

Alfred Marshall on Human Capital and Future Generations

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I hold that the most important capital of a nation is that which is invested in the physical, mental, and moral nurture of its people.
(Marshall to the Editor of *The Times*, 13 November 1909)

1. Introduction: 'The Spirit of the Age'

Reviewing Marshall's *Principles of Economics*, Edgeworth wrote that there was one element there to be searched in vain among the older economist — 'the modern element, the spirit of the age', which prompted the question: 'Is it necessary that large numbers of the people should be exclusively occupied with work that has no elevating character?' [Edgeworth 1890: 12]

In the "Introduction" of his *Principles*, Marshall stated;

In addition to the Residuum, there are vast numbers of people both in town and country who are brought up with insufficient food, clothing, and house-room; whose education is broken off early in order that they may go to work for wages; who thenceforth are engaged during long hours in exhausting toil with imperfectly nourished bodies, and have therefore no chance of developing their higher mental faculties. [Marshall 1961A: 2-3]

And observing the steady progress of the working classes in the 19th century, he posed the question 'whether it is really impossible that all should start in the world with a fair chance of leading a cultured life, free from the pains of poverty and the stagnating influences of excessive mechanical toil; and this question is being pressed to the front by the

growing earnestness of the age'. [*ibid*: 2-4]

Pigou addressed in the same kind of spirit in his inaugural lecture as the Cambridge Professor of Political Economy as successor of Marshall: 'The least imaginative among us sometimes sees with vividness the faces of the suffering and the degraded who have been worsted in the industrial struggle. ...No doubt, those who feel these things most keenly are not always economists'. He should be glad if a man comes to Economics because of his interest in Edgeworth's *Mathematical Psychology* or Fisher's *Appreciation and Interest*. But he should be far more glad 'if he comes because he has walked through the slums of London and is stirred to make some effort to help his fellow-men'. 'Wonder', Carlyle said, 'is the beginning of philosophy': 'Social enthusiasm', Pigou added, 'is the beginning of economic science'. [Pigou 1908: 12-13]

Edgeworth continued his "Review" as follows. Marshall declared against the pretended harmonies of economic optimism; he broke with the 'hangers-on of the science who used it simply as an engine for keeping the working-classes in their place'. He was preceded by Adolph Wagner and F. A. Walker, by Jevons, and Sidgwick who best taught that 'the art of political economy does not necessarily consist in inaction' and was to found modern 'welfare' economics. But in some sense more convincingly Marshall reasoned that 'it would be theoretically pos-

sible for a government by fiscal arrangements admittedly within its province, by a nicely adjusted system of taxes and bounties, to increase the welfare of its citizens'. While thus recoiling from extreme individualism the author of the *Principles* 'may be suspected of leaning towards a moderate socialism'. [Edgeworth 1890: 12-13; Hutchison 1953: 47].

As is well-known, in his Preface to *Industry and Trade*, Marshall described how he 'developed a tendency to socialism', which was fortified later on by J. S. Mill's posthumous "Chapters on Socialism" in the *Fortnightly Review* (1879). But as he wrote to Helen Bosanquet (28 September 1902), 'it is more important to dwell on the truths in Mill's *Liberty* than on those in his *Essays on Socialism* [i. e. "Chapters on Socialism"]'. [Whitaker II: 399]

2. Cambridge Tradition on Welfare and Future Generations

2.1 'Defective Telescopic Faculty'

Recently David Collard, in his stimulating article "Pigou and Future Generations: A Cambridge Tradition", argued for a strong Cambridge tradition (Sidgwick-Marshall-Pigou-Ramsey) against discounting future utilities and the injury of economic welfare. Pigou stressed 'defective telescopic faculty' and held that the present generation would devote too few resources to investment in human capital and undertakings, the return from which would be distant. He linked his argument with the controversies about economic environment and natural resource conservation. This Cambridge tradition held that issues of generational justice left an important role for the state and could not be resolved simply at the level of the individual or the family. Pigou's *Wealth and Welfare* (1912), and later *Economics of Welfare* (1920) was 'the apogee' of this Cambridge tradition and the most explicit and extensive treatment of this issue. [Collard 1996: 585,

596]

Generally speaking, Pigou argued, 'everybody prefers present pleasures or satisfactions of given magnitude to future pleasures or satisfactions of equal magnitude'. It implies that 'our telescopic faculty is defective', and 'we see future pleasures, as it were, on a diminished scale'. Thus 'people distribute their resources between the present, the near future and the remote future on the basis of a wholly irrational preference'. Mortality provides a further check to taking the long view. For a person who carries out long-term investment, 'the satisfaction with which his desire is connected is not his own satisfaction, but the satisfaction of somebody else, ..possibly somebody quite remote in blood or in time, about whom he scarcely cares at all'. Practically these discrepancies between desire and satisfaction work themselves out to the injury of economic welfare, by checking the creation of new capital and encouraging people to use up existing capital to such a degree that larger future advantages are sacrificed for smaller present one. [Pigou 1920: 25-27]

The same slackness of desire towards the future distant satisfactions was also responsible for 'a tendency to wasteful exploitation of Nature's gift'. Using enormous quantities of coal in high-speed vessels, 'we cut an hour off the time of our passage to New York at the cost of preventing, perhaps, one of our descendants from making the passage at all'. [ibid: 28] In the general issue of depletable resources and natural resource conservation Pigou was anticipated by Jevons who grappled with similar issues in *The Coal Question: An Inquiry Concerning the Progress of the Nation and the Probable Exhaustion of our Coal Mines* (1865)¹⁾.

Pigou linked his argument to the Conservationist Movement which was at its peak at about the time that he was writing *Wealth and Welfare*. His contemporary L. C. Gray put the link: 'This issue is the problem of adjusting the conflict between the interest of

present and future'. [Collard 1996:] The adjustment, for Pigou, was a matter for the state, rather than the family: Pigou argued that because of our defective telescopic faculty and the weak links provided by blood and time the state should have a positive role:

There is wide agreement that the State should protect the interests of the future *in some degree* against the effects of our irrational discounting and of our preference for ourselves over our descendents.... It is the clear duty of Government, which is the trustee for unborn generations as well as for its present citizens, to watch over, and, if need be, by legislative enactment, to defend, the exhaustible resources of the country from rash and reckless spoliation'. [Pigou 1920: 28-29]

In his invocation of the state as the vehicle for taking a longer view than individuals and families, it is clear that Pigou was following Mill and Sidgwick. Sidgwick argued, in "The Art of Political Economy" of *The Principles of Political Economy*: 'if it is economically advantageous to a nation to keep up forests, on account of their beneficial effects in moderating and equalizing rainfall, the advantage is one which private enterprise has no tendency to provide; since no one could appropriate and sell improvements in climate'. [Sidgwick 1883: 406-7]

2.2 Pigou and Marshall

Collard's arguments are particularly interesting because of his emphasis on 'the Marshall-Pigou fascination with human capital'. Pigou held that present actions could affect the utilities of future generations through their economic environments. However, because of discounting and mortality the present generation was likely to invest too little for the future generations. Hence, Pigou suggested revenue-neutral bounties on saving, but, according to Collard, education of the poor was a dominant strategy as it

would benefit both future generations and the present poor without significantly affecting current national income. This Cambridge tradition (Marshall-Pigou-Ramsey) constituted a thread of immanent criticism which led to a very positive role for the state in investment decisions, particularly those relating to human capital. [Collard 1996: 595, 596]²⁾

In contrast with Pigou's and Sidgwick's stress on the role of the state, for Marshall the family and the individual were rather more central and strategic to economic progress and growth. The 'family affection' was not merely an engine of saving, capital accumulation, and economic growth, it was, for Marshall, a vehicle for human improvement and generational enhancement. Marshall had emphasized a more crucial role for strong individuality, the family, and the intermediate organizations and institutions rather than the state. He put his trust in education, morality, altruism, together with the growth of knowledge and intellectual power. The best that people could do was to leave the 'strongest and most vigorous progeny' with a good physical, mental, and moral education. Throughout, Marshall emphasizes the evolution of 'prudential behaviour', 'the habit of vividly realizing the future and providing for it'. [*ibid*: 591]

Marshall wrote in the chapter on "Industrial Training":

Most parents are willing enough to do for their children what their own parents did for them; and perhaps even to go beyond it if they find themselves among neighbours who happen to have a rather higher standard. But to do more than this requires, in addition to the moral qualities of unselfishness and a warmth of affection that are perhaps not rare, a certain habit of mind which is as yet not very common. *It requires the habit of distinctly realizing the future, of regarding a distant event as of nearly the same importance as if it were close at hand (discounting the future at a*

low rate of interest). [Marshall 1961A: 217, italics added.]

Once Terence Hutchison argued that 'the long re- or e-volution in the economic role of government' in Britain continued since the high tide of the 'classical', individualist, competitive market economy began to recede, around the time of the Jevonian revolution. [Hutchison 1978: 94] However, as Jose Harris recently argued, focusing on the changing perceptions of public-private relationships and the changing attitude to the state, the increasing role of government seems not to have been a long continuing process. Although legislation after the Second World War created 'one of the most uniform, centralized, bureaucratic and "public" welfare systems', a social analyst of a hundred years ago would have predicted 'the exact opposite' that the provision of social welfare was and would continue to be 'highly localized, amateur, voluntaristic and intimate in scale', that was similar to that of the mid-Victorian years. Jose Harris stressed the role of idealism in providing a popular idiom and legitimizing framework for the growth of the welfare state, 'with its emphasis on corporate identity, individual altruism, ethical imperatives and active citizen-participation'. [Harris: 116, 121, 137, 139]

The Oxford idealism of T. H. Green and Arnold Toynbee and its relation to Marshall has been sometimes pointed out. 'What was common to both Marshall and Green was the stress upon a moralized capitalism through which the highest potentialities of mankind were to be developed'. 'Both Marshall and Green saw history not only as a transition from status to contract, but also as a transition from self-interest to self-sacrifice and altruism'. [Jones 1971: 7] In this aspect Marshall separated himself from those contemporaries, chiefly Jevons, Sidgwick and Edgeworth, who preserved a closer relationship between economics and Utilitarianism. [Collini 1983: 318]

3. Marshall on Economic Progress and 'Telescopic' Faculty

As has often been quoted, Marshall could truly say before the Royal Commission on the Aged Poor in 1893: 'I have devoted myself for the last twenty-five years to the problem of poverty, and that very little of my work has been devoted to any inquiry which does not bear on that'. [Marshall 1893: 205]

Edgeworth noticed that 'Marshall's success in handling the theory of wages was largely due to his sympathy with the wage-earners'. His study of industrial life was not like 'the exercises of a chess-player without a sigh for the knights or pawns which may be sacrificed'. He enjoyed an advantage of acquaintance and friendship with leading men of Labour like Tom Mann, Benn Tillet. Edgeworth could well believe that 'work-people studying the *Principles of Economics* recognized in the author a sympathetic friend. The only other economist about whom they had the same feeling was Mill'. [Edgeworth 1924: 70-71]

3.1 Lifting of Malthusian Difficulty and 'Moralizing Capitalism'

While it was Jevons who introduced the marginal utility theory and implemented the marginal revolution, it was Marshall more than any other contemporary economist who symbolized the freeing of liberal economics from its Ricardian moorings, diminishing returns, wages fund and 'the great Malthusian difficulties', as J. E. Cairnes called it. It was the lifting of these classical theory and vision that made for a new epoch in feasible welfare policies.

In *Some Leading Principles of Political Economy Newly Expounded* (1874), which was to be the epitaph of classical economics, Cairnes diagnosed the working class situation as bleak as anything to be found in Malthus. It makes a most striking contrast with the view expressed by the moralizing young Marshall at the Cambridge Reform Club in

1873. Marshall inquired in *The Future of the Working Classes*: The question was 'whether progress may not go on steadily if slowly, till the official distinction between working man and gentlemen has passed away; till by occupation at least, every man is a gentleman'. He thought that the artisans 'are steadily becoming gentlemen. ..They are steadily accepting the private and public duties of a citizen'. [Marshall 1873: 102, 105]

In the *Economics of Industry* (1879) Marshall wrote a chapter on "Growth of Population. Malthus. Poor-Laws", and argued that 'before long they will not marry without that sense of responsibility with regard to the education of their children which the middle classes feel now'. This change was caused by the rise of 'their Standard of Comfort', *i. e.*, 'such habits of forethought as to be unwilling to marry without the expectation of being able to enjoy a certain given amount of the necessities, comforts, and luxuries of life'.

These necessities, comforts, and luxuries are for a man's children as well as for himself; indeed the chief of them is a good physical, mental, and moral education for his children. Economic progress depends much on changes in the Standard of Comfort of the people, and therefore on the strength of their family affections....

Just as a man who has borrowed money is bound to pay it back with interest, so a man is bound to give his children an education better and more thorough than he has himself received. [Marshall 1879: 28, 32, italics added.]

The general adoption of this principle would cause the spectre of Malthusianism to disappear or to be no longer dreaded; and would rid of people of the competition for food which dogged the heels of progress. Thus Marshall's evolutionary economics laid foundation for a theory of economic progress based on the rise and improvement of population quality and efficiency, and presented an alternative to Malthusian spectre.

While the older economists were pessimistic about a change in working men's moral character, Marshall personified 'a moralizing capitalism': 'All ranks of society are rising; on the whole they are better and more cultivated than their forefathers were; they are no less eager to do, and they are much more powerful greatly to bear, and greatly to forebear'. [Marshall 1873: 115] Marshall offered an elaborate economic system built upon incessant evolutionism, partly derived from Darwinian biology. His evolutionary economics or organic growth theory was a new development in economic thought, and was to play a major role in the way Marshall looked at social problems. As the economic system continued to progress, economic progress rather than political action, would provide the real source of the solution to the problems of society. [Raffaelli, *et. al.* 1995: 27-28]

3. 2 Economic Progress, Family Affection, Education of the Poor

Ricardo and his followers often spoke as though they regarded man's character and efficiency as a fixed quantity, wrote Marshall in "The Growth of Economic Science", and they never gave themselves enough trouble to study his variations. Their 'most vital 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 was the chief cause of that weakness and inefficiency: the older economists 'had not the faith that modern economists have in the possibility of a vast improvement in the conditions of the working classes'. [Marshall 1961A: 763, italics added.]

Marshall could say that 'the Law of Diminishing Return is almost inoperative in Britain'. Wages were but very little affected by the growth of population and the pressure on the means of subsistence. [Marshall 1907: 326] In the concluding chapter (Ch. XII "General Influences of Progress on Value") of Book VI ("The Distribution of the National Income") in the *Principles*, he emphasized again that

progress was fast improving the condition of the great body of the working classes. The diffusion of education, and prudent habits among the masses of the people, and the opportunities which the new methods of business offered for the investment of small capitals, were telling on the side of moderate incomes. Middle class incomes were increasing faster than those of the rich; the earning of artisans than those of the professional classes, and the wages of vigorous unskilled labourers than those of the average artisan.

Marshall continued to discuss the 'general influences of economic progress'. Since Political Arithmetic began in the 17th century, 'a constant and nearly steady increase' in the amount of accumulated wealth per head of the population has occurred.

This growth of wealth is promoted by man's increased willingness to sacrifice the present for the future. Man has gradually become more willing to sacrifice ease or other enjoyment in order to obtain them in the future. He has acquired a *greater 'tele-scopic' faculty*; that is, he has acquired *an increased power of realizing the future and bringing it clearly before his mind's eye: he is more prudent, and has more self-control, and therefore more inclined to estimate at a high rate future ills and benefits...* He is more unselfish, and therefore more inclined to work and save in order to secure a future provision for his family. [Marshall 1961A: 680, 687, italics added.]

Marshall's treatment of economics had been permeated by a concern over economic progress since his earlier days. Economic phenomena were observed in the course of progress and evolution. He paid attention to factor supply. In the *Principles*, Book IV "The Agents of Production. Land, Labour, Capital and Organization", Marshall devoted three chapters to the supply of labour: he discussed "The Growth of Population" and coupled consideration of its size and increase

(Ch. IV). It naturally related to "The Health and Strength of the Population" (Ch. V), which affected the quality and efficiency of the labour force. In this connection he devoted considerable attention to family affection, human capital and investment in education. He was particularly concerned about "Industrial Training" (Ch. VI), which was required to develop the industrial efficiency of the people.

Then Marshall had a chapter on "The Growth of Wealth" (Ch. VII), and he argued that the accumulation of wealth was governed by a great variety of causes: by custom, by habits of self-control and realizing the future, and above all by the power of family affection. Security was a necessary condition for it, and the progress of knowledge and intelligence furthered it in many ways.

Though in an early state of civilization 'the future is eclipsed by the present' [Marshall 1879: 37], the habit of distinctly realizing the future and providing for it developed itself in the course of history. Marshall was very clear about the motives of saving and the causes of economic growth: 'What has had a far greater effect on the growth of wealth, it has rendered it far easier for a man to provide a secure income for his wife and children after his death: for, after all, *family affection is the main motive of saving*'. Were it not for family affections, many who work hard and save carefully would not exert themselves to do more than secure a comfortable annuity for their own lives. They seldom spend more than the income from their savings, preferring to leave their stored-up wealth intact for their families. [Marshall 1961A: 227-28, italics added.]

For Marshall a man could have no stronger stimulus to energy and enterprise than the hope of rising in life, and 'leaving his family to start from a higher round of the social ladder' than that on which he began. The middle and especially the professional classes always denied themselves much in order to invest capital in the education of their chil-

dren; while a great part of the wages of the working classes was invested in the physical health and strength of their children.

The older economists took too little account of the fact that the human faculties are as important a means of production as any other kind of capital; and we may conclude, in opposition to them, that *any change in the distribution of wealth which gives more to the wage receivers and less to the capitalists is likely, other things being equal, to hasten the increase of material production.... if...it provided better opportunities for the great mass of the people, increased their efficiency, and developed in them such habits of self-respect as to result in the growth of a much more efficient race of producers in the next generation.* For then it might do more in the long-run to promote the growth of even material wealth than great additions to our stock of factories and steam-engines. [*ibid* : 228, 229-30, italics added.]

Then Marshall referred to the interest on capital as the reward for the sacrifice involved in the waiting for the enjoyment of material resources or the reward for sacrificing present pleasure for the sake of future. He called the interest the reward of waiting, not of abstinence. And he says that 'the accumulation of wealth is generally the result of a postponement of enjoyment, or of a *waiting* for it'. Or, in other words, 'it is dependent on man's *prospectiveness*; that is, his faculty of realizing the future'. [*ibid* : 233] He continued: A rise in the rate of interest increases the desire to save; and it often increases the power to save, or rather it is often an indication of an increased efficiency of productive resources: but the older economists went too far in suggesting that a rise of interest (or of profits) at the expense of wages always increased the power of saving: 'they forgot that from the national point of view the investment of wealth in the child of the working man is as productive as its

investment in horses or machinery'. [*ibid* : 236]

As suggested above, Marshall was very strong on the investment on education of the poor. He spoke of education as a 'national investment' in the chapter on "Industrial Training". The expending of public and private funds on education would be profitable as a mere investment, 'to give the masses of the people much greater opportunities than they can avail themselves of'. By this means '*many, who would have died unknown, are enabled to get the start needed for bringing out their latent abilities*'. The economic value of one great industrial genius was sufficient to cover the expenses of the education of a whole town; for one new idea, such as Bessemer's invention, added as much to England's productive power as the labour of a hundred thousand men. 'All that is spent during many years in opening the means of higher education to the masses would be well paid for if it called out one more Newton or Darwin, Shakespeare or Beethoven'. [*ibid* : 216, italics added.]

It was cautiously noted that much of the best natural ability in the nation was born among the working classes, and too often ran to waste. 'There is no extravagance more prejudicial to the growth of national wealth than that wasteful negligence which allows genius that happens to be born of lowly parentage to expend itself in lowly work'. No change would be more conducive to a rapid increase of material wealth as an improvement in the schools, provided it be combined with an extensive system of scholarships. His observation was that 'progress is most rapid in those parts of the country in which the greatest proportion of the leaders of industry are the sons of working men'. [*ibid* : 211-12]³⁾

4. Quality and Strength of the People and Environments

4.1 'Environments, as well as people, have

children'

In his famous "Review" of Pigou's *Wealth and Welfare*, Allyn Young wrote. There was 'an admirable chapter' on "The National Dividend and the Quality of the People", dealing with the claim of some apostles of Eugenics that economic inquiries, concerned with environment rather than heredity, were relatively unimportant. 'I know of nothing on this topic more incisive than this chapter, with its summary statement: "Environments, as well as people, have children"'. [Young 1913: 674]

Around those years a great advance occurred in biological knowledge. Biometricians and Mendelians alike were insisting upon the fundamental importance of a proper understanding of the laws of heredity. Pigou criticized Professor Punnett and his fellow-workers, as well as Karl Pearson, who argued that environment was of no importance, because improvements in it could not react on the quality of the children born to those who would enjoy the improvements. They held that environing circumstances could affect the persons immediately subjected to them, but that these circumstances were unimportant, because, not being able to influence the inborn quality of succeeding generations, they could not produce any lasting result. This view was crystallized by Punnett, who declared that hygiene, education and so on were but 'fleeting palliatives at best, which, in postponing, but augment the difficulties they profess to solve... Permanent progress is a question of breeding rather than of pedagogics; a matter of gametes, not of training'. [Pigou 1920: 106, 110]

Pigou replied:

The environment of one generation can produce a lasting result, because it can affect the environment of future generations. Environments, in short, as well as people, have children. Though education and so forth cannot influence new births in the physical world, they can influence them in the world of ideas; and ideas, once

produced or once accepted by a particular generation, whether or not they can be materialized into mechanical inventions, may not only remodel from its very base the environment which succeeding generations enjoy, but may also pave the way for further advance. For, whereas each new man must begin where his last ancestor began, each new invention begins where its last ancestor left off'. [*ibid*: 113-14]

These successions of ideas and knowledge between the generations and their cumulative nature had been well developed and stressed by Marshall, who argued: 'Ideas, whether those of art and science, or those embodied in Practical appliances, are the most 'real' of the gifts that each generation receives from its predecessors. The world's material wealth would quickly be replaced if it were destroyed, but the ideas by which it was made were retained'. [Marshall 1961A: 780] Further he argued about the cumulative effects of better earnings and better opportunities of developing people's qualities of one generation after another. They, being themselves rendered stronger and more intelligent, would be able to offer a better environment to their children, and so on. The effect went on piling itself up. The qualities of future people would depend not only on their genetic make-up but on the economic environment bequeathed to them.

4.2 Fresh Air and Sanitation: the Strength of the People

Marshall devoted Ch. V "The Health and Strength of the Population" of Bk. IV in the *Principles* to the conditions on which depend health and strength, physical, mental and moral. They were 'the basis of industrial efficiency', on which the production of material wealth depends. This strength of man himself, this resolution, energy and self-mastery, in short, this 'vigour' was the source of all progress. It was advisable that people should not have children till they could

give as good an education as they had. This principle of action, 'combined with an adequate provision of fresh air and healthy play for our town populations', could hardly fail to cause the strength and vigour of the population to improve. If the strength and vigour improves, the increase of numbers would not come to cause a diminution of the average real income of the people. [Marshall 1961A: 194, 202-3]

Marshall always held that 'poverty and pain, disease and death are evils of much less importance than they appear, except in so far as they lead to weakness of life and character', and that 'true philanthropy aims at increasing strength more than at diminishing poverty', as he wrote to Helen Bosanquet (28 September 1902), giving thanks for her book *The Strength of the People. A Study in Social Economics* (1902). Helen Bosanquet wrote back (30 September 1902) that the one fundamental cure for poverty was 'to make the poorer wage-earners more efficient in the widest sense of the term—more efficient as producers, as consumers, and in all the relations of life'. They could not then fail to obtain greatly increased economic prosperity. But, she continued, if on the contrary it was the wealth of the rich which caused the poverty of the poor, then her contention fell to the ground, and poverty could only be remedied by the redistribution of existing wealth. [Whitaker II: 399, 400]⁴

For Marshall there was no better use for public and private money than in providing public parks and playgrounds in large cities. He contended that it would be possible to provide opportunities for healthy play for all children, and to bring fresh air and light more generously into all urban homes, 'to lessen the *real* evils of the poorer classes, without touching on that expenditure of the rich for their *true* well-being'. (Letter to Mrs Bosanquet, 28 October 1903) [Whitaker III: 67]

Marshall's full intentions on these issues are illuminating in his letter to the Editor of *The Times* (13 November 1909) [in the midst

of the debates on Lloyd George's 1909 Budget, which seemed to him 'a Social Welfare Budget']:

The most important capital of a nation is that which is invested in the physical, mental, and moral nurture of its people. That is being recklessly wasted by the exclusion of, say, some ten millions of the population from reasonable access to green spaces, where the young may play and the old may rest. To remedy this evil is ...even more urgent than the provision of old-age pensions; and I wished the first charge upon the rapidly-growing value of urban land to be a 'Fresh Air' rate (or general tax), to be spent on breaking out small green spots in the midst of dense industrial districts, and on the preservation of large green areas between different towns and between different suburbs which are tending to coalesce. I thought that the gross amount of the Fresh Air rate or tax should be about ten millions a year, till we have cleared off the worst evils caused by many generations of cruel apathy and neglect. [Whitaker III: 235-36, italics added.]

Marshall had been deeply involved in the problems of "Over-crowding of Towns" or urban deprivation since the 1880s. Here also Marshall's perceptions of public-private relationships in their respective roles of providing housing conditions are most interesting. In his view, 'Government might buy the land and let it out to the working-classes for next to nothing. This could only bribe people to say where their work is not wanted; after a very short time they would be no better off than before'. The only people who would gain would be the London landlords. But, 'if the Government can afford to buy land for the working-classes, let it make more playgrounds and breathing spaces. Every pound so spent now will yield an income of national health and happiness for ever'. [Marshall 1885: 66]

Municipal housing seemed to him 'scarcely

ever right and generally very wrong'. Municipal free baths seemed nearly always right. 'Outside of a man's house is not his affair: it is the affair of the State or Municipality. The darkness and the polluted air of his surroundings narrow the life and undermine the springs of strength and independence of character for him and his wife and above all his children.... I should like an expenditure comparable with that required for the South African war to be devoted to the removal of this source of degradation for a good many years to come'. (Letter to Mrs Bosanquet, 2 October 1902) [Whitaker II: 402]⁵⁾

5. Marshall on Human Capital and 'Earnings of Labour'

Marshall's crucial point of discussion on labour income, in particular, his emphasis on the cumulative effects of time on wages, was highly and properly appreciated by Edgeworth in his "Reminiscences". Edgeworth pointed out a topic about which he had pressed Marshall to express himself more fully, that is, the 'discounting future pleasures'. Time, argued Marshall, works both for and against the workers in their dealing with the capitalist-employing class. On the one hand, he stressed the interaction between poverty and low wages, the one affecting the supply of labour and perpetuating the other. On the other hand, 'better wages tend to an improvement in the morale and physique, and therefore with the efficiency, at least of the coming, if not the present, generation'. 'These cumulative effects of time', Edgeworth went on, 'together with other incidents peculiar to the labour-market, when first exhibited by Marshall, seemed almost a revelation. Economists can hardly appreciate the originality of Marshall's chapters on the Earnings of Labour'. [Edgeworth 1924: 69-70]

5.1 'Personal Wealth', 'Personal Capital'

Human capital was 'one of the persistent (and neglected) themes' of *The Economics of*

Industry. [O'Brien 1994: xxiv] In its "Introductory", Marshall divided Wealth into Material wealth and Personal or non-material wealth, and defined the latter; 'Personal' or 'non-material wealth' consists of 'those human energies faculties and habits, physical mental and moral, which directly contribute to making men industrially efficient, and which therefore increase their power of producing material wealth. Thus manual skill, intelligence, and honesty may be included in the personal wealth of a country'. [Marshall 1879: 6]

This was followed and developed in the *Principles*; pursuing the lines indicated by Adam Smith, Marshall defined personal wealth to consist 'firstly of those energies, faculties and habits which directly contribute to making people industrially efficient, and secondly of their business connections and associations of every kind.... If they are to be reckoned as wealth at all, they are also to be reckoned as capital. Thus Personal wealth and Personal capital are convertible'. [Marshall 1961B: 204] In the course of economic progress, Marshall further argued that the growth of general enlightenment 'turned a great deal of the increasing wealth of the nation from investment as material capital to investment as personal capital'. [Marshall 1961A: 565]

The main substance of Marshall's analysis of human capital is contained in his theory of distribution, in relation to some peculiarities in the action of demand and supply of labour. He had accepted the basic Smithian notion that an educated man might be compared to an expensive machine, and quoted from the chapter on wages in the *Wealth of Nations*: 'A man educated at the expense of much labour and time to any of those employments which require extraordinary dexterity and skill, may be compared to one of those expensive machines. The work which he learns to perform... will replace to him the whole expense of his education, with at least the ordinary profits of an equally valuable capi-

tal'. However, this must be modified, Marshall contended, because in educating their children, parents are governed by different motives from a capitalist undertaker to erect a new machine; and the period over which the earning power extends is generally greater in the case of a man than of a machine. Therefore, 'the circumstances by which the earnings are determined are less capable of being foreseen, and the adjustment of supply to demand is both slower and more imperfect'. [*ibid* : 570-71]

Marshall conceded: 'There is a general correspondence between the causes that govern the supply prices of material and personal capital: the motives which induce a man to accumulate personal capital *in* his son's education, are similar to those which control his accumulation of material capital *for* his son'. Yet it was true that 'the only persons, who are likely to invest much in developing the personal capital of a youth's abilities are his parents'. [*ibid* : 660-61]

In fact, Marshall further referred to the common nature of personal and material capital investment:

The motives which induce a man and his father to invest capital and labour in preparing him for his work as an artisan, as a professional man, or as a business man, are similar to those which lead to the investment of capital and labour in building up material plant and the organization of a business. In each case the investment (so far as man's action is governed by deliberate motive at all) is carried up to that margin at which any further investment appears to offer no balance of gain, no excess or surplus of utility over 'dis-utility'; and the price, that is expected as a reward for all this investment, is therefore a part of the normal expenses of production of the services rendered by it. [*ibid* : 619]

Thus Marshall sometimes argued that the causes that determine the normal supply prices of material and personal capital were

very similar in general character, and that the causes which govern the normal levels of wages and profits resembled one another. However it must be remembered that these were generally with the reservations of important differences between them, with emphasis on peculiarities of labour market. Indeed, as is well-known, Marshall deleted the paragraph defining 'personal capital' in the fifth and subsequent editions of the *Principles*. Also the similarity and the common nature between material and personal capital were to become weakened as the *Principles* was revised and revised, and the links between investment in personal capital and the quasi-rent were cut off and the concept of quasi-rent of human capital was deleted in and after the fifth edition. On the contrary, the links between the better earnings of labour and the rise of the 'standard of life' was increasingly to be emphasized. Marshall presumably intended to separate the human capital investment from the quasi-rent theory and to make it related with the 'standard of life'.⁶⁾

5.2 Economy of High Wages

In the fifth edition of the *Principles*, Marshall changed the title of Bk.VI from "Value, or Distribution and Exchange" to "The Distribution of National Income" and added the new chapter called "Progress in Relation to Standard of Life" (Ch. XIII). Then he was increasingly stressing the links between human capital investment, the 'standard of life', the development of activities and faculties, the quality, efficiency and productivity of labour, and the growth of the 'Earning-and-interest-Fund' or national income. The term the 'standard of life' meant 'the standard of activities adjusted to wants'. Thus 'a rise in the standard of life implies an increase of intelligence and energy and self-respect; leading to more care and judgment in expenditure, and to an avoidance of food and drink that gratify the appetite but afford no strength, and of ways of living that are un-

wholesome physically and morally'.

Marshall's evolutionary economics and his ideas on organic growth and economic progress became increasingly clearer and more distinguishing. Economic progress brings about an increase in the 'standard of life', a rise in physical strength, mental ability, and moral character. This makes people more willing to sacrifice the present for the future, which increases educational investment, thus raises the efficiency and productivity of the working classes, developing their potential abilities and faculties.

Marshall starts Bk. VI, saying that 'the keynote of this Book is in the fact that free human beings are not brought up to their work on the same principles as a machine, a horse, or a slave'. Then he posed questions: What are the general causes which govern the distribution of the surplus among the people? What part is played by conventional necessities, i. e., the 'standard of comfort'? What by wants and activities, i. e. by the 'standard of life'? What share of the general flow is turned to remunerate those who work and 'wait', as contrasted with those who work and consume at once the fruits of their endeavour? [1961A: 504] In the Preface to the second edition he wrote: the cost of production of labour cannot be determined as definitely as can that of a commodity; for the 'conventional necessities' of labour are not a fixed sum, but depend on the efficiency of labour. Therefore, 'the right means to raise wages is to raise, not merely the Standard of Comfort or wants, but the Standard of Life which includes activities as well as wants'. [Marshall 1961B: 40]

In preliminary survey of distribution (Ch. II of Bk. VI), studying the influence of demand for labour on distribution or the reflex influence of remuneration of labour on its supply, and the dependence in the long run of the supply of efficient labour on the rate of earnings and on the manner in which they are spent; Marshall concluded that 'an increase of wages, ...almost always increases the

strength, physical, mental and even moral of the coming generation'; and that 'an increase in the earnings that are to be got by labour increases its rate of growth; or, in others words, a rise in its demand-price increases the supply of it'. [Marshall 1961A: 532]

Marshall started preliminary survey of distribution by noting French and English economists in the 18th century. The Physiocrats assumed that there was a natural law of population according to which the wages of labour were kept at starvation limit. This rigid assumption was partially relaxed by Adam Smith, who insisted that where wages were high, the workman were more active, diligent and expeditious, than where there were low. Ricardo appeared to hold the so-called 'iron law of wages', especially so called by the German socialists; but in fact he regarded wages as largely governed by a mutable standard of life. [*ibid*: 508-9]

It was nearly in the same generation as Marshall that a careful study was begun to be made of 'the effects that high wages have in increasing the efficiency not only of those who receive them, but also of their children and grandchildren'. F. A. Walker and other American economists led this study; and the comparative study of the industrial problems of different countries forced more and more attention to the fact that 'highly paid labour is generally efficient and therefore not dear labour'. [*ibid*: 510]

While having rejected the doctrine of the wages-fund, in *Economics of Industry*, Marshall developed the concept of 'the Wages-and-profits Fund' and 'the *Earning-and-interest Fund*', regarding the net income of the country, after deducting rent and taxes, as divided not into wages and profits, but into interest and earnings. And he noted: a rise in the Time-wages of any trade tends to diminish profits. But an increase in Time-wages, if it leads to such an increase of efficiency that Task-wages are no higher than before, will not lower profits, but raise them. In other words a rise in wages almost always leads to

an increase of Personal capital; and the increase of the Wages-and-profits Fund depends on the Personal as much as on the Material capital of the country. A rise of wages may then be devoted to adding to the Material and Personal capital of the working classes, and increasing their efficiency: and if so spent, it will not lead to any diminution of the Wages-and-profits Fund. [Marshall 1879: 95-96, 202]

In fact, he continued, when a labourer has to be supplied with costly machinery, a rise in Time-wages is a great benefit to capital, if it lead to such an increase in efficiency as to keep Task-wages unchanged. Even in the case of unskilled labour it is to the advantage of capital that Time wages should rise, provided Task wages do not rise too. If two labourers at 18s. a week will do as much work as three at 12s., the former are in the long run cheaper. For they are likely to remain longer in full health and strength and to have healthier and stronger children than the others; and much heavier burden will be imposed on capital through the poor rates by three low-waged than by two high-waged labourers. [*ibid*: 132]⁷⁾

5.3 Cumulative Effects of Time on Wages

In Bk. VI of the *Principles*, especially Chs. IV-V "Earnings of Labour, Continued", Marshall discussed 'many peculiarities' in the action of demand and supply of labour, which were cumulative and he held those cumulative effects on wages were far more important in the long run. He was highly concerned with the poverty and genuinely anxious to find its remedies. He was very scared about the vicious circle of poverty leading to poor health and education, leading in turn low productivity and perpetuating low wages. [O'Brien 1981: 54]

The problem had much in common with that of tracing the economic influence of custom. 'If custom checks the progress of one generation, then the next generation starts from a lower level than it otherwise would

have done; and any retardation which it suffers itself is accumulated and added to that of its predecessor, and so on from generation to generation'.

And so it was with regard to the action of demand and supply on the earning of labour. If at any time it pressed hard on any individuals or class, the direct effects were obvious. But the sufferings were much more significant with those that have 'the indirect effect of lowering the character of the workers or of hindering it from becoming stronger. For these last cause further weakness and further suffering, which again in their turn cause yet further weakness and further suffering, and so on cumulatively'. On the other hand, 'high earnings, and a strong character, lead to greater strength and higher earnings, which again lead to still greater strength and still higher earnings, and so on cumulatively'. [Marshall 1961A: 559-60]

Human agents of production were not bought and sold as machinery. The worker sells his work, but retains property in himself: those who bore the expenses of rearing and educating him would receive only very little for his services in later years. Consequently, the investment of capital in the rearing and early training of the workers was limited 'by the resources of parents in the various grades of society, by their power of forecasting the future, and by their willingness to sacrifice themselves for the sake of their children'. [*ibid*: 561]

This evil was of relatively small importance for the higher industrial orders. For in those orders most people 'distinctly realize the future', and 'discount it at a low rate of interest'. They exert themselves much to select the best careers for their sons, and the best trainings for those careers; and they are generally willing and able to incur a considerable expense for the purpose. The professional classes especially, while generally 'eager to save capital for their children', are even more 'on the alert for opportunities of investing it in them'. However, in the lower

ranks of society the evil was really great, with its degrading and self-perpetuating effect.

For the slender means and education of the parents, and the comparative weakness of their power of distinctly realizing future, prevent them from investing capital in the education and training of their children with the same free and bold enterprise with which capital is applied to improving the machinery of any well-managed factory. Many of the children of the working-classes are imperfectly fed and clothed; they are housed in a way that promotes neither physical nor moral health; ...At least they go to the grave carrying with them undeveloped abilities and faculties; which, if they could have borne full fruit, would have added to the material wealth of the country...many times as much as would have covered the expense of providing adequate opportunities for their development. [*ibid*: 562]

Marshall's point on which he had specially to insist was that this evil cumulative. The worse fed were children of one generation, the less would they earn when they grew up, and the less would be their power of providing adequately for the material wants of their children; and so on to the following generations. And again, the less fully their own faculties were developed, the less would they realize the importance of developing the best faculties of their children, and the less would be their power of doing so. And conversely 'any change that awards to the workers of one generation better earnings, together with better opportunities of developing their best qualities, will increase the material and moral advantages which they have the power to offer to their children: while by increasing their own intelligence, wisdom and forethought, such a change will also to some extent increase their willingness to sacrifice their own pleasures for the well-being of their children'. [*ibid*: 562-63]

This is the keynote which Marshall repeated in the *Principles* and the recurring notion which he expressed there 'the spirit of the age', as I referred to in the introduction to this paper. Marshall's ideas on human capital were probably the outcome of the poverty problems which he observed: what he genuinely wanted was the development of abilities, activities, and faculties of the poor, to provide the opportunities for their development by means of economic growth: He was very concerned about the improvement of physical strength, mental ability, and moral character, or quality of the people and the workers, a rise in the standard of life, then a growth of national income, and the earnings of the labour. He was a firm believer in the economy of high wages. His arguments on the interaction between high wages (having efficiency wage effects) and educational investment seems to offer a powerful mechanism of cumulative and endogenous growth.

Further Marshall put a particular emphasis on the role of family and motherhood. He held the opinion that 'the character of a nation depends chiefly on that of the mothers of the nation—on their firmness and gentleness and sincerity'. It was in childhood, and at home, that 'the workman must learn to be truthful and trusty, cleanly and careful, energetic and thorough, to reverence others and to respect himself'. [Marshall 1879: 12]⁸⁾

Marshall thought that able workers and good citizens were not likely to come from homes, from which the mother was absent during a great part of the day. [Marshall 1961A: 721] The son of the artisan had a better start in life than the son of the unskilled labourer; he was brought up in a more refined home and with more of a mother's care. His parents were likely to be better educated, and to have a higher notion of their duties to their children; and, last but not least, 'his mother is likely to be able to give more of her time to the care of her family'. Marshall highly regarded the last point, noting that 'the degradation of the working-

classes varies almost uniformly with the amount of rough work done by women'. And he stressed: '*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*, so long as she retains her tender and unselfish instincts, and has not been hardened by the strain and stress of unfeminine work'. [*ibid*: 564, italics added.]

In addition, he held that 'in estimating the cost of production of efficient labour, we must often take as our unit the family'. For him the cost of production of efficient men cannot be treated 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 homes happy, and to bring up their children vigorous in body and mind, truthful and cleanly, gentle and brave'. [*ibid*: 563-64]⁹⁾

Epilogue

The main drift of Marshall's study of distribution suggested that 'the social and economic forces already at work are changing the distribution of wealth for the better', and that 'their influence is for the greater part cumulative'. Wages had risen and wages differentials narrowed over time: the lower and middle incomes were increasing faster than those of the rich. Though it was impossible to raise all earnings beyond the well-to-do artisan families, it was 'certainly desirable that those who are below that level should be raised, even at the expense of lowering in some degree those who are above it'. [Marshall 1961A: 712, 714] As seen above, Marshall held that 'any change in the distribution of wealth which gives more to the wage receivers and less to the capitalists is likely to hasten the increase of material production'.

People should have access to the 'necessaries for efficiency' so as to develop their

potential capabilities. Marshall's evolutionary explanation for modern man's escape from Malthusianism was paradigmatic of the new liberal characterization of the working classes. They would grow more mobile, more rational, more able to acquire and conserve property; in effect, it would increasingly become like a middle class in working class dress. 'The sagacity and public spirit of the leading minds both among employers and employed are increasing fast; the recent improvement among the employed in particular is one of the most marvelous events in the history of the world'. [Marshall 1885: 64]

In the *Industry and Trade*, particularly in the first and final parts, Marshall drew attention to the fact that sectional interests in industry were declining and becoming increasingly plastic, and that the chief change was 'the assimilation of training, and consequently the capacity, of the working classes generally to those of the well-to-do'. The spread of education was rapidly effacing the distinctions of mind and character between different social strata. Consequently 'we are approaching rapidly to conditions which have no close precedent in the past, conditions under which the relations between the various industrial strata of a civilized nation are being based on reason, rather than tradition'. [Marshall 1919: 4-5]

Thus for Marshall the future might be made brighter than the past by greater community of thought, action and sympathy; by a fuller recognition of the dignity of man, and cordial cooperation among all the various ranks of industry, and by a continued development of the fundamental principles of the Whitley Report. He thought that human nature had developed new possibilities in almost every generation and it had progressed very fast during the previous fifty years. [*ibid*: 650-51]

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1) He asserted that the rapid growth of population and industry in Britain increased the coal consumption and steep rise of its cost - so that Britain's industrial progress and supremacy was bound to suffer a check within the next half-century or so. [Collison Black 1981: 12-3].

2) It would be interesting to know that while warning the probable exhaustion of coal, Jevons also argued that the wealth generated from coal should be used for investment in human capital. [Lecture *On Coal*, January 16, 1867, quoted in Collard 1996: 592].

3) Marshall noted that 'there are few practical problems in which the economist has a more direct interest than those relating to the principles on which the expense of the education of children should be divided between the State and the parents', but he didn't develop the argument. [*ibid*: 216]

4) Marshall's letter was inserted in Preface to Second Edition of Bosanquet's book, (London: Macmillan, 1903), pp. vii-viii.

5) Marshall's practical remedies were two. The first was to enforce sanitary regulations in London, with rapidly increasing stringency. This was accompanied by second remedy to help those who 'are not wanted' in London to move to 'industrial villages, where they can get house-room cheaply, and fresh air for nothing'. [Marshall 1885: 67] Marshall actually had contacts with the Society for Promoting Industrial Villages, formed in 1884 (principally by Henry Solly). [See his letters to the Society, 2 Feb. 1885, 19 March (1885?), Whitaker I: 187, 191] According to Whitaker, The aims of the Society were similar to ideas Marshall had expressed in 'Where to House Them', *Contemporary Review*, 45 (Feb. 1884), part of a Symposium on 'The Housing of the London Poor': reprinted in Pigou (1925). "Where to House the London Poor" (1884) was written before the Garden City movement started and probably gave an impetus to that movement. [Whitaker I: 187]

6) For Marshall on human capital, see Kiker 1966, 1967; Blandy 1967; Baba 1967; and Nishioka

1985.

7) See Hashimoto 1990: ch. 7.

8) Marshall also says: 'General ability depends largely on the surroundings of childhood and youth. In this the first and far the most powerful influence is that of the mother'. [1961A: 207]

9) Marshall noted: Sir William Petty discussed "The Value of the People" with much ingenuity; and the relation in which the cost of rearing an adult male stands to the cost of rearing a family unit was examined in a thoroughly scientific manner by Cantillon, *Essai*, Pt I, ch.XI, and again by Adam Smith, *Wealth of Nations*, Bk I, Ch.VIII: and in more recent times by Ernst Engel, in his brilliant Essay *Der Preis der Arbeit*, and by William Farr and others. [1961A: 564] See Kiker 1967.

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