricate and highly complicated machinery'.66 Therefore, although the movement towards specialisation of product, process and labour was a clearly

64. Report of the Departmental Committee to consider the position of the engineering trades after the War, op. cit., p.10.

65. Levine, op. cit., p.123.

marked one, certain obstacles had as yet to be overcome. Moreover, the need to maintain a high level of technical competency in the performance of engineering skills meant that a system of training was still essential.

It is significant that in this period of high technological development there should be an upsurge of interest in apprenticeship. The reason does not lie solely in the need to ensure, in an expanding industry, a supply of skilled men, but in the new role of the apprentice in the industry and in industrial relations created by the new technology.

The defeat of the A.S.E., in 1885, in the north-east was due in large measure to the fact that the young apprentices, 'provided a very significant labour force for the employers'. 67 In the national lock-out of 1897, the apprentices proved an even greater asset to their employers in defeating the A.S.E.

To ensure themselves of the loyalty of their apprentices during this period of conflict, the employers could adopt two approaches. They could, as did the East of Scotland Association of Engineers, elect to pay bonuses of twenty-five per cent, in addition to the normal weekly wage, 68 to those apprentices remaining in work for the duration of the dispute, or they could, as did the majority of employers, simply threaten the apprentices with

68. Minutes of the East of Scotland Association of Engineers, 23 September, 1897.
prosecution under the Master and Servants Act of 1875 for breaking their indentures. Given the degree of specialisation in the industry this was shrewd tactics by the employers, for the apprentices under the supervision of a foreman or foremen, working alongside unskilled or semi-skilled labour could keep a large works going in times of crisis. As one employer later said: 'The development of specialisation ... is a great pressure; the introduction of automatic machines incurs speedy training on one particular machine for apprentices and in no time at all they are highly competent, thus in strikes or disputes can keep a factory going and disrupt the "turn-outs".

Realising the potential of the apprentices as strike-breakers, the A.S.E., after the 1883-85 disaster, did make some attempt to organise the apprentices into a union. William Glennie, in his evidence before the Royal Commission on Labour, had mentioned that the apprentices in his area, Tyneside, had been recruited into a special union, formed in November, 1892. In Aberdeen there existed for a time a union called the Society of Apprentice Engineers (1888). It had come into existence following a strike by apprentices over increased hours or working. They had been made to work fifty-seven instead of the recognised fifty-four hours. The strike was

69. The Amalgamated Engineers' Monthly Journal (formerly Gartori and Record), September, 1901--, letter from Charles Duncan of Harleybone.

supported by the A.S.E. However, such instances were, indeed rare, although not so unique, that it caused the A.S.E. to refrain from calling-out the apprentices during the 1897 lock-out.

The action of the A.S.E. was to no avail. The employer lock-out was entirely successful. Those apprentices who had answered the call to strike were forced to resume work on the most humiliating of terms. As a condition of resumption each apprentice in the presence of his parent or guardian, was forced to sign a document of apology, it read thus:—

'Gentlemen',

I beg to express my regret for having struck work during the recent Labour Dispute, and to thank you for your kindness in permitting me to resume the service of my apprenticeship in your employment. I agree to serve two days for each day's absence during the late Dispute and for each day I may be absent from work (except in certified cases of sickness or when on leave first asked and obtained) during the remainder of my apprenticeship.

I promise that during the currency of my apprenticeship I will not take part in any way in any Labour Dispute you may have with any of your Employees; and I now place in your hands the sum of Five Pounds Sterling as a guarantee of the due fulfillment of my apprenticeship and of the undertakings herein - said Deposit to be returned to me provided I faithfully and to your satisfaction in every respect complete my apprenticeship, otherwise it is to be forfeited'.

71. Kenneth D. Buckley, Trade Unionism in Aberdeen, 1876-1900, (Oliver and Boyd, Edinburgh, 1955), p.35; see also Minutes of the Aberdeen Trades' Council, 26 September, 1888; 18 October 1888; 31 October, 1888; 30 August, 1892.

72. Executive Reports of the Engineering Employers' Federation, 10 August, 1897.
Each side of the engineering industry clearly understood the importance of apprenticeship, and this is reflected in the attempts after the 1897 lock-out to codify apprenticeship and to revive indentures or some other formal contract of service. In Swansea, the Port Employer's Association met with the A.S.E. to approve a definite scheme of apprenticeship. The agreement which resulted from the talks provided for a five year apprenticeship, to begin not later than eighteen years of age; annual adjustments in the ratio between journeymen and apprentices on a departmental basis; apprentices were not to be dismissed in times of slackness nor allowed to 'turnover' (that is, leave their original employer for another) without the permission of the employers and the A.S.E.\footnote{The Amalgamated Engineers' Monthly Journal, August, 1899.}

Individually, many firms revived indentures or written agreements to increase their control over their apprentices. William Marshall, managing clerk of Messrs. Vickers, Sons & Maxim Ltd., Sheffield, stated, in his evidence to R.C. on the Poor Laws,\footnote{R.C. on Poor Laws, 1910, op. cit., Q.37843-37846, p.455.} (1910) that whilst his company did not use the indenture, it did use a 'private contract for the purpose of binding boys to their service'.\footnote{ibid., Q.82944 - 82945, p.247. According to the Ministry of Labour (Report on an Enquiry into Apprenticeship and Training, 1925, Vol VI, op. cit., p.10) in the mid-1920's there were 23.3% of apprentice engineers under indentures.} George Barnes, in the same report, refuted the suggestion that indentures were in decline, on the contrary, he said, that 'during the last few years it has been on the increase again'.\footnote{ibid., Q.82944 - 82945, p.247. According to the Ministry of Labour (Report on an Enquiry into Apprenticeship and Training, 1925, Vol VI, op. cit., p.10) in the mid-1920's there were 23.3% of apprentice engineers under indentures.} However, most apprentices were still employed under verbal agreements.
In addition to the regulation of apprenticeship some employers began to set up private training schemes for their young apprentices. One of the most influential of the time was that of the North East Coast Institute of Engineers. Baldly stated, the scheme was behaviouristic in its approach, the apprentices were awarded marks for examinations, time-keeping, good conduct and progress in the shops, with a monetary value attached to each. By this system of rewards, apprentices were encouraged to emulate each other, the most successful were given the opportunity to become 'pupil' apprentices and further their studies at university level.

The goal behind the actions of the employers was to bind the apprentice to him in an almost paternal manner, as well as to systematise his training. Such actions by the employers, in this vital area of control, forced the A.S.E. to reassess its thinking on apprenticeship. Some members argued that the A.S.E. rules concerning unemployment benefit militated against the recruitment of the apprentice into the union. To gain benefit, under existing A.S.E. rules, an apprentice, approaching the completion of his service, had to pay the full contribution, and this continued through his improvership for a probationary period. But should he fail to gain employment on reaching his maturity, the young journeyman was denied unemployment benefit. The A.S.E., it was argued, had stubbornly resisted any suggestion to assist final year apprentices.

76. This will be gone into more fully in the chapter on 'Technical Education and the Apprentice'.
77. The Engineer, 14 February, 1908. The N.E.C.I.E. Scheme was begun in 1904.
by reducing the scale of contributions to a point commensurate with their (lower) earnings. According to the critics, action had to be taken to induce the apprentice to join the A.S.E, and this, it was thought, could be achieved by, one, (granting) the apprentice - member free membership on finishing his time and (by) striking out the second twelve months' probation; two, by recognizing 'An apprentice member applying for free membership with twelve months of his apprenticeship remaining ... as a free member immediately on finishing his time. The contribution during the said twelve months might be, say, 6d. per week'. Thus by organising the apprentices within the A.S.E., the right to negotiate on their behalf would fall to it. In the beginning, 'this would be over welfare but later cover conditions of apprenticeship'.

However, despite the urgings of the membership, it seems as if the A.S.E. was in no position to enforce its will in regard to apprentice limitation, recruitment or conditions of service. In 1907, at a special conference between the E.E.F. and the engineering unions (the A.S.E., Steam Engine Makers, and the United Machine Workers' Association), it was agreed that the employer refused to entertain any interference from a third party regarding his relationship towards his apprentice. For

79. ibid., September, 1904.
80. ibid., June, 1904.
81. ibid., September, 1904.
82. Minutes of the Engineering Employer's Federation, 31 January, 1907.
in the employer's eyes the apprentice was 'a privileged person who has bound himself to be instructed in his trade and...no third party is concerned'.

Therefore, the apprentice, through the great developments in engineering technology, became a highly important strategical factor in the balance of power between employers and union. Not only that, no longer was the youth expected to 'keep nix' (that is, act as look-out whilst the journeymen took an unofficial break on the job), or act as errand boy, or sweep floors, he had become too valuable. Specialisation meant that in a short period of time his labour could be turned to profit. Technology had created a new apprentice, intelligent, with a high degree of technical knowledge, and with a niche in the trade of unprecedented importance. To gain entry into the engineering trade in 1914 a lad had to have 'considerable intelligence and (an) ability to think'. Job guides rarely mentioned manual dexterity.

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83. Executive Reports of the Engineering Employer's Federation, 28 February, 1913; Minutes of the East of Scotland Association of Engineers, 27 February, 1914.
84. Wright, Some Habits and Customs of the Working Classes, op. cit., p. 82.
85. Board of Trade, Handbook to Bristol Trades, op. cit., p. 25.
B) APPRENTICESHIP IN SHIPBUILDING

The British shipbuilding industry saw two momentous changes in the nineteenth century, which transformed it from an industry based upon wood and sail to one founded upon metal and steam power. In the high days of wood and sail, the shipwright was king. But by the 1880's, his status had deteriorated to that of acolyte to the new class of metal workers. As W.C. Steadman, secretary of the London Barge Builders' Trade Union, put it:

'In former times.... Every man was... a thorough and practical workman at his trade, and could build a ship from keel to topmast. The growing elaboration of the work, and the growth of what is really a new industry by the substitution of iron for wooden ships, has led to a complete and minute system of subdivision of labour.... Thus merely in the building of the hull of an iron ship, the work in which earlier times, and in wooden ships, would have been done throughout by one man... is now divided amongst the men in several branches, such as platers, rivetters, holders-up, putters-in, and drillers. What have originally been branches of one trade, have now become distinct trades in themselves'.

Such a decisive break in the method of constructing ships would necessarily involve two chapters, a first on the shipwrights' apprenticeship, and a second on the metal workers' apprenticeship. However, due to the pressures of space and time, it will only be possible to concentrate upon the latter, although for the sake of chronology mention will be made of the

era of wood and sail.

The great age of iron-shipbuilding took place between the years 1860-1880. Previous to this most ships were built of wood. In the era of wood and sail the industry was labour intensive and, outside of a few yards employing between 150 to 450 men, small-scale, with London as its focal point. In fact, Sir John Clapham has estimated that the average London shipbuilding concern, in 1825, 'was comparatively small' employing 'well under twenty' people. Moreover, shipbuilding was largely unspecialised with little labour saving machinery, and building was done on a sub-contracting basis with the journeymen working in 'gangs'. This gave the shipwright an independent, or even quasi-master status. It also produced powerful trade societies who controlled entry into the trade and maintained a system of apprenticeship under legal indentures.

The shipwrights strong sense of independence and allegiance to traditional methods of working caused them to refuse to work in iron. But the fact that erosion of wooden shipbuilding was taking place 'at a time when the total shipbuilding output of (the U.K.)... was expanding' meant that the gravity of the situation was not immediately apparent to the shipwright. In 1851, the number of iron ships launched in the U.K. amounted

2. Amongst the large yards of London were Wigram and Green, employing 400-500 shipwrights, and G.F. Young employing 200 men, Clapham, Vol. 1, op. cit., p.69.

3. ibid.

4. In Liverpool the society of shipwrights was so strong that journeymen from other parts were not permitted to obtain employment there, despite having served seven years to the trade elsewhere. This was rescinded in 1852. Webbs, Trade Union Regulations, op. cit., ff.153-54.
to 55, or 15,826 tons, and those of wood amounted to 617, or 133, 811 tons. By 1862 the number of iron ships launched had increased to 740, or 115,955 tons. In 1871 sail and wood were being superseded by steam and iron, as the following table shows:

Table 1  Ships under construction in the U.K. 6

<table>
<thead>
<tr>
<th>Type</th>
<th>Sail</th>
<th>Steam</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>Tons.</td>
</tr>
<tr>
<td>Iron</td>
<td>23</td>
<td>14,698</td>
</tr>
<tr>
<td>Wood</td>
<td>249</td>
<td>32,064</td>
</tr>
<tr>
<td>Composite</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>272</td>
<td>46,762</td>
</tr>
</tbody>
</table>

By the time the shipwrights had realized what was happening they had been replaced on ship construction by the iron workers. However, shipwrights did not disappear completely, as Pollard says, they 'continued to do the heavy timber work on board subject to recurrent demarcation disputes with the joiners...'.

The fate of the wooden ship was sealed as soon as shipbuilders overcame their prejudices concerning construction in iron. Previously builders believed that 'iron could not float'; that 'it would sink at once if the hull were slightly damaged'; that 'it might attract lightning'; that it 'might have an injurious effect on certain cargoes such as sugar'. However,

8. ibid., pp.223-34.
these fears proved groundless. In fact, iron ships were in many ways superior to wooden ships. They meant for greater durability and strength, and neither were iron vessels susceptible to dry rot, fire or decay when laid up, and 'the thinner iron walls allowed finer lines for higher speed'.

Another sound economic reason for construction in iron was the fact 'the limit of length for wooden ships is about 300 feet'. Iron ships could be made much larger thus providing economy in transport. On a technological note, the introduction of the screw propellor to replace paddles caused such a stress on a ship's hull, that only iron had the strength to resist breaking-up under it.

The growth of iron shipbuilding also occasioned a movement of the industry to northern parts, where good supplies of coal and iron existed. As a result of the northwardly migration, London, once the preeminent shipbuilding centre in Britain, was left with ship repairs work, as were other, more traditional centres, such as Bristol. Aberdeen, for example, was 'reduced from building the finest clippers of their day to building trawlers and whalers'; likewise, Dundee and the Humber (where) reduced from ocean-going vessels to small coastal craft.

The new centres of British shipbuilding where located in Belfast, on the Clyde and the north-east coast of England. In fact, '50 per cent of all persons (in 1871) employed in

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11. ibid.
iron shipyards in the U.K. were engaged in Scottish establish-
ments and of these the vast majority found employment on the 
Clyde...",\(^{13}\) as the following table shows:

Table 2 The geographical distribution of
shipbuilding workers in 1871. \(^{14}\)

<table>
<thead>
<tr>
<th>Country</th>
<th>No. of Yards</th>
<th>Males employed under 18</th>
<th>Males employed over 18</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scotland</td>
<td>30</td>
<td>2,279</td>
<td>21,696</td>
<td>23,975</td>
</tr>
<tr>
<td>England &amp; Wales</td>
<td>48</td>
<td>2,743</td>
<td>17,717</td>
<td>20,460</td>
</tr>
<tr>
<td>Ireland</td>
<td>5</td>
<td>335</td>
<td>2,816</td>
<td>3,151</td>
</tr>
<tr>
<td>U.K.</td>
<td>83</td>
<td>5,357</td>
<td>42,229</td>
<td>47,586</td>
</tr>
</tbody>
</table>

The new iron yards also involved a larger outlay of capital. 
Pollard says that 'the minimum capital (was at least) £5,000-
25,000', and larger establishments would need in the region of bet-
ween £50,000 to £250,000, even although the 'equipment was still 
rudimentary'. \(^{15}\) In addition, there were extra buildings, and, 
as much of the preparatory work in an iron yard was performed 
in the workshops, an 'improved means of transport' was needed 
'within the yards'. \(^{16}\) However, apart from working in metal, 
there was little improvement during the years 1850-1880's in 
shipbuilding technology. Most of the equipment in use in 1860 
was still in service in the early 1890's. It was only in the 
late 1890's did British shipbuilding experience a rapid progress

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16. ibid.
in technology through the introduction of automatic machinery and electrical, as well as pneumatic, power. British shipbuilding then, until the importation of these foreign techniques, was based on the skill of its craftsmen.

The refusal of the shipwrights to handle metal meant that new recruits had to be drawn from without the ranks of the traditional reservoir of labour. The new class of men were recruited from the foundries and engineering shops, Men, in fact, 'who could cut, bend, shape and join sheets of iron with angles'; an army of platers, rivetters, drillers, templet-makers, and others, all associated with the boilermaking trade. In fact, the workforce was the result of the subdivision of the boilermakers' craft, whose primary task it was to make a templet (a pattern), then cut and bend plates, and eventually make them 'steam tight'.

The new class of journeymen were not without a source of tradition and organisation to draw on. As early as 1834 a boilermakers' society had been formed in Manchester, and in the 1840's it had branches in Leeds (1840); Belfast (1841); Bradford (1842); Liverpool, Hull and Newcastle (1843). It was virtually a national organisation. In 1852, the London and Scottish societies joined the existing society and the national

19. ibid., p.41.
body was named the United Society of Boiler Maker's and Iron Shipbuilders, with a membership of about 2,000 'enrolled in fifty-two branches' by the end of 1852.20

However, it would appear that despite the fact that iron shipbuilding workers were associated with the older boilermaking societies, initially there were no strong views expressed on apprenticeship. The Webbs noted that as late as 1873 the 'Society had no rule and no voice in the matter (of apprenticeship) employers simply took on as many lads as they chose'.21 In fact, some employers were actively hostile to the idea of a regulated apprenticeship system.

In 1856, James Napier, Clyde shipbuilder, attacked the idea of apprenticeship, describing it as 'a tyranny of the idle over the industrious'.22 In its place, Napier, like James Nasmyth in engineering,23 advocated a system of learnership whereby the bond between the employer and the boy was a loose one, based on mutual self-interest, and could be severed at a moments notice. Long engagements on 'constant annual wages', the hallmark of apprenticeship, were to be abolished in favour of a system of payment based on the actual work performed by the worker.24 Many employers followed Napier's lead and opened their (iron) yards 'to intelligent but unskilled working men'.25

20. ibid., p.51.
23. See chapter on 'Apprenticeship in Engineering' for a discussion of Nasmyth's views.
It would seem that, until regulation of numbers was adopted, in 1874, as union policy, the Boilermakers were unable to combat the employers' policy of universal recruitment. The main reason lay in the fact that organisationally the Boilermakers were weak. Membership, in 1853, stood at 3,500, and although this had more than doubled by 1870, total membership stood at 7,261, which represented only a fraction of those working at the trade. Moreover, in the 1860's, the Society had to withstand the full blast of an employers' offensive. In 1866, as a result of a strike to establish a nine hour working day, 20,000 Clydeside workers were locked-out. In doing so, the employers were ultimately successful, and this led to the almost total collapse of the Union on the Clyde. In 1868, the Boilermakers' membership in Scotland slumped drastically to a derisory total of 156. Mortimer stated that 'It was estimated that well over 90 per cent of the eligible workers on the Clyde were now unorganised'. The flagging fortunes of the U.B.I.S.S. were further compounded by the fierce fluctuations in employment. In the engineering, shipbuilding and metal trades union members out-of-work amounted to 6 per cent of the total membership, in 1852; and this increased to 12.2 per cent, in 1858; falling to 1.9 per cent, in 1860; and again rising to 9.0 per cent, in 1862; and reaching 10.0 per cent, in 1868; and thereafter falling until 1879, when it rose sharply once more.

26. According to Charles Booth, the amount of people involved in shipbuilding grew from 26,800, in 1851 (all ages), to 45,100, in 1871 (all ages) in England and Wales; and, in Scotland, from 4,500, to 16,400 in the same years. Occupations of the People', op. cit., pp.355.376.

27. Mortimer, op. cit., p.68.

28. Mitchell and Deane, op. cit., p.64.
In response to such widely varying employment figures the Boilermakers' society decided to tighten-up on permissive entry. In 1873, it complained against the amount of 'unindentured boys being taken on as improvers and supplanting journeymen'. The next year a strict ratio of apprentices to journeymen was introduced; the proportion being 5:1 in favour of the latter. By 1877, a code of apprenticeship had been established which allowed for a ratio of one apprentice to five journeymen (rule 5); the admittance of a three years served apprentice into the society (rule 18); and an insistence on apprentices working five years before the age of twenty-one (rule 17).

Of course, the enforcement of the 5:1 ratio was quite another matter. Writing in 1878, George Howell said that the Boilermakers' rule 'is practically dormant; it is not often indeed that any effort is made to enforce it.... When it is attempted it is seldom successful'. In 1886, Robert Knight, general secretary of the Boilermakers' society, giving evidence before the R.C. on the Depression in Trade and Industry, admitted that rule five was 'not enforced'. This was hardly surprising considering that, in 1886, 28 per cent of shipbuilding workers were unemployed. And the failure of the Boilermakers' society to control entry was further emphasised by the reports from the branches. Whitehaven said that owing to the depression of trade 'boys outnumber men'; Stockton-on-Tees reported that

29. Webbs, Trade Union Regulations, loc. cit.
30. ibid.
34. Clegg, et. al., op. cit., p.12.
'employers get as many (boys) as they can'; Liverpool reported a ratio of 600 skilled men to 300 boys aged between 14 and 20.35

Evidence was also given testifying to the utter disarray of the apprenticeship system in shipbuilding at this time. Robert Knight decried the practice of the employers in hiring apprentices on informal lines and dismissing them in slack times, as well as the general lack of interest shown by employers towards their young workers.36 Liverpool branch stated that in the present depression 100 boys were laid off and 'no regular system' of binding existed; Hartlepool stated that binding was by 'mutual agreement'; Stockton-on-Tees also informed the Commissioners that boys were 'not bound'.37

In their condemnation of the employers' role in creating such a chaotic situation regarding apprenticeship, the Boilermakers' society was supported by some of the employers, albeit a small minority. David Rowan, for instance, a Glasgow shipbuilder complained that the old paternal labour relations had broken-down in shipbuilding with the result that 'employers in most cases (did not) know the name of a single (apprentice).... (and he) felt it difficult to get employers to take the slightest interest in their apprentices'.38

37. 'Questions Addressed to Associations Representing the Working Classes', loc. cit. Paradoxically, all the Boilermakers' society's branches stated that the 'quality of the work is much better than twenty years ago'.
The sharp fluctuations in shipbuilding had created a situation whereby the employers were able to disregard union rules on limitation. It also allowed them to employ the apprentices in most cases as trade dictated; in fact, to establish a widespread practice of learnership. However, with the revival of shipbuilding after the mid-1880s slump employer control was made more uncertain.

From a low of 473,675 tons, in 1886, output in the U.K., as a whole, increased to 903,687 tons in 1888, and 1,225,460, in 1891. More specifically, on Tyneside output rose from a poor 82,760 tons, in 1886, to a healthy 213,205 tons two years later. The rapid increase in production naturally increased the demand for labour. This, in turn, led to bitter disputes between management and unions concerning the proper proportion of journeymen to apprentices and over the conditions of apprenticeship.

The unsettled nature of the question of apprentice regulation was emphasised by the fierce debate raised in the pages of the R.C. on Labour between Robert Knight and John Inglis, Clydeside employer.

Knight began by attacking the lax conditions existing in most yards as regards the control of apprentices. The young lads, he argued, were allowed to work for two or three years, picking-up the trade as best they could, and then leave virtually

40. Clarke, op. cit., p.518.
unskilled to work at some specialised task as improvers under a new employer 'at half the journeymen's wages'. The upshot was that 'fresh lads were taken on in the yard where they left'. Knight maintained that such a practice could be overcome by indenturing the apprentices, however, this, he said, was rarely done. Therefore, to prevent the further deterioration of the trade through the over-stocking and lax control of apprentices, the union had, in the face of employer indifference, to limit the numbers of young people coming to the trade for their own good and Britain's.41

To improve the general quality of labour and to safeguard his own members' interests Knight advocated a ratio of nine journeymen to two apprentices, which, in effect, was a slight relaxation of the old 5:1 rule. He arrived at the proportion in this way:

'We have a rule limiting the apprentices to one to five journeymen. This, the employers maintain, would not be sufficient (to expand output) unless the duration of a journeyman's working life was five times that of apprenticeship, that is, twenty-five years. Now we find by our annual returns that, taking the whole of our Society, the duration of the working life is twenty-three years. This gives about four-and-a half times that of apprenticeship. Taking into account the continued introduction of machinery into shipbuilding and boilermaking, which displaces our members, we consider the requirements of the trade would be fully met if the latter proposition was accepted, which would be two apprentices to nine journeymen, each apprentice not serving less than five years'.42

41. R.C. on Labour, loc. cit.
42. ibid.
In order to meet the kind of objection which condemned restriction on the basis that it inevitably consigned a certain portion of the rising generation to unemployment, Knight argued that his trade, given the age distribution of the population, took its 'fair' share of potential journeymen. As he put it:

'... assuming that apprenticeship begins at the age of 16 and continues for five years. A journeyman's life beginning at 21 and ending at 43; taking the number of youths living between the ages of 21 and 43, and dividing the latter by the former, it gives a proportion of 4.7 journeymen (to one apprentice).' 43

The employers, understandably, contested the reasoning behind Knight's conclusions. Speaking on their behalf, Inglis argued that if a ratio of 5:1 was imposed throughout trade and industry it would effectively mean unemployment for 36 per cent of the population. He arrived at this figure by studying the age distribution of the population at demarcated intervals over the period 1871-1881. According to Inglis, for every 100 (English) males, in 1881, between the ages of 17 and 22 there were 323 aged between 22 and 45. If the union ratio of 5:1 were insisted upon, one would have to divide 323 by 5, giving (nearly) 64, therefore, only 64 per cent of the population would be in employment during their adult years. 44 Moreover, Inglis criticised Knight's figures on the grounds that they did not take into account such variables as changes in occupation disablement, premature deaths of journeymen, the failure of final year apprentices to complete

43. ibid.
44. ibid., Q.26,095, pp.395-96.
their apprenticeship, which meant employing beginners to take their place.\footnote{ibid.} To ensure that an expanding industry's needs were catered for, Inglis advocated a ratio of somewhere between 3:1 and 2:1, or five journeymen to two apprentices.\footnote{ibid., Qs. 26,166-26, 174, p.460.}

In summary, Knights' views were based on a concern to fix the ratio of apprentices to journeymen at a definite rate of increase in order to protect his members from competition from youthful labour. Inglis' views were based on the premise that the Boilermakers' proposals were harmful in an expanding industry because by creating a dearth of skilled men shipbuilding would not be able to cater for any increased demand for shipping tonnage. The former view was conditioned by the cyclical fluctuations of the industry; the latter by a desire, in a time of boom, to maximise output and profits.

C.P. Sanger, economist, in a contemporary analysis of the debate, pointed out that each side had put forward views which were bound to conflict: Inglis' case rested upon age distribution tables and Knight's upon life tables.\footnote{C.P. Sanger, 'The Fair Number of Apprentices', Economic Journal, 1895, Vol. V, pp.618-30.} Sanger's conclusions are somewhat different to both. Taking age distribution tables, he found that in England there were 18.3 million people at the age of sixteen and over, and 15.4 million at the age of twenty-five and over, and 5.5 million at the age of forty-five and over.

Now if the ratio is to be arrived at by dividing the 16 to 21 cohort into those between 21 and 45, Sanger finds the following to be the case:-

\footnote{ibid.}
Thus on the basis of Inglis' tables the proper ratio ought to have been 3.4 journeymen to 1 apprentice.

Turning to life tables, Sanger says that if you wish to keep the ratio constant, then for every 34 men between sixteen and twenty-one we have 14.7 men between twenty-one and forty-five, which, by simple division, would give a ratio of 4.3 journeymen to 1 apprentice. However, not content with leaving the question at this, Sanger poses the problem of increasing the rate of journeymen per annum.

'Suppose we want the journeymen to increase at the rate of pi \% per annum. Let x denote the required ratio; then formerly six out of thirty-four become journeymen every year, now \( \frac{4.3}{x} \) b is the number.

\[
\begin{align*}
6 \left( \frac{4.3}{x} - 1 \right) &= \frac{pi}{100} \\
\therefore x &= \frac{2580}{600} \frac{147}{pi}
\end{align*}
\]

In other words, according to Sangers' calculations, under equation 1, in order to increase the rate of journeymen by 1 per cent per annum a ratio of 3.5 journeymen to 1 apprentice would be necessary, and so on. Looked at from another way (equation 2), if a ratio of 2 journeymen to 1 apprentice was established the number of journeymen would have to increase at the rate of 4.7 per cent per annum, and so on.
Notwithstanding the more scientific approach adopted by Sanger his calculations can only be considered as interesting mathematical exercises because of the inherent defects in his methodology.

Firstly, the available information was imprecise regarding the occupational distribution of employed workers in anyone industry due to the rather clumsy occupational classifications adopted in the various censuses. Secondly, an assumption was made regarding the uniform length of apprenticeship - five years - which was not representative of actual conditions. Night himself complained of excessive 'turning-over'. Thirdly, it assumed that all other factors remained constant, therefore, no real appreciation of the rate of cyclical fluctuations was taken into account. Lastly, only very rarely does the rate of increase or decrease in a specific occupation correspond with the rate of movement in the population, therefore, by basing the formulation of a standard of fairness of numbers on such an unlikely occurrence, all that could be arrived at was an abstract figure divorced from real conditions. Therefore, in ascertaining a reasonable proportion of juvenile to adult labour reference can only be made to the past and future requirements of the industry in question and not to the larger social and demographic movements in society as a whole. But even by adopting this premise it still would be necessary to have accurate information, as well as data concerning the variables mentioned earlier by Inglis, and even then conditions would have to be taken as normal in terms of future requirements. All of which makes for insuperable difficulties.

48. Webbs, History of Trade Unionism, loc. cit.
However, in reality, what is more likely to govern the outcome of such an issue is not a commonly accepted standard of reasonableness, but, given the conflicting goals of management and unions, the application of industrial muscle.

Despite the mid-eighties depression in shipbuilding the membership of the Boilermakers' society had increased, and was continuing to do so. In 1880, total membership stood at 17,688; in 1885, it grew to 28,212; and, in 1890, the Society experienced a further increase to 32,926. The important point about the accretion of strength was that it occurred at a time of expanding production. Conditions had now put the union on the offensive. The fact is reflected in rising wages, which, according to Mitchell and Deane, increased by 10 per cent between 1886 and 1890.49

Working from an improved position of strength, the Boilermakers' society, to counter employer control of apprenticeship, began issuing, in 1892, Apprentice Cards. The Society also resolved that 'after January, 1893, no one was to be admitted a member of the Society who had not been supplied with one of these cards'.50 The cards were issued on the basis of a number of conditions, one, 'Cards were only to be issued in accord with the number of apprentices allowed by the rules, viz. one apprentice to five journeymen'; two, 'The card was to be stamped (by the union) at the beginning of each quarter'; three, 'apprentices, were to stay with one firm the whole of their time'; and, last, 'No

one was allowed to work with the tools and learn the trade who
was not in possession of the card'. 51 Left uncontested by the
employers such a step by the Boilermakers was enough to leave
them in outright control of apprenticeship, and, hence, the
labour supply. The employers responded by offering the union
a chance to meet them in conference to discuss the whole app-
renticeship question, however providing that the cards were
withdrawn. When this was duly agreed to by the U.S.B.I.S.S.,
the conference met. The outcome was the 1893 Apprenticeship
Agreement. The agreement laid down rules governing the conditions
of apprenticeship in the shipyards. It allowed for the employment
of rivet boys at the age of fourteen from whose ranks apprentices
were to be selected. All apprenticeships were to commence at
the age of sixteen and were to last five years, although in except-
tional cases they could commence 'at any time not later than 18
years of age'. Each apprentice was to come under a written
agreement or indenture, which could be revoked on account of the
apprentice's bad conduct. The apprentice was not allowed to
become a member of a trade society except for benefit purposes. 52
Neither was he allowed to leave his employer without the latter's
written permission. On the question of wages it was decided

51. ibid.

52. There was evidence that the Boilermakers were active in
recruiting apprentice members in the 1860's. *The Beehive*
reported the first annual soiree of the Glasgow Apprentice
Boilermakers and Iron Shipbuilders, on 28 April, 1866,
and the foundation of the Liverpool and Birkenhead Apprentice
Boilermakers' Socie" was reported on 19th August, 1865',
Pollard, op. cit., p.146.
that a basic minima ought to be laid down giving 6s. per week for the first year; 7s. for the second; 8s. for the third; 9s. for the fourth; and 10s. for the fifth. In addition, the sons of employees were to be given preference in the selection of apprentice. Lastly, a 7:2 ratio of journeymen in the shipyards, but not in the bridge yards or boilershops. The agreement itself was to run for six years after which it would be retained 'subject to six months notice on either side'.

However, a freak depression in shipbuilding in 1893/94 which saw unemployment climb to over 11 per cent, allowed the employers, at a time of enforced union weakness, to add a clause to the agreement, in 1894, enabling them to suspend apprentices 'during times of depression, (or)... when the exigencies of trade require it....'

Therefore, although the 1893 Agreement had laid down some form of regulation which restricted entry, it had still allowed the employers to maintain their grip on apprenticeship in important areas. Firstly, by preventing apprentices becoming trade union members, it meant that it was possible to use them as strikebreakers. Secondly, by assuming the sole right of dismissal, the employers had a ready, non-interferential means of disciplining their young workers. Finally, by agreeing, in some cases, to either indenture their apprentices, or to have them serve


54. Mitchell and Deane, op. cit., p.64.

55. Cummings, loc. cit.
under written agreements, the employers, except in questions relating to limiting numbers, were able to remove all union involve-
ment in questions relating to apprenticeship. These factors assumed even greater importance as aspects of shipbuilding work, particularly rivetting, were revolutionized through technological innovation.

From the late 1890's onwards significant advances were made in shipbuilding technology which threatened in large measure the position of the metal workers as part of the artisan elite. 'Pneumatic or electrical drilling, riveting and other processes were now coming into use. By 1901, nearly all of the great firms of the North East Coast and Tyneside generated their own electrical power....' The introduction of automatic, electrically powered tools had been made necessary by the increasing size of ocean-going liners, which created enormous difficulties in constructing the hull by hand-work. As a result 'dependence upon handwork in riveting, drilling, and so forth began to give way to the use of portable machine tools, operated by pneumatic or electrical means—particularly the former'.

The adoption of such method inevitably created the prospect of skill dilution. More important, it increased the competition between boy and adult labour. For whilst ships were built on the basis of handwork, the work was necessarily extremely stren-
uous, therefore, physical power was vital in construction. With

56. See chapter on 'Components of Apprenticeship' for a discussion on the jasal position of apprentices serving under indentures.
58. Levine, cf. cit., p.82.
the introduction of portable machine tools manual effort was minimised and dexterity maximised. Thus apprentices could easily displace journeymen: a fact noted by a Glasgow factory inspector, who reported, in 1903, that with a pneumatic chisel 'one lad in a few hours can do the day's task of a grown man: the 'prentice is supplanting the journeyman'. In addition, boy labour engaged on pneumatic tools represented a large saving in production costs to the employer. In caulking, it was estimated that by using apprentices on the new machines a 'reduction of 50 per cent to 60 per cent' in costs could be achieved. It was also found that 'apprentices can do well as they can work tools as easily as journeymen'. In rivetting, Mr. Scott, of Scott and Co., Greenock, reckoned that a rivet squad consisting of one apprentice, a holder-on and a heating boy using a pneumatic rivetting machine 'resulted in a saving of 54.3 per cent as compared with list prices', in other words, instead of paying the union rate of 13s.6d. per 100 punched rivets, he now paid somewhere under 7s.6d.

The new importance of the apprentice in the industry made the employers even more desirous of gaining complete control of apprenticeship. Associated members of the Clyde Shipbuilders' and Engineers' Association (C.S.E.A.) were advised by their Association to 'take means to increase the number (of apprentice rivetters) as quietly and speedily as possible'. Therefore,

60. Minutes of the Shipbuilding Employers' Federation, (S.E.F.) 2 June, 1904.
61. ibid.
when the 1893 Apprentice Agreement came up for ratification, in 1899, not surprisingly, the employers refused to ratify it. In fact, the Clydeside employers moved a resolution against the renewal of the agreement and unanimously resolved: 'That having regard to the baneful effect on the Shipbuilding Industry of the now expired Apprenticeship Agreement, this Association is of the opinion that no request for a renewal of the Agreement or any proposal for a limitation or restriction in regard to the number or age of apprentices, should be considered... And (we) hereby agree to support the Federation in any action which may be taken to resist such demands'. The proposal of the Clydeside employers was accepted in Federated yards throughout Britain. However, in the non-federated yards of Cardiff, Penworth, Barry and Southampton an agreement was signed with the employers and the Boilermakers' society. Under its terms the yards agreed 'not to take more than one apprentice to five journeymen constantly employed where new work is carried out'. However, in repair work the number of apprentices was 'not(to) exceed five'.

In the absence of a national agreement the Clydeside employers, in this period of relative employer absolutism, issued their own 'Conditions of Apprenticeship'. The rules contained in the document were in some ways similar to the 1893/94 national agreement, with the exception of the no limitation clause, however,

63. ibid., 28 March, 1900.; see also Minutes of S.E.F., 9 November, 1899.
it did contain some significant departures. Under clause seven, no apprentice was allowed 'to take part in any Trade dispute', also, as a guarantee that he would fulfil 'his engagement' each apprentice, under clause nine, was expected to 'lodge in the Employers' hands a deposit of, or give security for a sum of £.... In the event of the Apprentice being dismissed... the sum deposited or guaranteed ... (was to) be forfeited to the Employers'.

The strong grip which the employers had gained on apprenticeship meant that they were able to use the apprentices to discipline the journeymen to a large degree. For example, when the adult rivetters in the employ of Messrs. Cran, of Leith, Edinburgh, refused to do work except at 10% per cent over book rates, the firm declined to pay and a strike ensued. Immediately members of the East of Scotland Association of Engineers (E.S.A.E.) agreed to support Messrs. Cran 'by employing four squads of apprentices.... to complete the Contract at Agreed rates if the men should not indicate their intention to resume work'.

After a strike lasting nearly five weeks the men returned to work on the understanding that a 'conciliation council' would be set up to consider rivetters' prices, but significantly 'nothing was agreed on apprentices'.

Under the almost despotic control of the employers, the shipyards augmented their supply of apprentices, as the following table show:

66. Minutes of the E.S.E.A., 28 August, 1901.
67. ibid., 2 October, 1901.
### Table 3

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<tr>
<th>Date</th>
<th>Journeymen</th>
<th>Apprentices</th>
<th>Ratios</th>
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<td>419</td>
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<td>1,108</td>
<td>495</td>
<td>2.2:1</td>
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<td>1900</td>
<td>1,092</td>
<td>530</td>
<td>2.1:1</td>
</tr>
<tr>
<td>1901</td>
<td>1,126</td>
<td>632</td>
<td>1.8:1</td>
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<tr>
<td>1902</td>
<td>995</td>
<td>672</td>
<td>1.5:1</td>
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<tr>
<td>1903</td>
<td>915</td>
<td>640</td>
<td>1.4:1</td>
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<tr>
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<td>868</td>
<td>597</td>
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<td>594</td>
<td>503</td>
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<td>1909</td>
<td>883</td>
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### Table 4

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<th>Ratios</th>
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<td>1,355</td>
<td>600</td>
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<td>697</td>
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<td>1,488</td>
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<td>1,411</td>
<td>740</td>
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<tr>
<td>1903</td>
<td>1,165</td>
<td>662</td>
<td>1.7:1</td>
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<tr>
<td>1909</td>
<td>1,005</td>
<td>526</td>
<td>1.9:1</td>
</tr>
<tr>
<td>1910</td>
<td>1,421</td>
<td>688</td>
<td>2.1:1</td>
</tr>
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</table>
It would appear from these figures that there was a more than marked narrowing of the ratio between journeymen and apprentices during the period 1895-1910 on Clydeside. From a high of 4:1 in rivetting, in 1895, to a steady 2:1 between 1900-1910; and, in plating, from a respectable 3.2:1 to an extremely low ratio of 1.5:1 over the same years. The ratio for all metal workers, including platers, rivetters, holders-on, caulkers, angle-smiths and straFFpers, underwent a comparable decline, from 4.7:1, in 1895, to an almost regular ratio of 2:1, in the period 1900-1910.70

Another interesting feature of the tables was the ability of the employers to temporarily suspend apprentices during periods of slackness, for instance, in the plating trade, apprentices were reduced from 688, in 1907, to 503, in 1908; and in the same years, in the rivetting trade, from 653 to 426.

The Boilermakers' society complained bitterly over the undue proportion of apprentices employed in the trade. Giving evidence before the H.C. on the Poor Laws (1910), Mr. C. Coates, of Middles-rough, stated that:

'Another prolific cause of this chronic unemployment is the increasing amount of work which is now performed by boys, who are nominally apprentices but who are in reality involuntary blacklegs, who perform the same work as men at about one-fourth pay.... the trade is now gradually being swamped by boys who perform practically the whole of the interior work of the ship'. 71

68. C.S.E.A., uncatalogued ms, in the Glasgow City Archives.
69. ibid. 70. ibid.
This view was underscored by the Boilermakers' journal, in 1910, when it said that 'The question of apprentices in our own Society is a source of much trouble, for in some yards they number almost as many as journeymen'. 72

In retaliation against what it considered the overemployment of apprentices, the Boilermakers' society resorted to issuing, in 1912, Apprentice Cards, as they had done previously, in 1892, as well as initiating a recruiting drive amongst apprentices. The cards were to be available to any apprentice between the ages of sixteen and twenty-two on the payment of 2s. 6d. entrance money and a weekly contribution of 3d., which entitled him to sickness and unemployment. 73 On the surface, it may have seemed simply a social welfare scheme, however, there were other conditions attached, namely: 74

(a) That the Society would not recognise any young man as a legitimate apprentice and entitled to become a member of the Society who had not been supplied with one of the Cards;

(b) Branch Officers when granting cards must see that the proportion of Apprentices where the lad is to serve his time does not exceed two to seven journeymen;

(c) Young men must complete their apprenticeship in one shop or yard; they cannot be allowed to go from one yard or shop to another;

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72. Monthly Reports of the United Boilermakers' and Iron and Steel Shipbuilders, April, 1910.

73. ibid., January, 1912.

74. Minutes of the S.E.F., 6 February, 1912.
(d) The Society shall not be bound to recognise the holder of a card as an Apprentice in any yard or shop other than the one for which it was first issued;

(e) Apprentice members being out of employment through any dispute sanctioned by the E.C. shall be entitled to 5s. per week to be subject to the decision of the S.C.

The Boilermakers had, therefore, decided that where negotiation had failed militant organisation might succeed in limiting numbers by usurping employer control of apprenticeship. It was an attempt, as the S.E.F. recognised, at 'making all Apprentices Trade Unionists', 75

The actions of the Society in this matter were condemned by the trade journal, the Engineer, as destructive of the paternalistic bond between master and apprentice which in the past had encouraged 'loyal service' towards the former by the latter 'in time(s) of trade dispute(s)'. 76 It was also denounced by the shipbuilding employers, who insisted on 'the withdrawal of the system... even to the extent of resisting a strike should this be necessary'. 77 However, the employers at this time were not in a favourable position to force the issue as far as actual confrontation. The years between 1910-1914 represented a period of sustained and fairly rapid recovery for shipbuilding; unemployment amongst shipbuilding (and engineering and metal) workers fell from 6.8

75. ibid., 5 June, 1912.
76. August, 1912.
77. Minutes of the S.E.F., 22 May, 1912; Minutes of the C.S.E.A., 5 June, 1912.
78. Mitchell and Deane, op. cit., p.65.
per cent, in 1910, to 0.6 per cent, in 1915.78 And despite the short-term depression of 1907/8/9 union membership stood at 49,393, or 46 per cent of the total workforce, which represented a situation of continuous growth.79 Therefore, the Boilermakers continued their recruitment of apprentices relatively unimpeded. In fact, so attractive was union membership to many apprentices, and so effective was union organisation of them, in May, 1914, the Boilermakers' society could boast that it had in its ranks, throughout the U.K., 'one third (4,253) of the total legitimate apprentices of the trade members of our Society....'80

Not wishing to encourage an outright national, or even regional, strike the employers' Federation adopted another approach - indentures. After receiving information from its associated bodies, which indicated that 'the majority of firms had no written agreement or indenture of any kind',81 the S.E.F. 'unanimously agreed' to request that all Federated firms should 'not... engage any apprentices except they were bound by a proper legal indenture....'82 This was reasonably shrewd, for if accepted by the majority of employers, the indenture would have prevented the Boilermakers' society interfering with the apprenticeship system, as no third party could come between the signatories (employer and apprentice) of the contract without risking possible legal action.83

81. Minutes of the S.E.F., 1 August; 1912.
82. ibid.
83. See chapter on 'Components of Apprenticeship'.
However, this course of action was not generally agreeable to the bulk of employers, as, in 1918, the Departmental Committee on the Shipping and Shipbuilding Industries found 'that apprentices were not as a rule indentured'. Again an appeal was made to the employers that they ought to institute 'either an indenture or some form of agreement' in order to bind their young workers to them. But the major obstacle to the universal adoption of the indenture remained: the inability of the employer in times of slack to dispense with the services of the Apprentice.

Therefore, by 1914, the control of apprenticeship was in a state of flux. Significant inroads had been made by the society in the years immediately preceding the outbreak of World War One into relative employer absolutism in this matter through the issuing of Apprentice Cards. But the war years interrupted union progress as the more pressing questions of general skill dilution loomed large on the grievance agenda. However, what could not be challenged was the fact that the apprentice boilermaker, like his counterpart in engineering, had come to assume a position of great importance in the shipbuilding industry. As such the establishment of strong controls regarding his entry and conditions of service were to remain a vital issue in years to come in industrial relations in shipbuilding.

84. Report of the Departmental Committee to Consider the Position of the Shipping and Shipbuilding Industries after the War, op. cit., p.17.
85. ibid.
C) APPRENTICESHIP IN BUILDING.

Of all British industries and crafts during the period 1800-1914, building seemed to be one of the most suitable for the existence and expansion of an apprenticeship system. It did not undergo the profound transformation as experienced in engineering or shipbuilding. The development of building technology was, on the whole, sluggish, or even, in some trades, such as brick-laying, static. In fact, the techniques of house construction differed little in 1914 from what they had been in 1800. The important changes which did occur lay firmly in the sphere of organisation and specialisation. Standardized production did make some progress, notably in carpentry and joinery and plumbing, but as the industry was consumer orientated it was inevitably short-circuited as the dictates of personal taste had to be obeyed. Moreover, the industry remained a highly localised affair dominated by a myriad of small firms employing a few workmen. Yet despite such eminently favourable conditions it would be difficult to argue that apprenticeship existed as a systematic form of trade teaching, or as a relationship between master and young worker, for the majority of those entering the building trades during most of the nineteenth century. It was only in the later years of the nineteenth and the early years of the twentieth century was there any attempt to alter this situation.

1. Trades considered are bricklayer, carpenter and joiner, glazier, mason, painter, plasterer and plumber.
Before 1815 building was a highly decentralised and individualised industry which lacked the large general contractor so prominent later. A master bricklayer, for example, would most likely be an individual working on his own account and, perhaps, employing a number of labourers to handle the heavy work.\(^2\) Moreover, in building, at this time, there was little division of labour. Many journeymen were adept in the exercise of a number of trades. A glazier, for instance, was competent in the skills of plumbing and painting, as well as in those connected with his own trade.\(^3\) Similarly, the trades of carpenter and joiner were bound together; the journeyman was equally skilled at both branches.\(^4\) In rural areas, the trade of bricklaying was also 'united' with that of plastering, although in urban centres, such as London, it was kept a distinct craft.\(^5\)

Thus the lack of a system of division of labour and the highly individualised nature of building demanded men of superior skill and knowledge. The requirements needed to be a bricklayer, in 1806, were said to be an instruction 'in reading, writing, arithmetic and common mensuration, at least; and... a knowledge of Euclid's elements, and some expertness in drawing plans or models ...

\(^2\) Postgate, op. cit., p.9.
\(^3\) Book of Trades, op. cit., part 1, p.134; Friend of Youth, op. cit., p.269. The reason why this three-handed trade arose was because most windows were casements, and 'instead of wooden sash-bars between the panes, the divisions were of lead, there was reason sufficient that the tradesman who glazed the windows should supply both the lead and glass...(and) after doing the lead and glass work... much of his work would be required to be painted over', The Book of Trades, (London, 1862), p.26.
\(^4\) ibid., p.24.
\(^5\) Friend of Youth, op. cit., p.344.
\(^6\) ibid., p.163.
Such a high level of skill was the product of long training and much post-apprenticeship experience, which inevitably produced a constraint on the supply of labour. In a rapidly expanding industrial society, whose population was growing by leaps and bounds, particularly in urban areas, as Britain was, this need to augment the number of workers created serious problems, as the demand for housing increased immensely, as the following table shows:

Table 1  
Brick production and the net increase in housing stock in England and Wales, 1801-1851.

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<tr>
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<th>1801-11</th>
<th>1811-21</th>
<th>1821-31</th>
<th>1831-41</th>
<th>1841-51</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average brick output</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) in ooos</td>
<td>811.6</td>
<td>859.0</td>
<td>1230.9</td>
<td>1336.8</td>
<td>1583.7</td>
</tr>
<tr>
<td>(b) percentage increase</td>
<td>5.8</td>
<td>43.4</td>
<td>8.6</td>
<td>18.5</td>
<td></td>
</tr>
<tr>
<td>Net increase in housing stock in ooos</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Average for each decade</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The discrepancy in the percentage fall in the number of houses built between 1841-51 and the net percentage rise in brick production of 18.5 per cent in the same period is explained by Cairncross and Weber as thus: 'a much larger share of the output of bricks was absorbed by other construction and especially by railway building', ibid., p.288.'
In response to the problem of labour supply, from 1815 onwards there occurred significant developments which were to alter the traditional organisation of the building industry and its methods of work.

The most important of these was the rise of the general contractor, of whom Thomas Cubbit was perhaps amongst the more notable. Cubbit himself was a London builder, who, in 1815, set up as a general contractor employing men of various trade skills under a supervisory foreman to engage on various contracts. In order to keep his workforce together and in employment, Cubbit began building on a speculative basis. This was largely successful as by the 1830's there were a number of firms emulating his enterprise, who were employing between them '170 to 235 men'.

Concomitant with the growth of the large contractor was the increasing size and importance of the sub-contractor, who undertook some of the more specialised work on large contracts. This symbiotic relationship between the general and sub-contractor facilitated 'the operation of one firm in several areas', as the practice of subcontracting reduced the difficulties of the general builder in organising supplies of labour and materials away from his main base in so far as this responsibility... (was) shifted to the sub-contractor'. By this means the scope

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8 Marion Bowley, *The British Building Industry*, (Cambridge University Press, London, 1966), pp.335-36. One might also add that the competitive tendering system and the large public works associated with industrialisation were also important reasons for the emergence of men such as Cubbit. Tendering encouraged economies of scale and the large undertakings, such as railways, increased the need for the large-scale capital outlay. See Keith Burgess, *The Origins of British Industrial Relations*, (Croom Helm, London, 1975, pp.94-95,) for an extended discussion on the emergence of the capitalist builder.
and scale of building was enlarged.

The effects of these structural changes and the increased demand for labour was significant. Specialist workmen emerged. For example, the trade of the carpenter and joiner, by the 1850's, was evolving into two separate occupations. Mayhew reported one London journeyman carpenter as saying that 'Some men will tell you that they can do one kind of work as well as another; and so they may if they're only middling hands; but the best carpenter is always cleverest and quickest at his own branch and the best joiner at his'. In the large joinery establishments, Mayhew also observed 'different hands... employed on the staircases, the window-frames and sashes, the doors, the shutters, the flooring and the skirting...'. Similarly, the three-fold trade of glazier, painter and plumber had disappeared. By 1862, each part had become a distinct trade. The process of deskilling was also occurring in the painting trade. According to Postgate, the trade was becoming open to unskilled labour: 'Laster painters could and did put totally unskilled labour, after perhaps half-a-day's instruction, on to slapping paint on their jobs'. In plumbing, the trade underwent a rural/urban division, with the town plumber mainly concerning himself with the erection and repair of water closets, whilst the country plumber specialised in the installation and maintenance of pumps.

11. ibid., p.339.
Supplementing the growing specialisation of labour, there was a tentative move to introduce a rudimentary system of standardised parts, particularly in plumbing and carpentry. In plumbing, by 1862, much of the preparatory work of the journeyman had been reduced through prefabrication of components. The plumber was no longer expected to make his own pipes as the 'old method of casting small pieces and joining them together was replaced by hydraulic presses forcing cold metal into the required diameter of the pipe needed'. 15 In carpentry, some of the preparatory work was taken over by the saw mills, and, in the 1870's and 80's, greater use was made of machined prefabricated parts, such as doors, stair-cases, windows, and so on. 16 However, until the 1890's, it seems as if these developments represented the outer limits of technological advance so far as the building industry was concerned.

The cumulative effects of these changes, both technical and organisational, was to split the trades into two distinct sections, which Mayhew called the 'honourable' and the 'dishonourable'. The former part of the trade constituted the respectable, high quality workers, who enjoyed £3 6d wages and regular employment. Amongst the London carpenters and joiners only 10 per cent were said to be in this exclusive section of the trade. 17 In the other part of the trade, sometimes known as the 'slop trade', were employed the majority of operatives. It was run by speculators

15. ibid., p.30.
of the worst kind. They produced work of a 'scamped', or inferior quality; building houses little stronger than 'bird cages', and just as fragile. Hayward found that they were always damp, badly drained, subject to sinkage, and had paper thin walls. And the practice of scamping was encouraged even more so by the excessive competition for work amongst the small jobbing masters, who constantly undercut each other.

Such poor construction arose from a lack of knowledge of and concern for the proper principles of building. In order to keep down overheads, what was a highly competitive industry, the 'jerry' builder employed some of the poorest labour available, at less than skilled rates, normally half-taught turnovers from the country or labourers, who had picked-up the rudiments of the trade from observing a craftsman at work over a number of years. So bad had the standard of workmanship become in London, as early as 1845, that one architect was moved to write to the Builder complaining of the 'want of skilled builders'. And this remained a recurring complaint within the industry. In 1868, Thomas Connolly, President of the Operative Stonemasons, said that 'There was not one foreman in twenty that could take a pencil and make a plan and section of what was required to be done; and

18. ibid.
19. The Builder, 28 September, 1845. Postgate says that in the painting trade a popular method of scamping was 'to give one coat (of paint) where it was desired in the contract to have four', op. cit., p.236.
20. The Builder, loc. cit.
if there were more, not one man in a hundred would know what it meant'. 21 Some years later, the R.C. on the Depression in Trade and Industry (1886) heard complaint after complaint over how the general level of skill had drastically deteriorated. 'I have never seen work worse done than it had been in the last five years', said the London representative of the Operative Stonemasons' Friendly Society. 22 The Blyth representative of the A.S.C.J. was even more critical. His members 'consider(ed) the quality of work... below the average of the last twenty years, especially in house building, slop work, or jerry building is now extensively carried on....' 23

The poverty of the workmanship so loudly trumpeted by those in the trade was not just the result of internecine competition in an industry which put quantity before quality, but also the outcome of the failure of the building unions to impose a formal system of apprenticeship on the industry in its formative period of expansion. In fact, two separate methods of learning a trade emerged - patrimony and picking-up.

Under the system of patrimony the sons of journeymen were allowed to enter the trades without serving a formal period of apprenticeship. Most trade societies encouraged the practice. The Dublin carpenters, for example, ruled in the 1820's that 'no Dublin member of the community shall take an apprentice except a son, brother or nephew....' 24 According to the obbs, the stonemasons

22. 'Questions Addressed to Associations representing the Working Classes', op. cit., p.47.
23. ibid., p.52.
trade was 'almost entirely recruited' by means of patrimony. 25 They also stated that there was no 'fixed period of servitude' and a boy was entered at the age of sixteen into his father's employer's works as an improver. 26 Similarly, the Birmingham plasterers allowed each journeyman 'to bring in his eldest son to (the) trade and this (was) generally done - few other boys (were) found'. 27 Lastly, among the bricklayers of Leeds and Bristol a five years' apprenticeship was insisted upon, but this was waived 'in the case of sons of members'. 28

Privileges were also extended to the siblings of journeymen when it came to entering the trade society. In contrast, obstacles of a financial character were placed in the way of those outside the filial groupings. The 1867 Commission on Trade Unions found that the bricklayers of Sheffield, Preston and 'other places' demanded that boys who were not the sons of society members pay the sum of 4s. 4d. per quarter to the local branch before they could get 'the protection of the society and instruction from... (its) members'. 29 Other societies had similar rules. The Glasgow bricklayers had a rule (1858-£4) which demanded of an apprentice two pounds beginning his trade, although a member's son was charged only one pound. 30 In 1858, the Dublin joiners passed a rule charging a fee of ten pounds to those wishing to join the society, but members' sons were admitted free. 31

26. ibid.
29. First Report of the Commissioners on the Organisation and Rules of Trade Unions, op. cit., evd. of George Housley, secretary of the Operative Bricklayers in Sheffield, Qs. 2,211 - 13, p.78. The boys did not receive any accident or other benefits as a result of their payments.
The outrageous exclusiveness of the patrimonial system was justified by the journeymen on the grounds that after years of training to their trade they had acquired a 'property' in it. And just as an owner of capital had the right to pass on his wealth to his offspring(s), the tradesman too had an equal right to pass on his capital - his skill. It was his son's birthright. Moreover, it was argued that only under such a system that one could ensure the proper teaching of the rising generation of journeymen, for no man had an 'interest in learning (strange) boys their trades'.

Those outside the pale of patrimony were, in the majority of cases, forced to pick-up the trade. Owen Fleming, architect, described how many London-bred bricklayers picked-up their trade:

'... the average native London bricklayer begins as an odd boy, becomes a labourer, gets on to some speculating work in the suburbs, picks up some rough notion of bricklaying there, drifts back into the metropolis, and offers himself as a competent bricklayer....' 34

This situation was true of other trades. An old stonemason reminiscing over his working life recalled how he entered the trade in the 1860's:

30. Webbs, 'Trade Union Regulations', loc. cit.
31. ibid., ff.137-38.
32. The Beehive, 8 February, 1868.
33. ibid.
34. Owen Fleming, 'London Workmen: Their Education and Workmanship', The Builder, 16 December, 1893.
'I had worked a few months in the North as a labourer when I was thrown into contact with a mason whom I had known as a boy.... He suggested that I might try my hand at knocking-up blockers... (as) they did not require much skill. I hesitated at first, but he said he would help me all he could, and even speak to his employer on my behalf....

My application for a trial was granted. My employer lent me some tools.... in a short time I acquired a tolerable proficiency in the use of the tools'.

From this point the old stonemason considered himself 'fairly launched in the building trade'; and after two years 'got full wages'.

The chief reason behind such an informal method of acquiring a skill lay in the general reluctance of the urban employer to take apprentices. The Webbs said that in the case of the mason's trade, 'The employers were not anxious to have them (apprentices), because for the first four years they earn nothing and spoil a good deal of stone'.

As early as 1824, one journeyman carpenter stated that 'there is scarcely an apprentice in London to a hundred masters'. Some years later, William Darcy, a plasterer of Dublin, stated that the large employers were not in the habit of taking apprentices and that it was principally the task of the small jobbing masters to rear them. Mayhew found, in 1850,

36. ibid., pp.100-102.
37. Webs, Industrial Democracy, loc. cit.
that 'about three-fourths of the carpenters working in the metropolis... are from the country...'. Finally, in answer to a question from the R.C. on Trade Union Organisation and Rules (1867), as to whether the unions interfered in the question of apprentices, George Trollop, building contractor, said, 'In London we take very few apprentices; most of them come from the country, we take a few of the sons of foremen, and so on'.

The employers' refusal to have apprentices was rationalised on the basis of the highly competitive nature of the industry. John McDonald, Glasgow builder, said that 'no master can with advantage to himself or with advantage to his employer employ a large number of apprentices, if he does he will soon put himself out of the trade...'. What the urban employer wanted was not apprentices, but men. This meant, as Trollope said, that the small town and rural areas acted as nurseries for the city. And much of the contemporary evidence bears this out. In Reminiscences of a Stonemason, for example, the author says:

'Let anyone go to any job today (1866) in any big provincial town or city and it will be strange if he can find 5 per cent of the workmen to belong to a town or a city. All the able-bodied joiners, masons, bricklayers, and labourers are from the country, either English, Irish, or Scotch'.

42. ibid., Q.3,590, p.151.
43. Working Man, op. cit., p.76.
Owen Fleming estimated that in London, in the early 1590's, 'the proportion of countrymen is fixed as high as 75 per cent' to that of London born men.

Therefore, in the rural areas, young men, after a few years to the trade, would emigrate to the urban centres to work in the 'dishonourable' section of the trade, at what was known as improver's rates, that is, less than journeyman's.

It was to protect themselves from the threat of competition from half-taught men and the unskilled, that the apprenticed men, in the early 1830's, attempted to enforce restrictive rules design to limit the numbers of apprentices and halt the influx of 'blacks' or 'strangers' into the industry. According to Postgate, it was not necessarily the prospect of improved wages and conditions which led the building workers to organise, but more to achieve the objectives set out above. Most of the early trade societies, in fact, formulated regulations concerning these aims. For instance, the Carpenters' Society of Dublin had a rule (no.7) which stated that 'no master shall be allowed to keep more than three apprentices'. The object of the General Society of Plasterers, amongst other things, was to 'protect ourselves against the vast influx of boys and men who are not plasterers, who are introduced into our trade by selfish and unprincipled speculators....' The Liverpool Painters' Society's rule said 'That where practicable, no member shall be allowed to work in shops where more than one apprentice is

44. Owen Fleming, loc. cit.
45. Postgate, op. cit., p.27.
46. Artisans and Machinery, loc. cit.
employed for every six men'.

A number of strikes were fought around these questions in the 1830's. At Ashton-under-Lyne and Drogheda, in 1836, the masons struck against the practice of putting lads of eighteen and over to the trade. An executive circular to the employers stated that before the Stonemasons' society was formed 'nearly half of those at the trade served no regular time cut (were)... taken on at any age.... which reduced it (the trade, that is) to degraded status....'

However, the enforcement of such rules was difficult owing to the excessive weakness of union organisation in this period, and beyond. Mayhew noted that, in 1850, out of a total workforce of around 18,230 carpenters and joiners in London, only 10 per cent were members of the Society. The Operative Stonemasons had, in 1850, only 4,671 members; and the Operative Bricklayers' Society had 340 members, in 1848; the year of its foundation.

The major problems of organisation stemmed from three related features of building; structure, seasonality and strict entry rules. Under the first heading, according to the 1851 Census, there were 23,515 employees in the building industry, of these there were 14,300 carpentry and joinery establishments, of which

48. ibid., p.137.
51. Webbs, History of Trade Unionism, loc. cit.
'almost half employed fewer than 10 men and only 7 employed more than 100 workers'. In fact, 'the largest number of firms - 2,319 in total - employed just one man'. The ease at which small-scale capital could penetrate the industry must have made the task of organisation difficult as it tended to indicate that journeyman transition to small master was frequent. Mobility within the industry was yet another problem. Journeymen shifted from one site to another, as well as from one place to the next, with amazing rapidity. And this was encouraged by the 'ubiquity of hourly contracts', which entailed the journeyman being employed by several different contractors. Under the second heading, the seasonality of building meant that unemployment benefit in winter was a large burden and imposed an immense strain on union funds. Consequently, those journeymen in the quality section of the trade, whose earnings were high and employment regular, organised themselves into societies, membership of which was dependent on serving an apprenticeship under proper conditions, except, of course, for those who were relatives of members. Thus, by a combination of circumstances, some fortuitous, some not, the majority of building workers were outside the union.

52. Burgess, Origins of Industrial Relations, op. cit., p.92.
53. ibid. In Edinburgh, between 1885 and 1914, Rodger found that '60 per cent of new accommodation was provided by builders operating on a very limited scale, executing plans perhaps only once and not more than four times in a decade'. (K.G. Rodger, 'Scottish Urban Housebuilding, 1870-1914', unpublished Ph.D. Thesis, University of Edinburgh, 1975, p.418.) Even as late as 1931, it was found that amongst 2,479 London employers, employing around 90,000 insured workers, that '1,604 or nearly two-thirds employed less than 25 persons, 473 employed between 25 and 50 persons, 250 between 50 and 100, 95 between 100 and 200, and only 52 over 200. Only four employers in Greater London employed more than 1,000 operatives' (Sir Herbert Llewellyn Smith, et. al., The New Survey of London Life and Labour, Vol.11, F.S. King, London, 1931, pp.55-56).
54. Burgess, op. cit., p.130.
Before leaving this problem of the application of restrictive regulations to the industry, one might mention that there was also much employer resistance. The employers' opposition to entry controls emanated from their deeply held belief on the right to manage their enterprises without interference. As John McDonald said, in 1867, apprenticeship was a matter 'betwixt the parties themselves, that is to say, the employer and the apprentice'.

McDonald went further and denounced the building unions for attempting to impose some controls on apprentice ratios:

'... if the operatives' society have the right to say how many apprentices a firm shall employ, may they not in like manner say how many labourers, how many horses and carts; in a word, may they not on the same principle say how much work a firm shall undertake and at which rate it shall be executed'.

The London Master Builders' Association in their 'ood trade rules' (1866) were also opposed to 'all trade restrictions', including those 'That effect, the future supply by limiting the number of apprentices'.

Given the low density of unionisation and the various obstacles to improving the situation a number of unions simply faced the inevitable and gave up trying to impose restrictions. Robert Applegarth, secretary of the A.W.C.J., said before the 1867

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55. Postgate says that it was a commonly held view in building that painting could 'only be done during the summer and during the winter the painter must be idle', op. cit., p.237.


57. ibid., s. 3,635, p.155.

58. Minutes of General Builders' Association, 7 March, 1866.
Commission that his union had no rules restricting the numbers of apprentices and that his society was open to any man who had worked at the trade for five years.\(^59^\) John Broudfoot, of the Glasgow Trades' Council, said that an 'employer may keep nothing else than apprentices if it pleases him'.\(^60^\) The masons, who had attempted to enforce apprenticeship rules before 1860, gave up all attempts after that date, any man being allowed to join the Union 'as soon as he could leave his first employer'.\(^61^\) It was also said of the bricklayers that, outside of the Manchester Order, they had 'practically neither limitation nor restriction'.\(^62^\)

Some unions did, however, retain restrictive rules concerning apprentices. Postgate has argued that restriction was the division between the 'new and old unions'. Accordingly, 'The masons, plumbers, and the Manchester Order of Bricklayers attached the greatest importance to this, while the Operative Bricklayers' Society, the A.S.C.J. and the English Plasterers took no notice of the question at all'.\(^63^\) Of those trades which practiced restriction their record was very patchy. The plumbers, for instance, had no limit in Scotland, and in England there existed 'great diversity'.\(^64^\) Among the Scottish plasterers, the Edinburgh branch had a rule limiting the number of boys to five

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62. ibid., pp.251-252.
64. Webb, 'Trade Union Regulations', op. cit., f.130.
to any one employer, however, this was abandoned after a 'disastrous strike in 1872', with the result that 'one employer has now twenty-two apprentices to two men'. And this was said to be 'true of all Scotland'.

Therefore, as the building industry approached the 1890s no system of apprenticeship seemed to exist, except on a minority basis. Entry to the trade was normally made on an informal basis, and the unions appeared powerless to influence this situation, even if they had wished to do so.

However, before the decade of the 1890s there was some recognition given by the industry to the falling or low standards of workmanship. From this there emerged a desire in some quarters to improve the skill and efficiency of the rising journeyman class. On 26 September, 1884, a Conference of the Metropolitan and Provincial Plumbers was held in the Guildhall, London, to consider the training of apprentices in the light of new sanitary and public health provisions. In order to inhibit the growth and spread of shoddy workmanship in the plumbing trade, which in itself constituted a danger to health, it was agreed among the participants, both employers and men, that it was desirable that a system of training which combined apprenticeship with a course of technical education was the most meritorious. A few years later, there was also convened a similar conference to discuss training and reviving the apprenticeship system in the painting trade. The main result of these conferences

65. ibid., f.127.
This sharp contrast to earlier decades of apathy was in some ways the product of improvements in building technology, which threatened to increase the amount of specialised labour and allow even bigger inroads to be made into the journeyman's work by his lesser skilled fellows. In the wood-working trades, for example, one contemporary wrote that if the encroachments of machined fitments, such as windows, doors, etc., continued unabated the 'carpenter of Yore must soon write finis to his craft'.

In 1910, the Board of Trade observed that 'The introduction of machinery in recent years has considerably altered the conditions of work in the joinery shops'. The increased use of ferro-concrete process for floors, beams, and so on, threatened to usurp from the carpenters all 'the rougher carcage work'.

In plumbing, manufactured earthenware sanitary products decreased the demand for plumbing by abolishing the need for lead fittings and made 'easier and very much (simpler)... the task of putting the work together'. In stone work, the practice of dressing stone at the quarry, the arrival of the pneumatic chisel, and other cutting devices, undermined the work of the mason to no small degree, a point emphasised by the 'working Man'.

Speaking of the mechanisation of the mason's trade, in 1910, he had this to say:

72. Yeats, op. cit., p.44C.
73. Levine, op. cit., p.105.
75. ibid., pp.50-51.
76. Levine, op. cit., p.106.
'I now come to the last and greatest change in my work and working life. Up to the end of the nineteenth century stone-cutting had always been comparatively free from machinery.... Saws I have seen from my boyhood, yet they were mostly employed on marble. But though I had often heard of these stone-planing machines, I had never seen them ousting hand labour in this district (London) till the dawn of this century.... they have almost revolutionised the trade.... On some jobs they run day and night'. 77

Such developments no doubt assisted in pushing the journeymen into the unions. But there were other equally important factors; the boom conditions; the greater organisational drive in the unions; the influence of 'New Unionism'. Together these factors encouraged a less sectional approach to industrial relations. Hitherto, the unions were highly sectional; there was no national negotiating machinery; each branch was autonomous. To meet the need for action at an industry, rather than craft, level, a number of areas in England formed building trades' councils. The first were formed in Leicester and Nottingham. The Leicester council's role was to assist in resolving demarcation disputes between contending trades, as well as organising strikes on a collective basis. A similar structure was set up in London following the 1890 strike of carpenters and joiners for an eight-hour day and an increase of a penny an hour on wages. A rank-and-file organisation, the London United Trades' Committee, was formed to orchestrate the union's part in the dispute. The

77. Working Man, op. cit., p.255.
strike lasted 25 weeks and eventually went to arbitration, where the men failed to achieve their demands. However, as a result of the struggle, the building workers recognised that the partial action of the carpenters and joiners was the main reason for failure and that had the action been more of a united front of all trades, the outcome might have been less protracted and more successful. Therefore, after a general meeting of the building trades, in 1892, it was agreed to establish a Federation for the London area - the London Building Trades' Federation. It was a fairly successful venture. In its first years of operation, the L.B.T.F. gained the support of between 40-50,000 workers organised in 570 lodges. Its goal was to establish 'some degree of job control'.

The increasing strength and regulation of union organisation in building also brought with it a demand for codification and control of apprenticeship, as well as for improved methods of training. George Kilpack, President of the Affiliated Society of London and Suburban House Painters, to stem the influx of unskilled labour into the painting trade, called on the London Painters' Company to 'see that every boy who enters the trade shall be practically acquainted with the business; (and) given a free and gratuitous education in the technical colleges....' Patrick Lynskey, of the Dublin Branch of the A.J.C.J., echoing Kilpack's views, condemned the practice of boys 'turning-over' due to the indifference of the building employers, who 'sacked

79. ibid.
or discharged' their so-called apprentices as trade demanded, and insisted that 'an apprentice should be properly indentured to a recognised master'.

The desideratum of establishing entry controls did, in fact, meet with some degree of success. Limitation was established in many of the chief towns of Britain during the expansion of the 1890's. The gains were underlined by a survey carried out by the National Federation of Building Trade Employers (N.F.B.T.E.), in 1898. It was found that of the 170 circulars sent out to the main towns of Britain, 85 replies showed that 'Limitation is very prevalent in the Building Trade'.

From the returns it would seem that some form of restriction of numbers had been imposed by the masons in 27 towns; by the bricklayers in 26; by the plasterers in 22; by the joiners in 21; by the plumbers in 21; by the painters in 13; and in 32 towns there was no limitation whatsoever. And these gains were consolidated and, in some cases, extended in the early years of the twentieth century. In 1910, the Board of Trade reported that in the plastering trade, by national agreement, apprentices were restricted to a quarter of the employed journeymen in any one firm and that all apprentices were to be legally bound.

The stonemasons of Manchester and Salford established an agreed ratio of one apprentice to five journeymen with the employers.

81. ibid., Q.16,797, p.233.
82. Minutes of the N.F.B.T.E., 27 October, 1898.
83. ibid. The figures also highlight the autonomy of branches in deciding issues such as these, despite the fact that their national organisation did not have a policy on the subject in question.
84. Board of Trade, Report on Collective Agreements between Employers and Workpeople in the United Kingdom, op. cit, p.XXX.
In Glasgow, the joiners had a ratio of one to three, as well as legal bindings by indenture or written agreement. Some unions favoured no restriction but insisted on legal bindings, for example, the Birmingham bricklayers had no limit as to the number of apprentices but they did insist that 'all apprentices shall be legally bound to the trade before they are seventeen'. And this equally applied to the Liverpool carpenters and joiners.

Statistically, it would appear that the unions, particularly in the period 1901-10, had, in fact, won complete control over the labour supply, as the following table shows:

<table>
<thead>
<tr>
<th>Trade</th>
<th>Date</th>
<th>Total No. of workers employed</th>
<th>No. of those under 21</th>
<th>% of those 21 and under in relation to the total employed workforce</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carpenters</td>
<td>1891</td>
<td>182,409</td>
<td>33,430</td>
<td>18.3</td>
</tr>
<tr>
<td></td>
<td>1901</td>
<td>243,075</td>
<td>57,331</td>
<td>23.8</td>
</tr>
<tr>
<td></td>
<td>1911</td>
<td>176,978</td>
<td>23,188</td>
<td>13.1</td>
</tr>
<tr>
<td>Joiners</td>
<td>1891</td>
<td>117,677</td>
<td>15,822</td>
<td>13.4</td>
</tr>
<tr>
<td></td>
<td>1901</td>
<td>109,160</td>
<td>19,979</td>
<td>18.3</td>
</tr>
<tr>
<td></td>
<td>1911</td>
<td>102,752</td>
<td>5,456</td>
<td>5.3</td>
</tr>
<tr>
<td>Bricklayers</td>
<td>1891</td>
<td>92,206</td>
<td>11,131</td>
<td>15.4</td>
</tr>
<tr>
<td></td>
<td>1901</td>
<td>65,129</td>
<td>11,498</td>
<td>17.6</td>
</tr>
<tr>
<td></td>
<td>1911</td>
<td>40,446</td>
<td>2,966</td>
<td>7.3</td>
</tr>
<tr>
<td>Masons</td>
<td>1891</td>
<td>35,544</td>
<td>10,618</td>
<td>30.7</td>
</tr>
<tr>
<td></td>
<td>1901</td>
<td>53,829</td>
<td>16,705</td>
<td>32.7</td>
</tr>
<tr>
<td></td>
<td>1911</td>
<td>52,139</td>
<td>13,553</td>
<td>26.0</td>
</tr>
<tr>
<td>Plumbers</td>
<td>1891</td>
<td>92,119</td>
<td>18,231</td>
<td>18.4</td>
</tr>
<tr>
<td></td>
<td>1901</td>
<td>137,958</td>
<td>23,526</td>
<td>17.0</td>
</tr>
<tr>
<td></td>
<td>1911</td>
<td></td>
<td>10,767</td>
<td>12.5</td>
</tr>
<tr>
<td>Fainters</td>
<td>1891</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>and Glaziers</td>
<td>1901</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1911</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
However, although the data clearly demonstrated that in the years 1901-10 there was a marked decline in the numbers of young workers employed in the building industry, especially in bricklaying, carpentry and joinery, and masonry, it did not of itself constitute an impressive display of union power in the area of limitation. Other factors were as influential in determining the extent of the contraction in youthful labour.

Firstly, the building industry was in the throes of a crisis in the decade of 1901-10. House building fell from an annual average of 130,600, in 1901, to a low of 61,900, in 1910.90 Similarly, total employment fell from 953,000, in 1901, to 887,000, in 1910.91 It would appear that the peak of the depression was reached in the years 1907, (08), 09. And it was in this period that the greatest reductions in the employment of young workers took place.

Table 3

<table>
<thead>
<tr>
<th>Trade</th>
<th>1907</th>
<th>1908</th>
<th>1909</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mason</td>
<td>120</td>
<td>63</td>
<td>95</td>
</tr>
<tr>
<td>Bricklayer</td>
<td>155</td>
<td>117</td>
<td>105</td>
</tr>
<tr>
<td>Carpenters &amp; Joiners</td>
<td>250</td>
<td>251</td>
<td>222</td>
</tr>
<tr>
<td>Plasterers</td>
<td>166</td>
<td>158</td>
<td>104</td>
</tr>
<tr>
<td>Plumbers</td>
<td>478</td>
<td>514</td>
<td>457</td>
</tr>
<tr>
<td>Painters</td>
<td>101</td>
<td>128</td>
<td>97</td>
</tr>
</tbody>
</table>

86. ibid., p.XXII.  87. ibid.
88. ibid. For detailed regional survey on collective agreements in the building trade regarding apprenticeship see Board of Trade, Report on Apprenticeship, op. cit., Appendix A, pp.28-47.
Rodger found in Aberdeen that overall there were 114 apprentices employed in March, 1906, and this dramatically decreased to only 32, in November, 1908.93

There existed, then, a direct disincentive towards entering an offspring into the building industry at this time. Indeed, the Board of Trade said that employers in the North of England found it, 'now considerably more difficult in obtaining apprentices than there was fifteen or twenty years ago... employers cannot obtain a supply even without imposing any test as to efficiency or suitability'.94

Secondly, the technological developments, outlined above, created a good deal of uncertainty among parents as to whether it was a sensible action to place their sons in trades which seemed to be undergoing a transition. The time, effort and sacrifice involved in acquiring a skill could easily have been rendered to no account by some new mechanical invention.

89. These figures are based solely on Census reports for England and Wales (BFP CVI, 1893; BFP LXXIV, 1903; BFP LXXVII, 1913). They are not wholly accurate, for example, whether all those under the age of 21 is unclear. Some young men began serving their time at different ages than the usual 15 or 16 to 21 period of service. In arriving at those who are 21 in the age group 20 to 24 I have simply divided by five. The figures, therefore, should only be taken as a guide.

90. Richardson and Aldcroft, loc. cit.
91. ibid.
92. Board of Trade, Report on Apprenticeship, op. cit., p.3. These figures are based on the returns of 30 per cent of local associations affiliated to the N.F.B.T.E.
Lastly, and most important, amongst the more stable establishments in building employers, from the 1890’s, seemed keen to act in concert with the unions to codify apprenticeship. This concern evolved from, one, a growing awareness among them of the highly erratic methods of recruiting journeymen, which often led to scarcity and bad workmanship; and, two, greater employer cohesion, which was the outcome of trade unionism and a desire to standardise the working conditions of the industry.

In 1895, the London Technical Education Board published a report which stated that in the metropolis only 30 apprentices existed and 143 learners 'amongst a total of about 12,000 men, including labourers', and that four firms 'each with a staff of about 1,000 had not a single apprentice'.95 It was also discovered that in the plastering trade 'there were about 10 apprentices in the London district within a radius of 12 miles'.96 Moreover, the Report also highlighted the continuing problem of bad workmanship, although it was said that 'It was admitted by all hands that something ought to be done to improve the condition of the London workmen as regards general knowledge and skill'.97

Shortly after this Report, it was agreed at the half-yearly meeting of the N.F.B.T.E. that 'an increased employment of a better class of apprentices was desirable and that a suitable

96. ibid. These, of course, were indentured apprentices and the report excludes from consideration those engaged on a less formal basis, of which in all the London building trades, in 1904, there were 10,348 out of a total workforce, excluding labourers, of 107,146 (Learie, The Problem of Unemployment, op. cit., Appendix C). Despite this qualification it is indeed a small number.
form of apprentice indenture was required which could be used by all Employers throughout the country.... 98 The following year a form of indenture was agreed upon and 'recommended for adoption' in the building industry. 99

The right to speak on behalf of 'all Employers' which the N. F. I. B. &. claimed had a certain amount of credence. The first National Association of Master Builders was formed in 1878. By 1892, it could claim to represent 'all the large contractors and had a membership of 1300 firms'. 100 In addition, at a local or regional level, there emerged a large and growing number of joint boards of conciliation initiated principally in order to get agreement on working rules. However, it was not until 1904 that a nation-wide negotiating body was created, although as early as 1897 the plumbers had one of their own. The new national machinery was, however, rejected by London and the small towns of the south of England, as well as Scotland. 101.

The trend towards the association of employers was influenced by three important factors. Firstly, the growth of strong trade unions demanded organisations of similar strength. Secondly, the tendency to contract work outside of the firm's home base (possibly) demanded a uniform pay-and-conditions structure. Thirdly, in London, the journeyman had persuaded

99. ibid., 26 January, 1897.
100. Burgess, Origins of Industrial Relations, op. cit., p.128.
the School Board and, later, the County Council to prohibit the practice of 'sub-letting' work on any of their contracts. 102 This had the effect of forcing companies on public works to disperse with the services of the small one-job concern and deal either with the more stable establishments, or take care of recruitment, training and supervision itself, and many did. 103

Therefore, a machinery was evolving, for various reasons, which presaged, albeit on a narrow scale, the greater organisation and regulation of building in Britain. In this atmosphere, apprenticeship regulation became a question of mutual importance to employer and union alike. This was underscored by the fact that during the years 1893-1914 there were no struggles of note to enforce apprenticeship rules. In this period, according to the Labour Gazette, only 2,671 people were directly involved with strikes connected with apprenticeship in the building industry. The number of days lost was equally small, amounting to 37,517, and strikes totalled a mere 37. 104

The absence of any large-scale conflict between employers and unions concerning apprenticeship tended to suggest that there was some degree of unwritten cooperation between both sides. 102 ibid., pp.155-56.

103 Although no precise information seems to exist for the early 1910's, in the 1920's, it was said that 'firms with apprentices or improvers were in the main larger firms than those without; such firms employed on the average 31 workers as compared with an average of 7 workers employed by firms having no youths in training', Ministry of Labour, Report on Apprenticeship and Training, Vol. II, Building, Woodworking and Allied Industries, (H.M.S.O., 1927), p.11.

104 These figures are cumulative; the product of counting each category annually from the information furnished by the Labour Gazette.
to encourage the development of a structured and formal apprenticeship system. Indeed, there are some concrete examples of this joint concern. In Edinburgh, following an initiative from the School Board, Apprentice Training Committees were set up in connection with the carpenters and joiners, painters, plasterers and plumbers in 1911. The Committees contained representatives from both management and unions. Their task was to 'control apprentices in all matters relating to their training', and to ensure that 'all apprentices should be registered by cards'. The culmination of such local developments was the devising, in 1916, of a scheme of apprenticeship, after joint talks, by the Institute of Builders, the building trade unions, and the Ministry of Labour, for general use in the industry. The scheme itself provided for indentured agreements and technical training in the employer's time 'for a minimum of eight hours per week'. However, owing to the disruption caused by the 1914-18 war, the scheme did not receive widespread approval or adoption in the building industry, and by 1919 the support it had attracted was said to be 'still inconsiderable'.

In view of the last remark, the picture so far presented of greater degrees of regulation emerging from the growth of strong and permanent centralised associations of employers and men is somewhat overdrawn. Many of the worst features of building remained.

105. Minutes of the Edinburgh School Board, April, 1915.
106. ibid., 28 June, 1911. The idea behind the latter proposal was, of course, to prevent turning-over.
108. ibid.
Patrimony, in many cases, remained one of the chief methods of entering a trade. In bricklaying, for example, a Leicester builder stated that 'My experience is that bricklaying runs in families... and the trade is largely recruited in this way'.\textsuperscript{109}

And the same point was made in respect of plastering and masonry.\textsuperscript{110} Only in carpentry and joinery was it said that 'Preferential treatment of the sons of journeymen is unusual'.\textsuperscript{111} It was also said of bricklaying that 'In many parts of the country no system of apprenticeship exists, the trade being recruited entirely from boy or adult labourers...'.\textsuperscript{112}

Moreover, the long established practice of the rural districts acting as feeders for the urban centres continued. As far as the carpentry and joinery trades were concerned, in London, the Board of Trade found that 'In the shops of the great building firms in London the number of apprentices compared with the number of journeymen is small';\textsuperscript{113} in fact, as late as 1927, the number of firms not employing apprentices, or even improvers, in London, was estimated to be 84.3 per cent.\textsuperscript{114} In the U.K. as a whole the figure was said to be 59.3 per cent.\textsuperscript{115} As regards indentures, in 1915, the Board of Trade stated that of the 3,656 apprentices and learners covered by its report 'rather over a third, were indentured apprentices'.\textsuperscript{116}

\textsuperscript{109} Board of Trade, Report on Apprenticeship, op. cit., p.9.
\textsuperscript{110} ibid., pp.26, 11.
\textsuperscript{111} ibid., p.14.
\textsuperscript{112} ibid., p.9.
\textsuperscript{113} ibid., p.14.
\textsuperscript{115} ibid.
\textsuperscript{116} Board of Trade, Report on Apprenticeship, op. cit., p.4.
Therefore, what had happened in the years 1890-1914 was not the inauguration of an apprenticeship system, universal in its appeal and adoption, but rather the emergence of a recognition of, and a will to improve, the chaotic methods entering and learning a trade which had dominated throughout most of the nineteenth century. But this, as we have seen, was only really evident amongst the associated employers and workers. Obviously as things stood comprehensive regulation and codification of apprenticeship had some ways to go.117

117. As late as 1943, G.D.H. Cole could say that "the building industry's arrangements for training craftsmen, either by apprenticeship or by any other method, were in a chaotic condition at the outbreak of war (in 1939)", (The Reorganisation of Apprenticeship in the Building Industry of Great Britain; International Labour Review, Vol.48, 1943, p.178).
The printing industry in the nineteenth century is full of paradoxes. Until the introduction of the linotype composing machine, in the 1890's, and, later, in the twentieth century, the monotype composing machine, the industry was almost technologically static; yet it was rapidly expanding. In such backward technical conditions it would appear at first sight odd that the journeymen, despite tenacious fighting, were unable to gain control over the apprenticeship system. It is all the more strange when there was evidently a general commitment displayed by both masters and men to a seven years' apprenticeship, at least, in the cities. Again it was only with the introduction of modern technology that apprenticeship was placed on a regulated basis and the compositor, particularly in the newspaper trade, protected from the encroachments of semi- and unskilled labour. To explain these, and other, paradoxes, as well as to outline the general development of printing apprenticeships, is the task of this chapter, which is split into three sections, 1800-1850, 1850-1890's, 1890's-1914.

1) 1800-1850

Composing was necessarily the preserve of the highly literate and articulate artisans. In fact, as one might expect, the degree of literacy needed in composing was considerably in advance of that of other trades. Perhaps it was because of this, and
the status it conferred, that it was, particularly in the eighteenth century, an attractive trade to the sons of the professional strata. Cannon, in his study of the London compositor, demonstrates that the 'gentleman compositor' was by no means a fanciful notion, as the following recruitment table shows:

### TABLE 1

<table>
<thead>
<tr>
<th>Social class</th>
<th>1718-23</th>
<th>1763-68</th>
<th>1800-05</th>
<th>1842-47</th>
</tr>
</thead>
<tbody>
<tr>
<td>% No.</td>
<td>% No.</td>
<td>% No.</td>
<td>% No.</td>
<td>% No.</td>
</tr>
<tr>
<td>Above artisan</td>
<td>54 64</td>
<td>37 62</td>
<td>32 75</td>
<td>37 102</td>
</tr>
<tr>
<td>Artisan</td>
<td>42 50</td>
<td>59 98</td>
<td>58 132</td>
<td>55 151</td>
</tr>
<tr>
<td>Below artisan</td>
<td>4 5</td>
<td>4 7</td>
<td>10 22</td>
<td>8 20</td>
</tr>
</tbody>
</table>

100 119 100 167 100 229 100 273

Including the professions of medicine, the law, the church, teachers, merchants, shop-keepers, farmers.

Including, in addition to craftsmen, mariners, army N.C.O.'s and gardeners.

Including porters, grooms and labourers.

The high degree of middle-class representation declined fairly rapidly during the course of the eighteenth century with the general expansion of the printing industry. Four factors were basically involved. Firstly, from 1695 with the lapsing of

1. This chapter will deal exclusively with the trade of compositor.

2. Cannon, op. cit., p.48. These figures are not a wholly accurate picture of recruitment as employers, from the early nineteenth century, did not, except for prestigious reasons, indenture their boys with the Stationers' Company.
the Licensing Acts anyone was permitted, so long as he adhered to the apprenticeship regulations of the Elizabethan Statute of 1563, to enter the trade. After a while even the apprenticeship laws were largely ignored. Second, the rise of a powerful and monied middle class increased the demand for literature of all kinds, and this was to an extent shared by the artisans themselves. Thirdly, the scope of governmental activities was greatly expanded during the eighteenth century, and this was reflected in the publication of *Hansard*. Lastly, as literacy spread downwards so did the pool of recruits which the industry could draw on expand. Therefore, a combination of relaxed trade regulations, the growth of a reading public, continually expanding, the increase in the government's field of activity, as well as the availability of a larger pool of labour, made necessary, and possible, an expansion in printing to meet the demand. Thus, in 1775, John Pendred, a compositor listed in his trade directory for London 124 names and addresses of printing establishments, by 1808 this had increased to 216, and by 1825 the total stood at 323.

The enormous growth of the industry, particularly in London, faced the employers with a labour supply problem. As composing was a highly skilled trade, calling for a superior education and long training, an employer was not free to employ semiskilled or unskilled labour. Neither was he able to use labour saving

machinery. The major innovations of the early nineteenth century, stereotyping, the Stanhope iron press, the Cowper printing-machine, in no way altered the skill content of the job, although they did speed it up. The only recourse for the employer was to employ extra hands, that is, apprentices, and to improve the efficiency of his labour. This was done in two ways; firstly, by encouraging young people to enter the industry by removing artificial barriers; and, secondly, by introducing 'the companionship' or 'clicker' system of composing, which was accompanied by a certain amount of specialisation.

By employing the first method it was estimated that between 1805 and 1810 something like 700 apprentices were 'indentured to London master printers'. The London masters also made it easier for boys to become apprentice compositors by waiving their right to a premium, as the following table shows:

<table>
<thead>
<tr>
<th></th>
<th>1720's</th>
<th>1760's</th>
<th>1800's</th>
<th>1840's</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Above artisan</td>
<td>53</td>
<td>34</td>
<td>55</td>
<td>34</td>
</tr>
<tr>
<td>Artisan</td>
<td>36</td>
<td>18</td>
<td>31</td>
<td>30</td>
</tr>
<tr>
<td>Below</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Artisan</td>
<td>20</td>
<td>1</td>
<td>14</td>
<td>1</td>
</tr>
<tr>
<td>Printers</td>
<td>0</td>
<td>10</td>
<td>2</td>
<td>16</td>
</tr>
</tbody>
</table>

5. ibid., p.7.
6. Cannon, op. cit., p.49. The social class definitions are retained.
This, of course, allowed for greater representation of the labouring strata and widened the areas of recruitment. However, one should not forget that there were still imposing obstacles to universal recruitment. For although the premium system was falling into disuse, apprentices were still obliged to make a considerable sacrifice in entering the trade by forgoing the payment of wages for a number of years. Charles Manby Smith, recalling his apprenticeship, said that between 1819 and 1823 he received no wages. As late as 1851, the apprentices of the firm of Eyre and Spottiswoode, H.M. Printers, received 'pocket-money' but no wages. In the same year, Charles Davies, an apprentice compositor, said that he paid no premium but he received no wages the first year.

Under the 'companionship' system an attempt was made to introduce a system of specialisation. Work was parcellled out to each member of the team or 'companionship' (usually from six to twelve) on a piece-rate basis. The team was headed by a 'clicker' appointed by the members. His job was to keep a record of the work performed, supply his team with copy, and do all the tasks which were not paid on piece-rate, such as making-up. Added to this there was a division of the hand compositors work into distinct compartments - press and case. But this only occurred in London. Elsewhere a boy was trained to do both, at least,

9. ibid., p.817.
until the 1850's. There was also some early product specialisation. The separation of newspaper and book printing was an obvious example. But by the 1850's, as Howe points out, in London there were firms specialising in a variety of different work, such as 'Stationary Office contract work (Clowes); periodicals and books (S. and R. Bently: Clay, Son and Taylor)... law printing firms (firms in the vicinity of Temple and Lincoln's Inn)....' and so on. 11

The net effect of these changes, particularly the increase, in the number of apprentices, was seen in the early breakdown of the indoor system of apprenticeship. A contemporary job guide noted that in London premiums were not always given as 'it frequently happens that apprentices...are boarded by their parents or friends, who in that case pay no premium, but are allowed a certain portion of the boy's earnings....' 12

Such a transformation did not pass unnoticed in the trade. The moral indignation of the compositor was expressed in a series of letters, collectively known as the Myles' Boy Letters. These were written by an anonymous character to a fictitious friend, known as Chmns, during 1806. In the letters the virtues of the indoor system were extolled and the outdoor system ex- coriated as productive of evil and vice by filling the trade with a 'number of low-bred boys'. 13 The outdoor system, then,

11. ibid., p.58.
13. Howe, The London Compositor, op. cit., p.120.
had led to a breakdown in control. Apprentices were lapsing into crime, as witness that 'in the short space of two years, thirty Outdoor Apprentices to Printers received their sentences for crimes committed in London and Surry (sic)'. To help remedy this deplorable trend Myles' Boy urged that:

'It would be a good hint to the Society for the Suppression of Vice, that they might, instead of hunting lolly - pop sellers on a Sunday Morning, do their country a service, by preventing any master from having Out-Door Apprentices, who finding no check, are hurried into every vice, and end their lives, "e'en in their teens", on the gallows'.

The moral pomposity and snobbishness of Myles' Boy was, perhaps, not shared by the majority of compositors, but it did not stop them indulging in concrete action at an organisational level to impose checks on apprentice recruitment. As early as 1793, compositors working on the London daily newspapers objected to the over-use of apprentices as a means of reducing their wages. In a resolution (1 October, 1793) the men argued that the apprentice had no place in a newspaper office because he could not be compelled to work nights or on Saturdays, and as 'companionships' were the rule in newspaper composing an apprentice had neither the ability nor the experience to work as an equal 'companion'. In consequence of this, the newspaper compositors resolved to 'resist', to the utmost of their power, any attempt... to obtrude an apprentice upon them'. Outside of the Times, which was ununionised, the journeymen were successful in their struggle, for by 1810 Ellic Howe notes that 'they had succeeded in excluding them (apprentices) on daily newspapers'.

However, in the book and jobbing trades, which were more scattered and more available to the intrusion of small-scale capital, the journeymen were less successful in their attempts to control apprenticeship. In 1806, the men complained to the public that at that time 'Two Hundred Pressmen' were out of work in London, whilst the masters were envisaging putting 'one apprentice to every Journeyman', which would, they argued, result in 'half of the business' being 'completely thrown out of work in their Trade'. To counter the designs of the masters, the London compositors passed a series of resolutions intended to tighten the conditions of apprenticeship in the metropolis. Before being accorded journeyman status apprentices were required to have proof of seven years' uninterrupted service to the trade (Res. I - III). Journeymen were limited to bringing only one son to the trade (IV-V). The men also demanded the right to inspect the indentures of any apprentice, particularly those from country districts, where it was thought that 'the practice of binding boys...for a less term than seven years (had)...become common'. However, the continued expansion of the trade made further recruitment essential and this dashed the journeymen's hopes of establishing a restrictive system of apprentice recruitment. And this was borne out, in 1818, when once more the alarm bell of excessive apprenticing was sounded. This time by the radical paper, the Gorgon.

18. The 1851 Census Abstract 'shows that the great majority of master printers employed from one to six men', says Musson, op. cit., p.21.
20. ibid., p.122.
In his report on the printing trade of London, the *Gorgon*’s correspondent reckoned that there were 1,782 journeymen and 600 apprentices working at composing, which gave a ratio of about 3:1 in favour of the former. This was apparently an improvement over the last two years when it was said that the 'two principal printers had no less than 220 apprentices between them'.

In addition, adult wages had fell from '36s. during the wars at the beginning of the century...to 30s. by 1819'. This deteriorating situation was, said the *Gorgon*, productive of inadequate training, low wages and incompetent work. The blame for these deleterious developments, according to the *Gorgon*, lay with the masters. It was the twin product of their desire 'to compel the men to unconditional surrender' and the ruinous system of competition amongst the masters which encouraged the hiring of large numbers of apprentices.

In the 1840's, the London trade, and that of the southern counties, was once again overwhelmed with apprentice labour, according to the L.S.C. It was said of London that out of its 3,000 compositors, not more than two-thirds could find work in 'seven out of the twelve months' of the year. Meanwhile average wages were put at 'not higher than 22s. per week'. In 'all the southern towns', the *Typographical Gazette* complained, 'the principle of the masters seems to be to get labour in the cheapest

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23. The *Gorgon*, loc. cit.
25. Ibid. This flatly contradicts the wage rates put forward by Bowley and Wood, who state, that between 1819 and 1866 the wages of adult compositors (30s.) remained the same, loc. cit.
In Exeter, for example, the weekly *Flying Post* was reported to be 'manufactured...entirely by boys, the overseer being the eldest apprentice....' 27

In spite of the complaints, noted above, the proliferation of the small print shops and the growth of weekly provincial newspapers throughout the country ensured a steady stream of journey-men. Some aspects of this expansion can be seen in the numbers of adult workers in the trade and in the amount of new offices opening. In terms of workers, 'The Census Abstracts of 1831, 1841, and 1851....show that the number of printers over twenty years of age in the U.K. rose from just over 9,000 (London 4,000) in 1831 to nearly 20,000 (London 8,000) in 1851'. 28

By 1851 there were '662 printers in Manchester, 487 in Liverpool, 306 in Birmingham....(but) In the great majority of provincial towns...these figures were much lower'. 29 Nevertheless, rapid expansion had indeed taken place in the twenty years between 1831 and 1851.

It seems also that in the country districts and towns parents were more willing to send their sons to printing as it enjoyed a higher status than it did in the urban areas. As Michael Staunton, a newspaper proprietor of Dublin, explained, 'In the country parts of Ireland a master printer is a respectable

27. ibid. 28. Husson, loc. cit.
29. ibid.
person, an individual publishing a paper, and having county work, whose habit is to board apprentices; and there is a facility, under these circumstances, of procuring boys for the trade which does not occur in the metropolis. Thus, the number of journeymen is necessarily increased, and there is a great influx of them in the metropolis. Earlier the Gorgon reported that there is 'one master in every market town in England and Wales, who takes not less than one apprentice; and the moment he is out of his time he is "sent a drift", and another is taken for the sake of a premium... thus the country sends to London every seven years, nearly as many as there are market towns....

The reason for the abundance of small masters lay in the economics of the printing trade, which, as Plant notes, meant that 'there was no gain to be made in the matter of economical production in the large houses as that of the small'. A printer, using just the essentials of the trade, could set himself up in business for a few pounds. And although the introduction of the Cowper printing-machine, in 1815, had greatly speeded up the business of printing to 1,000 sheets an hour by using a modified four cylinder machine, firms continued to be distinguished by their size rather than by their technology. Moreover, as Plant says, 'The total number of printing machines was still very small'.

30. Report on Combinations of Workmen, op. cit., p. 373
31. Th Gorgon, loc. cit.
33. Ibid., p. 273.
34. Ibid., p. 277
It was the cost of labour which was the most important factor. Small masters were able to compete with larger competitors through cheapening their bill for labour by employing as many apprentices as they could.

Trade union attempts to control apprenticeship in the 1830's and 40's generally resulted in failure because of the weakness of the union itself, the expansion of the industry, and its corollary, the emergence and proliferation of a multitude of printing establishments. In 1835, the London Union of Compositors could state in their annual report that there were 500 apprentices as against 1750 journeymen in union offices. This produced a ratio of 3.5:1, which apparently represented a slight easing of the situation over previous years. But by 1837 the same organisation was complaining to the master printers concerning unemployment among its members and of the low wages paid to them (15s. to 20s. and from 20s. and 25s.), and calling on the former to reduce the number of apprentices. The claim was not pursued, however, as the means to press it were unavailable. In April, 1841, the issue of apprentice labour was yet again raised. It was agreed among the adult workers that 'one apprentice to every four journeymen employed regularly in an office throughout the year should be allowed'. However, the depressed condition of the trade 'prevented the enforcement of ...regulation'. In fact, so impoverished had the London

37. Typographical Gazette, April, 1846.
38. ibid.
corpositors become in regard to union militancy that the Northern compositors published an address scornfully attacking them for failing to maintain some sort of restriction.

'In the Northern union the maximum is three apprentices; in the Irish union it is four; and in the Scotch Association it is somewhat greater. We have all adopted a standard.... London—where there is the greatest strength, greatest intelligence, and, consequently, the greatest capability of carrying out such a provision—is the only place where the ruinous system of taking an unlimited number of apprentices has proceeded without effectual opposition'. 39.

However, despite the claims of the Northern compositors to have established a restrictive policy viz-a-viz apprentices, the real situation was somewhat different both in the north and elsewhere. In Ireland, the newly formed Irish Typographical Union (I.T.U.) failed to limit the numbers of apprentices. Even in Belfast, the reputed stronghold of the I.T.U., there were 58 men and 60 boys at the trade in the first year of its operation (1837); by its fourth year the position had deteriorated to one of 38 men and 99 boys. And, according to the informant, the same situation existed in Newry, Derry, Waterford, Limerick, Cork and other smaller towns. Even Dublin could show no improvement.\(^{40}\) In Scotland, an analogous situation existed. In 1843, the Central Typographical Association claimed the excessive use of boy labour as the cause of persistent unemployment in the trade. Moreover, it felt impotent to check the

\(^{40}\) ibid., 3 May, 1841.
increased numbers. And in spite of saying that 'The loading
design of the Union has ever been to check the wholesale app-
renticeship system', the Northern Typographical Union, like
its counterparts, failed to establish entry controls. John
Backhouse, the secretary, had to admit that at the end of 1841,
in the northern districts, 'there are at this time nearly as
many apprentices in our business as there are journeymen in
regular employment'.

Only in Edinburgh was there some measure of success for the
composers. Here an agreement was reached, in 1842, limiting
'every master or company, (to) two apprentices; and thereafter,
one apprentice for every three journeymen permanently employed
in each establishment'. However, previous to the agreement
the situation was just as bad as anywhere else. In 1833, for
example, 'the number of journeymen was 312, and of apprentices
252. In 1842...the journeymen numbered 360 and the apprentices
340'.

By 1850 the position overall remained unaltered, as Edward
Edwards' figures show:

41. Sarah C. Gillespie, A Hundred Years of Progress: The
    Record of the Scottish Typographical Association, 1853-1952,
    (Maclehose, Glasgow, 1953), pp.30-31.
42. Compositors' Chronicle, 1 February, 1843.
43. 11th Annual Report of the N.T.U., 1841, cited by Kusson,
    op. cit., p.49.
44. Compositors' Chronicle, 1 March, 1843.
45. ibid.
46. Edward Edwards, 'The Disease and the Remedy', Typographical
    Protection Circular, February, 1850.
Table 3

<table>
<thead>
<tr>
<th>District</th>
<th>Newspaper Dept.</th>
<th>Jobbing and Bookwork</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Journeymen</td>
<td>Boys</td>
</tr>
<tr>
<td>London *</td>
<td>600</td>
<td>300</td>
</tr>
<tr>
<td>England and Wales</td>
<td>2430</td>
<td>1200</td>
</tr>
<tr>
<td>Scotland</td>
<td>500</td>
<td>350</td>
</tr>
<tr>
<td>Ireland</td>
<td>600</td>
<td>450</td>
</tr>
<tr>
<td>Total</td>
<td>3130</td>
<td>2300</td>
</tr>
</tbody>
</table>

* Daily press excluded. On the London daily press 4,60 men are employed. Boy labour is not countenanced on this work...(however) about 12 boys are employed on the Times'.

Edwards further argued that wages, even in the best period of trade in the 1840's (January to June, 1846), were normally well below established rates. Basing his wage rates on the subscriptions paid by 5,421 journeymen affiliated to the National Typographical Association (1844-48) for the first six months of 1846, Edwards arrived at the following figures:

Table 4

<table>
<thead>
<tr>
<th>Average Wages per week.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. London - 2350 members 25s.</td>
</tr>
<tr>
<td>2. South - Eastern District (8 towns) 165 members from 18-24s.</td>
</tr>
<tr>
<td>3. South - Western &quot; (14 &quot; ) 320 &quot; ..........18s.</td>
</tr>
<tr>
<td>4. Midland &quot; (26 &quot; ) 939 &quot; from 18-22s.</td>
</tr>
<tr>
<td>5. Western (Ireland) &quot; (13 &quot; ) 694 &quot; from 13-22s.</td>
</tr>
<tr>
<td>6. Northern (Scotland) &quot; (10 &quot; ) 953 &quot; from 12-19s.</td>
</tr>
</tbody>
</table>

47. ibid.

48. Edwards says that the established rate for London was between 33-48s.; England and Wales, 18-30s.; Scotland, 20-25s.; Ireland, 12-32s.6d.
This meant that on average only 'three-fourths' of established wage rates were received. Edwards blamed, as one might guess, the over-employment of boy labour for this situation.

What had acutely grieved the compositor over the period 1800-1850 was the visible decline in his status in the community and his position in the labour market. Previous to expansion composing had been a fairly well protected trade enjoying high status and good wages. These were eroded to an extent as the industry rapidly grew. In this dynamic period of growth wages became more attuned to the state of the market; the compositor's skill became a commodity. Unemployment also became a serious problem. Accompanying the proletarianization of the compositor was the significant decline in the number of bourgeois offsprings entering the trade and an important rise in the working-class numbers.

What caused this downward trend in the compositor's fortunes was; one, the anarchic organisation of the industry, that is, an extremely large number of concerns in competition willing to undercut each other, which made the labour of the apprentice invaluable50 and so led to excessive employment of apprentices; two, the inability of the unions to control this dynamic situation or to turn it to their advantage through weakness; three, the

49. ibid.

50. Michael Staunton reckoned that 'within 'a very short space of time, in six months, perhaps, an apprentice can be made useful', Reports on Combinations of Workmen, loc. cit.
spread of literacy which inevitably increased the numbers of literate workers able and willing to enter the trade by almost any means, and, hence, at times of bad trade acting to create an over-supply of labour, which exerted a downward pressure on wages.

2) 1850-1890's

In all the seeming chaos of the early period there was still a general commitment to a seven years' indentured apprenticeship, albeit on an outdoor basis. However, the years 1850-1890's witnessed new strains being placed on the traditional apprenticeship system. Even although the old question of restriction continued to dominate the journeyman's thinking on apprenticeship, hitherto little-known problems, such as 'turning-over', neglect of indenturing, and so on, emerged as the industry continued to grow rapidly and skill became increasingly specialised.

It was, however, the continued growth of the printing trade which formed the backdrop to the problems, old and new. In the 1850's and 60's, it was greatly assisted in many ways by the repeal of the 'Taxes on Knowledge'. In 1853, the advertisement tax was abolished, as was the newspaper stamp duty, in 1855, to be followed, in 1861, by the repeal of the paper duty. Relieved of these fiscal burdens, the newspaper trade, in particular, mushroomed, especially in the provinces. According to Edwards, in 1850, there existed in the United Kingdom 14 daily, 13 tri-weekly, and 41 bi-weekly newspapers, as well as 403 weekly journals. Of a total of 476 publications, 84 were printed in
London; 238 in the provinces of England and Wales; 70 in Scotland; and 84 in Ireland. By 1883, Mitchell's Newspaper Press Directory could report that the total number of newspapers (including dailies) published in the United Kingdom of that time was 1,962 (London, 386; Provinces, 1,114; Wales, 75, Scotland, 184; Ireland, 152; and the several islands, 21) .... In addition, 1,311 magazines and reviews, mostly monthlies were published....

Unfortunately comparable statistics for the more diffuse book and jobbing printing establishments do not seem to exist. But an indication of the overall growth of the industry in England and Wales may be had from the numbers employed in it. Under the Census classification 'Printer', in 1851, there were something like 23,000 (London, 10,000) persons employed in printing; in 1871, it had increased to 44,073 (London, 19,682); and, in 1881, the figure reached 59,088 (London, 25,559).

The spectacular growth of the industry was not complemented by similar progress in technology, particularly as it affected composing. From 1850 to 1865 there was no machine operating anywhere which could rival the hand skills of the journeyman compositor. In 1862, a composing machine designed by Young

51. Edwards, loc. cit.
53. Ibid.
54. Census Reports, BPP LXXI, Part 1, 1873; BPP LXXII, 1883. It is difficult to arrive at the numbers of compositors as the Census never distinguished between them and machine men at this time.
anc' Declambre was exhibited but it proved a disaster. It could handle only simple copy, and its time-saving capacity was only slightly higher than hand labour. For example, the new machine had to be operated by four men and four boys who between them could distribute and set 12,000 to 15,000 types per hour, similar hand labour could produce 12,000, and it had the added advantage of being more adaptable and not accustomed to breaking down. 55 The Hattersley composing machine of the 1860's was a vast improvement on Young and Declambre's machine equalling the 'output of two or three case hands'. 56 But such was the damage it did to type, plus the fact that it was continually in a state of disrepair, that it was scornfully described by the Typographical Circular as productive of a 'million-and-one' vexations. 57

Because of these technical problems the new composing machines were unable to replace hand labour, although as Musson notes, many of the 'leading provincial papers had adopted Hattersleys by 1890'. 58 What innovation that did take place in the composing trade was largely confined to extending the process already existing in London at an early date of separating case and press work. Boys after 1850 were rarely in the urban areas apprenticed to both types of work. Moreover, there was an extension of the specialisation of skill already noted in section one of the chapter. The expansion of the railways after 1850, for instance, increased the demand for printed time-tables and tickets and

55. Gillespie, op. cit., p.110.
58. ibid.
this was closely associated with the houses of McCorquodale
and Waterlow. And as the unit size of production grew
specialisation went hand-in-hand.

However, despite the expansion of the industry the trade unions
were slow to grow. In fact, in the period 1850-70, the density
of union membership was appallingly low. For example, in 1849,
the Typographical Association (T.A.) membership stood at 603;
in 1860, it grew to 1,228; in 1870, it was 2,430; in the
same period, the L.S.C. had 1,860 members, in 1848; in 1860,
2,650; and, in 1870, 3,500. Much of this was the outcome
of the organisational disarray the compositors found themselves
in with the collapse of the National Association, in 1848.

The National body had disintegrated amidst unemployment, falling
subscriptions, internal disagreements, and bankruptcy following
the defeat of the Edinburgh compositors' strike in 1846. With
the dissolution of the N.T.A. three autonomous trade societies
were set up; L.S.C. (1848); T.A. (1849); and the Scottish
Typographical Society (S.T.A., 1853).

With low membership and poor finances the new regional societies
were ill-equipped to meet an employer offensive. In such
circumstances the employers took advantage of the unions' weak-
ness to augment their share of apprentices. In the six leading

59. Howe, op. cit., p. 58.
60. Webbs, The History of Trade Unionism, op. cit., p. 746.
61. Musson, op. cit., pp. 57-75.
Scottish towns, in 1862, there were apparently 'no fewer than 917 apprentices to 1,380 journeymen, or 66 per cent'. In the twelve years since 1850 it was estimated that the journeymen had increased by 426, and the apprentices by 367; 'the increase of apprentices as compared with journeymen, being about 86 per cent....' 62 In Edinburgh, in the space of two years (1852-53) alone, the ratio of apprentices to journeymen had increased from 274 to 454, in 1852, to 304 to 450, in 1854. 63 In fact, in 1866, the Edinburgh Society recognized that their 'rule relating to the limitation of apprentices had been since 1847 practically a dead letter'. 64 In England, the newly formed Provincial Typographical Association (1849; later, the T.A.) had to rescind its ruling, in 1853, on the non-admittance of societies who would not impose the apprenticeship ruling (one apprentice to every four journeymen, with a maximum of three apprentices) 'if the Association were to grow'. 65 Only in London was the situation favourable towards the journeymen. An investigation, in 1867, of 99 printing houses showed that there existed 2,344 journeymen, 547 apprentices, and 103 turnovers working at the trade, which gave a ratio of 2 apprentices (including turnovers) to 7½ journeymen. 66

62. Scottish Typographical Circular, 6 December, 1862.
63. Minutes of the Edinburgh Typographical Society (E.T.S.), 9 December, 1852; 7 December, 1854.
64. ibid., 10 February, 1866.
65. Richards, op. cit., p.368.
The influx of boy labour into the trade, especially in the provinces, sparked-off a great debate on the best way to stem its flow. The *Scottish Typographical Circular* set the tone of the debate when it proclaimed on 1 November, 1862, that 'the apprenticeship grievance... is the (italics in the original) grievance, because all other grievances germinate from that source.... So long hours, low wages, tramping, and every other grievance attaching to the business, are all traced back to, and merged in, that of the too rapid increase in our members....'

Two years previous to the *Circular's* statement, the 1860 S.T.A. Delegate Meeting had proposed that the length of servitude be reduced. Although it had been unanimously rejected by the branches, its adherents once again raised the subject. The basis of their argument rested in the assumption that it was only during the latter years (six and seven) of apprenticeship did the labour of the apprentice become profitable, particularly to the small jobbing master. If, then, the apprentice was recognised by the union as a journeyman as soon as he had served five years or as soon as he had became proficient in the execution of his trade, the master would be prevented from reaping the reward of low wages paid to the apprentice during these valuable years of labour. Thus the temptation to employ large numbers of boys in place of journeymen would be removed,

since the labour of the apprentice would be no more profitable than that of the journeyman. 68 Therefore, master printers would be given a direct incentive to employ journeyman labour at no greater cost.

Such views, persuasive as they might have sounded, were rejected as being completely at variance with the feelings of the majority of union members. One Manchester compositor complained that by shortening the length of servitude to five years it would result in the 'manufacture of journeymen 35 per cent faster than at present'. 69 He thought, as did the majority, that the best solution was to adhere to, and strengthen, the policy of restriction. This remained the policy of the unions throughout these years, and beyond.

Of course, talking about restriction was rather easier than actually enforcing it. The returns made to the 1886 Commissioners from the various branches of the typographical societies show that in many towns restriction was not enforced. In the provinces of England, Derby, Halifax, Preston, York all reported that 'The Association rule is completely disregarded'. 70 Only Liverpool stated that a favourable situation existed with 1200 skilled male workers as against 160 male apprentices. 71 In Scotland, Dundee, Edinburgh and Glasgow all reported that the S.T.A. rule of 3 journeymen to one apprentice was 'rarely upheld'. 72 A letter to the Typographical Circular, 1887, under-

68. *Scottish Typographical Circular*, 3 January, 1863; 1 August, 1863.
69. Ibid.
70. 'Questions Addressed to Associations Representing the Working-Classes', op. cit., pp. 81-89.
scored the failure of restrictionism when it commented on the
general ignorance of the compositors to the fact that 'in a certain
part of the country a number of "offices" (exist) which employ
on an average thirty apprentices for every twelve men'. Two
years later, in Scotland, the Executive Committee of the S.T.A.
issued a circular bringing it to the attention of all branches
that 'the proportion of one apprentice to every three journeymen
... was disregarded by employers'.

In pinpointing the blame for the over-production of labour the
typographical unions pointed to the large amount of small,
unionized establishments, particularly in the country districts.
A Kirkcaldy representative of the S.T.A. said, in 1884, 'Here,
as in most provincial towns, there is a great preponderance of
apprentices over journeymen'. In 1891, Birmingham could
say that they 'work(ed) to (Association) rule. But the small
towns round about swarm with apprentices'. Henry Slatter,
secretary of the T.A., in evidence before the R.C. on Labour
(1893), said that his Association 'had very little trouble with
the large establishments.... It is only the small struggling
employer who thinks it of advantage to have apprentices'.
In saying so Slatter was probably, in essence, correct.

71. ibid., pp. 84-85.
72. ibid., pp. 90-91.
73. Typographical Circular, August, 1887.
74. Minutes of the E.T.S., 1 October, 1889.
75. Gillespie, op. cit., p. 97.
76. Typographical Circular, July, 1891.
James Wilkie, in his analysis of the Edinburgh printing trade, in 1860, found that in general the smaller establishment was more likely to have an inverse proportion of apprentices to journeymen than the larger one. For example, the nine book offices, employing 392 journeymen, had 186 apprentices, or 47 per cent; and the four large newspaper offices, employing 115 journeymen, had 48 apprentices, or 42 per cent. However, in the '33 smaller book and jobbing offices, employing only 133 journeymen, there were 136 apprentices; or 102 per cent; while in the seven smaller newspaper offices, employing only 47 men, there were 52 apprentices, or fully 104 per cent. The R.C. on Labour (1892) tended to confirm Wilkie's findings, as the following table shows:

Table 5  
Ratio of Journeymen to Apprentices in Certain Printing Offices, 1892.

<table>
<thead>
<tr>
<th>Town</th>
<th>Firm</th>
<th>Type of Firm</th>
<th>Nos. of Workers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>J/Mon.</td>
</tr>
<tr>
<td>London</td>
<td>Cassells General</td>
<td></td>
<td>720</td>
</tr>
<tr>
<td>London</td>
<td>Riddle and Couchman General</td>
<td></td>
<td>62</td>
</tr>
<tr>
<td>Hanley</td>
<td>Albert and Daniel Book</td>
<td></td>
<td>177</td>
</tr>
<tr>
<td>Manchester</td>
<td>Abel, Haywood and Jon. Book</td>
<td></td>
<td>30</td>
</tr>
<tr>
<td>Hul.</td>
<td>Archibald Book</td>
<td></td>
<td>19</td>
</tr>
<tr>
<td>Aberdeen</td>
<td>Marr General</td>
<td></td>
<td>98</td>
</tr>
<tr>
<td>Edinburgh</td>
<td>Ritchie Newspaper</td>
<td></td>
<td>185</td>
</tr>
<tr>
<td>Edinburgh</td>
<td>Banks General</td>
<td></td>
<td>61</td>
</tr>
<tr>
<td>Glasgow</td>
<td>Outram Newspaper</td>
<td></td>
<td>240</td>
</tr>
</tbody>
</table>
What is clear from this table is that the smaller general or book office was more liable to have a large proportion of apprentices than the large newspaper office. This was due no doubt to the presence of greater cohesion amongst the workers and their ability to interrupt production to a far more damaging extent.

However, whilst successfully diagnosing the source of the problem, the small offices, union policy on restriction could only but have buttressed the 'disease' against the 'remedy'. As the Webbs noted, 'Instead of the Boilermakers' ratio of two apprentices to seven journeymen, applied impartially to all firms, the Compositors' unions almost always impose(ed) a definite maximum, however large the establishment'. The maxima in Glasgow was therefore ten; in Leeds, seven; in Hull, three; in Manchester, five, regardless of the size of the establishment with 100 journeymen would be allowed exactly the same amount as that with six. Therefore, in the larger offices, where the workers had more power to regulate the control the flow of apprentices and their working conditions, there were fewer apprentices; in the smaller offices, where the workers were

79. 'Answers to the Schedule of Questions; R.C. on Labour, BPPXXXVI, 1892, Group C, part IV, pp.434-44. The returns on the apprentices are sometimes unclear as to whether they are 'other young' people or bona fide apprentices. Therefore, the figures are indicators and not hard facts.
80. Webbs, Industrial Democracy, op. cit., p.446
81. ibid.
cc respondingly weaker, there existed a disproportionate amount of apprentices as a direct result of union policy.

In fact, Union policy led to an imbalance in the trade of the kind highlighted by London, in 1877.

Table 6

<table>
<thead>
<tr>
<th>Analysis of the Comparative Number of Journeymen and Apprentices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Where apprentices equal or exceed journeymen</td>
</tr>
<tr>
<td>Houses</td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td>19</td>
</tr>
<tr>
<td>Where the proportion of journeymen to apprentices does not exceed 2 to 1...</td>
</tr>
<tr>
<td>Houses</td>
</tr>
<tr>
<td>34</td>
</tr>
<tr>
<td>Where the proportion of journeymen to apprentices does not exceed 3 to 1...</td>
</tr>
<tr>
<td>Houses</td>
</tr>
<tr>
<td>34</td>
</tr>
<tr>
<td>Where the proportion of journeymen to apprentices exceeds 3 to 1</td>
</tr>
<tr>
<td>Houses</td>
</tr>
<tr>
<td>76</td>
</tr>
</tbody>
</table>

In all probability it would appear that the fourth classification represented 'fair' or union shops. Here the proportion of apprentices to journeymen was extremely low; whereas in the first and second classifications, which were 'unfair' offices, the proportion was much higher. This situation forced the employers in the 'fair' part of the trade either to ignore union rulings on restriction when it was possible, or rely on recruiting their journeymen from the rural areas and small towns, which most did.

82. Howe, The London Compositor, op. cit., p.312. This does not include daily newspapers on which, as we have noted earlier, apprentices in London were banned, although not in other places.
Therefore, union policy necessitated the existence of the small establishment as a supplier of adult labour for the larger firms.

However, instead of making attempts to discredit the country-bred journeyman's credentials to work at the trade as inferior to that of the town-bred man, the union journals contained eulogies to the skill and manners of the rural apprentices. For instance, the London apprentice was depicted as a 'youth of far less moral worth than the country lad'. And whilst he was seen as the very apotheosis of decadence, 'proficient in his short pipe... (able to) throw for a "quartern" with anyone... (and talking) of his "young woman" as bold as brass', his rural counterpart was the very paragon of virtue. He was thought generally to be a 'member of a cricket club... fond of angling or... garden(in)'. Moreover, his superior morals were matched by his greater skills, which meant that once he was a journeyman 'engaged in a small office he may always reckon upon being the last to be discharged; because... he is such a handy chap'. And although the writer was a cockney, he was 'compelled to admit that our best printers come from, or reside in the country'.

Much of what the cockney compositor said was true. At this time the rural apprentice was liable to be given a superior training to the urban apprentice. The explanation lay in the unspecialised nature of his training. A country printer was expected to turn his hand to all manner of tasks, newspapers, books, pamphlets, handbills, and so on, therefore a boy was expected to become proficient at a wide range of composing skills which made him especially valuable to the small

83. Scottish Typographical Circular, May, 1865.
printing shop. A typical day's routine is described by the 
Printers' Register, in 1865:

'... his day's occupation may 
commence by sewing in a frame 
some old books sent to be bound...
cutting up a ream of labels, 
wetting some paper, squeezing off 
200 handbills... at an old wooden- 
press, and by assisting the journey-
men... with an auctioneers' half-
sheet catalogue of a form sale, 
proof of which must go out that 
night. His next duty is to assist 
by reading the copy to the master...
our Young apprentice is (then) 
packed off to the auctioneers with 
the proof.... Having bundled up the 
shop shutters... lock(ed) up the 
printing office, supper(ed) the dog, 
made the most of the morsel missus 
has left out... (he) winds himself 
into the bed clothes (at 10 p.m.).' 86

In contrast to the training and intensive learning conditions 
of the rural apprentice, it was felt that the urban apprentice's 
training had become too narrow and haphazard. In 1877, the 
L.S.C. Sub-Committee on Apprenticeship complained 'that the 
method pursued by firms in training them (apprentices) is far 
from satisfactory, as they are mostly left to chance than to 
any other influence which, combined with the fact that boys 
of an inferior status are put to the trade, renders a deterior-
ation of their general capacity an obvious consequence'. 87

84. ibid.
85. ibid. See also the Printers' Register, 1 March, 1865.
86. ibid.
Two years later the *Printing Times* complained that the 'standard of intelligence and competency is lower in the printing trade than it formerly was....much of the blame for this state of things rests with the employers, who have not as a whole uniformly taught their apprentices as thoroughly and systematically as they might and ought to have done....' 88 In 1893, the *Printing News*, commenting on the ill-usage of young apprentices by employers and the growth of specialised training, urged an 'end to this system by which young lives are blasted for private gain'. 89

The breakdown of paternalism and the lax control in the smaller shops of apprentices induced some to 'turnover'. The typographical unions decried this practice in tones of disgust and sarcasm:

"your turnover proper, is a youth who never stays long in a place; his habits are migratory his stock-in-trade consists of an old composing stick.... Whenever he meets with a job, he has nothing else to do but to take off his hat, turn up his coat puffs and go to work; aprons he never wears, since his landlady stopped his credit.... if a printer from the country should ever happen to cast his eye upon a young man about eighteen...with a sallow complexion, care-for-nobody sort of expression, short pipe in his mouth, both hands in his pockets, and both eyes intent on the last racing telegram in the ... sporting paper, depend upon it he is looking at a printer's turnover'. 90

90. *Scottish Typographical Circular*, loc. cit.
Turning-over was made easier by the relative breakdown of indentured apprenticeship. Musson pointed out that in T.A. districts the sheer volume of 'rat houses' and apprentice nurseries led to a weakening of the seven years' indentured apprenticeship. 'From the "Apprentice Returns" secured in 1895 it appears', says Musson, 'that of the 2,368 apprentices reported 393 were unbound'. A number of years previous the Edinburgh Society commented 'on the growing tendency of apprentice printers to break their apprenticeship contracts on the most trifling of interests' and asked the employers to adopt 'the practice of indenturing Apprentices, or at the least make the contract a written one'.

Rather than investigate the whole issue of why the apprentice in the first place should wish to break his indenture, the unions simply imposed sanctions against apprentices acting so. The denigrating propaganda was supplemented by a willingness to take action on an organisational level. In 1871, the E.T.S. passed a ruling stating that the journeymen there would in future refuse to work with turnovers. One year previous the S.T.A. Delegate Meeting passed a resolution stating 'that in future the systematic employment of turnover apprentices was to be regarded as sufficient reason for withdrawing Association members'. The resolve of the men seems to have resulted in some degree of success on this occasion, for in

92. Minutes of the E. T.S., 26 April, 1871.
93. ibid.
94. Gillespie, op. cit., p.96.
1872, it was reported 'that the statistics of the trade showed a "flattering reduction in the number of apprentices and turnovers"'.

In London, the Sub-Committee on Apprenticeship found that the number of turnovers amounted to 112, and were normally found in piece-rate establishments. And although a rule had been passed, in 1846, forbidding journeymen to work with turnovers, it was stated that out of 35 chapels investigated only 7 paid any attention to the rule, the others merely ignored it. However, since there was a 'favourable' proportion of journeymen to apprentices (six and two-thirds to two, in 1877) the problem, it was felt, was under control.

These problems highlighted above were the result of the proliferation of small offices which relied on cheap labour for their existence. They were assisted unintentionally by the unions policy of restrictionism. The whole question of regulation, therefore, lay, for the journeymen, in the tightening-up of the conditions of service, which in effect either meant the eradication or control of the small master. In this respect there were already visible trends in the industry which would go some way to achieving this end. Firstly, there was the increasing cost of fitting out a printing office. Musson points out that 'in the 1860's, while hand-presses (Stanhopes, Albions, etc.) could be had for as little as £15 and platens

95. ibid.
for £50 to £80, single cylinder machines (Harfedale, two-colour, or perfecting) might cost anything from £100 to £350 and a four-feeder Hoe £600'. Moreover, 'Even a small jobbing business... cost far more than £20 to equip. In 1877, Salmon's, the Manchester manufacturers of printing machinery, were offering to provide complete plant for a small jobbing office for £100 and upwards; for a four-paged newspaper, £300; for an eight-paged newspaper, £450'. Secondly, there was a tendency for firms to expand outwith their established base into other parts of the country. In the book trade, firms, such as McCorquodale had offices in London, Glasgow, Leeds, Liverpool, Wolverton, Crewe and Newton-le-Willows. Thirdly, there was a tendency for the unit size of production to grow. Individual firms... such as Wymans (Reading), Blacklocks (Manchester), Benroses (Derby)... and many others now employed from one to two hundred compositors and machinemen... while many provincial daily newspaper offices had from fifty to a hundred'.

These developments increasingly impinged on the competitiveness of the small master, but as long as he could utilize the cheap labour of apprentices and turnovers there was a niche in the trade for him. For as Musson points out, the expensive machinery could only be used economically in work demanding continuous production, for instance, newspaper work, the 'small printer, with a few hand-presses or platens, could still compete for jobbing work'.

97. Musson, op. cit., p.93.
98. ibid., p.94.
99. ibid., p.91.
100. ibid. This growth should not obscure the fact that even up until 1914 the trade was still over-represented by small offices. Although book and newspaper printing was becoming
During the years 1890-1914 the printing industry was revolutionized through the introduction of the Linotype composing machine. Its greatest effect was to displace hand setting in newspaper offices. But the new machine did not result in a diminution of the compositor's skill. On the contrary, it was to an extent increased. Indeed, as Barnett points out:

'A consideration of the technical character of the linotype confirms the conclusion that it differs from many machines in requiring for its most profitable operation the skill of the superseded handicraftsman. The amount produced on a linotype is directly proportional to the skill of the operator, while the great mass of labour saving inventions reduced the work of the labourer to that of tending the machine. Every part of the hand compositor's knowledge is useful to the machine operator, except an acquaintance with the location of the case boxes, and instead the operator must learn the keyboard of the machine. In addition, the operator must think far more quickly. He must not only know the same things but he must be able to use knowledge more rapidly'. 102.

Therefore, in the case of the linotype machine, technology seemed to work in the interests of labour, as no raw recruit could expect to pick-up such a trade in a matter of months. It left the men free from the competition of unskilled or semi-skilled labour. As one contemporary noted, 'the linotype machines have hardly interfered with compositors' work....' 103.

100. Contd/.... concentrated in a few hands, ibid., pp.92-93.
101. ibid., p.93.
After an initial period of opposition, the various unions came to accept the linotype machine so long as the operation of them was restricted to journeymen and apprentices. Richard Hackett, the general secretary of the I.A., said that their aim had been from the outset 'to secure an effective control over the working of these machines, instead of stubbornly refusing to work them'.

By adopting such a progressive stance the unions were able, in the newspaper offices, to solve some of the more vexatious problems connected with apprenticeship. For example, the recurring problem of the rural apprentice and turnover was to an extent eliminated by the qualitative differences in the training of rural and urban apprentices in the new age of machinery. In the country, as we have noted, apprenticeship training was given on out-of-date machines. And although a wide range of experience was gained, it tended to leave the rural apprentice the technical inferior in comparison to the more specialised urban apprentice trained on modern machinery. Thus the rural boy/journeyman was at a distinct disadvantage when competing for employment with the urban boy/journeyman.

Moreover, the expense involved in introducing the linotype machine necessarily restricted its use to the large firms. Even here to profit from its use production had to be continuous and rapid. In fact, methods of working resulted which could be seriously affected by strikes or stoppages. Also production was necessarily based on larger units employing considerable numbers of workers. Thus the greater concentration of capital and labour strengthened the organised compositors in their
struggle with the employers over the use of apprentice labour. From this point onwards it seems that in the newspaper industry questions of control and regulation were less bothersome to the journeymen. In fact, in 1898, an agreement between the Linotype Users' Association and the T.A. restricted the operation of the machines to skilled men, who had to be members of the T.A. Apprentices were not to be employed on Linotype until they had served three years to the trade, and then it was to be on the basis of one to every three machines in use.107

While this picture of an industry increasingly dominated by powerful companies employing hundreds of workers under the one roof is true to a large extent in the newspaper industry, it is somewhat exaggerated in the context of printing as a whole. The small office still predominated, as the following table shows:

Table 7

<table>
<thead>
<tr>
<th>Return of Journeymen and Apprentices in Recognised Offices (1909) in T.A. Districts.</th>
<th>108.</th>
</tr>
</thead>
<tbody>
<tr>
<td>703 offices employed 1 - 2 men</td>
<td></td>
</tr>
<tr>
<td>669</td>
<td>&quot;</td>
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<tr>
<td>308</td>
<td>&quot;</td>
</tr>
<tr>
<td>81</td>
<td>&quot;</td>
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<td>22</td>
<td>&quot;</td>
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<td>9</td>
<td>&quot;</td>
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<tr>
<td>7</td>
<td>&quot;</td>
</tr>
</tbody>
</table>

105. Representative Council Meeting Report, May, 1900, cited by Musson, ibid., p.221.
108. ibid., p.102.
Moreover, the linotype machine was not used in the book or jobbing trades to any great extent as it was considered too rough and coarse for the fine work associated with the printing of books and pamphlets. And although the invention of the monotype machine, in 1887, by Talbert Lanston, seemed to overcome these deficiencies, it was never before 1911 universally adapted in the printing industry. As Masson points out, 'In 1914 most jobbing and perhaps most books and better weekly periodicals and magazines were still set by hand'.

The uneven effect of technological development was further emphasized by the Census of 1911, in which it was found that 'nearly 38,000 (journeymen compositors) described themselves as hand compositors and less than 4,000 as machine compositors'. In London, the comparable figures were 11,258 returned as hand compositors and 636 as machine compositors.

Thus, outside of the newspaper industry, what control was achieved by the men over apprenticeship was due more to improved union organization and increased strength. In London, the L.S.C. had almost enforced a closed shop. Membership grew from 6,435, in 1885, to 12,230, in 1910. In the T.A. districts the growth was equally spectacular, rising from a distinct low of 6,511, in 1885, to 21,436, in 1910. The main reason behind the significant growth was the decision to admit irregular

109. ibid., p.103. However, it should be pointed out that 63,736 people employed in printing did not specify their employment category, Census of 1913, loc. cit.


111. Webbs, The History of Trade Unionism, loc. cit.
men into the ranks of the societies. Henry Slatte, the general secretary of the T.A., stated that the Executive were forced to adopt 'an extremely liberal policy with regard to the admission of members'.\textsuperscript{112} This policy was fairly successful for as early as 1893 Mr. Slatte could state that 'in the towns where we have branches...we have at least four - fifths of the men in the trade as members of our Association'.\textsuperscript{113} In addition to increased membership, there were improved organisational factors such as a paid bureaucracy, better communications, centralisation, etc. One important event of the period was the setting up in the 1890's of the Printing and Kindred Trades' Federation which did much to foster inter-union cooperation within the industry.

However, despite these favourable trends, the unions still faced the problem that it was only in towns where it possessed strength that boy or apprentice labour was brought under its control. In towns where union power was negligible boy labour remained too abundant as far as the men were concerned, although as the following table shows the ratio looked better than it had been in the 1880's.

\begin{thebibliography}{9}
\bibitem{112} Husson, op. cit., p.118.
\bibitem{113} ibid., p.115. The increase in numbers and the changes of policy was not very much influenced by 'New Unionism'. Attempts were made both in the L.J.C. and the T.A. to oust the old conservative leadership, and whilst in London the opposition managed to oust C.J. Drummond, secretary and a tory, the attempts failed and 'the demand for change ebbed away as both societies went from strength to strength', Clegg, et. al., pp.144-45.
\end{thebibliography}
Table 7

Table showing the percentage of males under 18 in various districts. 114.

<table>
<thead>
<tr>
<th>District</th>
<th>Percentage</th>
<th>District</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>London (West)</td>
<td>12.6</td>
<td>London (east)</td>
<td>22.8</td>
</tr>
<tr>
<td>&quot; (North)</td>
<td>17.6</td>
<td>Preston (district)</td>
<td>25.4</td>
</tr>
<tr>
<td>Manchester (city)</td>
<td>19.4</td>
<td>Blakburn (district)</td>
<td>28.2</td>
</tr>
<tr>
<td>Birmingham (city)</td>
<td>21.5</td>
<td>Leeds (city)</td>
<td>29.0</td>
</tr>
<tr>
<td>Liverpool (city)</td>
<td>21.7</td>
<td>Norfolk</td>
<td>29.7</td>
</tr>
<tr>
<td>London (south)</td>
<td>21.8</td>
<td>Rochdale (district)</td>
<td>31.3</td>
</tr>
<tr>
<td>Bradford</td>
<td>22.4</td>
<td>Nottingham</td>
<td>33.0</td>
</tr>
</tbody>
</table>

Furthermore, it was found that in the smaller firms there was a tendency to employ as many apprentices as in the larger. For example, in London, out of 119 firms investigated, 79 employed more than 50 males, the total number being 18,054, and of this amount 2,865, or 15.4 per cent, were boys 'less than eighteen years of age'. In the remaining 40 firms, employing less than fifty males each, the total workforce amounted to 1,159, and of these 381, or 32.8 per cent, were under eighteen. Also 'Among the large firms employing more than 100 boys each, the largest proportion of boys to the whole number of males (was)... 24.4 per cent, the smallest 10.6. Among the smaller firms (employing under fifty males) the largest proportion (was)... 60 per cent, and the smallest 11.5 per cent'. 115 Jackson found existing in Manchester and Liverpool a similar picture. Therefore, in the print unions' eyes the need for restriction was still a matter needful of careful scrutiny lest it should get out of control.

115. ibid., p.128. Jackson's figures in regard to apprenticeship should be treated with caution as they include all sorts of boy labour, that is, errand boys, readers, fellers, and so on. However, they are useful as a guide to prevailing trends.
However, the policy of restriction was not without its critics. Just as in previous decades there existed in the union ranks an opposing faction which rejected restrictionism as a panacea for the problems of the compositors. Arguing from a socialist perspective and preferring a political solution, this faction said that limitation was not 'a cure for unemployment', and that it was only by increasing the demand in working-class areas for printed material by raising the purchasing power of the whole class, and not just the artisan section, could a solution of any lasting worth be found. The realisation of these objectives was to lie in 'raising... the school age' and in providing 'state employment'.

As before the mood of the general body of compositors was indifferent, if not hostile, to such far-reaching proposals. In fact, in 1911, a restrictive agreement was signed by the T.A., the Linotype Users' Association and the British Federation of Master Printers. The provisions of the agreement were a triumph for the T.A. They allowed for: one, 'a first apprentice... when an employer has fully employed on journeyman for six months'; two, 'when three journeymen have been fully employed during the previous months a second apprentice may be allowed'; three, 'always under the same conditions, the following ratios were permitted: eight men, three apprentices; eighteen men, four apprentices; forty journeymen, five apprentices; eighty journeymen, seven apprentices; one hundred journeymen, eight apprentices (maximum)'.

116. Typographical Circular, October, 1906.
The obvious question to be asked of such a remarkable agreement is why on earth did the employers sign it? From the early 1890's there had existed a movement within the employers' ranks for amalgamation in order to combat the unions. In 1890, the London Master Printers' Association was revived to negotiate on behalf of the London masters affiliated to it. It was soon followed by many of the 'provincial centres' and by 1901 there were 36 local associations. In 1898, the owners of the provincial newspapers formed the Linotype Users' Association to negotiate with the T.A. Finally, in 1901, those local associations in the 'book and general printing trade' formed the British Federation of Master Printers. The object of these associations of employers was to standardise conditions of working, establish working rules, practices, and 'fair' prices, as well as to reduce competition within their industry.

The secretary of the B.F.M.P., H. Vane Stow, stated at its annual meeting, in 1902, that, 'their enemy was not the working man, but the man who will not pay for his work'. Walter Hazell, president, further stated that the goal of the Federation was to establish 'a standard of reasonable conditions'... and to 'deal with those employers... who are injuring the workmen by paying sweating wages, and injuring their fellow employers by unreasonably low prices'.

118. Clegg, et al., p.145.
119. Ibid., p.345.
121. Ibid. As firms expanded the base of their activities to other areas they would necessarily desire to meet standard working conditions.
122. Typographical Circular, August, 1911.
Therefore, by accepting the agreement with the T.A., the employers were hoping to deal a hammer blow to those concerns which thrived on the use of cheap or boy labour.

However, the agreement was to be experimental and not permanent. And as early as August, 1911, there were rumblings of discontent. A letter of protest concerning the new apprentice rule appeared in the Typographical Circular. The writer complained that whilst the new rule allowed 'the larger offices one or two more (apprentices)' not until 'the smaller ones conform(ed) to the rule' would limitation be effective. 122

Two years later, the T.A. Delegate Meeting voted for a revision of the new rule particularly as it applied to daily newspaper offices, where the new regulations were thought to be 'excessive'. It called for the introduction of a new scale in which the following proportions would be observed: one apprentice to every three machines (linotype); two to eight; three to sixteen; four to thirty, with a maximum of five in every case. This was carried unanimously, 7,727 votes for, with 706 against. 123

The Masters' Federation was similarly considering a revision of the apprentice scale, but for different reasons. At their Annual Conference, in 1913, it was stated that the 1911 Agreement had failed 'even to replace the ordinary wastage with properly trained men, far less to provide for the national expansion of the trade'. 124

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123. ibid., May, 1913.
124. F.M.P. Circular, June, 1913.
By 1914 the L.U.A. could state that the 'vexed question of the number of apprentices to be allowed in an office appears no nearer a settlement'. 125

No agreement was indeed possible. The 1911 settlement had been agreed to by the employers only reluctantly and as a veiled strike at the user of excessive boy labour. However, it was soon clear that its application did not provide them with the amount of labour they desired. The solution lay in inhibiting the apprentice recruitment of the smaller establishments, and not in restricting the trade as a whole. But with out-of-work payments running at an average of £14,000 per annum for the years 1909-1914, the T.A. could not see the sense in such an argument. 126

In Scotland and London a more flexible and harmonious situation existed. Both these areas, in contrast to the T.A., were prepared to relax the rule on limitation in favour of the larger employer. In 1908, the S.T.A. agreed to an apprentice rule for machine composing provided for one apprentice to three men; two to six; three to eight; four to eleven; five to thirteen; six to sixteen, and so on without limit. 127 In the metropolis, there was general agreement limiting apprentices on a scale of one to every three journeymen.

126. ibid., p.537.
127. Gillespie, op. cit., p.190. This was revised at the Delegate Meeting, in 1911, to read when the number of apprentices, under the ratio, had reached 10, the proportion was to be 5:1.
By 1914, then, the industry had achieved some sort of regulation as regards apprenticeship. Each area had some form of agreement (satisfactory or not) between the employers and men. A symptom of the growing regulation was the increasing attention paid by the industry to the more methodical training of the apprentice. For example, in Edinburgh an Apprentice Training Scheme (1912) was established. A scheme of training was developed which included, day-release classes, supervision of apprentices and their conditions, the granting of certificates of competency to the apprentice on the completion of his course of training. A similar scheme was inaugurated by the London printers during the 1914-18 war, with the intention of ensuring that the apprentice 'gets a thorough training in the workshop, supplemented by a... training in the Technical Institute'.

The schemes themselves were the product of a joint effort by management and unions. Both advocated two years' attendance at a Trade School and a strict indentured apprenticeship. The reason behind the ventures lay in the desire to regulate the trade. The adult workers thought it would restrict entry and raise the cost of apprentice labour; and the employers thought it would improve the skill of the future journeymen and, hence, productivity, although the 'small employers would be more inconvenienced than large employers', thus competition might be reduced.

130. ibid., see also evd. of T.E. Naylor, sec. of the L.J.C., ibid., p.37.
In general this type of regulation was made more possible in the newspaper trade by the growing size and scale of production concomitant with the introduction of linotype machines. It was also due to the increased strength of the typographical unions which coincided with this period of technological and economic expansion. In the book and jobbing trades this process was not taken so far. Outside of the large companies, the benefits of monotype production and economies of scale were not apparent as long as there were abundant supplies of boy labour. This system was extensively checked in areas of union strength by the application of industrial muscle, although in this the union hand was strengthened by the willingness of the more sizeable firms to regulate the workings of the trade. However, in many provincial offices the system of boy labour continued and this was abetted not only by the profits received by the small employers, but also by union policy, which restricted, especially in T.A. districts, apprentices on a universal basis rather than on a selective one.

Thus by 1914 a dual system of apprenticeship existed. In the small, unregulated offices there was an unrestricted entry of boy labour learning a wide range of hand skills but not so useful in the more specialised concerns of the cities. In the large offices a regulated system of recruitment and an emerging system of methodical, if specialised, training, particularly in machine composing.

131. ibid., evd. of W. Howard Hazell, of Hazell, Watson and Viney, p.20. See also chapter on 'Technical Education and the Apprentice' for a fuller discussion on this subject.
CONCLUSIONS

It remains an interesting question as to why apprenticeship, with its implied notions of reciprocal duties, of master and servant, of the absence of non-market criteria, survived, albeit in a modified form, as part of a capitalist economy in which labour was treated as a commodity. From the point of view of the free market economy apprenticeship was an antithetical institution, as well as something of an anachronism. Yet its importance in industry, and elsewhere, cannot be denied.

In order to pinpoint the industrial conditions which are most liable to sustain and nourish the institution of apprenticeship as custom, and to what degree, it is proposed to examine and compare our four case studies. For they were chosen not simply on the basis that they constituted the more important of the craft based industries, but also because of the contrasts which they had to offer.

However, before entering into a discussion on this subject, let us briefly remind ourselves what exactly were the most marked and general features of the four industries in question.

* The factors which were mainly involved in influencing the general development of British apprenticeship are discussed in chapter one. What might be best described as aspects of apprenticeship (for example, workshop socialisation, technical education, middle-class voluntary societies) have their own conclusions and need not concern us here. It is proposed, therefore, to concentrate solely on the case studies.
A) Engineering

Engineering transformed itself in the course of the nineteenth century from a labour to a capital intensive industry. This occurred in two main phases of rapid technological development; first, in the 1830's and 40's, which saw the breaking-up of the work process and the introduction of specialist workmen; and, second, in the 1880's which saw the introduction of semi-automatic machines, leading to an increased specialisation of skill, greater concentration of capital and labour, and the emergence of the apprentice as an important factor in industrial wage bargaining, as well as to a large increase in the productivity of his labour. As regards trade unionism, engineering was a comparatively well organised sector of the economy. The employers too were well organised in strong associations. Finally, whilst apprenticeship was fairly well regulated in the years 1900-14 it was under employer control.

B) Shipbuilding

Metal shipbuilding from the outset involved a high capital outlay in plant, although, until the late 1880's, the machinery was relatively primitive. Like engineering, from the latter period onwards, shipbuilding experienced the effects of pneumatic and electrical power and specialised machines, which acted to downgrade skill, and allow the apprentice to emerge as a highly valuable component
of the workforce and a strong counter in the bargaining process. As far as labour cohesion was concerned shipbuilding was particularly noted for its high density of unionism among the workmen. Likewise, the employers were also well organised. Lastly, apprenticeship was relatively well regulated and enforced, even if under employer control.

C) **Building**

The building industry was dominated by small-scale capital. It was also labour intensive. Technology was of a low order, although, in common with other industries, in the 1880's, some trades, particularly masonry, experienced a narrowing of skill due to labour-saving devices. What reductions there were in skill were more the outcome of industrial structure than of technological innovation. Specialisation of skill resulted from the existence of the sub-contracting system and speculative building. These features militated against formal apprenticeship, as well as regulation. Finally, trade union membership tended to be extremely low, especially outside the major urban centres. Employer cohesion was also generally weak, although amongst the larger ones the movement towards association was stronger.

D) **Printing**

Printing, like building, was usually a small-scale affair, except in the newspaper side of the trade. For most of the nineteenth century technological development
remained almost static, that is, until the introduction of the linotype and, later, monotype composing machines. These machines, however, did not lead to a general reduction in skill, but, on the contrary, enhanced it. Labour cohesion proved weak for the major portion of the nineteenth century, but became extremely powerful in urban centres in the years 1900-14. Employers, particularly the larger ones, also showed a marked tendency towards federation. As regards apprenticeship it was unregulated for most of the nineteenth century, and it was only in the early years of the twentieth century were attempts made to alter this situation. This was mainly the work of the unions.

From this succinct recapitulation of the chief characteristics associated with each industry let us now turn to a consideration of the effect of these features on the resilience and vitality of the apprenticeship system.

1. Technology

It would seem that technology played an ambivalent role in the development of apprenticeship. Obviously its aim was to radically alter the composition of skill, that is, sub-divide, specialise, eradicate. But in most cases it seems, where the downgrading of skill had not made its acquisition a matter of simple repetition, to have encouraged apprenticeship. In engineering and shipbuilding the introduction of new machinery affected
two major changes in the apprenticeship system, firstly, it greatly increased the output of the apprentice, and, secondly, it made the acquisition of skill a more rapid process. Not only did this make the apprentice an extra source of profit to the employer, it also meant that in times of industrial conflict the boss could use the apprentice to ensure continuity of production, thus disciplining the journeyman to a significant degree. Employers, in these high technology industries, therefore, sought to bind the young workers closer to them, hence, the renewed interest in the early years of the twentieth century in the indenture.

The contrast is made with building in as much as technological innovation was not of a comparatively high level yet apprenticeship was so informal that it was almost non-existent in some areas and trades.

Again, in engineering, the new technology of the late 1880's narrowed the range of skills. Because of this the length of apprenticeship could have been reduced to a term more in keeping with the actual requirements of the job. Intensive training could have further decreased the time spent acquiring skill. However, this was not done. Apprenticeship remained at five years, as it had been in the 1850's. The impact of technology was blunted by social considerations.
Therefore, technology seems to play a large part in redefining the work pattern and the learning process of apprenticeships, but whether the apprenticeship system is strong or weak in a particular industry does not seem to depend on the level of technology, always providing, of course that there still remains a need for a period of training.

2. Large C Small-Scale Enterprises

Despite the fact that small-scale establishments, because of the large variety of work which they undertake, are essentially more reliant on all-round skill and that this would seem likely to create within them a greater need for an apprenticeship system with close attention paid to training and regulation, in practice, this was not the case. In fact, it would appear that the more liable a trade is to penetration from small-scale capital, particularly if that trade is rapidly increasing its output, the less notice is taken of established apprenticeship customs. Both building and printing fall into this category. For much of the nineteenth century, and in the case of the former much of the twentieth, these industries were notorious for the disregard shown by small employers towards apprenticeship traditions.

Large-scale establishments are, of course, no more likely to be enamoured by traditions and customs, and, indeed, many of the struggles in industry have been fought around the employers' attempts to abolish inherited working practices, but they are, and this is important, more amenable
to bureaucratisation. That is to say they are more liable to desire codified working conditions and practices and other bureaucratic apparatuses, such as negotiating machinery and procedures, designed to establish such things as recognised rates of pay, prices, and so on. Apprenticeship naturally fell into this scheme. Amongst the larger firms the need to bureaucratise the industrial unit led to a need to apply the same structures to the industry. Hence, most of the larger firms associated with each other in federations. From this development emerged national schemes for apprenticeship training.

3. Trade Unions

The trade unions, particularly in the craft based industries, are the repositories of the customs of the trade, of which apprenticeship is the most important. They, therefore, gain a great deal of their legitimisation from their role as custom reinforcing agents, and this is increased the more workshop socialisation breaks down. These customs, of course, are not merely symbolic, but functional. Their implementation guarantees the position and status of the journeyman in the labour market and the community. Thus a commitment to apprenticeship is an essential response of craft unionism. Where this commitment is weak or is inoperable apprenticeship will be informal and/or unregulated, and vice versa. For example, printing was notorious throughout the nineteenth century for weak labour cohesion and the overproduction of apprentice and 'turnover' labour. But in
the years 1900-1914 the unions were able to induce most of the urban employers to accept apprenticeship controls and this coincided with strong unionism. Contrariwise, building remained an industry exhibiting a markedly low trade union density and this was paralleled by informal apprenticeship.

Therefore, in assessing the relative importance of the main determinants in the maintenance of apprenticeship we can say that; one, technology does not, except where its effects point to an absolute deterioration of skill, play a crucial part, although it may encourage some modification of apprenticeship; two, size of establishment is of some importance in as much as large-scale enterprises are more likely to be aware of the need to encourage a bureaucratisation of apprenticeship, which has the effect of formalising and, at the same time, solidifying apprenticeship; three, trade unionism seems to be the most important determinant, as where it is strong apprenticeship tends to be highly regulated and strongly enforced, where it is not the opposite situation exists.

Therefore, it would appear that apprenticeship is more dependant on strong trade unionism for its vitality than on any other factor. Because of this apprenticeship was seen as a social institution and not as an economic relationship. The apprentices were never paid the full value of their labour; their wages were fixed in definite
customary proportions to the journeymen. Apprenticeship signified education and training and not wage labour. It remained a preparation for the rigours of adulthood and a working life.
APPENDIX 1

THE ALTERATIONS AND AMENDMENTS
PROPOSED TO BE MADE IN THE
STATUTE OF 5th ELIZABETH,
CAP., 4.
ALTERATIONS & AMENDMENTS
PROPOSED TO BE MADE
IN THE
STATUTE OF 5th. ELIZABETH,
CAP. 46

THAT from and after the passing of this Act, it shall and may be lawful for
any master or mistress, being an household, and twenty-one years old at the
least, dwelling or inhabiting, or which may dwell or inhabit in any city, borough,
town, or other place, corporate or not corporate, and using or exercising any
handicraft, art, trade, mystery, and manual occupation, to have and retain the
cd of any other person, to serve and be bound as an apprentice, for seven
years at the least, after the custom and order of the City of London, so as the
term of such indenture of apprenticeship do not expire or determine before such
person shall be of the age of twenty-one years at the least. Provided the per-
son or persons taking such apprentice shall be duly qualified by his or her skill
in such craft, art, mystery or manual occupation to teach and instruct such
apprentice, and likewise having sufficient work at the time of taking such appren-
tices or apprentices, to employ him or them therein; and no person shall have or
take an apprentice in any other craft, art, trade, mystery or manual occupation,
that such as he or she actually followed to useth an pain that every person
offending and doing to the contrary, shall forfeit and lose for every default the
sum of forty pounds.

SECOND,
THAT any person having one apprentice, shall keep in employ two jour-
neymen for every other apprentice above the said number of one; and for every
apprentice above five, he or she shall employ three other journeymen for each
other apprentice above five; upon pain, that every person or persons offending,
shall forfeit and lose for every default the sum of forty pounds.

THIRD,
THAT all and every indenture of apprenticeship shall be duly and regu-
larly registered in the court of record of the town, city, borough, or district
wherein such indenture is made, and master and mistress resides, within six
months after the witnessing and signing said indenture, under a penalty of ten
pounds on the master or mistress of said person or persons so apprenticed by
such indenture, not being registered within said term of six months. In the
registering of all indentures, the master or mistress shall cause to be inserted
the number of apprentices retained, and of journeymen employed by him or
her at that time, on pain that every person or person offending shall forfeit and
lose for every default the sum of ten pounds.

FOURTH,
THAT at the full expiration of the term of each and every person so
appointed, the master and mistress of such apprentice or apprentices, shall
apply to the person appointed to register apprentices for a stamped certificate,
dealing the term of such apprenticeship being fully complete and ended, such
certificate to be obtained within six months after the expiration of such appren-
ticeship.
ticship, under a penalty of ten pounds on the master or mistress, and also the apprentice.

FIFTH.

That all clerks, officers, or other persons appointed to register apprentices, and issue certificates, that shall delay or refuse to register any indenture, within the time limited by this Act; or that shall refuse or delay issuing or granting any certificate or certificates within the time specified, shall forfeit and lose for each and every default the sum of twenty pounds, provided the fees are paid, and a reasonable time allowed for the same.

SIXTH,

That each and every person convicted of obtaining a certificate or certificates in a fraudulent way or manner, shall forfeit and lose for each offence the sum of fifty pounds.

SEVENTH,

That after the passing of this Act, it shall not be lawful for any person or persons to set up, use, occupy, or exercise any trade, art, mystery, or manual occupation within the realm of England and Wales, except he, she, or they shall have been brought up therein seven years at the least as an apprentice, and being duly registered and certified in manner and form aforesaid: nor to set on to work any person in any such art, trade, mystery, or manual occupation, not being a workman at the time of passing this Act, except he or she shall have been an apprentice as is aforesaid; and that and will become so, upon pain, that every person or person willingly offending, or doing to the contrary, shall forfeit and lose for every default the sum of five pounds for every month, and in proportion for the number of days so employed under one month; and every person or persons offending, shall forfeit and lose a double penalty for the second offence; and to be further doubled for each succeeding offence.

EIGHTH,

And, to the end that this statute may, from time to time, be carefully and diligently put in good execution, according to the tenor and true meaning thereof, be it enacted by authority of the present Parliament, that the justices of peace of every county, dividing themselves into several limits, and likewise the mayor and head officer of any city, or town corporate, shall yearly, between the feast of St. Michael, the Archangel, and the Nativity of our Lord; and between the feast of the Annunciation of our Lady, and the feast of the Nativity of St. John the Baptist, by all such ways and means, as to their wisdom shall be thought most meet, make a special and diligent inquiry into the branches and articles of this statute, and of the good execution of the same; and where they shall find any defaults, to see the same severely corrected and punished, without favour, affection, malice, or displeasure.

NINTH,

And, in consideration of the pains and travel that the said justices of peace, and the said mayor and head officer, shall take and sustain in and about the execution of this statute, it is further ordained and enacted, by authority of this present Parliament, that every justice of peace, mayor, or head officer, for every day that he shall sit in and about the execution of this Statute, shall have allowed unto him to be allowed and paid unto him, or unto the said mayor or head officer, of the fines and forfeitures of the pains and penalties that shall be forfeited and due unto the King's Majesty, his Heirs and Successors, by force of this Statute, in such manner and form as the said justices have been heretofore commonly paid, for their coming and charges at the quarter sessions, so that the sitting of the said justices, and mayor, or head officer, be not at any one time above three days, for the matters contained in this Statute.

TENTH,
TENTH.

That no person after the passing of this Act, shall, under any colour or pretence whatever, claim the privilege of setting up, using, occupying, or exercising any trade, art, mystery, or manual occupation, unless he or they shall be duly qualified, by serving an apprenticeship by a lawful registered indenture as aforesaid, for the full term of seven years, (except those persons who have served in his Majesty's army or navy, and who have been regularly discharged therefrom, according to an Act passed in the twenty-fourth year of the reign of his present Majesty.

ELEVENTH.

And be it further enacted, that all indentures, covenants, promises, and bargains, of or for the having, taking, or keeping of any apprentices, otherwise hereafter to be made or taken, than is by this Statute limited, ordained, and appointed, shall be clearly void in the law, to all intents and purposes; and that every person, that shall from henceforth take, or newly retain any apprentice contrary to the tenor and true meaning of this Act, shall forfeit and lose for every apprentice so by him taken, the sum of forty pounds.

TWELFTH.

And, because there hath been, and is, some question or scruple moved, whether any person, being within the age of one and twenty years, and bounden to serve as an apprentice in any other place than in the said City of London, should be bounden, accepted, and taken as an apprentice.

THIRTEENTH.

For the resolution of the said scruple and doubt, be it enacted, by authority of this present Parliament, that all and every such person or persons, that by these seven years from henceforth shall be bounden by indenture to serve as apprentice in any art, science, occupation, or labour, according to the tenor of this Statute, and in manner and form aforesaid; albeit the same apprentice, of any of them, shall be within the age of one and twenty years, at the time of the making of their several indentures, shall be bounden to serve for the years in their several indentures contained, as amply and largely to every intent, as if the same apprentice were of full age at the time of the making of such indentures; any law, usage, and custom, to the contrary notwithstanding.

FOURTEENTH.

In order to stimulate the rising genius of this country, be it enacted, that any person or persons that shall invent any new art or mystery, shall and may lawfully use, exercise, and occupy the same, notwithstanding this Statute, and shall likewise set on persons who may be competent to work therein, during the term of seven years, from the first public exercise of the same, or during the continuance of their patent; provided said patent is not granted nor renewed for a greater term than seven years from the commencement; this, or any other Act to the contrary notwithstanding. Provided always, that all such persons who may invent such new art or mystery, shall not retain or take any person as an apprentice, other than such as are natives of this realm, upon pain of every person offending, or doing to the contrary, shall forfeit and lose for every default the sum of forty pounds.
where such violation of this Statute is committed, or to the general quarter sessions, whose decision shall be final, and conclusive, without appeal to any higher court. All convictions by or on this Statute shall carry full costs of suit.

SIXTEENTH.

That nothing in this Act shall be prejudicial or hurtful to any Act passed respecting the apprenticing of children from parochial charities, or for the regulation of the same.

SEVENTEENTH.

That it may be lawful for any person or persons to embark their capital in any trade, art, or mystery, although he or they have not served an apprenticeship thereto, agreeable to the provisions in this Statute; provided such person or persons retain, as a partner in such art, mystery, or manual occupation, a person or persons who are duly qualified, agreeable to the provisions in this Statute contained, to set up, use, occupy, or follow such art, mystery, or manual occupation as is aforesaid, providing such person or persons so employing his or their capital in such art, mystery, or manual occupation, shall not take an active part therein.

The following Clause is not a Serious Investigation, as it was required to elucidate it till some Opinion of the Judges and other Learned. Alterations you may think advisable, etc., read every Attention.

(CLAUSE.)

That nothing in this Act shall prevent certain Trades; viz. bricklayers, tunners, and plasterers, painters, glaziers, and plumbers, who are, according to custom and usages of towns, assimilated or blended together, from continuing the exercise of the same, according to their ancient manner, any thing in this Act to the contrary notwithstanding.
APPENDIX II

WEBBS AND THE DECLINE OF
RESTRICTIONISM IN THE
TRADE UNIONS.

By the date of the first edition of Industrial Democracy, 1897, the Webbs claimed that restrictionism had effectually been almost wholly abandoned by the trade unions. They also contended that it was "inequitable" and "impossible" to impose.¹

In a footnote to page 474 statistical evidence was used to emphasise their statements. It is not the purpose of this appendix to doubt the general conclusions drawn by the Webbs, but to enter on the historical record some doubts as to the reliability of their figures and to qualify, to an extent, their conclusions.²

According to the Webbs only a minority of trade unions had enforceable limitation regulations, as their table shows.³

1. **Membership of Trade Unions actually enforcing apprenticeship regulations.**
   a) really restrictive of numbers... 15,000
   b) not really restrictive of numbers.... 25,000
   c) nominally restrictive, but allowing sufficient recruits to the trade... 50,000 90,000

2. **Membership of Trade Unions nominally retaining apprenticeship regulations but effectively open.** ............ 500,000

3. **Membership of Trade Unions having no apprenticeship regulations.**
   a) Transport workers and labourers............ 250,000
   b) Textile, mining, and other occupations..... 650,000 1,490,000
Immediately one must question the inclusion of groups of workers in industries which had no apprenticeship structure whatsoever. Transport, outside of the Thames lightermen, had no apprenticeship system at any time during the nineteenth century, and, of course, neither did labouring. In terms of group b, it was true that formerly the textile and mining trades did have some form of apprenticeship, although many of the apprentices were drawn from the ranks of pauper children, but this had long since been the case. Therefore, the inclusion of these industries seems incongruous and designed to give the reader the impression of an overwhelming rejection of restrictionism by the trade unions.

Let us now consider groups one and two. Here there appears to be a contradiction between the Webbs' manuscript sources and the statistics given in Industrial Democracy. The manuscript sources are based on an investigation of several industries: the Sheffield cutlery trades, the Birmingham trades, the printing, clothing and leather, engineering (including shipbuilding) and building trades. Those are divided into five categories:

1. p.489. This was maintained in all subsequent editions.
2. This is of some importance as a recent history of the English working-class quotes without qualification the Webbs' figures. Standish Meacham, A Life Apart: The English Working Class, 1890-1914, (Thames and Hudson, London, 1977), p.179.
3. Industrial Democracy, p.474.
1. Trades in which the trade union insists on a fixed period of servitude only.

2. Trades in which the trade union limits the number of boys, and insists on a fixed period of servitude.

3. Trades in which the trade union limits the number of boys without fixing the period of servitude.

4. Trades in which the trade union limits only the numbers of learners.

5. Trades in which there are no regulations enforced.

Under these headings obviously group one to four are restrictive and five is not. Yet the manuscript sources, adopting almost the same system of classification as Industrial Democracy, presents a disparity between the former and latter groups which is less extreme, as the following table shows:

<table>
<thead>
<tr>
<th>Trades</th>
<th>Category 1</th>
<th>Category 2</th>
<th>Category 3</th>
<th>Category 4</th>
<th>Category 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheffield Trades</td>
<td>125</td>
<td>4,255</td>
<td>1,340</td>
<td>-</td>
<td>2,305</td>
</tr>
<tr>
<td>Birmingham Trades</td>
<td>-</td>
<td>1,235</td>
<td>4,670</td>
<td>-</td>
<td>16,910</td>
</tr>
<tr>
<td>Misc. Trades</td>
<td>470</td>
<td>13,570</td>
<td>8,470</td>
<td>-</td>
<td>24,880</td>
</tr>
<tr>
<td>Printing</td>
<td>710</td>
<td>27,540</td>
<td>-</td>
<td>380</td>
<td>14,345</td>
</tr>
<tr>
<td>Clothing and Leather</td>
<td>1,300</td>
<td>7,475</td>
<td>-</td>
<td>4,790</td>
<td>30,150</td>
</tr>
<tr>
<td>Engineering</td>
<td>25,800</td>
<td>40,600</td>
<td>-</td>
<td>19,300</td>
<td>126,550</td>
</tr>
<tr>
<td>Building</td>
<td>3,200</td>
<td>25,500</td>
<td>-</td>
<td>-</td>
<td>80,080</td>
</tr>
<tr>
<td>Total</td>
<td>31,605</td>
<td>117,170</td>
<td>14,580</td>
<td>24,470</td>
<td>297,175</td>
</tr>
</tbody>
</table>
On the basis of these figures the difference is between 187,825 and 297,175 and not 90,000 and 500,000. In fact, where the latter figures are derived from is unclear, since the Webbs give no breakdown of the trades involved.

Another qualification one might wish to make is whether the figures are based on actual conditions, or trade rules; the Webbs insist the former to be the case. But this is open to doubt. Take, for example, a trade union which apparently had no rule governing the ratio of journeymen to apprentices, such as the Operative Bricklayers' Society. Despite national rules, at local or branch level many working agreements were signed which under categories one to four were restrictive, as the following details show:—

5. Board of Trade, Report on Apprenticeship, op. cit., Appendix A, pp. 23-47. No leavers were employed in the building industry.
<table>
<thead>
<tr>
<th>Category</th>
<th>Place(s)</th>
<th>Category</th>
<th>Place(s)</th>
<th>Category</th>
<th>Place(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 1</td>
<td>Places adopting</td>
<td>Category 2</td>
<td>Places adopting</td>
<td>Category 3</td>
<td>Places adopting</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category 1</th>
<th>Category 2</th>
<th>Category 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Places adopting</td>
<td>Places adopting</td>
<td>Places adopting</td>
</tr>
<tr>
<td>County</td>
<td>Dublin</td>
<td>No Preference</td>
</tr>
<tr>
<td>---------</td>
<td>--------</td>
<td>---------------</td>
</tr>
<tr>
<td>Cork</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kilkenny</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limerick</td>
<td></td>
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</tr>
<tr>
<td>Longford</td>
<td></td>
<td></td>
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<tr>
<td>Mayo</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meath</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monaghan</td>
<td></td>
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<tr>
<td>Offaly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roscommon</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sligo</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tipperary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tyrone</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Localities:
- Category 1
- Category 2
- Category 3
- Category 4
- Category 5

Most in use: Places adopting Places adapting Places adopting Places adapting Places adapting
If this evidence is acceptable, it would seem as if the regions of Scotland, the South of England, Wales, Monmouth and London had abandoned outright restriction completely. However, in other parts of the country, notably Lancashire, Cheshire and the North and West Midlands restrictionism was effective. Therefore, until more hard information is available the evidence given by the Webbs should be treated as indicative of a trend and not as the final word.
AN EXAMPLE OF AN EIGHTEENTH-CENTURY INDENTURE, DATED 24 JUNE, 1786.
This indenture, made the twenty-fourth Day of July in the twentyeightth Year of the Reign of our Sovereign Lord King George the Third, and of our Lady the Eighty-eighth, by the Grace of God, of Great Britain, France and Ireland, King, Defender of the Faith, and so forth; and in the Year of our Lord One thousand seven hundred and sixty-eight, between Mather, executors, and administrators, for themselves and their successors in the family of St Pancras, and Samuel Greg, for himself, his executors and administrators, and his assigns, and their successors, and John Bailey, parson of the said parish, in the county of Middlesex,

Know all men by these presents, that we, the said Mather and Samuel Greg, for ourselves, our executors and administrators, and our assigns, and their successors, do hereby indent and demise to the said John Bailey, parson of the said parish, all and singular the parsonage house, lands, tenements, hereditaments, and possessions, appurtenant thereunto, situate in the aforesaid parish, together with all the appurtenances thereunto, for the betterment of our said Church, and to the intent that the said Church may be bettered, and the said Mather and Samuel Greg do hereby promise and agree, that the said John Bailey, parson of the said parish, shall and will have, hold, and enjoy the estate aforesaid, and all and singular the appurtenances thereunto, for ever, and that the said Mather and Samuel Greg and their assigns shall and will not, in any manner or form, during their lives or the lives of their executors and administrators, or during the lives of their successors, remove, disturb, or dispossess the said John Bailey, parson of the said parish, or any of his assigns, from the estate aforesaid, or any part thereof; and that the said Mather and Samuel Greg and their assigns shall and will not, in any manner or form, during their lives or the lives of their executors and administrators, or during the lives of their successors, let, rent, or lease, or in any manner or form dispose of the estate aforesaid, or any part thereof, to any person or persons whatsoever, without the consent of the said John Bailey, parson of the said parish, and his assigns.

And the said John Bailey, parson of the said parish, for himself, his executors and administrators, and his assigns, do hereby promise and agree, that he and his executors and administrators, and his assigns, shall and will pay all lawful rents, and answer all lawful demands, of the estate aforesaid, and the said Mather and Samuel Greg and their assigns shall and will not, in any manner or form, during their lives or the lives of their executors and administrators, or during the lives of their successors, prevent or hinder the said John Bailey, parson of the said parish, or any of his assigns, from the estate aforesaid, or any part thereof; and that the said Mather and Samuel Greg and their assigns shall and will not, in any manner or form, during their lives or the lives of their executors and administrators, or during the lives of their successors, remove, disturb, or dispossess the said John Bailey, parson of the said parish, or any of his assigns, from the estate aforesaid, or any part thereof, or use the estate aforesaid, or any part thereof, for any unlawful purpose; and that the said Mather and Samuel Greg and their assigns shall and will not, in any manner or form, during their lives or the lives of their executors and administrators, or during the lives of their successors, remove, disturb, or dispossess the said John Bailey, parson of the said parish, or any of his assigns, from the estate aforesaid, or any part thereof, or use the estate aforesaid, or any part thereof, for any unlawful purpose.

And the said John Bailey, parson of the said parish, for himself, his executors and administrators, and his assigns, do hereby promise and agree, that he and his executors and administrators, and his assigns, shall and will pay all lawful rents, and answer all lawful demands, of the estate aforesaid, and the said Mather and Samuel Greg and their assigns shall and will not, in any manner or form, during their lives or the lives of their executors and administrators, or during the lives of their successors, prevent or hinder the said John Bailey, parson of the said parish, or any of his assigns, from the estate aforesaid, or any part thereof; and that the said Mather and Samuel Greg and their assigns shall and will not, in any manner or form, during their lives or the lives of their executors and administrators, or during the lives of their successors, remove, disturb, or dispossess the said John Bailey, parson of the said parish, or any of his assigns, from the estate aforesaid, or any part thereof, or use the estate aforesaid, or any part thereof, for any unlawful purpose; and that the said Mather and Samuel Greg and their assigns shall and will not, in any manner or form, during their lives or the lives of their executors and administrators, or during the lives of their successors, remove, disturb, or dispossess the said John Bailey, parson of the said parish, or any of his assigns, from the estate aforesaid, or any part thereof, or use the estate aforesaid, or any part thereof, for any unlawful purpose.

And the said John Bailey, parson of the said parish, for himself, his executors and administrators, and his assigns, do hereby promise and agree, that he and his executors and administrators, and his assigns, shall and will pay all lawful rents, and answer all lawful demands, of the estate aforesaid, and the said Mather and Samuel Greg and their assigns shall and will not, in any manner or form, during their lives or the lives of their executors and administrators, or during the lives of their successors, prevent or hinder the said John Bailey, parson of the said parish, or any of his assigns, from the estate aforesaid, or any part thereof; and that the said Mather and Samuel Greg and their assigns shall and will not, in any manner or form, during their lives or the lives of their executors and administrators, or during the lives of their successors, remove, disturb, or dispossess the said John Bailey, parson of the said parish, or any of his assigns, from the estate aforesaid, or any part thereof, or use the estate aforesaid, or any part thereof, for any unlawful purpose; and that the said Mather and Samuel Greg and their assigns shall and will not, in any manner or form, during their lives or the lives of their executors and administrators, or during the lives of their successors, remove, disturb, or dispossess the said John Bailey, parson of the said parish, or any of his assigns, from the estate aforesaid, or any part thereof, or use the estate aforesaid, or any part thereof, for any unlawful purpose.

And the said John Bailey, parson of the said parish, for himself, his executors and administrators, and his assigns, do hereby promise and agree, that he and his executors and administrators, and his assigns, shall and will pay all lawful rents, and answer all lawful demands, of the estate aforesaid, and the said Mather and Samuel Greg and their assigns shall and will not, in any manner or form, during their lives or the lives of their executors and administrators, or during the lives of their successors, prevent or hinder the said John Bailey, parson of the said parish, or any of his assigns, from the estate aforesaid, or any part thereof; and that the said Mather and Samuel Greg and their assigns shall and will not, in any manner or form, during their lives or the lives of their executors and administrators, or during the lives of their successors, remove, disturb, or dispossess the said John Bailey, parson of the said parish, or any of his assigns, from the estate aforesaid, or any part thereof, or use the estate aforesaid, or any part thereof, for any unlawful purpose; and that the said Mather and Samuel Greg and their assigns shall and will not, in any manner or form, during their lives or the lives of their executors and administrators, or during the lives of their successors, remove, disturb, or dispossess the said John Bailey, parson of the said parish, or any of his assigns, from the estate aforesaid, or any part thereof, or use the estate aforesaid, or any part thereof, for any unlawful purpose.
All apprentices are required to attend two classes in science subjects or practical maths during the winter season. At the beginning of September, 1905, apprentices will be awarded marks as follows:

**For Approved Examinations**

**Passed During The Year.**

The first .................. 20 marks
The second, third, or fourth, each .................. 10 "
For good time-keeping (12 months) a max. of ........ 20 "
For good conduct (12 months) .................. 12 "
For intelligence, perseverance, and progress in the workshop (12 months) a max ........ 48 "

Marks for time-keeping will be deducted at the rate of one-half mark for each occasion on which time is lost, but no deduction will be made for special leave, or for sickness if certified by a doctor. Marks will be awarded by the foremen of departments monthly... on the following scales.
Conduct: excellent, 1; good, ½; fair, ¼; poor, ¼; bad, 0.

Intelligence, Perseverance, and Progress:
Excellent, 4; good, 3; fair, 2; poor, 1; bad, 0.

Increased Pay: An apprentice obtaining 60 marks will have the sum of 6d. added to his weekly rate of pay for the following year, and for marks in excess of 60, 1d. will be added for every 10 marks.

For example, an apprentice who passed in 3 science subjects the previous May will be entitled to 40 marks; for every good time-keeping during the past year, 20 marks; for good conduct, 12 marks; and for intelligence and perseverance, 48 marks; total 120 marks. This will entitle him to an increase of 1s. per week on his rate of pay from September 1 for the following year. Should an apprentice obtain, say, 10 marks for time-keeping, 10 for good conduct, and 40 for intelligence and perseverance, or a total of 60 marks, his pay will be increased 6d. per week.

These conditions are over and above the standard rates of pay and are cumulative. An advance once given will be continued, and subsequent advances will be additional.

No payment under this scheme will be made to apprentices obtaining less than 60 marks, and apprentices who fail to obtain any marks for time-keeping, good conduct, intelligence, perseverance, or progress, will be subject to dismissal.
Promotion in the workshops and admission to the drawing office will depend on marks obtained.

Results of Scheme at 5 September, 1904.

Two apprentices out of 41 have gained the maximum marks (80) for time-keeping, good conduct, and intelligence, etc.; 27 have gained between 70 and 80, and 6 over 60 but under 70. It will... be understood that, excepting those for time-keeping... and for class work, the foremen alone award the marks; this tends to maintain discipline.... the apprentices take the greatest interest in the monthly posting of the marks, and undoubtedly the incentive to improvement raises the standard of performance.

(source: Engineering, 6 October, 1905)
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Typographical Gazette.
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The Vigilance Gazette.
The Workman's Times.
The Working Man.

B. Selectively
Aberdeen Daily Journal.
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