Walter Layton on *The Relations of Capital and Labour* (1914): A Marshallian Text *pur sang*?

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Abstract: After completing the new Economics and Politics Tripos at Cambridge University in 1906 with first-class honours, Walter Layton taught economics at Cambridge under A. C. Pigou from 1908 to 1914, a contemporary on the staff with J. M. Keynes. Over these years as economics teacher, he published two monographs: *An Introduction to the Theory of Prices* (1912) and *The Relations of Capital and Labour* (1914). It is the second volume which is the subject matter of this paper. Written for the Nation's Library, a series devoted to issues in current affairs, it was designed to give theoretical and other background to 'the present [time] of widespread industrial unrest' in an 'impartial' way. More specifically, the book's purpose was 'to focus attention on the fundamental considerations which affect the relations of labour and capital, and the way in which the wealth of the nation is distributed, with a view, if at all possible, to discovering terms on which both employers and employees may be reasonably asked to give willing service to the community' (Layton 1914, pp. 13-14). The paper investigating this economic tract for the times is organised as follows. Section 2 provides a brief introduction to both Walter Layton and the labour unrest of 1912-1913, which inspired the book. Section 3 succinctly examines Layton's book on capital and labour. Section 4 gives some conclusions, particularly on the book's credentials as a Marshallian text *pur sang*.

1 Introduction

After completing the new Economics and Politics Tripos at Cambridge University with first-class honours in 1906, Walter Layton taught economics at Cambridge from 1908 to 1914 under A. C. Pigou as the new Professor. During these years as economics teacher, Layton published two monographs. The first, *An Introduction to the Theory of Prices*,[1] was published in 1912; the second, *The Relations of Capital and Labour*, appeared in 1914.[2] A critical evaluation of Layton's second volume provides the subject matter for this paper. Written for Collins' Nation's Library collection, a series devoted to issues in current affairs, it was designed to give theoretical and factual background to 'the present [time] of widespread industrial unrest' in an 'impartial' way. More specifically, the book's purpose was 'to focus attention on the fundamental considerations which affect the relations of labour and capital, and the way in which the wealth of the nation is distributed, with a view, if at all possible, to discovering terms on which both employers and employees may be reasonably asked to give willing service to the community' (Layton 1914, pp. 13-14).

For the purpose of this paper, investigating the contents of Layton's economic tract for the times is organised as follows. Section 1 provides a brief introduction to both Walter Layton, the economist, and to the labour unrest of 1912-13, which inspired his book on the relationship between capital and labour. Section 2 then succinctly examines its contents, emphasising its more novel features in presenting the theory of distribution and its factual underpinnings. Section 3 presents conclusions, particularly on the book's credentials to be seen as a Marshallian text *pur sang*. This is done partly by comparing its contents to Marshall's pronouncements on these matters, particularly in the manner in which they were published in his *Principles of Economics* and, in summary, in his *Elements of the Economics of Industry*. The last, it may be noted here, was included in Layton's suggestions for reading, presumably because it was a simpler text and included a chapter on trade unions, unlike the *Principles*. This is one way of resurrecting the views of an early member of the Marshallian school of economics at Cambridge whose role in this capacity is less well recognised than perhaps it should be.[3]

2 Walter Layton and the Labour Unrest of 1912-1913

Walter Layton was born in London on 15 May 1884. He grew up in a musical and cultured upper middle class household. Layton was initially educated at King's School, London, and Westminster School; he then attended University College, London, where he gained a third-class honours result in History in 1903. Subsequently, he entered Trinity College, Cambridge, as a graduate student, taking the second part of the Economics Tripos, which he completed with first-class honours in 1906. Along with Keynes, he was appointed Assistant Lecturer in Economics at Cambridge in 1908, a position paid for from Pigou's own pocket, and was elected Fellow of Gonville and Caius College in 1909. That year, he was also appointed Newmarch Lecturer in Economics at University College, London. He became Lecturer in Economics at Cambridge in 1911. Layton's promising academic career was cut short by the outbreak of World War I in 1914. In 1910, Layton married Dorothea Osmaston, a marriage resulting in seven children.

After a short period with the Board of Trade during the early months of the war, Layton joined the Ministry of Munitions, part of a team selected by Lloyd George to run the new ministry. Among other intellectuals, this team included William Beveridge. On the Munitions Council, Layton worked closely with both Lloyd George and Winston Churchill (under whom he was to serve in a similar capacity during World War II). In early 1917, Layton accompanied the Millner Commission to Russia. This had been appointed to discover how long Russia was capable of staying in the war on the side of its west European allies. Here Layton predicted privately that Russia's position as an active military participant was not likely to last long, given the imminent threat of a revolutionary uprising. In 1919, after rejecting a knighthood for his war services, Layton was named Companion of Honour.

On the conclusion of the war, Layton decided to build a career in economic journalism, instead of continuing his academic career. He became editor of *The Economist* in 1922, and Editorial Director of the *News Chronicle* and *The Star* in 1930. With financial assistance from various friends, he was able to buy *The Economist* in 1928. Layton served as its editor for sixteen years (1922-38) and was Chairman of its Board of Directors from 1944 to 1963. In this context, the historian of the *The Economist* (Edwards 1993, p. 633) has suggested that Layton's greatest achievement as owner (and editor) 'was to have his *Economist* read widely in the corridors of power abroad as well as at home. It was cautious and slightly on the dull side of solid; but it carried great weight. *Economists* went to the foreign offices and to the central banks abroad rather than to the bookstalls. They were highly influential copies'. The paper gained in importance because Layton was important, 'and because the interlocking circles in which he moved gave him access to information, the dissemination of which in turn increased his and his paper's influence'. Layton's move to buy the paper when it was placed on the market was largely designed to maintain its liberal political stance on economic policy issues, a task facilitated by his long editorship during the 1920s and 1930s.

Layton returned to government service during World War II, taking charge of the Ministry of Supply and Production at the personal request of Winston Churchill. He was made Baron Layton of Dane Hill in 1947. As a long associate of Liberal politics in Britain and a lifelong holder of Liberal views, it was not surprising that he served as Deputy Leader of the Liberal Party in the House of Lords from 1952 to 1955. Layton therefore was a highly influential person over much of his adult life, first in his role of 'press baron' in the 1920s and 1930s, and then, more briefly, as a leading figure in the House of Lords. He died in January 1966, aged 81, still Vice-Chairman of the Board of *The Economist* (Milgate and Levy 1987, III, pp. 149-50; Edwards 1993, pp. 606-10; Witzel 2004, pp. 666-9).

At this stage, something more needs to be said about Layton's economic education at Cambridge. His extant lecture notes reveal that the lectures he attended in Michaelmas term 1905 were devoted to international trade and government activity. They commenced with a brief history of the subject and contained autobiographical fragments of how Marshall himself had come to economics. The lectures also raised methodological issues, including the view that flexible definitions were the most useful and that definitions should always be treated as a 'matter of convenience'. Then followed issues of capital theory, of economic progress with special reference to British coal and steel production, taxation and rent, the association between religious ideas and the durability of primitive socialist societies, and the effects of permanent peace on the rate of interest. Marshall's Lent term lectures for 1906 dealt with the quantity theory of money, the heading used by Layton in his notes. They also covered aspects of business fluctuations and explanations of speculation in both the money and stock markets. Layton later recalled that he literally 'soaked himself' in Marshallian economics through attending Marshall's lectures when a Cambridge economics student.

More generally, he indicated about Marshall's lectures that 'I do not think I shall be exaggerating if I said he never once repeated himself. It was commonly said among the undergraduates that he took his text out of that morning's *Times* and talked about anything that had struck him in the day's news. It would be nearer the mark to say he gave us the benefit of his current study on the book he was writing on industry and commerce' (cited in Hubback 1985, p. 18). In short, by attending Marshall's lectures, Layton appears to have been given an extensive overview of Marshall's economics, reinforced when such lecture attendance was invariably supplemented for the better students by extensive reading from Marshall's *Principles of Economics* and by the writing of regular essays for him on set topics (see Groenewegen 1995, pp. 319-20). That, and his own teaching experience at Cambridge from 1908, undoubtedly made it possible for Layton to write the two economics books he had published before the end of 1914.

As already indicated, Layton's *The Relations of Capital and Labour*, the second of these two books, was written during 1913 and 1914 in the context of what he described as a period of considerable industrial unrest. Although the statistical data on industrial disputes for the years 1910 to 1913 were subject to considerable revision, both these data and the data on the working days lost for the United Kingdom clearly indicated a sharp increase in labour unrest during the three years following 1910. Table 1 below gives the details. As G. D. H. Cole (1913

[1917], pp. 403-10) argued, during the three years from 1910, 'the strike has shown its power', and the labour movement in general had been capable of achieving far better results for the working class in improving living standards and conditions of work than parliamentary cooperation between the Liberal Party and the still very small parliamentary Labour Party. This was despite the fact that not all strikes were successful. Nevertheless, '[b]oth the national Transport Strike of 1911 and the national Railway strike brought the workers in these industries large advances, and the recent [miner] strikes [1913] in the Black Country were also, in the main, very successful' (Cole 1913 [1917], p. 403). He concluded, 'the strike is not played out, and ... [if] real wages can be made to keep pace with the rise in prices ... Labour [has to be] ceaselessly active in the economic sphere'.[4] The issues of labour unrest, which inspired Layton to write on the relations of capital and labour in 1913, were clearly a topic of major concern in the three years before the start of World War I.

Table 1

United Kingdom Industrial Disputes 1910-1913

Year	Disputes	Working Days Lost ('000)
1910	521	9,867
1911	872	10,155
1912	834	40,890
1913	1,459	11,631

Source: Mitchell and Deane (1962), pp. 71-2

3 Layton's Book on Capital and Labour

As already indicated in the introduction to this paper, Layton had two aims in writing his introductory book on *The Relations of Capital and Labour*. The first was to provide factual and theoretical background to the period of major labour unrest during the years 1911, 1912 and 1913; the second was to expand this background by focusing on the fundamental considerations affecting relations between labour and capital, including the determinants of the national distribution of wealth, and of the prices to be paid to labour (the employees) and capital (the employers) to secure their willing service for the community in productive activity.

The division of the contents of the book clearly indicates its dual purpose. Excluding the first, introductory, chapter, the first thirteen of its sixteen chapters are devoted to the distributional issues or to detailed discussion of the factors influencing the determination of wage rates and profits. Only the final three chapters, comprising more than one fifth of the contents, address the topic of industrial disputes and the various means of their settlement. Of the thirteen chapters on wage and profit determination, only the first three are devoted to 'theory', the other ten deal with various applied issues which can influence the wage bargain. Thus chapter 5 deals with grades of labour, chapter 6 with local aspects in wage determination, chapter 7 with changes in the price level, chapter 8 with trade unions, chapter 9 with the influence of efficiency, chapter 10 with competitive forces, chapter 11 with fairness, chapter 12 with the influence of state regulation, chapter 13 with the use of sliding-scales and profit-sharing arrangements, while chapter 14 explains the process of collective bargaining. The wide range of influences on wage determination in practice provides the main thrust of the book.

By way of introduction, chapter 1 surveys the various contemporary factors which have made the question of the relations of capital and labour such an important issue. According to Layton, these include the increasing recognition in society of the importance of social obligation and responsibility on the part of business (Layton 1914, p. 6); the rising influence of socialist ideas, including syndicalism, as represented in the United States by the International Workers of the World movement (Layton 1914, pp. 7-8, 14-15); and the growing perception of the inherent injustice of the 'extremes of wealth and poverty' existing side by side in 'progressive societies'. These are associated by Layton with the replacement of 'the hold of orthodox religion' for the mass of the working classes by secular, ethical beliefs in the necessity of social and economic justice (Layton 1914, pp. 7-8). Combined with a growth in community feeling of public responsibility for the improvement in the operation of the industrial system, these include the case of fair wages which ensure a reasonable standard of life for every worker (Layton 1914, pp. 17-18). The pages of chapter 1 clearly announce an intention on Layton's part to treat the matter of contemporary capital and labour relations in the broadest possible manner and not simply in terms of the principles developed on this subject by the economic theorist.

This is not to say that Layton ignores the principles of economic theory. They come to the fore in chapter 2 devoted to the theory of wages in terms of the productivity of labour, greatly enhanced over time by technical progress and the accumulation of capital as instruments of production. This makes the product of labour and capital essentially a joint product, which can only completely belong to the labourers if all saving and accumulations for these means of production is done by them, so that they themselves own the capital with which they work. This argument leads Layton to what he called the essential principle of distribution:

> If there is real competition on both sides, the joint product of labour and capital will be divided according to the relative importance in production of capital and labour, and the need which each has for the co-operation of the other. (Layton 1914, p. 24)

For Layton this is essentially an issue of supply and demand. If many labourers are working with few tools or implements, the value of tools will be relatively great compared with that of labour. If additional capital becomes available, the workers in question will offer to buy it at a price 'determined by the addition to the total product which could be attributed to the new capital, in other words, what economists call the "marginal net product" of capital ...' (Layton 1914, p. 24). However, if labour is scarce, the situation is reversed, and its marginal net product (or price) would be high relative to that of capital (Layton 1914, p. 25). Layton then deals with the operational question of whether a marginal net product is there to be found. While admitting that in practice this may not be the case '*in every trade*', Layton claims that the theory holds good 'if competition works out in detail in one industry', illustrating this with examples of plate layers in the railways and North Country farm labour. Hence, Layton stated that the conclusion remains valid that 'the level of the whole wage system is set by the productivity of those labourers whom it is only just worth the employer's while to employ, and the rate of interest [as the price of capital] is determined by the productivity of the capital which it is only just worth his while to borrow' (Layton 1914, pp. 25-7).

Three aspects of this theory of distribution are then highlighted by Layton. First, the theory reflects little more than the general principle of supply and demand with its emphasis on the relative scarcity of capital and labour. Secondly, dynamic factors in the process cannot be ignored; for example, on the introduction of labour-saving machinery, the initial fall in demand for labour is offset in the longer run by the growth in capital caused by the short-term rise in profits generated by the new machines. Thirdly, emphasis on productivity in the theory implicitly rejects the classical subsistence theory of wages as irrelevant since it shows living standards for workers are a consequence and not a determinant of wages (Layton 1914, pp. 27-31).

Chapter 3 starts with the proposition 'that verification of this theory of wages by reference to the actual facts of industrial life [means] … that many qualifications have to be made.' For example, the assumption of 'free and equal … competition is far from being true' and monopoly aspects have to be frequently considered when discussing wages (Layton 1914, pp. 31-2). Nevertheless, chapter 3 presents the actual statistical data on wages and interest rates for large parts of the nineteenth century and beyond, in which patterns of wage growth and changes in interest rates are subdivided into three historical periods. The post mid-1890s situation, that is, the third and most recent of the three periods, is characterised by Layton as showing continuing improvements in industry, sharp rises in interest rates and profits, and slow increases in wages. The last are explained for Layton by the very rapid growth in the work force following the very high birth rate recorded for the 1870s, as compared with a much slower rate of saving (Layton 1914, pp. 37-40). Layton admits that the effective increase of domestic capital is impossible to measure statistically but argues that increased luxury spending by the well-to-do (on motor cars, for example), the sharp rise in foreign investment and increased unproductive spending on national security by government[5] have substantially lowered the growth of capital, and thereby the demand for labour. In short, relative abundance of labour and relative scarcity of capital explain the relatively slow wage growth from the mid-1890s demonstrated by the statistical data. Growth data in terms of either national income or national output were not yet consistently available on an official basis.

Profits and their determination are the subject of chapter 4, since profits are what Layton (1914, p. 48) calls 'the third element in the problem'. Profits are defined as the price of direction and organisation of business by the *entrepreneur*, both in initiating new undertakings and for having the responsibility for disposing of the product. Layton also describes profits as the residual from the proceeds of selling a firm's output after wages and interest have been paid. Profits, Layton added, need to be sufficient to cover the 'earnings of management' or what 'would have to be paid to a salaried manager' and to provide adequate compensation for risk. Any surplus above these is akin to a rent for special skills in organisation and management (Layton 1914, pp. 48-50). Given his assumption of competitive analysis the existence of monopoly profits is ignored in this context.

Layton makes several other points on the nature of profits. Profits are paid out as dividends in the case of joint-stock companies. Under 'free competition', profits are reduced to 'normal' earnings of management and the necessary compensation for ordinary risk or, in short, 'to the level that is just adequate to induce *entrepreneurs* to remain in business'. (Layton 1914, pp. 51-2). Few statistical data are available on profits but data regularly published on dividend payments act as a reasonable proxy. Accounting profits require for their calculation that the value of capital is left intact where this includes the firm's 'goodwill', a rather difficult operation, though more or less reliable estimates are invariably made for business and taxation purposes. At the end of chapter 4, Layton concludes 'that the grossest inequalities in the distribution of wealth are due neither to the rate of interest, nor to profits as ordinarily understood, but to speculation and alterations of capital values of various kinds', a view he may have heard expressed in Marshall's lectures. Values of land and other productive assets, as well as those of stocks and shares, are key examples as are the potential gains to be made from special knowledge (inside information) by those involved in the industry. These considerations in the end make the notion of profit a somewhat difficult one to handle, fluctuating as it does, because of them, between 'fair and reasonable profits' and the 'excesses of the competitive system' (Layton 1914, p. 67).

Little needs to be said on chapters 6 to 14, which are devoted to a discussion of a wide range of relatively minor influences on wage (and occasionally profit) determination. As MacGregor (1914) indicated in his review, these chapters contain, among other things, an interesting discussion of the effects of scientific management and 'time and motion studies' on efficiency wages[6] (Layton 1914, pp. 121-5), on the relative merits of competition and socialism – 'the State becomes a very imperfect machine for interpreting the multiplicity of human wants' – (Layton 1914, pp. 129-30), the definition of 'fair wages' in terms of 'the community's estimate of the value of the work done' (Layton 1914, pp. 152-4) and, in connection with state authorities determining 'minimum wages', the possible 'effects a somewhat rigid system will have on employment and on prices' (Layton 1914, pp. 168-9). The discussion, to use the words in MacGregor's review (1914, p. 450), is both 'concise' and 'scholarly', and presents a fine overview of the state of the art on this topic of 'Edwardian economics'.

The last three chapters of Layton's book address the key issue which prompted its writing: the incidence of labour unrest in 1910-1913 and its possible remedies. Chapter 15 examines the role of 'strikes and lock-outs … in our present economic system … by reviewing [Board of Trade] statistics of strikes in recent years' (Layton 1914, p. 203). Layton warned that this was a topic far removed 'from questions of economic theory' because passions and weak human nature tend to govern the ferocity of labour disputes (Layton 1914, p. 204). No less than nineteen persons were killed during the 1912 Rand strike in South Africa (Layton 1914, pp. 204-8); the first general strikes in England were contemplated by Robert Owen's short-lived national unions in the 1830s; and the 1889-92 dockers' strike paved the way for much industrial unrest. Following a recommendation of the Labour Commission (of which Marshall had been a member), a Labour Department within the Board of Trade commenced the systematic collection of statistics on strikes and on labour disputes more generally (Layton 1914, pp. 209-11, the last page of which reproduces some of these data). These data revealed 1893, 1897, 1898, 1899, 1908, 1911, 1912 and 1913 as years in which working days lost from trade disputes exceeded ten million. Over sixty per cent of these disputes concerned wages, trade union rights were just under twenty per cent, and work conditions including hours of labour accounted for the remaining twenty per cent. Of these disputes, 27 per cent were settled in favour of labour, 26 per cent in favour of the employers, with the remainder ending in various degrees of compromises, the latter increasingly likely outcome of such disputes on the available statistical data (Layton 1914, pp. 214-15). Layton therefore asked the pertinent question of whether strike action could be argued to have benefited labour on the basis of the historical record. The generally small wage increases gained from what were termed successful outcomes for labour rarely matched the losses from reduced output and the general disorganisation of trade from transport or coal strikes. However, few wage rises would be recorded in the absence of strikes, Layton (1914, p. 217) suggested, supporting his argument with data collected by the Board of Trade. Considerations like this made the case for state intervention in labour disputes a strong one, and emphasised the need for developing a sound industrial policy to deal with the issue. They were therefore the topics Layton discussed in his last two chapters.

Chapter 16 examines the 'three ways in which a Government can influence industrial disputes'. First, the State may prohibit strike action altogether and compel the opposing parties to 'resort to arbitration'. Secondly, the State may require investigation by an independent tribunal before permitting strike action to take place. Thirdly, the State may itself take on the role as independent arbitrator. All three alternatives were practised, Layton (1914, pp. 220-1) indicated: the first in New Zealand, the second in Canada, and the third in Great Britain. Appropriate policy for government, employers and workers is reviewed in Layton's final chapter. It suggests improved thrift as the best way to raise real wages (via the increasing demand for labour from the concomitant growth in capital). Among ways to achieve this beneficial outcome, Layton listed reduced luxury spending, the abolition of taxes on thrift such as death duties, as well as greater transparency in the reporting of profits by firms as a way of attracting new investment to the industry in question. Moreover, State regulation of conditions of work, wage policy to secure fair wages and, more debatable, satisfactory controls over the right to strike or to declare lock-outs ought to be established. Layton's book closes with an exhortation for more public education. This would avoid social indifference to the issue of capital-labour relations. More generally, it would ensure the public's right to know the facts through the dissemination of sound information on the subject by government agencies.

Overall, the tone of Layton's book on this controversial question is both reasoned and reasonable. Moreover, Layton's writing is clear, concise and balanced, even if it occasionally avoids detail in illustration of the principles involved. The suggestions for further reading and bibliography are neatly classified into six topics, that is, 'general theory', 'the labour movement', 'industrial bargaining', 'wealth and wages', 'prices and the cost of living' and 'industrial efficiency'. They provide a well-chosen and judicious mixture of leading authorities (including Edwin Cannan, Gustav Cassel, J. S. Nicholson, A. C. Pigou and F. W. Taussig among the theorists), diverse opinion (such as J. A. Hobson, H. M. Hyndman and G. D. H. Cole) and government reports (including half a dozen from the Board of Trade on disputes, on the cost of living of the working class, and on earnings and hours of work) as a way for interested readers to gain more information on the various topics raised in the book.

4 A Marshallian Text *pur sang*

The Marshallian credentials of Layton's book are clearly visible. Its stress on the explanatory powers of supply and demand in the labour market is one clear indication of this. Secondly, Layton's recognition of the need to be realistic in dealing with the capital-labour relationship reflects his Marshallian training as well as his close study of Marshall's work. The chapter on the theory of wages (chapter 2) draws heavily on aspects of Marshall's views on the topic: particularly with respect to its starting point, which reflects on labour's remuneration in a primitive state of society when labourers owned their tools and implements and worked for themselves (Layton 1914, p. 18; cf. Marshall 1892 [1905], pp. 234-5).[7] The basic contents of that chapter also reflect Marshall's position on the distribution of income between labour and capital in the terms of their net product as influenced by the rate of increase of population and that of the supply of capital (Layton 1914, pp. 26-7; cf. Marshall 1892 [1905], pp. 234-42). Chapter 3, devoted to wages and saving, likewise resembled Marshall's position, but the mode of reasoning and the illustrations were quite different, since Layton presented a detailed table of the progress of real wages from 1790 to 1910-12 (Layton 1914, p. 33). However, the chapter also rejected the assumption of free and equal competition in this discussion as quite unrealistic (Layton 1914, p. 31), just as Marshall (1892 [1905], p. 256) had done with respect to perfect competition in the labour market. Layton's account, not surprisingly given his earlier work on the theory of prices (Layton 1912, 1913), also discussed the impact of prices on wages and even on the rate of interest. Layton's analysis of saving, it may be noted, also looked at saving in relation to taxation and government spending and the demand for labour where that demand is argued to be totally impervious to 'money spent out of taxation' (Layton 1914, p. 43). As indicated previously, Say's Law still guided this type of proposition in the opening decades of the twentieth century.

Layton's chapter on profits presents an entrepreneurial theory very much in the manner of Marshall. The entrepreneur who directs and organises modern business, and brings capital and labour together, obtains the 'earnings of management' and a risk premium from profits. The remaining profit goes as interest and dividends to debenture holders and shareholders (Layton 1914, pp. 48-51). Both authors treat profits explained in this manner as associated with joint-stock companies, run by modern managers who organise the operations of the business to the full extent, though there are minor differences in their treatment. Marshall, for example, stressed evolutionary principles with reference to 'survival of the fittest' when commenting on the rise and decline of business firms (Marshall 1892 [1905], pp. 287-8); Layton dwelt more fully on the role of profits and their distribution in company finance (Layton 1914, pp. 60-2), and on comparisons in this aspect between companies and unincorporated enterprise.

Layton's (1914) examination of grades of labour (chapter 5) is very traditional, commencing with a summary of Smith's discussion of the subject and then developing this in a more modern context. This was also Marshall's approach to this topic, though he was less prone to comment on the unequal sharing of skills and the many special limitations in their specific supplies. Layton's treatment of this topic draws on some new as well as older research, and approvingly quotes Marshall on the relationship between normal earnings and the required supply of a particular skill. Local variations in wages (Layton 1914, chapter 6), as apparent for example in wage differences between town and country, are likewise treated by Layton very much in the manner of Marshall.

However, Layton's chapter 7 treats wages and prices, or the determination of real wages, far more fully than Marshall did. Layton's interest in this topic came partly from his previously published book on the theory of prices (Layton 1913 [1922]). This has no counterpart in Marshall's work. After all, Marshall had deferred such monetary matters to the proposed 'second' volumes of both the *Principles* and the subsequent *Elements of the Economics of Industry*. Neither of these second volumes ever materialised (see Groenewegen 1995, pp. 426-30 and chapter 19, for a detailed discussion). Layton's discussion of this topic is therefore novel and brought in wage determination issues, including the actions of trade unions in safeguarding the real wages of their members, and in gaining their fair share of productivity increases in manufacturing industry through wage rises. Marshall's chapter on 'progress', added to the *Principles* in its fifth edition of 1907 and the 1910 sixth edition, though parts of it came from the first and second editions (Guillebaud 1961, II, p. 703,) covers this material in relation to real wage progress as part of the progress of labour in less detail, largely because an extensive analysis of this topic had no real place in a volume of foundations.

Layton's treatment of trade unions and wages, which follows in his chapter 8, is seen as continuing the discussion of the previous chapter. Marshall's chapter on trade unions, the final chapter of Book VI of the *Elements of Economics of Industry*, was described in its preface as an almost essential adjunct to its Book VI on distribution, particularly its chapter 12 on the influence of progress on value. Layton's discussion is much more widely focused. It addresses the interdependence of trade unionism and higher wages, the gradual evolution of trade unions, especially during the second half of the nineteenth century, the association between successful wage negotiations by trade unions and economic conditions, and the trade union weapon of strike action and its efficacy. Marshall (1892 [1905]) in particular discussed the influence of trade unions on wages, including strikes and the threat of strikes, and also indicated how real the long-term effects of these strategies were on wages. Marshall emphasised that strong trade unions did much to enhance the standard of life, an especially positive impact of their existence on economic progress. This type of conclusion undoubtedly benefited from Marshall's friendship with some trade union leaders and his work on the Labour Commission. However, Marshall also claimed that the very high wages for American and Australian labour in the 1850s were not attributable to trade union action but associated with the gold discoveries. Much of Marshall's discussion was explicitly inspired by his participation in the work of the Labour Commission of the early 1890s (see Groenewegen 1995, pp. 360-71). Layton's (1914) treatment of the topic is much more modern in many ways.

Layton's (1914) next two chapters on efficiency (chapter 9) and competition (chapter 10) likewise treat issues dealt with by Marshall, but often in a more modern setting. His illustrations in the first of these chapters based on Ernst Abbé's experiments in the Zeiss optical works in Germany came straight from Marshall, as did the references to Taylorism and scientific management in this context. Layton's treatment of the general and specific impacts of competition on wages is not directly reflected in Marshall's treatment of the subject but indirectly relies much on Marshall's work. The chapter explains the relationship between shifts in prices, wages and interest and economic organisation, arguing that competitive supply and demand forces regulate 'the economy far more efficiently than any system of collectivism or of state ownership'. This is Layton the 'economic liberal' at his best: contrasting state choice with individual choice, noting the superiority of private resource use guided by price signals over that of state direction and control, and the failures of 'communist experiments' in getting the 'fair' outcomes of which they boast. This is combined with praise for certain types of legal wage regulation, particularly when it equalises bargaining strengths between employers and employees and enhances efficiency in production. However, such practices may also drive capital investment out of regulated trades and thereby generate unemployment (Layton 1914, pp. 139-41).

This general discussion of the importance of competition and free markets introduces the final seven chapters on fair wages and the manner in which they can be achieved. Layton's discussion is here once again quite Marshallian. Marshall was a strong advocate of fair wages, and stressed the role for this notion in social policy. Much of that position was presented in Marshall's introduction to L. L. Price's *Industrial Peace* (Marshall 1887), the key perspective of which forms the starting point for Layton's discussion (1914, pp. 146-7). Likewise, Layton's discussion of state regulation of workers with its strong condemnation of sweated labour is very Marshallian, as is its recommendation of establishing wage boards and the fixing of minimum wages. However, like Marshall, Layton fully appreciated the difficulties in setting minimum wages. Layton (1914) brought this discussion up to date in his chapter 12. Likewise, Layton's perspectives on sliding scales of wages and the benefits of profit-sharing follow in essence Marshall's views on these subjects, indirectly via the 1894 Report of the Labour Commission and more directly from Marshall's pronouncements in his *Elements* (Marshall 1892 [1905], pp. 301, 381n., 395n. and 172). They also draw on their development by Marshall's other pupils and followers, in particular C. R. Fay and W. J. Ashley (Layton 1914, pp. 181-2, 184-6), including their reservations about its practical applications. Layton's discussion of collective bargaining (chapter 14) draws more on the work of the Webbs' (1897) on *Industrial Democracy* while that on strikes and lock-outs incorporates commentary on very recent disputes such as the 1912 Rand strike (Layton 1914, pp. 204-8), and the general perspective of recommendations on the subject by the Labour Commission (Layton 1914, pp. 209-12). These are illustrated by the relevant statistics. The subsequent chapters on 'state intervention in disputes' contrasts antipodean experiments in New Zealand with those in Canada and in the United Kingdom, including the impact thereon of recommendations from the Labour Commission (Layton 1914, p. 228). The final chapter on industrial policy pulls many of these considerations together, often in a critical manner which reminds readers that the state 'has not got a free hand in the matter of wages', including the enforcement of a fair wages policy and of minimum or standard work conditions (Layton 1914, pp. 243-4). However, Layton, in quite Marshallian fashion, strongly rejects the view attributed to Ramsay McDonald that the interests of employers and wage earners are necessarily antagonistic and irreconcilable (Layton 1914, p. 255), suggesting instead that their mutual interests in growth and development far outweigh any such differences. Cooperative industrial policy involving all sections of the community (employers, wage earners, the state and the general public) is the broad policy response offered. Layton's liberal response is well within the Marshallian tradition as expressed in Marshall's views on economic and social progress in the final chapters of both his *Principles* and his *Elements*, and the gloss thereon, embodied in his 1907 'Social Possibilities of Economic Chivalry', with its concluding call for the widest possible social cooperation to achieve national social policy goals (Marshall 1907, pp. 607-11). Although seemingly contradicted by very recent experience in the growth of industrial disputes, the long-term social objective for economic liberals of industrial peace did not need to be jettisoned in the light of what was easily described as short-period, selfish, trade union action.

The contents of Layton's (1914) book, in short, clearly demonstrate how much of Marshall's work Layton had imbibed as a student in Marshall's political economy courses at Cambridge and as a reader of Marshall's books. This is neither a startling nor a particularly novel conclusion. However, it enables the remark that Layton was a Marshallian *pur sang* in terms of both his liberal economic philosophy and in terms of his perspectives on the vexed question of capital-labour relations. The essentials of Layton's (1914) book in terms of theory are completely Marshallian; Layton's approach to the topic in presenting its findings in as realistic a manner as possible is likewise. Layton is therefore a major pupil of Marshall, one who scattered his teachings in a very wide manner through his journalism and his many and varied writings of which his book on *The Relations of Capital and Labour* is a particularly striking instance.

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Notes

1 Its 1912 preface indicates Layton's 'indebtedness to the teaching and inspiration of Dr. Alfred Marshall [as] evident to all who are acquainted with recent economic thought in England' (Layton 1912 [1922], p. vi). Subsequently, Marshall's definition of national income is approving quoted (p. 5 n.1), Marshall's evidence to the Gold and Silver Commission is referred to as a major source on the effects of fluctuations in prices on wages and productivity (pp. 11-12), his indebtedness to Dr Marshall for 'the pregnant suggestion that under an ideal system of currency prices should fall at such a rate that receivers of fixed incomes should secure a fair proportion of man's increasing control over his material environment' (p. 106 n.1) and the reader is also referred to Marshall's *Principles*, book V, chapter VI, for guidance on distributional issues associated with wage changes (p. 165). It may be noted here as well that in this book, Layton blamed recent labour disputes on the loss in real wages from rising prices in the previous three years (pp. 162-5).

2 This is the date of publication generally assigned to this book, which itself contains no publication date on its preliminary pages. D. H. MacGregor reviewed it for the *Economic Journal* in the September issue for 1914. [1914] is the cautious way in which the publication date is reported in the book's listing in the *British Library Catalogue*; 1914 is also that given in the *Library of Congress Catalogue* and, perhaps significantly, that used in the *Marshall Library Catalogue* (Cambridge: at the University Press 1926); Milgate and Levy 1987, III p. 150) do likewise. I myself dated it as 1913 when mentioning the book in my chapter on Marshall's legacy (Groenewegen 1995, p. 756).

3 This paper may in fact be seen as the first in a series of papers on early Cambridge Marshallians, that is, those later academic economists taught at Cambridge by Marshall himself. Not surprisingly, this excludes the two major 'Marshallians' of this genre, A. C. Pigou and J. M. Keynes. However, it is intended to include at least some of the following as subjects for future papers, here listed in alphabetical order. They are A. W. Bowley, S. J. Chapman, J. H. Clapham, C. R. Fay, A. W. Flux, D. H. McGregor, F. Pethick Lawrence, H. O. Meredith, J. S. Nicholson and C. T. Sanger. The aim of such an exercise, as it was in this paper devoted to Layton, is to assess the Marshallian credentials of these economists from their early writings.

4 For a detailed account of some of the individual strikes over these three years, see Cole (1927 [1932], III, chapter 5).

5 In this context, Layton (1914, pp. 43-4) argued that 'spending out of taxation does not increase the demand for labour by one penny piece. It merely means that the Government has the spending of it, instead of the person from whom it was taken by the tax-collector. It alters the character [direction] of the demand, but does not increase it'. The proof of this proposition is a statement resembling Say's Law, in which Layton argues that savings are necessarily devoted to producing 'material aids to production'.

6 'Efficiency wages' are here defined in Marshall's sense as the rate of earnings 'with reference to the exertion of ability and *efficiency* required of the worker' (Marshall 1920, p. 549), terminology going back to the first edition.
7 I have used *Elements of the Economics of Industry* (Marshall 1892 [1905]) as the basis for comparison with Layton's text. It not only matches the elementary nature of Layton's book, but its contents closely resemble those of the *Principles* with respect to the ordering of the material and nature of the theory and, as noted earlier, it added a final chapter on trade unions, the contents of which are not reflected in that of the *Principles*. The list of the references for further reading within Layton (1914) includes the *Elements*, but not the *Principles*.

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