The most valuable of all Capitall; a gender reading of economics texts
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6.1 Introduction

We now take another step forward in history to the late nineteenth century and turn to texts by a first and a second-generation neoclassical economist, William Stanley Jevons and Alfred Marshall respectively. William Stanley Jevons (1835-1882) is recognized as one of the founders of 'the marginalist revolution', together with Walras (Switzerland) and Menger (Austria). Jevons' *Theory of Political Economy* (TPE) (1871) is considered to be one of the main impulses behind the rise of neoclassical economics. In this shift, economic theory becomes based on a subjective value theory, changes the focus from production and distribution to consumption, and acquires a mathematical character (Hutchison 1978, Schabas 1990). Jevons' *Theory of Political Economy* will here be the subject of scrutiny.

It was Marshall who elaborated the new marginalist theoretical framework and helped to secure its dominant place in economic science. Alfred Marshall (1842-1924), a major figure in economics in late nineteenth and early twentieth-century England, published his *Principles of Economics* (PE) in 1890. Though he developed a marginalist approach by himself, he is considered to be a second-generation marginal-utility theorist, as his contribution lies particularly in the elaboration and refinement of the theory and in making this body of thought accessible and applicable for policy use (Roll 1938, 395). The *Principles of Economics*, a book that figured as a textbook in the decades that followed and formed many generations of economists, will here be analyzed for its gendered character.

This chapter contains an analysis of these texts by Jevons and Marshall, applying the analytical framework developed in the fourth chapter of this thesis. What comes to the fore is that, notwithstanding the thorough theoretical and conceptual changes proposed and elaborated by both Jevons and Marshall, some basic gendered concepts remain unchanged and are even restated as fundamental to the discipline. Besides applying a biological concept of gender differences & masculine perspectives, the texts appear not only to redefine economic

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154 Though 'Austrian economists' see themselves as quite different from mainstream economists.
concepts but also to contain new perspectives on the respective role of women and men, within a context in which perceptions of gender are widely being renegotiated.

Section 6.2 contains a short summary of the content of Jevons' TPE and subsequently discusses his use of sex/gender distinctions, masculine perspectives and perceptions of gender. The focus then moves to the intertextuality and the contextuality of this text in relation to gender, and the impact of gender on the economic reasoning in this text. Section 6.3 discusses Marshall's PE on the same topics. Section 6.4 compares the findings of the analyses of Jevons' and Marshall's texts and discusses the results.

6.2 Text by William Stanley Jevons

6.2.1 The Theory of Political Economy: its content and scope

The Theory of Political Economy (TPE) (1871) is Jevons' most renowned work. It is a book of about 300 pages. It contains a set of appendices, one of which incorporates the paper in which Jevons presented an early version of his main ideas, that formed the basis of this book.

Summary of the Theory of Political Economy

In the Theory of Political Economy (1871) Jevons sets out to reformulate economics as 'the mechanics of utility and self-interest' (xviii, 21). Because economics is not only a logical science but also deals with quantities, it has to be 'mathematical in matter if not in language' (vii) in order to be a real science. In the preface Jevons states that he gives in the TPE an 'elementary sketch of elementary principles' (xliv) of economics, 'a science of the development of economic forms and relations' (xvi). He starts this essay by distancing himself from Ricardo and Mill, especially their views on the wage-fund theory and the Cost of Production Theory of Value (xlv). Instead of stating labor as the origin of value, Jevons claims that 'value depends entirely upon utility' (1). In the introduction that deals with the method of economics and the relation of economics to ethics, Jevons distinguishes between various grades of feelings; higher grades or motives and lower ones, and it is with the latter that economics deals (27). Stating that 'the mind of an individual is the balance which makes its own comparisons, and is the final judge of quantities of feeling' (12), Jevons applies Bentham's calculus of pleasure and pain as the basis of his theories. Moral considerations are perceived as higher motives, as '[t]he calculus of utility aims at supplying the ordinary wants of man at the least cost of labour'. (27) Jevons posits the maximizing of pleasure as the main issue of economics (37) and shifts the focus away from production as 'the theory of Economics must begin with a correct theory of consumption' (40). After a detailed outline of the content, character and measurement of utility, Jevons turns to the theory of exchange. His concept of the perfect Market together with the 'Law of Indifference', which says that two prices cannot exist at the same time for one good in a perfect market, enables him to articulate the 'keystone of the Theory of Exchange'.

155 I here use the fifth edition (published in 1957 by arrangement of H. Stanley Jevons), reprinted in the series Reprints of Economic Classics, New York: August M. Kelley [1965]. All references in this section are to this book, unless otherwise indicated.

156 The keystone of Jevons' theory of exchange: 'The ratio of exchange of any two commodities will be the reciprocal of the ratio of the final degrees of utility of the quantities of commodity available for
CHAPTER 6: A GENDER READING OF TEXTS BY JEVONS AND MARSHALL

final degree of utility a good provides.\textsuperscript{157} It is no longer labor that determines the value of goods, but rather the other way around; it is the utility of the goods produced that determines the value of labor. Jevons sticks to the theory of rent, but restates it in mathematical terms. The theory of capital continues to be based on Ricardo's views on the subject, but is slightly reformulated at various points.\textsuperscript{158} Jevons differs from his predecessors on the issue of whether goods in the hands of consumers have to be considered as capital or as consumption. In his concluding remarks he excludes the 'Doctrine of Population' from economic science because of the latter's focus on the efficient use of labor in order to maximize utility. It is this science, 'the mechanics of utility and self-interest', that together with a greater quantity of more detailed data, according to Jevons, 'might be gradually erected into an exact science'. (21) The fourth and last edition has four appendices.\textsuperscript{159}

6.2.2 The use of sex/gender distinctions and perceptions of gender

Jevons applies - like his predecessors Petty and Smith - a biological concept of gender. He distinguishes between women and men and ascribes different tasks and characteristics to them. In the text he refers to 'man' and 'men' only.\textsuperscript{160} Is there a possibility that his use of 'men' and 'man' is meant to be generic or does he indeed address men only? And what roles and characteristics does Jevons ascribe to men and women respectively? What does his perception of gender contain?

In his discussions with the economic science establishment, Jevons conscientiously discusses the various possible arguments on the issues he deals with. He frequently addresses the reader directly and uses the pronoun 'we' in addressing his male, colleague economists. His colleagues are expected to share a similar kind of experience, which, as Jevons indicates, forms the ground for basic economic assumptions.

'The science of Economics, however, is in some degree peculiar, owing to the fact, pointed out by J.S. Mill and Cairnes, that its ultimate laws are known to us immediately by intuition, or, at any rate, they are furnished to us ready made by other mental or physical sciences.' (18)

consumption after the exchange is completed.' (95)

\textsuperscript{157} Elsewhere Jevons states: 'Cost of production determines supply; Supply determines final degree of utility; Final degree of utility determines value.' (165)

\textsuperscript{158} Capital becomes defined as 'the aggregate of those commodities which are required for sustaining labourers of any kind or class engaged in work.' (223)

\textsuperscript{159} App. I contains an essay by the editor on the fourth edition, H. Stanley Jevons, Jevons' theory of interest; App. II contains additional material on Capital from Jevons' Principles of Economics (1905); App. III is a reprint of Jevons' Brief Account of a General Mathematical Theory of Political Economy (read at the British Association 1862); App. IV: Jevons' works upon economic subjects; App. V: a list of mathematical-economic publications and an extension, App. VI.

\textsuperscript{160} In his Principles of Science (1874), Jevons refers to the generic character of the term 'Man'. He discusses this under the heading of 'the distinction between collective and general meanings of terms': "Man" may mean the aggregate of existing men, which we sometimes describe as mankind; it is also the general name applying to any man.[...] Thus the greater number of general terms are at the same time collective as regards each individual whole which they denote.' (Jevons 1874, 29, emphasis as in the original, EK)
Jevons makes distinctions between males and females, and like Petty and Smith, refers to men's professions ('a navvy, a carpenter, an iron-puddler, a schoolmaster, and a barrister' (166)) and to men in general. For instance, he is concerned with 'a man whether he be a mechanic, a weaver, a coal miner, a carpenter, a mason, or any other kind of labourer' (244). He discusses work in relation to men's bodily capacities:

'A man could thus raise four times as much in a day as by carrying bags on his back with the most favourable load.' (205)

Jevons speaks about boys and young men's education (300), focuses his discussions on men's work and men's wages (see e.g. 269-277) and addresses the wage-labor relation:

'In a regular and constant employment the greatest result will always be gained by such a rate as allows a workman each day, or each week at the most, to recover all fatigue and recommence with an undiminished store of energy.' (209)

Based on these common-sense notions, Jevons constructs his main character: the male laborer. It is the daily experience of men that is here regarded as the basic human experience, man as directed by his own wants and desires.

'fijt is a man's duty, as it is his natural inclination, to earn sufficient food and whatever else may best satisfy his proper and moderate desires.' (25)

And indeed, if we substitute 'woman' for 'man' the phrase quoted above would sound less evident, it would even become a feminist statement. Taken all together, this means that Jevons' use of 'men' and 'man' cannot be read as generic, but instead has to be read as referring to men.

To be able to follow the argument in this text the reader is required to identify with the perspective of men in society, to apply a masculine perspective, one that excludes women. Reading the text 'as a woman' is difficult, because no women are mentioned here; the focus is entirely on men. To find out more about the respective roles ascribed to women and men and the content and meaning given to femininity and masculinity by Jevons, we turn to the intertextuality of his text.

6.2.3 Intertextuality of Jevons' text
To obtain an insight into Jevons' use of perceptions of gender prevalent in academic debate at the time, and into the construction of specific perceptions of gender in his text, we need to know more about Jevons' academic position, from which he entered and contributed to the debate.

161 See also page 177 and page 225 in Jevons (1871).
162 Jevons' perspective is that of an English gentleman, which makes him take not only a masculine, but also an upper class and an ethnic if not racist perspective. 'Two well educated Englishmen are far better distinguished from each other than two common labourers, and these are better distinguished than two Australian aborigines.' (Jevons 1874, 734)
Jevons started his economic investigations and writings in the period that he was working in Australia. When he returned to England he presented the paper ‘Brief Account of a General Mathematical Theory of Political Economy’ at the British Association for the Advancement of Science in 1862. It was not as well-received as Jevons had expected; indeed, it hardly attracted any attention at all. Disappointed, he continued with his studies, focusing on applied economics, statistics and logic, and became a tutor to undergraduates at Owens College in Manchester. In 1866 he became professor of logic and lecturer on political economy at the same College (Collison Black 1970). Inspired and stimulated by Fleeming Jenkin, (professor at Edinburgh), he finished his Theory of Political Economy in 1871 while he was working on The principles of science. A treatise on logic and scientific method (PS) (1874). Jevons made contributions to various branches of economic science and in 1875 became professor at the University of London, where he worked on a substantial text. In 1880 he left the University of London to finish this book. He died however, in 1882, before he was able to do so.163

When William Stanley Jevons published his book on marginalist economic theory in 1871, the hegemony of the English political economy of Ricardo and Mill was at its height. Forming part of a large and prestigious academic society in London, Cambridge, etc., Mill's school of political economy rested to a considerable extent on achieved authority. The economic body of thought developed by then was extensive and considered to be complete. Within this context Jevons set out to redefine the aim and scope of economic science and to supply economic theorizing with a new foundation. It took him years to attain the recognition he believed his ideas deserved.

References to traceable texts
Jevons' TPE refers extensively to the scientific debate going on at that time. Jevons clearly positions himself in the economic tradition by referring positively (and critically in some instances) to Adam Smith and Jeremy Bentham. He stresses the mathematical character of Smith's Wealth of Nations and claims him as a mathematical economist avant la lettre (xxii-xxiii). To strengthen his case that economics is in first instance a mathematical science, he adds an appendix with all the historical literature on this topic available to him.

He strongly opposes the current state of economic science. David Ricardo and John Stuart Mill in particular were for Jevons the authorities that had to be faced and fought.164

"When at length a true system of Economics comes to be established, it will be seen that that able but wrong-headed man, David Ricardo, shunted the car of Economic science on to a wrong line - a line, however, on which it was further urged towards confusion by his equally able and wrong-headed admirer, John Stuart Mill. [...] It will be a work of labour to pick up the fragments of a shattered science and to start anew, but is a work from which they must not shrink who wish to see any advance of Economic Science.' (li-1ii)

163 Principles of Economics was edited by his son and published in 1905.
164 Ernest Nagel speaks of Jevons' 'almost pathological hostility' towards John Stuart Mill (see Jevons 1874, li).
To what extent Jevons' animosity towards John Stuart Mill had any basis in their different views on gender issues, is something that deserves more attention than I am able to give it here and now.

Jevons' reasoning is less dichotomous where he stresses the scientific character of economics.\(^{165}\) He refers to the methods and perceptions of scientific knowledge as applied in the exact sciences. These are the only sciences he addresses in his *The principles of science. A treatise on logic and scientific method* that was published in 1874; philosophy and the social and political sciences are not mentioned in this work. Whether the ideas he develops in this book have to be regarded as containing references to traceable or untraceable texts is not unambiguous. I discuss this book here as an untraceable text.

*The use of genre*

Considering Jevons' use of genre conventions it appears that, although he considers mathematics as the language in which economics should be developed, his TPE contains only a few simple equations and builds heavily on discussions and arguments dealing with the logical and conceptual foundation of economic thought. He is oriented towards scientists and economic scholars, much more than towards politicians and others in power, let alone the broad public.

'I do not write for mathematicians, nor as a mathematician, but as an economist wishing to convince other economists that their science can only be satisfactorily treated on an explicitly mathematical basis.' (xiii-xiv)

Gender seems to work here only indirectly, in the sense that Jevons addressed economists, who were almost exclusively men in those days, and appealed to their status as political and value-neutral scientists, assuming in various instances shared experience.

*References to culture texts*

It is especially in Jevons' use of 'culture texts' that perceptions of gender play an important role in Jevons' reasoning. This use however, is mostly implicit. Jevons restates - faced by an economic science that was perceived as complete - the scientific character of economics by again asserting that character, using the high status of physics and mathematics in academia and in society (see Mirowski 1988).

In his arguments on man, nature and science, Jevons makes use of Darwin's revolutionary evolutionary views on man, and of his negative perception of women (see also White 1994). The 'Author of Nature' Smith refers to no longer plays a role of any importance, though Jevons does not reject '[t]he hypothesis that there is a Creator' (Jevons 1874, 768).\(^{166}\)

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\(^{165}\) His *Principles of Science* is less structured by his antagonism, although in his basic notions about scientific knowledge he not only positions himself in opposition to Professor Bain's view of the intellect, but says it also 'seems to be opposed to the ordinary opinion, according to which the Latin *intelligere* means to choose between, to see a difference between, to discriminate, instead of to unite.' (Jevons 1874: 5n)

\(^{166}\) In the last paragraph of his *The principles of science* (1874) Jevons states that 'If men do act, feel,
The principles of science. A treatise on logic and scientific method (1874), which provides the philosophical background for the TPE, Jevons places science in opposition to nature and posits science as an ordering activity in the universe. Science not only discovers or reflects the truth about nature, but now almost actively structures the Universe. In Jevons' view, as in that of many of his contemporaries, man has come to control nature by means of science and it is 'the scholarly mind' that provides continuity and meaning. Jevons (1874) conceives of the scholarly mind as free and scientific. Man is addressed as an abstract notion. Man's intellect is seen as an entity stripped from the body and emotions, directed and able to discover scientific truth based on logic and the findings of physics. 'It is the prerogative of the Intellect to discover what is uniform and unchanging in the phenomena around us.' (1874, 3)

Against this background, Jevons redefines economics as a science by restating the definition then widely accepted in academia of the relation between man and nature. He subsequently transcribes this relationship into a set of symbols of logic that he refers to as the 'Fundamental Laws of Thought'. As we have seen in Chapter 5, the conceptualization of man versus nature is linked to a hierarchical and asymmetrical perception of gender. In line with this perception of man and nature, these 'Laws of Thought' are of an explicit dualist character.

According to Jevons, this logic was the language of truth, and as such even more basic than mathematics (Schabas 1990). It is this logic that he also suggests provides the basic notions for economic science. The standardized scientific definition of the relation between man and nature that is ingrained in Jevons' dualist logic, becomes thus also ingrained in the terms in which economic science is redefined.

Relevant here is that Jevons connects the scientific enterprise with the act of constructing identity. It is similarities in relations and behavior he is interested in, rather than with the identification of differences, which was a more common view in his days. Starting from the standardized concept of man and applying his 'Laws of Thought' to economic issues, a distinct theorization of women's economic experience becomes difficult if not impossible. In such an academic discourse, speaking about women's behavior is only possible in terms of variances from that of men. This issue deserves more attention than I can give it here but the preliminary investigations in Jevons' The principles of science. A treatise on logic and scientific method (1874) confirm these suggestions.

6.2.4 Contextuality of Jevons' text
To gain insight in the contextuality of gender in Jevons' text, we need to know more about Jevons' social position and about the conceptualizations and perceptions of gender prevalent in Jevons' time. What, for instance, were gender relations in Jevons' time like? Did women and live as if they were not merely the brief products of a casual conjunction of atoms, but the instruments of a far reaching purpose, are we to record all other phenomena and pass over these? We investigate the instincts of the ant and the bee and the beaver, and discover that they are led by an inscrutable agency to work towards a distant purpose. Let us be faithful to our scientific method, and investigate also those instincts of the human mind by which man is led to work as if the approval of a Higher Being were the aim of life.' (Jevons 1874, 769)

Simple identities are stated as $A = A$. The '$=$' in particular is a central symbol in Jevons' system of logic. The three Laws of Thought in their symbolic form are thus: the Law of Identity $A = A$, the Law of Contradiction $Aa=0$ and the Law of Duality $A= AB$: $\cdot Ab$ (Jevons 1874, 74; see also p. 5; see also Schabas 1990, 60).
participate in the labor market? To what extent was this labor market segregated and what was considered 'natural' in relation to women and men's behavior?

**Jevons' social and economic position**

Jevons was born in 1835, the son of a Liverpool iron merchant. He attended University College School in London, finishing in 1852. In his early days he worked as an assayer at the Mint in Sydney to provide for his family after his father went bankrupt. When his father died, he considered himself freed from his family duties and returned to England to pursue his academic career. He claimed the right to be selfish as a natural inclination, even when this had considerable financial consequences for himself and for his sisters, who depended on him. He married later in life and drowned for unexplained reasons in 1882 at the age of 46.

**References to gender symbolism**

Jevons lived against the background of emerging Victorianism. England had become a world empire over this century. By the second half of the nineteenth century capitalist society was reasonably well established in England. The process of industrialization had made substantial progress, which meant the mechanization of the production process and an increase in wage labor. Wage labor had become the predominant form of labor relations and 'free trade' was the credo of English policymakers. In reaction to the situation of large sections of the population, social movements arose, amongst them the feminist labor movement and the suffragette movement, which fought for better marriage and divorce legislation, the improvement of working conditions, and later on for the right to vote.

The revolutionary notions of Charles Darwin - a scientific explanation of the origin and meaning of life - provided a new worldview to oppose that of the Church. These notions gained popularity, especially among the upper classes. The social philosopher Herbert Spencer applied Darwin's ideas to the social realm, articulating his views on progress from 'savagery to civilization'. In Spencer's view the highest form of civilization was the Englishman, heading a family with a dependent wife (Dyhouse 1989, 71). The upper-class concept of 'the equality of men' came under pressure, especially when Marx (1818-1883)

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168 Having been trained in mathematics, biology, chemistry and metallurgy, he was sent to Australia in 1854 at the age of 18.

169 With thanks to Nancy Folbre, who brought this to my attention (see Folbre 1996).

170 His letters speak of his struggle regarding his return to England, between on the one side his desire to become a scholar and follow his 'economic vocation', and on the other the fear of seeming selfish and uncaring. 'What I do, concerns myself alone, unless it is positively injurious to other.... Now I have no fear that any of you will ever reproach me with this, but, to be on the safe side, I would freely engage that so far as my present or future possessions go, any necessary or reasonable assistance shall be yours, in short everything that I have should be yours, rather than that I should act selfishly.' (Jevons 1859, 356)

171 Herbert Spencer (1862) composes a sequence of higher and lower races. Jevons applies these - at the time rather common - notions of the evolution of race in his discussion of whether people have an incentive to work more instead of less, even when income rises. 'It is evident that questions of this kind depend greatly upon the character of the race.[...] A man of lower race, a negro for instance, enjoys possession less, and loathes labour more; his exertions, therefore, soon stop.[...] The rich man in modern society is supplied apparently with all he can desire, and yet he often labours unceasingly for more.' (1871, 182-3) See also White (1994) on racism in Jevons 1871).
postulated social and economic progress in terms of an opposition of interests between the classes, while aiming at a socialist paradise. Engels and Bebel acknowledged the oppression of women and considered it to be linked to bourgeois and capitalist society. The oppression of women would cease to exist once socialism dawned upon the world.

Jevons' makes use of Darwin's theory mainly through the work of Herbert Spencer (White 1994, 74). Sandra Peart indicates that 'Jevons' faith in improvement was limited by Darwinian evolutionary constraints.' (Peart 1996, 156) In this context, Jevons develops a new approach to economics in which alongside God, nature, man, land, labor and science, the notion of 'capital' receives attention as a relatively independent entity in the economy. Jevons uses the term 'capital' differently from Adam Smith, who conceived of capital as 'stock', and redefines it as 'the aggregate of those commodities which are required for sustaining labourers of any kind or class engaged in work' (1871, 223, emphasis as in the original). In Jevons (1874) 'Nature' is related to 'Science' as its object of investigation. In Jevons' economics, 'Nature' has become 'Land', which together with 'Capital' is posited as opposed to 'Labor' (see quote B in Appendix III at the end of this section). Capital thus takes over the role that nature played in Smith's work: that of the entity that generates, educates, and takes care of the provisioning and reproduction of the population. Notice that capital is here referred to in gender-neutral terms, as an 'it'.

Where it concerns the definition of value, Jevons states that 'value depends solely on the final degree of utility' (165). He thus shifts the focus from the analysis of the process of production and distribution to that of exchange and consumption. As we will see, the definition of utility, of labor and also of consumption are conceptualized on the basis of the behavior and features of male individuals.

References to established concepts
Socially and politically, economic concepts had been accepted and were used also and acted upon in society at large. Jevons makes use of established social concepts, such as class and race, women's work and men's work. He made less use of concepts such as public/private, which can be explained by the fact that he was mainly addressing an audience of economists, and thus used the terms that referred to 'scientific entities' such as force and utility.

References to gender structure
Jevons' perception of the behavior of ordinary men is radically different from his perception of scientific man. When Jevons applies the 'Laws of Identity and Difference' to men as an object of study, he characterizes the mind as merely a reflection of material circumstances. Men are here considered as mere creatures of cause and effect:

'Men possess animal powers & functions; they have logical minds; they have a series of emotions; and they are placed in contact with definite but extremely variable external circumstances. A perfect consideration of all these data, in fact of all the causes in operation must result in a determination of all effects;' (1859 [1972], 362)

If we relate this quote to contemporary regulations and practice in respect of marriage, work and wages, the gendered character of the text becomes apparent.
In Jevons’ days gender differences were considerable and they were perceived as important: gender was an important structuring principle in society (Simonton 1998). Work as well as wages were segregated along gender lines (e.g. it was normal to speak of men’s and women’s wages, see Pujol 1992) and the gendered distinction between the public and private had become part of daily reality for English people.

During the first few decades of the nineteenth century legal arrangements such as marriage and divorce legislation and wage laws deteriorated from women's perspective. The doctrine of coverture - the law that posited husband and wife as one, that one being the husband (Lewis 1984, 119) - was then still being practiced. However, though women were still subordinate to husbands, fathers or other male family members, their situation improved slowly during the second half of the century. When Jevons came back to England, changes were going on: the Married Women's Property Act of 1870 and of 1882 gave women title to property that they acquired through inheritance and gift (Dyhouse 1989, 56-7). It took until 1935 for married women to attain the same rights to property as unmarried women (Holcombe 1983, 224).

In England a considerable number of women, including lower-class married women, worked for pay. Pott-Buter (1993) gives a percentage of female labor force participation varying from 25-30% in the period 1850-1890 in the United Kingdom. According to Martineau (1859) two million out of six million working women over the age of twenty were around 1851 able to earn enough money to be economically independent. There were changes in women's education: in the 1870s women started to enter higher education (Pott-Buter 1993). Institutions for higher education and universities remained nevertheless almost exclusively male institutions until the end of the nineteenth century and continued to be so until deep into the twentieth century.

The industrialization and mechanization of labor in nineteenth century England was accompanied by a renewed process of sex segregation in the labor force. This time it concerned not so much the division between work outside and inside the house as we saw occurring in the seventeenth and eighteenth century, but rather the division in men and women's work in the public sphere. The segregation according to sex at work reinforced the hierarchical submission of women to men at home (see also Clark 1919). 'Women's lives at work were controlled by their lives at home, and their position in the factory reinforced their position in the family. Women's domestic roles and their paid employment defined and supported one another.' (Osterud 1986, 46) In her book on Gender and the Politics of History, Joan Scott indicates that in most trades, sex, age and skill were important in the allocation of

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172 As one of the leaders in movement for changes in the divorce laws in favor of women, Caroline Sheridan Norton, wrote: 'As her husband, he has the right to all that is hers: as his wife, she has no right to anything that is his. As her husband, he may divorce her (if truth or false swearing can do it): as his wife, the utmost "divorce" she could obtain, is permission to reside alone, - married to his name. The marriage ceremony is a civil bond for him, - and an indissoluble sacrament for her; and the rights of mutual property which that ceremony is ignorantly supposed to confer, are made absolute for him, and null for her.' (1855, 259-260, emphasis as in the original).


174 In Great Britain, without Ireland, there were in 1851 six millions of women above twenty years of age. More than half of these work for their living. [...] two millions of women, out of the six millions, are independent in their industry - are self supporting, like men.' (Martineau 1859, 225)

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work. Gender however, also appeared to be important in the constitution of jobs, trades and the division in specialized and unskilled work (Scott 1988, 112). By now a lot of research has been done on how in various trades, also in relation to increasing mechanization, the assignment of specialized or unskilled work was to a significant extent gender based.

This process of segregation at work was also reflected in changes in the social meaning and patterns of women and men's work. It influenced what was socially considered as 'productive' and thereby also determined to a considerable extent a person's identity. While men's work was recognized as productive, women's work was not always accepted as such. This contributed to the exclusion of women from the organized labor movements and of women's work from the statistics (Olafson Hellerstein, Hume & Offen 1981, 273; Folbre 1991).

When we turn to Jevons' text and read this against the background of the sex-segregated social context, the conclusion must be that it is the lower class and English male laborer whom Jevons conceptualizes. This agent is described as a person who reacts passively to outside objects. Making use of the distinction between mind and feeling, and in line with the aim of making science gain control over nature, Jevons turns to measuring feelings. According to Jevons, feelings contained regularities and obeyed natural laws. In his theory he applies Jeremy Bentham's calculus of pleasure and pain, 'the ultimate objects of the Calculus of Economics' (37).

Jevons was aware of the segregation in men and women's work and wage differences based on sex. In this context he focuses on measuring the movements and effort linked to lifting and carrying as performed by lower-class men (see e.g. Pujol 1992, Martineau 1859, Webb Potter 1919). Thus he takes gender distinctions such as the distinction in a men's realm (the public) and a women's realm (the private) as given, and he constructs an opposition between the scientist (as a free and floating mind) and the male laborer (as passive) and between men's work and women's work. In doing this, he applies a masculine perspective within the sex-segregated structure of society that leads to the exclusion of both upper and lower class-women's work and experience from his theorizing on economics. Jevons' use of a masculine perspective is especially clear where he discusses household work at the end of his TPE.

175 Felicity Hunt (1986) gives an account of the gender relations in the bookbinding and printing trades in nineteenth century London. She indicates how the mechanization of the printing process and the segregation of work took place. 'The status of women in each sector and their foothold in the trades were quite different at the beginning of the period. The attitudes of male workers towards them were similar though there were distinct differences in the two sectors [bookbinding and printing]. But by the end of the century the women held very similar positions throughout the trades as they were restricted to well-defined categories of 'women's work', which lacked both skilled status and adequate wages.' (Hunt 1986, 88)


177 Jevons was fully aware of women's limitations on the labor market. In one of his letters to his sister Henrietta he states that '[a] women's field of action and her available means are considerably less than those of a man, but she has no reason to complain & remain idle, so long as the field is really so little occupied & still so wide, and while all her disadvantages are fully recognized & allowed for.' (1859, reprinted in Jevons [1972] 360-361)
Jevons conceives of private houses and household work as capital. He makes an issue of the conceptualization of capital at the end of his book. Here he discusses the role of household work as free capital. Free capital consists of all kinds of food, clothing, furniture, etc. which a community requires for its ordinary sustenance. Jevons goes to great lengths to argue the point that goods, especially the content of common houses in the hands of consumers (household goods), have to be regarded as capital. Jevons states that the rate of interest for free capital will tend to uniformity (244).

In this discussion on the household as capital, Jevons refers to the household or housekeeping as either rented (such as rented clothes or a room for a month), bought and done by servants or done by the man himself. Instead of discussing a more or less average household, he describes the case of a man living in a hotel. This leads him to decide that:

'Whenever one person provides the articles and another uses them and pays rent, there is capital. Surely then, if the same person uses them and owns them, the nature of things is not fundamentally different. There is no need for a money payment to pass; but every person who keeps accurate accounts should debit those accounts with an annual charge for interest and depreciation on what he has invested in house and furniture.' (263)

So far, this passage would fit well with statements by feminist economists such as Gustafsson (1990) and Bruyn-Hundt (1996b) on the subject, except that Jevons does not have in mind the work of women in the household, as he goes on to say:

'Housekeeping is an occupation involving wages, capital and interest, like any other business, except that the owner consumes the whole result.' (263)

Jevons reduces here household labor to either work that the man does to take care of himself or to the goods in the household: the sunk costs of labor that enable the worker to obtain future goods. The work in the household that includes the work of caring for the husband (and the wife), for children, sick and elderly people – the work assigned to the wife - thus still lacks conceptualization. While labor is defined by 'any painful exertion of mind or body undergone partly or wholly with a view to future good' (168, emphasis as in the original), caring tasks are by Jevons conceived as part of the moral (i.e. non-economic) realm.

178 'Now if we allow to what is invested in hotels, hired furnished houses, lodgings, and the like, the nature of capital, I do not see how we can refuse it to common houses. We should thus be led into all kinds of absurdities.' (263)

179 Bruyn-Hundt (1996a) and others conceptualize household work as 'those unpaid activities which are carried on by and for the members of the household, which activities might be replaced by market goods or paid services, if circumstances such as income, market conditions, and personal inclinations permit the service being delegated to someone outside the household group.' (Reid 1934, quoted by Bruyn-Hundt 1996a, 24-5).

180 Without having explained what his conceptualization of household goods might add to the analysis, he ends this chapter with a range of rhetorical questions. 'If it were the practice of every housekeeper to buy up corn in the autumn and keep it in a private granary, would it not serve in exactly the same way to subsist the population? Would not everything go on exactly the same, except that every one would be his own capitalist in regard to corn in place of paying farmers and corn merchants for doing
Jevons excludes moral considerations from his economics; in his definition of the subject of economics, he also characterizes moral considerations as of secondary importance and relevance. These features are associated with inter-human relations and the family, and are as such opposed to human-goods relations. Both are considered as part of the women's domain, to which Victorian women (especially upper-class women) were, often literally, confined. But then we are already addressing Jevons' references to gender identity, the topic of the subsequent section.

References to gender identity

When we turn to the social perception of gender identity in Jevons' time, we see that the differences between men and women are not only reinforced by the segregation of work; the organization of labor is also a reflection of perceived differences between the sexes. Perceived as being closer to Nature, women were seen as radically different from men, more determined by their bodies (nervous system and uterus) and therefore less capable of rational behavior. The relations between the sexes were strictly regulated for the upper classes in Victorian England; for instance, boys and girls grew up separately.

The increase in wage labor and the focus on paid work in the second half of the nineteenth century meant different things for women and for men. A substantial difference between women's wages and men's wages was justified by the idea that upper-class women and men were profoundly different and that they worked for different reasons. If women and men worked together, this was seen as leading to bad morals. Although sexuality was officially confined to marriage, prostitution was a widely spread phenomenon (especially in London).

Men's identities were increasingly determined by their wage-earnership and women's female identity by motherhood. Women's social status remained one of dependence on men, fathers, brothers and husbands, who were believed to act in their best interests. By the time Jevons wrote his theories, women's status as 'mistress of the house' and their full dependence on men had existed long enough to have become naturalized. Upper-class women's weak social and physical position could thus, without many objections being raised, be regarded as part of 'women's nature'.

Jevons came from the upper-middle class and he had known times of severe financial hardship. Though not of aristocratic birth, he considered himself an English gentleman, which may be read in the broad sense of not belonging to the lower/working classes. Class issues can be expected to play a role here, though I do not intend to pursue this any further for the present. Though a part of English academic society, Jevons remained an outsider. John Maynard Keynes describes him as a rather introverted, not very sociable person, 'though a genius' (Keynes 1933), others like Michael White disagree with this image of the isolated

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181 Prostitution was commonly referred to as a problem relating to women, whereas men's contribution to this phenomenon, which was also an economic issue, was generally neglected or denied. Cadbury, Matheson & Shann in their report on Women's Work and Wages, A Phase of Life in an Industrial City (1906) condemned women's economic dependence for its major ethical and social consequences, pushing women into early marriages or into prostitution, and pointed to the hypocrisy surrounding prostitution (Pujol 1992, 69-70).

individual Jevons, and consider him as a person who was fairly well integrated in Australian
society.\textsuperscript{183} From his Australian letters, it appears that Jevons considered socializing and
seeking the company of one's fellow human beings as the opposite of doing what is important
in life. He looked down on social life, and instead considered his studies as a means to power,
not so much for himself, but as a way to be 'powerfully good' to the world.\textsuperscript{184} Jevons knew
about women's social and political limitations and the role ascribed to them, he even got
involved in political discussions on working women (see Jevons 1883).\textsuperscript{185}

Jevons deals in his TPE with 'man' as in first instance an isolated creature.\textsuperscript{186} Like
Adam Smith, Jevons believes it impossible to know another person's feelings, though he does
not consider imaginative sympathy or other kinds of social considerations relevant. While
Smith writes about experiences and passions, Jevons refers to the 'mind' (of the scholar):

\textit{'Every mind is thus inscrutable to every other mind, and no common
denominator of feeling seems to be possible.'} (14)

This 'mind' turns away from other persons, who represent chaos for him. Reading the TPE in
this context, we see that Jevons conceptualizes 'man' (the worker) as a person with a tension
between higher moral feelings on the one side, and self-centered, simple desires on the
other.\textsuperscript{187} Where Smith in his \textit{Theory of Moral Sentiments} perceives personal feelings (of the
gentlemen) as disrupting the tranquility achieved by self-command. Jevons turns away from
the tension between the higher moral feelings and the lower feelings and turns to describing
and measuring the feelings of the worker by focusing on the conceptualization and control of
the lower feelings (see also Jevons 1859, 362). He turns to the weighing and calculating of
simple pleasures and pains.

He distinguishes grades in the feelings a man is capable of and states that every man
acts while balancing pleasure and pain.

\textit{'Starting with the lower stage - it is a man's duty, as it is his natural
inclination, to earn sufficient food and whatever else may best satisfy his

\textsuperscript{183} Personal conversation with White, 10-10-2000.
\textsuperscript{184} 'I know it is said that "knowledge is power" and I think the faculty of producing or discovering
knowledge must be power of a higher degree, but I am quite aware that in the sense in which I desire
power, other qualities may be desirable if not necessary. One of these is personal power the
employment of manners language, persuasion to accomplish an end, and of these I am quite sure I
possess Nil.' (1857 [1972], 308)
\textsuperscript{185} In one of his letters to his sister Henrietta, he writes 'A woman's field of action and her available
means are considerably less than those of a man, but she has no reason to complain & remain idle, so
long as the field is really so little occupied & still so wide, and while all her disadvantages are fully
recognized & allowed for.' (1859 [1972], 360-361)
\textsuperscript{186} 'Each person is to other persons a portion of the outward world - the non-ego as the metaphysicians
call it.' (14, emphasis as in the original)
\textsuperscript{187} 'He is always subject to mere physical pleasure or pain, necessarily arising from his bodily wants
and susceptibilities. He is capable also of mental and moral feelings of several degrees of elevation. A
higher motive may rightly overbalance all considerations belonging even to the next lower range of
feelings; but so long as the higher motive does not intervene, it is surely both desirable and right that
the lower motives should be balanced against each other.' (25)
proper and moderate desires. If the claims of a family or of friends fall upon him, it may become desirable that he should deny his own desires and even his physical needs their full customary gratification. But the claims of a family are only a step to a higher grade of duties. '(25)

Jevons here posits moral considerations related to other people, such as friends and family, as claims, and in terms of duty. Notices that Jevons himself, again unlike Smith in his treatise on morality, is fully absent from his account. These statements concern in the first place objectified others. Considerations relating to family and other social relations are conceptualized as opposed to man's own desires and pleasures, instead of as part of them. The desires, pains and pleasures involved in relations with other people (women and men) are excluded from Jevons' economic analysis. It is the basic wants and needs of the husband/provider, and the measurement and explanation of his behavior that economic science is directed to and that are considered subject to logical laws.

'The calculus of utility aims at supplying the ordinary wants of man at the least cost of labour. Each labourer, in the absence of other motives, is supposed to devote his energy to the accumulation of wealth.' (27)

Jevons cannot explain caring for other people, especially for small children, in rational economic terms. These aspects of human behavior are thus considered in terms of duties that have to be performed. It is not that Jevons considers this work socially and economically unimportant. If women do not act according to what Jevons considers women's 'duty and natural inclination', these caring tasks - especially the care of small children - should be forced upon women by political means.188 Men on the other hand, 'are supposed to devote their energy to the accumulation of wealth'.

6.2.5 The impact on economic reasoning

Jevons' move to restate economic science in logical and mathematical terms, his stress on the scientific nature and apolitical and value-neutral character of economic science have contributed considerably to the acceptance of his work by economists (see Maas 1997). My interest is here not in the acceptance of his work but in the impact of his use of gender on his economic notions. I address therefore some aspects that reveal this impact, leaving the elaboration of these aspects to others or till later. I shall confine myself here to making some remarks on Jevons' definition of the subject of economics, the conceptualization of economic behavior and agency, his aim of an economic theory of everything, and his exclusion of population issues from the core of economic theorizing.

Concerning Jevons conceptualization of economic behavior and agency at micro-level, we saw earlier that Jevons applies the 'Laws of Thought' to the male laborer. Although Jevons stresses in various instances the differences between people, in his chapter on labor he also develops mathematical expressions to describe the distribution of labor in a nation, at macro-level (183). Jevons seems to use here his construction of 'men's behavior' to provide

188 In Methods of Social Reform (1883) Jevons advocates a legal prohibition on work for women with children younger than three years old (see also Keynes 1933, 111).
not only a logical basis for these relations at national level, but also the theoretical content of these formulae; it is the aggregate of 'men's behavior' which is described here. The behavior and features ascribed to women are not conceptualized, as these are regarded as part of another realm.

After the reduction of emotions to either pleasure or pain, Jevons posits economic science as based on dualist logic and as aiming at the maximization of pleasure (37). The range of questions that can be asked and issues that can be pursued are thus limited. Since the social and political setting is predefined, the questions and issues become merely technical ones that deal with seemingly value-neutral issues. In addition, Jevons endeavors to reorganize the discipline of economics and base its various branches on a few theoretical principles, which make alternative economic theories superfluous.

'But as all the physical sciences have their basis more or less obviously in the general principles of mechanics, so all branches and divisions of economic science must be pervaded by certain general principles. It is to the investigation of such principles - to the tracing out of the mechanics of self-interest and utility, that this essay has been devoted. The establishment of such a theory is a necessary preliminary to any definite drafting of the superstructure of the aggregate science.' (Preface to the second edition, xvii-xviii)

To indicate part of the impact of Jevons' use of gender notions on his economic work I discuss the first two pages of the last chapter (Chapter VIII), containing his Concluding Remarks (see Appendix 6.1 to this chapter). In his Concluding Remarks he gives a definition of 'the problem of economics' (Appendix 6.1, quote A). He takes here a comparatively static approach as he starts from a given population and a given amount of land and capital, and then shifts his focus from production and population growth to the marginal productivity of labor. When labor is taken as fixed and, for instance, the amounts of land and/or capital are taken as variables, the outcomes can be compared. Taking the social and economic context as fixed, he starts from the available labor (population) and capital. The availability, education, organization and payment of labor are considered to be secondary problems and to be derived from the results produced in the core economic analysis. Not only is the distribution of production factors no longer seen as requiring an explanation, the issue of the reproduction of the population is thus excluded from the analysis (see quote B). The fact that he does not acknowledge that the reproduction of the population requires more than enabling male laborers to recuperate renders his theory a short-term analysis (see also Picchio 1992).

Some concluding remarks
Jevons has been shown to apply a biological concept of gender. His use of a masculine perspective is fairly marked, in the sense that he focuses only on men, their work and behavior. He even goes so far as to describe 'women's work' from a masculine perspective. When we consider his use of gender and his references to gender symbols, structures and perception of identity, it has been shown that he applies in various instances and ways a masculine perspective from which he articulates and develops his economic theories. He affirms gender symbols of his time, such as the evolutionary notions about man, science and
nature, which he applies in his endeavor to provide political economy with a scientific basis. He focuses on the work of working-class men and regards economic agents as isolated persons who relate to goods only and whose primary aim is the accumulation of wealth. Care for other persons is largely seen as a burden. Economists on the other hand, are perceived as free floating minds, who are able to discover the general principles of economics.

Jevons' references to gender symbols, structure and identity and his use of standardized gendered notions seem to reinforce one another. He believed in the progress of mankind, focused on the economic behavior of men and saw this behavior as led by external forces and by an internal weighing up of pleasure and pain, while family life and friendship were perceived as moral claims. Jevons' specific references to the scientific character of economics meant not only that he addressed his - mostly male - colleagues in the economic discipline, but were also a restatement of the masculine character of economic science. As he redefined the dualist and hierarchical relation between man and nature as the basis of economic science, those aspects of relations and of reality that were associated with or considered as 'feminine' became excluded twice: first at the methodological level and again at the level of the conceptualization of the economic agent and his behavior. 189

As a final remark I would mention here Jevons' endeavor to reduce economic science to a few general principles. This aim can be compared to what in physics is referred to as the search for a theory of everything. In accordance with his perception of the hard [exact] sciences and his ideas about the hierarchical organization of the economic discipline, this economic science should be based on one theoretical approach. Besides the implicit gender meaning in Jevons' logic, his perception of discovering identity amidst difference as the essential feature of scientific knowledge, has considerable implications for the conceptualization of women's characteristics and behavior in an economic science which is historically based on the experience of 'Man'. 190 Women's characteristics and behavior, where they differ from those of men (as well as men's characteristics and behavior when they differ from the standardized perception of behavior of the economic agent) are thus prevented from being conceptualized.

189 Later this will be reasserted and affirmed at a third level: the production of data. Jevons saw the production and gathering of data as an important means to make economics an exact science. However, during the constitution of statistical bureaus the work of women in the household was also excluded from the statistical accounts (Folbre 1991).

190 'So far as object is different from object, knowledge is useless and inference impossible'. (1874, 3)
APPENDIX 6.1: WILLIAM S. JEVONS (1871, 266-267):

CHAPTER VIII
CONCLUDING REMARKS

The Doctrine of Population

It is no part of my purpose in this work to attempt to trace out, with any approach to completeness, the results of the theory given in the preceding chapters. When the views of the nature of Value, and the general method of treating the subject by the application of the fluxional calculus, have received some recognition and acceptance, it will be time to think of results. I shall therefore only occupy a few more pages in pointing out the branches of economic doctrine which have been passed over, and in indicating their connection with the theory.

The doctrine of population has been conspicuously absent, not because I doubt in the least its truth and vast importance, but because it forms no part of the direct problem of Economics. I do not remember to have seen it remarked that it is an inversion of the problem to treat labour as a varying quantity, when we originally start with labour as the first element of production, and aim at the most economical employment of that labour. The problem of Economics may, as it seems to me, be stated thus: — Given, a certain population, with various needs and powers of production, in possession of certain lands and other sources of material: required, the mode of employing their labour which will maximise the utility of the produce. It is what mathematicians would call a change of the variable, afterwords to treat that labour as variable which was originally a fixed quantity. It really amounts to altering the conditions of the problem so as to create at each change a new problem. The same results, however, would generally be obtained by supposing the other conditions to vary. Given, a certain population, we may imagine the land and capital at their disposal to be greater or less, and may then trace out the results which will, in many respects, be applicable respectively to a less or greater population with the original land and capital.

Relation of Wages and Profit

There is another inversion of the problem of Economics which is generally made in works upon the subject. Although labour is the starting-point in production, and the interests of the labourer the very subject of the science, yet economists do not progress far before they suddenly turn round and treat labour as a commodity which is bought up by capitalists. Labour becomes itself the object of the laws of supply.
6.3 A text by Alfred Marshall

6.3.1 The Principles of Economics

Marshall's *Principles of Economics* (1890) (PE)\(^1\) was the major economic textbook for most economics students for several decades in England and elsewhere, which makes it interesting to see how gender is used in this text and what impact of gender on his economic theorizing can be indicated so far.

On the content of Principles of Economics (1890)

*Principles of Economics* is a large volume of about 850 pages. It consists of six books that are subdivided in chapters and 13 appendices. In this work Marshall elaborates the marginalist approach in his discussion of the economy and makes it accessible to a broader public. The first part (Book I) explains the aims, scope and purpose of economics. It states that economics deals with more than purely selfish actions and motives and discusses the nature of economic laws and the content and characteristics of economic studies. In Book II Marshall discusses certain fundamental notions, e.g. wealth, production, income and capital. Book III deals with issues of demand, utility and value. Marshall regards the forces behind demand (marginal utility) and supply (marginal effort and supply, reflected in supply prices) as determining value. Book IV continues with the agents of production. He discusses fertility and diminishing returns on land. Concerning labor, he addresses population growth, education and development of the population. Discussing the growth of wealth, capital and organization, he again pays considerable attention to education and social development. Technical progress and specialization are conceived of as part of and conditional to further economic and social growth. In Book V and VI Marshall discusses the more general relations between demand, supply, value and the distribution of the national income. A range of specific issues such as the scope and method of economics and the use of abstract reasoning in economics, are dealt with in 13 appendices.

6.3.2 The use of sex/gender distinctions and perceptions of gender

Alfred Marshall and his work have recently been the subject of considerable feminist and other analyses (see e.g. Pujol 1984, 1992; Groenewegen 1994, 1995; Raffaelli, Biagini & McWilliams Tulberg 1995). Pujol has shown the Victorian character of Marshall's view of women and his normative position concerning their social and economic role and behavior (see also Groenewegen 1995). Michèle Pujol indicates that Marshall subscribed to the Victorian bourgeois ideology that propagated the sexual division of labor. He considered women to be in need of protection, as housebound and devoted to the care of children. Moreover, Pujol concludes that Marshall actively contributes to the propagation of this perception of family life beyond the upper class, to the working class and the poor. She stresses that women in Marshall's PE are not considered as economic agents, but rather as parameters taken into account by the decisions of economic agents (Pujol 1992, 138-9).

When we take a close look at the text of the *Principles of Economics* from a feminist perspective, reading it as women, we notice that Marshall too makes ample use of the terms

\(^1\) I use here a reprint [1930] of the 8th edition (1920) published by MacMillan & co, London. References in this section are to this edition only, unless otherwise indicated.
'Man', 'men' and 'man'. Instead of being generic and including women in his economic considerations, he refers to men, as for instance, where he stresses the positive character of his economic analysis:

In all this they [economists, EK] deal with man as he is: not with abstract or "economic" man; but a man of flesh and blood.' (26-27) --

The description of man by Marshall is similar to that of Jevons in the sense that relations with other people are conceptualized in terms of sacrifice, in opposition to man’s business life, even in those instances where he claimed they were included in the economic analysis. In general however, the conceptualization of man is less narrow than in Jevons (1871).

They deal with a man who is largely influenced by egoistic motives in his business life to a great extent with reference to them; but who is also neither above vanity and recklessness, nor below delight in doing his work well for its own sake, or in sacrificing himself for the good of his family, his neighbors, or his country; a man who is not below the love of a virtuous life for its own sake.' (27)

Much further on in his treatise, Marshall articulates – and rather differently from these 'positive' perceptions of men - normative views concerning the place, duties and character of women. Where Marshall refers to women, these remarks in most cases go with statements on women's proper place and behavior in society. As Pujol indicates, Marshall pictures women as complements to men: as their daughters, wives, their caregivers, who are nevertheless less productive and rational than men (Pujol 1995). Marshall however, does mention women in relation to economic issues.

The relation between women and men that comes to the fore in the PE is mainly of an economic nature. The husband is the provider and the wife is dependent on her husband and her main economic contribution is to the personal capital of the children, especially the son (see also Pujol 1992). In Marshall's view a highly developed civilization was to be accompanied by a social organization which enabled the wife to stay at home and devote herself entirely to supporting her husband and raising children.

If human nature could be thus ideally transformed, economic chivalry would dominate life even under the existing institutions of private property.' (721)

Although Marshall claims that bodily and mental health and strength are much influenced by occupation (198), he does not consider women's character or 'the weakness of mothers of children' (751) to be caused by their economic position, but to be a biological matter:

See e.g. Marshall (1890: 69, 198, 682, 694, 751).

Economic chivalry was the term used for the husband taking care of his wife financially, in other words, the economic dependence of the wife on the husband.

This in opposition to those features ascribed to the poor, which Marshall opposes by criticizing
'of that capital the most precious part is the result of the care and influence of the mother, so long as she retains her tender and unselfish instincts, and has not been hardened by the strain and stress of unfeminine work.' (564)

It seems, however, that these natural features ascribed to women can be affected by the work they do.

Marshall is aware of the tendency among economists to make inferences based on shared experience of the group they belong to.\textsuperscript{195} He still uses 'we' in those cases in which he refers to experiences shared with other men, as in his discussion of the health and strength of the population, where he claims that:

'\textit{Vigour works it self out in so many forms, that no simple measure of it is possible. But we are all of us constantly estimating vigour, and thinking of one person as having more "backbone", more "stuff in him", or as being "a stronger man" than another.}' (194)

Taking men as the starting point of his analysis, Marshall applies, like Jevons, a masculine perspective in elaborating his arguments.

\textbf{6.3.3 Intertextuality of Marshall's text}

Before we turn to the references made in the text to notions of gender current in the academic context, let me address Marshall's academic position.

\textit{Marshall's academic position}

Marshall encountered a work environment that was very different from the one Jevons had experienced. While Jevons formulated and developed his basic ideas in Australia, and coming from the outside cast new concepts before the circle of British economists, Marshall was formed at Cambridge University and took all the time he considered necessary (and perhaps even more than that) to articulate his ideas. Or as Keynes says: 'Jevons saw the kettle boil and cried out with the delighted voice of a child; Marshall too had seen the kettle boil and sat down silently to build an engine.' (Keynes 1925, 23)

Marshall attended a London public school with the intention of going to Oxford and becoming a clergyman (Groenewegen 1995, 6). Financial support from an uncle enabled him to follow his own interests and to go to St. John's College in Cambridge, where he took a mathematics Tripos. After he finished his studies in 1865 he was appointed as a Fellow at economists, whose ' [...] fault was that they did not see how liable to change are the habits and institutions of industry. In particular they did not see that the poverty of the poor is the chief cause of that weakness and inefficiency which are the causes of their poverty: they had not the faith that modern economists have in the possibility of a vast improvement in the condition of the working classes.' (763)

\textsuperscript{195} 'For the sake of simplicity of argument, Ricardo and his followers often spoke as though they regarded man as a constant quantity, and they never gave themselves enough trouble to study his variations. The people whom they knew most intimately were city men; and they sometimes expressed themselves so carelessly as almost to imply that other Englishmen were very much like those whom they knew in the city.' (762)
Bristol where he became a relief teacher. Three years later he obtained a position as lecturer in moral sciences at St. John's College in Cambridge (Groenewegen 1995; Keynes 1925).

Teaching moral sciences from 1870-1875, he increasingly focused on economics and wrote his first publications, among them a review of Jevons' *Theory of Political Economy*. In 1875 he visited the United States, which stimulated him in his work on foreign trade and money matters.

When Alfred Marshall met Mary Paley she was working on a book entitled *Economics of Industry*. Marshall worked with her on its completion. The first edition was published in 1881 under both their names. But Marshall was negative about it. Marshall suppressed the sale of what John Maynard Keynes described as 'an extremely good book'. Alfred married Mary Paley in 1877. He had to resign as a Fellow from Cambridge University, after which both took up posts at Bristol University, he as Foundation Principal and Mary Paley as Professor of Political Economy. In 1879 they completed the *Elements of Economics of Industry*.

His *Principles of Economics*, published in 1890, had tremendous impact and not only on his colleagues. In his subsequent academic career, Marshall not only worked on revisions of the Principles and the rewriting of *Economics of Industry*. He also did much work for the government in commissions such the one on labor (1891-1894), and local taxation (1899), and for the Treasury on *The Fiscal Policy of International Trade*. Marshall took part in three main reform movements, the forming of the British Economic Association or what was to become the Royal Economic Society, the movement for the improvement of women's education and his work on the foundation of the Cambridge School of Economics.

Keynes characterizes Marshall as 'the first great economist pur sang that there ever was; the first who devoted his life to building up the subject as a separate science, standing on its own foundations, with as high standards of scientific accuracy as the physical or the biological sciences.' (Keynes 1925, 56-57) Marshall remained at Cambridge until 1907, when he resigned in order to devote himself solely to writing. *Industry and Trade* appeared in 1919 and in 1923 *Money, Credit and Commerce*, which is largely made up of extracts from other works (Groenewegen 1995).

Though Marshall claimed to have discovered his own version of marginalist theory, he encountered as a young economist a well-established economic academic tradition and was able to make use of the pioneering work of first generation neoclassical economists. He was thus able to work with the basics of the new theory as elaborated by Jevons, and others. What use did Marshall make of conceptualizations of gender embedded in the tradition of economic science? How does he refer to traceable texts, make use of genre conventions and refer to accepted notions and untraceable texts to articulate his views and arguments?

196 'I know that my father always felt that there was something ungenerous in Marshall's distaste for this book, which was originally hers, but was allowed to go out of print when there was still a strong demand for it. The book which replaced it in 1892, under a similar title and over his sole name, was of a quite different character, being mainly an abridgement of the Principles.' (Keynes 1933, 239)
CHAPTER 6: A GENDER READING OF TEXTS BY JEVONS AND MARSHALL

References to traceable texts

In his PE Marshall makes many references to the literature in economics and other fields of study, for instance to Adam Smith and Charles Darwin. One of the scholars Marshall also makes use of, like Jevons, is Herbert Spencer, an important social philosopher in his day. Spencer described, like many others of this period, the nuclear monogamous family of the Victorian bourgeoisie 'the high point of "efficiency" in social organization. Indeed, this very exemption of women from economic activity was used as an index of the progress made by societies moving away from "savagery" to "civilization".' (Dyhouse 1989, 68)

Marshall found the topic of social development increasingly interesting and important from the 1880s onwards. 'These beliefs owed even more to evolution's more fashionable offshoots from the late 1880s and beyond, especially its manifestations in Galtonian eugenics and social Darwinism'. (Groenewegen 1994b, 102). This meant that Marshall came to be depicted as a scientist who impartially observed and reflected his contemporaries and attitudes, and who modified his findings by the latest lessons of science (Groenewegen 1995).

One of the authors Marshall refers to is Harriet Martineau (1802-1876), an economist who popularized political economy in numerous publications on a wide range of topics. Her opinions differed from those of Marshall on the point of economic chivalry, which she rejected. Although Marshall refers to her fairly positively in the first editions of his Principles of Economics, as the years (and editions) go by, the references to Martineau become more and more negative. Marshall's rather vicious remark on her work in the 8th edition does not deal with content but is an argument ad hominem, which he apparently considers enough to settle the debate with her.198

The use of genre

The genre Marshall makes use of is that of an extensive treatise covering an entire scientific field, which fits the genre of scientific writing of the time. Marshall's treatise is in many instances a complex mix of both positive and normative statements. Marshall intended to give an objective description of how things are or of 'man as he really is' and at the same time he had his own agenda on the equality of gentlemen and lower class men and the position of women as caregivers. He ascribes to women a position and characteristics they did not 'really' have. Moreover, as Groenewegen indicates, he ignores the evidence the Marshall's gathered on the value of women workers, which 'reveals that Marshall was prone to a certain selectiveness in his use of evidence, and a tendency to reject factual material not congenial to him.' (Groenewegen 1994b, 93)

Unlike Jevons, Marshall wrote for a broader public than just economists. He wanted his ideas to be heard in economics, by students and colleagues, and beyond, especially by

197 Marshall became a foundation life member of the Cambridge Eugenics Society (Groenewegen 1994b, 101).
198 'Miss Martineau gave some colour to these statements by her vehement writings against the Factory Acts: [...] But Miss Martineau was not an economist in the proper sense of the word: she confessed that she never read more than one chapter of an economic book at a time before writing a story to illustrate economic principles, for fear the pressure on her mind should be too great: and before her death she expressed a just doubt whether the principles of economics (as understood by her) had any validity.' (763)
'men of affairs'. He refrained from using mathematics - his favorite topic - and relegated his contributions in this direction to footnotes and appendices 'from fear of frightening "business men" away from reading his book.' (Keynes 1925, 26) That he went fairly far in making compromises in this respect becomes clear from the remark he made later in life. When asked what he would do if he could live his life over again, he replied that he would turn to psychology: 'Economics has too little to do with ideals. If I said much about them I should not be read by businessmen.' (Keynes 1925, 37).

In Marshall's days it was the genre of 'telling stories' in particularly that was open to women as a means of communicating their views and knowledge to a broader public. Writing a treatise such as the Principles required years of concentrated study and writing that required a supportive social environment, time and financial means. The first two of these three were in Marshall's case provided by his wife, Mary Paley. Over the years Marshall came to the conclusion that economic science cannot be constructed at the level of a novice. The insights of economics are simply not to be conveyed in simple statements and in easy textbooks.  

References to culture texts

Addressing Marshall's use of untraceable texts or 'culture texts', containing explicit or implicit notions of gender, one has to bear in mind that Marshall was able to make use of an extensive and socially well accepted body of scientific concepts. He was able to make use of and refer to established scientific institutions, such as universities, societies, journals, to modern notions of 'Man', science and nature and to elaborated fields of science such as physics and biology. This constellation of institutions and concepts enabled him to suggest the use of the term 'normal' instead of 'natural'.

> 'When we are considering the facts of the world, as they are, and not as they ought to be, we shall have to regard as "normal" to the circumstances in view, much action which we should use our utmost efforts to stop.' (35)

Basic notions about science, knowledge and economic theory had become standardized. Although these notions still carried their specific gendered meaning, these meanings became implicit while the concepts were accepted as facts and as 'part of reality'.

During Marshall's lifetime, partly also through his exertions, neoclassical economics - though the term did not exist in those days - became established as a scientific program. Marshall, unlike Jevons, placed himself explicitly in the tradition of his predecessors:

> '... we must keep constantly in mind the history of the terms which we use. [...] we should yet be bound to keep our use of terms as much as possible in harmony with the traditions of the past; in order that we might be quick to perceive the indirect hints and the subtle and subdued warnings, which the experiences of our ancestors offer for our instruction.' (51)

199 According to Keynes, it was Marshall who finally saw to it that 'never again will a Mrs Trimmer, a Mrs Marcet, or a Miss Martineau earn a goodly reputation by throwing economic principles into the form of a catechism or of simple tales, by aid of which any intelligent governess might make clear to the children nestling around her where lies economic truth', Marshall, 1897 Quarterly Journal of Economics, quoted by Keynes 1925, 57).
Instead of fighting the economic establishment as Jevons saw himself forced to do, Marshall - who was able to stand on the newly gained (neoclassical) ground - uses the economic establishment to back up his work and spread his perception of economics. He discusses at some length changing economic terms: how on the one hand one should value the tradition and on the other, that economists should use, in opposition to natural scientists, 'language that is intelligible to the general public'. Apparently Marshall was very much aware of what we call here the intertextuality and contextuality of economic concepts and language.

It is interesting to see what implicit notions of gender Marshall inherits by keeping the use of terms as much as possible with the traditions of the past, as he suggests. It appears that in many cases he builds on established concepts of his predecessors that in some cases are almost literary. Like Jevons and many of his contemporaries, Marshall makes use of the established symbolism on the relationship between man and nature.

'It is interesting to see what implicit notions of gender Marshall inherits by keeping the use of terms as much as possible with the traditions of the past, as he suggests. It appears that in many cases he builds on established concepts of his predecessors that in some cases are almost literary. Like Jevons and many of his contemporaries, Marshall makes use of the established symbolism on the relationship between man and nature.

'If the character and powers of nature and of man be given, the growth of wealth and knowledge and organization follow from them as effect from cause.' (139)

We hear a faint echo of the labor/father and the land/mother metaphor used by Petty, when Marshall states that:

'By Land is meant the material and the forces which Nature gives freely for man's aid, in land and water, in air and light and heat. By Labour is meant the economic work of man, whether with the hand or the head.' (138)

Marshall links this established scientific view of the relationship between man and nature to economic and social growth. Knowledge then becomes to Marshall a means for man to control and subdue nature, in order to make sure that his wants are satisfied.

'By Capital is meant all stored-up provision for the production of material goods, and for the attainment of those benefits which are commonly reckoned as part of income. [...] Knowledge is our most powerful engine of production; it enables us to subdue Nature and force her to satisfy our wants.' (138, emphasis added)

Marshall explains the relationship between man and nature by means of a machine metaphor and by a sexual/rape metaphor. Though nature is at first man's assistant, and gives freely what she has, knowledge enables man to force nature to his will. Marshall appears to consider man

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200 'Its reasonings must be expressed in language that is intelligible to the general public; it must therefore endeavor to conform itself to the familiar terms of everyday life, and so far as possible must use them as they are commonly used.' (51)

201 'In common use, almost every word has many shades of meaning, and therefore needs to be interpreted by the context.' (51) But Marshall also points out that 'when the term is wanted to be used in any other sense, whether broader or narrower, the change must be indicated.' (53)
as needing to control nature to make sure that she will give 'freely'.

It is this relationship that constitutes the basis for Marshall's distinction between the three agents of production: land, labor and capital.

'In a sense, there are only two agents of production, nature and man. Capital and organization are the result of the work of man aided by nature, and directed by his power of forecasting the future and his willingness to make provision for it.' (139)

Again nature is man's helpmate, but now we see man as the head of the household who gives directions and takes care of the future: man as the provider.

6.3.4 Contextuality of Marshall's text
The perception of man discussed above may have been paramount in academia, but in English society at large many changes were going on, not least in the relations between women and men. To what extent did Marshall make use of changes in gender symbolisms, in established concepts, in gender structure and in gender identity while constructing his arguments? What was the social and economic position from which he wrote?

Marshall's social and economic position
Marshall was born in a lower-class London district in 1842, the son of a Bank of England clerk. At Oxford university he was dependent on a scholarship while studying to be a clergyman, until his uncle found out about his talented nephew and enabled him to follow the course of his choice: mathematics at Cambridge. Later on his uncle left a legacy large enough to finance his travels in the USA.

Two years after he met Mary Paley, who was teaching political economy at Newnham, a college that admitted women students, they married. Mary Paley Marshall was one of the first women to study at a university in England and the first woman to teach political economy at Cambridge. Alfred Marshall and Arthur Sidgewick set up a lodging house for the first five female graduate students at Cambridge and where their main teachers. (Marshall Paley 1947, 18)

When they married Alfred had to resign from his office. Both found jobs in Brighton, Alfred as Foundation Principle and Mary as Professor of Political Economy. In 1879 Marshall fell ill with kidney stones, from which it would take him years to recover. In order to speed his recovery, the couple went to Italy in 1881 for about a year, during which Marshall started to write the core theories of his Principles of Economics.

In 1882 Cambridge University amended their statutes that stipulated that appointment as a Fellow was incompatible with the status of married man. It was not until 1885, however, that Marshall, after another year in Bristol and several years at Oxford as a lecturer in economics, returned to his beloved Cambridge. He was appointed Professor of Political Economy (Groenewegen 1995, 7). At the end of his life, Marshall's memory failed and he died in 1924, twenty years before his wife.
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References to gender symbolism
In the historical context in which Marshall's PE was written, published, and reprinted – England at the end of the nineteenth century and the early twentieth century - science was perceived as being capable of miracles. Both capitalism and modernism were on the march. However, the darker side of both also came to the fore in the form, for example, of the impoverisation of the labor force. Political and philosophical thinkers increasingly associated capitalist production with masculine values. In opposition to the hard impersonal world of business, a romantic image around 'the Family' emerged. The center of this family was the mother, who reigned in the private sphere. At the end of the century there was even something of a cult around motherhood. Marshall's statements on the importance of mothers caring for their children link up to this imagination about the family versus the economy. However, this relates somewhat ambiguously to Marshall's conceptualization of capital. Where Jevons ends his book by discussing capital and the issue of how to assess work in the household, Marshall addresses this at the very beginning of his book. He starts, so to speak, where Jevons left off, discussing the definition of capital. Marshall frankly admits the complexity of valuing and assessing the heavy household work carried out by women and other members of the household, but leaves it there. Marshall follows Jevons, who assumed reproductive work to be covered by the term 'capital'.

References to established concepts
Throughout the Principles of Economics Marshall describes the economy from the perspective of men and he makes extensive use of established social gender dichotomies such as mind/matter, public/private (see e.g. 63, 139). To come to a definition of net income, Marshall suggests to deduct from gross income 'the outgoings that belong to its production' (73) and addresses the distinction between free and floating capital. He puts the 'social' in opposition of 'the individual point of view', and goes with Jevons' definition of all commodities in the hands of consumers as capital. Marshall adds here:

'But some writers, while developing this suggestion with great ingenuity, have treated it as a great principle; and that appears to be an error in judgement. A true sense of proportion requires us not to burden our work with the incessant enumeration of details of secondary importance, of which no account is taken in customary discourse and which cannot even be described without offending against popular conventions.' (78)

202 See e.g. Scott 1988.
203 'There is however some inconsistency in omitting the heavy domestic work which is done by women and other members of the household, where no servants are kept.' (80)
204 Marshall defines as part of capital 'all things other than land, which yield income that is generally reckoned as such in common discourse; together with similar things in public ownership, such as government factories: the term Land being taken to include all free gifts of nature, such as mines, fisheries, etc., which yield income.' (78)
205 'The distinction between public and private property in knowledge and organization is of great and growing importance.' (139)
The distinction between public and private in particular is also used by Marshall to redefine the domain of economic science (standing with one foot in classical economics and the other in neoclassical economics):

'Political Economics or Economics is a study of mankind in the ordinary business of life (...). Thus it is on the one side a study of wealth; and on the other, and more important side, a part of the study of man' (1)

Marshall positions men in the public sphere. It is this realm that Marshall indicates as the field of focus for economics (and the traces of classical political economy are now removed as well).

'Economics is a study of men as they live and move and think in the ordinary business of life. But it concerns itself chiefly with those motives which affect, most powerfully and most steadily, man's conduct in the business part of his life.' (14)

References to gender structure
At the time Marshall wrote his Principles of Economics, capitalist relations had been firmly established; wage labor was the predominant form of labor and the mechanization of the production process was rapidly increasing. The contribution of women to wage labor was also increasing, especially in the lower echelons of the labor market. In response to this, a number of Acts were introduced during this century which limited women and children's access to certain occupations and working activities (e.g. the 1891 Factories and Workshops Act). Though changes had been made in marriage and divorce laws, these laws still prohibited women's their say over the income they earned during marriage.

In the late nineteenth century the women's movement, more especially the suffragettes, agitated strongly for women's right to vote, which was finally achieved in Britain in 1918. Women had gained access to higher education in the late 1870s and in subsequent decades they started to enter the economic discipline. In this process the Marshalls played a considerable role. In this period, women began to publish an increasing number of books and articles on economics (e.g. Marshall & Marshall Paley 1879, Webb Potter 1894, Perkins Gilman 1899).

In legislation on matters concerning gender relations, the situation was such that both the family wage and protective laws were linked to the Victorian view of the relations in the family. Although a large section of the female population was working for a living, women's earnings were seen as additional resources for the household rather than an income a family depended upon, which was often the case. The waged work of lower-class married women was thus not considered as the only source of income for a family but seen as causing these mothers to neglect their children and as a major cause of child mortality. The labor

206 In England it took until 1935 before married women achieved full rights over their property and legal personality (Holcombe 1983).

207 For an overview of economic publications by women in the late 19th century, see Dimand (1998).

208 This idea that women of the lower classes neglected their children because of their paid labor and that therefore their labor was an important cause of child mortality was refuted by empirical research.
movement favored a family wage, which would enable (their) women to stay at home. Feminists such as members of the Fabian Women's Group, however, were opposed to the propagation of what they called 'female parasitism'. They considered it damaging for upper-class women and threatening for those lower-class women who depended on their own earnings.

Marshall conceptualizes the behavior of the male laborer and discusses women's place in the economy. Instead of also studying women 'as they live, move and think', he addresses women largely in their supposed role as mother and in relation to men's wages and productivity (see also Pujol 1995). On the differences in wages earned by women and men, he states that:

*The wages of women are for similar reasons rising fast relatively to those of men. And this is a great gain in so far as it tends to develop their faculties; but an injury in so far as it tempts them to neglect their duty of building up a true home, and of investing their efforts in the personal capital of their children's character and abilities.* (685, emphasis added)

Like Jevons in his approach to labor and goods in the household, Marshall characterizes women's work in the household as capital. Where Jevons reduces this labor to either the commodities it produces or to activities in the moral realm, Marshall posits this labor as investment in the human capital of the next generation (of men) and as such refers to it as the most valuable of all capital.

*The most valuable of all capital is that invested in human beings; and of that capital the most precious part is the result of the care and influence of the mother.* [...]. (564)

This is a complicated statement that posits 'the most valuable of all capital' as something that is invested in human beings. Part of this capital, however, is seen as the result of the care etc. given by the mother. So the most precious part is capital (to be invested in human beings) and at the same time this precious part of capital is the result of the care and influence of the mother. However, it is not made clear what the most precious part is supposed to contain. Although 'the most valuable of all capital' would seem to deserve economists' serious attention, by this characterization Marshall obscures the wife's contribution to the family and relegates it to non-economic spheres (cf. Becker's 1981 analysis in Chapter 2).

Marshall's focus on the role of women in the household and as providers of care to the next generation made him join those who, instead of blaming poverty, blamed mothers for child mortality.

*The great mortality of infants among the poor is largely due to the want of care and judgement in preparing their food; and those who do not* as late as the early twentieth century. Robertson (1908) showed the opposite correlation, namely that child mortality was considerably lower when the mother was allowed to work (Dyhouse 1989).
entirely succumb to this want of motherly care often grow up with enfeebled constitutions.' (195-196)

Although Marshall at some point recognizes the importance of women's contribution to the economy, labor remains the work done by men. Capital is considered as that which makes men's labor possible and increases men's production.

The gendered perception of man, which lies at the root of the perception of scientific knowledge, is redefined by Marshall. As such it is applied in the PE to the object of economic research, the business life of men. The separation of the public (male) sphere and the private (female) sphere, together with the separation of mind and matter along gender lines becomes again ingrained in economics. As we will see later in this chapter (see section 6.3.5), these divisions are important in the construction and articulation of some of Marshall's main economic concepts.

References to gender identity
In the late nineteenth century there was a distinct change from a severe neglect of and negative conceptualization around women's sexuality and generative powers, to a more positive conceptualization of 'motherhood'. The social scientist Jane Lewis points out that around the end of the nineteenth century the Darwinist evolutionary model of sexual difference came under pressure as its definition of relations in terms of competition had to make space for more co-operative views.

'The turn of the century brought an important change in attitude towards women's role as mothers: a strengthening ideology of motherhood, accompanied by changes in theories of sexual difference, resulted in a shift in emphasis away from the negative constraints imposed by female biology towards the importance of healthy and intelligent motherhood to an imperial nation.' (Lewis 1984, 97-98). Groenewegen refers to Marshall's attitude towards gender matters and links these to his interest in eugenics, which made him perceive women as especially responsible for healthy offspring (Groenewegen 1995, 103).

Throughout his life Marshall was driven by the aim of elevating the lower-class man to what he conceived of as the proper way of life of the middle and upper-classes, of turning him into an educated, hardworking family man earning money for his wife and children. To Marshall the issue is:

209 '[I]n estimating the cost of production of efficient labour, we must often take as our unit the family. At all events we cannot treat the cost of production of efficient men as an isolated problem; it must be taken as part of the broader problem of the cost of production of efficient men together with the women who are fitted to make their home happy, and to bring up their children vigorous in body and mind, truthful and cleanly, gentle and brave.' (564) In a footnote to this remark, Marshall states: 'So far we have taken no account of the difference between the sexes. But it is clear that the above plans put the value of the male immigrants too high and that of the female too low: unless allowance is made for the service which women render as mothers, as wives, and as sisters, and the male immigrants are charged with having consumed these services, while female immigrants are credited with having supplied them.' (565)

210 As one of the reasons for this shift Lewis cites 'new empirical research findings and observable changes in the position of women, particularly the increasing numbers of single women in the labour force.' (Lewis 1984, 98)
not whether all men will ultimately be equal - that they certainly will not - but whether progress may not go on steadily if slowly, till the official distinction between working men and gentleman has passed away; till, by occupation at least, every man is a gentleman. I hold that it may, and that it will.' (Marshall 1873, quoted in Pigou 1925, 102)

We have already seen that Marshall's interest in women's economic position took another path. He initially took a positive attitude towards the recognition of women's potential and of the importance of women's education (Edgeworth 1925, 72, see also Keynes 1933). This did not mean to him full equality between women and men, as he perceived woman as man's helpmate, not as his equal. In his dealings with women he stresses their qualities as helpmates to their husbands and not their independence or the right to their own achievements.

In his own personal life this meant that in the Marshalls' marriage, Alfred depended strongly on the devotion of his wife and that Mary Paley, 'though splendidly equipped with the "gift of character and a bright mind", merged her life into his.' (Keynes 1933: 241) Or, as Edgeworth put it:

'He [Marshall, EK] had in his own home a proof that all the virtues and graces of domestic life could be combined with ability to assist in the preparation of the greatest modern treatise on the economic interests of men.' (Edgeworth 1925, 72)

Marshall was convinced that men had little incentive to marry (and to take care of a dependent wife with children) (Groenewegen 1994b, 93-95). If women became too independent, this problem would only worsen since marriage would lose its attractiveness for men and husbands would be induced to leave their wives.

'He regarded the family as a cathedral, something more sacred than the component parts. If I might complete the metaphor in my own words so as to convey the impression which I received: whereas the structure as it stands is not perfectly symmetrical, the attempt to make it so might result in pulling it down.' (Edgeworth 1925, 72-73)

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211 The passage Keynes and Edgeworth refer to contains Marshall's reference to Mill's discussion of his wife's contribution to Mill's own work and insights. This information has great value at a time at which, partly by the voice of Mr Mill himself, we are awakened to the importance of the question whether the quick insight of woman may not be trained so as to give material assistance to man in ordering public as well as private affairs. [...] Other women may have spoken much as she [Elizabeth Mill Taylor, Mill's wife, EK] spoke; but, for one reason or another, their words have been almost as though they had not been. Let us be grateful that on this topic one woman has spoken not in vain.' (Marshall 1873, quoted in Pigou 1925, 101)

212 Beatrice Webb Potter describes a dinner where Alfred Marshall explains his views on marriage stating 'that marriage was a sacrifice of masculine freedom, and would only be tolerated by male creatures so long as it meant devotion, body and soul, of the female to the male. [...] Contrast was the essence of the matrimonial relation: feminine weakness contrasted with masculine strength: masculine egotism with feminine self-devotion.' (Groenewegen 1994b, 93-4)
Keynes recounts a change in Marshall's attitude towards women, and to the equality of women and men, especially in education. Years after what could be considered as a plea for women's access to education (Marshall 1873), Marshall turned into an active opponent of women's admission to all degree courses at Cambridge University. In 1896, he publicly expressed himself to be against complete equality of education for women and men (Keynes 1933, 220, Groenewegen 1995).

Marshall's ideas on women as potential helpmates of men may said to be progressive especially when considered in comparison with the earlier contempt and denial of women's potential in the pre-Victorian period. 'Things should not go too far however', Marshall wrote to a friend whom he called upon to protest against the full equality of women in high education (Groenewegen 1995, 248). Moreover, compared to contemporary (both upper-class and lower-class) views on women and the debate on women's rights and economic chivalry in his environment, Marshall's perception of gender has to be considered as a more woman-friendly definition of gender relations. However, this redefinition of gender retained its hierarchical and asymmetrical character, and as such had considerable impact on his economic conceptualizations.

6.3.5 The impact on economic reasoning

As in the section on Petty, Smith and Jevons, I include here some pages of Marshall's Principles of Economics. I shall examine the first pages of Book II, Chapter III on 'Production. Consumption. Labour. Necessaries' as possibly providing insight into Marshall's use of gender. Marshall not only exclusively addresses men, their activities and work, it also appears that what is perceived as consumption is actually limited to men's consumption, and excludes the consumption and activities of women, children, etc.

The text of Chapter III starts with the statement that 'Man cannot create material things' (quote A in Appendix IV to this chapter). Labor is no longer perceived as producing value but utility, man can only produce utilities with the aim of satisfying wants. The distinction between mind and matter, as Marshall refers to it, is here essential.

Though elsewhere Marshall's stresses time after time that labor is more than earning money, but also involves enjoyment of the work itself, power and altruism, production here remains limited to production for the satisfaction of wants (quote B).

In Marshall's elaboration of the Theory of Value it is 'utility' that determines value, which contradicts the labor value theory. However, it also echoes the conception of Jevons and of others of 'man' as a dematerialized being, opposed to the body and to emotions, and of 'matter' as a dead substance. Relations other than instrumental are also here excluded from economic considerations. Traditionally focused on production (men's domain), economic science is here extended to include the domain that was formerly ascribed to women (the private sphere). The private sphere (consumer behavior is here conceptualized from the perspective of men, while women's contribution is relegated to the margin as 'the most precious part of the most valuable of all capital'). Thus a double exclusion of women's contribution to the economy as well as of the activities ascribed to women occurs. Consumption then becomes, as can be read on page 64, 'negative production' (quote C). How the work of women in the household produces utility is not discussed (quote D). We also see here the focus on men and their work (quote a & b).
Although the discussion cannot go much further here than a first indication of the impact of Marshall's use and construction of gender, thus far he appears to incorporate his hierarchical and asymmetrical perception of gender in his economic treatise in various ways.

Some concluding remarks
Marshall was shown to apply and construct in various ways notions of gender in his *Principles of Economics*. References to gender symbols are found where he articulates his views on man and the evolution of industrial states.

In this economic work, social dichotomies such as that between public and private were regarded as playing an important role as the basis for the distinction between the realms of women and men. His economic analysis is not only specifically directed at the activities of men in the public sphere, it was also constructed with a specific sexual division of labor in mind. Marshall's limited discussions of women's contribution to the economy might give one the impression that women's role in the economy is superfluous. This is contradicted by Marshall's characterization of this work as both capital and an investment in the next generation. As in Jevons (1871), the allocation of women's time, however, is not perceived as driven by economic rationality but by duty and regulations. Making use of established economic language and notions, Marshall's conceptualization of man in his daily business of life is constructed in such a way that the service of women and nature perceived as self-evident; as something that does not require an explanation. The dependence of men on women is as such not explicitly addressed. It is meant to be dealt with by appropriation and subordination of women and nature. Thus the hierarchical and asymmetrical conceptualization of gender becomes again ingrained in economic theorizing. It informs the further elaboration of the theory of value and central concepts such as 'consumption'.
Appendix 6.2: Alfred Marshall (1890, 63-64):

CHAPTER III.

PRODUCTION, CONSUMPTION, LABOUR, NECESSARIES.

§ 1. Man cannot create material things. In the mental and moral world indeed he may produce new ideas; but when he is said to produce material things, he really only produces utilities; or in other words, his efforts and sacrifices result in changing the form or arrangement of matter to adapt it better for the satisfaction of wants. All that he can do in the physical world is either to readjust matter so as to make it more useful, as when he makes a log of wood into a table; or to put it in the way of being made more useful by nature, as when he puts seed where the forces of nature will make it burst out into life.

It is sometimes said that traders do not produce: that while the cabinet-maker produces furniture, the furniture-dealer merely sells what is already produced. But there is no scientific foundation for this distinction. They both produce utilities, and neither of them can do more: the furniture-dealer moves and rearranges matter so as to make it more serviceable than it was before, and the carpenter does nothing more. The sailor or the railway-man who carries coal above ground produces it, just as much as the miner who carries it underground; the dealer in fish helps to move on fish from where it is of comparatively little use to where it is of greater use, and the fisherman does no more. It is true that there are often more traders than are necessary; and that, whenever that is the case, there is a waste. But there is also waste if there are two men to a plough which can be well worked by one man; in both cases all those who are at work produce, though they may produce but little. Some writers have revived the medieval attacks on trade on the ground that it does not produce. But they have not aimed at the right mark. They should have attacked the imperfect organization of trade, particularly of retail trade.

Consumption may be regarded as negative production. Just as man can produce only utilities, so he can consume nothing more. He can produce services and other immaterial products, and he can consume them. But as his production of material products is really nothing more than a rearrangement of matter which gives it new utilities; so his consumption of them is nothing more than a rearrangement of matter, which diminishes or destroys its utilities. Often indeed when he is said to consume things, he does nothing more than to hold them for his use, while, as Senior says, they “are destroyed by those numerous gradual agents which we call collectively time.” As the “producer” of wheat is he who puts seed where nature will make it grow, so the “consumer” of pictures, of curtains, and even of a house or a yacht does little to wear them out himself; but he uses them while time wastes them.

Another distinction to which some prominence has been given, but which is vague and perhaps not of much practical use, is that between consumers’ goods (called also consumption goods, or again goods of the first order), such as food, clothes, etc., which satisfy wants directly on the one hand; and, on the other hand, producers’ goods (called also production goods, or again instrumental, or again intermediate goods), such as ploughs and looms and raw cotton, which satisfy wants indirectly by contributing towards the production of the first class of goods.

1 Bacon, Novum Organum IV, says “Ad opera nil aliud potest homo quam ut corpora naturalia admovent et amoreat, reliquas nature intus agit” (quoted by Bowes, Philosophy and Political Economy, p. 249).
6.4 Conclusions

In this chapter we conducted a gender reading of texts by Jevons and Marshall, two early neoclassical economists. The approach applied here to analyzing their use of gender made it possible to indicate their use of a biological gender concept and the way they applied a masculine perspective.

Making use of the analytical framework elaborated in Chapter 4, the texts were subsequently discussed in their relation to other texts, genre conventions and academic tradition and established gender and economic notions. Both authors were shown to build on the established relation between 'Man' and 'Nature' that by then had attained the status of a standardized or established concept. Where Jevons hardly discusses women, or gender issues, Marshall in various instances discusses gender-related topics, though in a normative way.

By applying the analytical framework it was possible to relate the founding and articulation of neoclassical economic theory to social changes in the period in which it emerged. In a period in which the 'equality of men' and the hierarchical character of gender relations were being questioned by social movements, the founders of neoclassical economic theory restated and affirmed scientific assumptions on the relation between 'Man' and 'Nature'. It was indicated that while socially the position of women was improving - especially in Marshall's period, women gained access to jobs and entered economic academic debate - a redefinition of gender took place. Man is restated but also redefined; this time 'man' does not only figure as the measure of all knowledge but also as the object of scientific economic research and women emerge at the intellectual horizon. The redefinition of gender is linked to the reconceptualization of economic theory at various levels, the definition of the domain of economic science and its boundaries, and the definition of economic language and of major concepts such as consumption.

The emergence of neoclassical economics within a changed academic as well as social and economic environment is accompanied by new economic concepts and theories that are conceptualized together with a restatement of gender relations and a redefinition of 'masculinity' and 'femininity'. The gender model seems to have shifted to one in which masculinity and femininity are perceived as complementary and as 'together one'. This meant specialization, mutual dependency, a focus on difference and a denial of similarities. In this gender model, the masculine is perceived as the positive entity, and the feminine as its negative counterpart. 'Masculinity' continues to coincide with 'humanity'; in addition it now also becomes associated with 'work' (rather than with labor) and with 'consumption' (rather than with production). 'Femininity' becomes a romanticized, rather vague concept, which refers to tenderness, weakness, dependency, and motherhood. This motherhood refers not so much to biological motherhood as to the activities and sphere surrounding the raising of children and moral education. These activities are associated with all kinds of good and warm things, and characterized as part of women's instincts. This, however, also goes with a general improvement in women's social and economic position and increased equality between women and men, although the hierarchical relation remains intact.