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"No Wealth But Life": When Does Mercantile Wealth Create Ruskinian Wealth?

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Abstract

Ruskin's famous dictum, "There is no Wealth but Life", offers a radically different view of the purposes of economic growth. This paper explores the relationship between mercantile wealth (as Ruskin called it), and his higher concept of wealth as life. After a brief review of Ruskin's writings about wealth and political economy, the paper develops a model of this relationship. We find an inverse u-shaped relationship between mercantile wealth and Ruskinian wealth, suggesting an optimum level of technological advance. Beyond that, while striving to increase the contribution of material wealth to overall wealth, we may actually reduce Ruskinian wealth.

1. Introduction

In the late 1960s and early 1970s, the "economic growth controversy" was high on the agenda, with the work of Beckerman (1974), Boulding (1968), Meadows *et al* (1972), Mishan (1967), Schumacher (1974), Scitovsky (1976) and many others. In the economics literature, at least, the controversy has arguably not been

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as prominent over the last twenty five years as it was then, but equally it has certainly never gone away.

It is of particular interest to revisit this issue now in view of recent reappraisals of the economic writings of John Ruskin.[2] Ruskin's maxim, "There is no wealth but life",[3] opens up an exceptionally useful perspective from which to reassess the economic growth controversy. Ruskin believed that conventional political economy lacked a proper definition of wealth. In his view, preoccupation with material wealth (or *mercantile* wealth, as he called it) meant that political economists were blind to the question of whether that material could genuinely increase the standard of living.

The aim of this paper is to show with the use of a simple model whether and how technological change may reduce the capacity of individuals to create Ruskinian wealth from material wealth, so that Ruskinian wealth may actually decline as material wealth increases.

2. Ruskin's Political Economy of Wealth

Most economists think of Ruskin – if they think of him at all – as a critic and historian of art. But Ruskin himself claimed that his critique of political economy, *Unto this Last* (1862), was his greatest work. And with hindsight he was probably right. The paradox about Ruskin is that although his thinking underpins the twentieth century welfare state, and his thinking about environmental matters was equally prophetic, his work is little known and little read by modern economists. Partly this is because – as Clark (1964) is quick to point out – his work is unsystematic and, in places, hard to read.

Shaw (1918) has shown how Ruskin's thinking underpinned modern English Socialism.[4] English socialists like Morris were probably more influenced by Ruskin than by Marx. When the first

[2] [2] For all citations of Ruskin's work, reference is made to the CD ROM version (1996) of *The Works of John Ruskin*, edited by Cook and Wedderburn.

[3] [3] Unto This Last (1862), *The Works of John Ruskin*, vol. 17, p. 105

Labour MPs were elected to the House of Commons in 1906, a questionnaire was circulated amongst them to ask which book had influenced them most deeply, and the response was Ruskin's *Unto this Last*. Others have noted how his thinking underpins much of the twentieth century welfare state (Clark, 1964; Wilmer, 1985). Ruskin was a strong advocate of free education for the working classes, free libraries, old age pensions, and even a minimum wage. In addition, along with Carlyle, he was one of the first to see the dangers of unchecked industrialization and urban development, and the risks of pollution, and was an advocate of town planning, smokeless zones, and green belts. His work was an inspiration to the arts and crafts movement and to conservation.[5] Ruskin made several attempts during his lifetime to put his social creed into practice. In general these failed. But today his thought influences the life of millions (though they do not know it). As Clark (1964) says, it is highly ironic. But it is an equal, or even greater irony that Ruskin receives so little attention from economists.

Here we shall simply focus on his views about wealth creation. Hobson (1898) offers a very clear (and systematic) account of all Ruskin's thinking on political economy. Other valuable and more recent accounts include those by Clark (1964), Wilmer (1985), and Henderson (2000).

In his critique of nineteenth century industrialization, Ruskin held political economists responsible for the fact – as he saw it – that industrialisation was out of control. In particular, he focussed

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[4] Another paradox, since Ruskin described himself as a "violent Tory of the old school" – Autobiography (1885), *Works*, vol. 35, p. 13

[5] The foundation of the National Trust in 1901 owes much to Ruskin. Before Ruskin, most environmental critiques came traditionally from the right (Carey, 1992). To the extent that Ruskin was on the 'left', his critique was distinctive – though as already noted, it is hard to position Ruskin on the traditional 'left-right' political spectrum.

his attack on J. S. Mill. In the introduction to *Principles of Political Economy*, Mill had asserted that:

> Every one has a notion, sufficiently correct for common purposes, of what is meant by wealth.[6]

Ruskin took exception to this:

> There is not one person in ten thousand who has a notion sufficiently correct, even for the commonest purposes, of "what is meant" by wealth; still less of what wealth everlastingly is.[7]

Ruskin believed that this lack of precision about what constitutes wealth was having very unfortunate implications. Industrialisation and laissez-faire appeared to be a path to maximizing material wealth. But in Ruskin's view, industrialization and laissez-faire was certainly *not* the right path to maximizing *all* definitions of wealth. That is why he was so adamant that a proper political economy must start with a precise definition of wealth.

Political Economy and Mercantile Economy

Ruskin argued strongly that the Political Economy of Ricardo and Mill (and their descendents) was not *political* economy at all. At best, it should be called *mercantile* economy. To him, political economy is about producing things of value while mercantile economy is just about making money. Alongside this distinction between political and mercantile economy, Ruskin made a firm distinction between Wealth (things of value) and Money (documentary claims on these things of value).[8] *Ultimate* value, and therefore wealth is *the life-giving power of anything*. To Ruskin this power was *intrinsic* – a view that looks peculiar to modern economists. *Effectual* value,

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[6] Mill, Principles of Political Economy (1848/1909): "Preliminary Remarks", p. 1

[7] Munera Pulveris (1872), *Works*, vol. 17, pp. 131-132

[8] This distinction has something in common with Marx's (1867) distinction between use value and exchange value, though arguably Ruskin takes it further.

however, entails both the production of a thing of value and *the capacity to use it*:

> Where the intrinsic value and acceptant capacity come together there is Effectual value, or wealth; where there is either no intrinsic value, or no acceptant capacity, there is no effectual value; that is to say, no wealth. A horse is no wealth to us if we cannot ride, nor a picture if we cannot see ....[9]

From this Ruskin drew out one of his key assertions:

> Wealth, therefore, is the possession of the valuable by the valiant.[10]

And he emphasised that while some people might appear "wealthy" in a mercantile sense, they are not because they are incapable of creating real wealth from their material wealth. From this observation, we can start to explore how (in Ruskin's terms) redistribution to the *valiant* increases wealth.[11] While the creation of real wealth requires intrinsically valuable things in the right hands, if these things are in the wrong hands then it may be (what he terms) *illth* rather than wealth that results.

The Fallacy of an Economic Man

A second objection is to the conception of an economic man. Ruskin appears to have no objection to the construction of a *hypothetical* science which assumes that the sole objective is to maximise the quantity of material wealth measured in money. But, as

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[9] Munera Pulveris (1872), *Works*, vol. 17, p. 154. This distinction between production of things and the capacity to use them has been well developed by A. K. Sen (for example, Sen, 1999).

[10] Unto This Last (1862), *Works*, vol. 17, pp. 88

[11] Unto This Last (1862), *Works*, vol. 17, pp. 89

Hobson (1898, p. 64) puts it, "What is the use of a science which begins by assuming that man is what he is not?"

We could deflect this criticism by saying that Mercantile Economy simply assumes that man as an industrial animal, a getter and spender of money, is a separate being from man as a friend, a father, a citizen, or that he can conveniently and justifiably be regarded as separate for "economic" treatment. Mercantile economy does not deny the existence of these non-economic objectives but simply argues that they can be analysed separately.

The analysis of separability in economics - due to Leontief (1947), Strotz (1957) and Gorman (1959) - offers a modern approach to such questions. Focussing just on the consumption side, *economic man* is equivalent to a weak separability assumption. If the rate of substitution between items in the material sub-utility function is independent of those factors that make up other (non material) components of utility, then it is possible to analyse material choices almost in isolation of other choices. But, while he did not have the language of modern separability theory, The Ruskinian political economist, Hobson (1898), cast doubt on what he calls the "separatist assumption" required by Mercantile Economy.[12] He argued that goods that are not 'wealth' in the mercantile sense, have a vital bearing on the capacity to consume industrial goods.[13]

Moreover, when we place consumption and production together the problems with the economic man abstraction will become clearer still (see below). Mishan (1973, p.25) put the point very well when he said that a family may have much material wealth, but there will be no joy in it when their lives are blighted by the pollution which results from producing that wealth. Or, putting it abstractly: if the accumulation of additional material wealth (however indirectly) reduces the consumer's ability to derive Ruskinian

[12] The critique of the separability assumption is also to be found in Marx (1844) and Veblen (1898-99).

[13] Hobson (1898), ch. III, p. 75

wealth from that material, then it does not make sense to maximize the accumulation of material wealth.

3. A Trade-off Between Ruskinian and Material Wealth?

In what ways may the attainment of material wealth conflict with the attainment of Ruskinian wealth? Ruskin identified several factors.[14]

Pollution

As Wilmer (1985) says, very bluntly, Ruskin's view was that if a profitable factory pollutes then we cannot be sure that it contributes to wealth. This topic was one near to Ruskin's heart, and about which he would extemporise with free use of irony.[15] Continued preoccupation with mercantile wealth would, in his view, destroy the natural resources that supply so much Ruskinian wealth. Moreover, in the absence of these natural resources it is difficult (or impossible) for the designer to create Ruskinian wealth from any material wealth that is created. Or, in Ruskinian language, great art cannot come from a malign industrial archaeology.[16]

In short, Ruskin's general presumption is that there is a trade off between rapid and remorseless accumulation of material wealth and the ability to develop acceptant capacity.

Externalities and Deterioration in Quality

Ruskin was clear about the problem of externalities. Referring to those exchanges where the trader makes a profit as "plusses" and those where the trader makes a loss (or suffers from negative externalities - whether pecuniary or real) as "minuses", Ruskin notes that the pluses tend to be very visible to the economist while

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[14] Tsuru (1993, chapter 6) has commented on other factors which cause GNP and 'real' income to diverge.

[15] The Two Paths (1859), *Works*, vol. 16, pp. 336-340

[16] [16] Letter 82, Fors Clavigera (1877), *Works*, vol, 29, p. 224

the minuses are often invisible, but highly damaging.[17] Ruskin was also concerned that technological change could lead to deterioration in the quality and variety of products.[18] Carlyle (1843) had made the same point before him.[19] And the argument was stated memorably by Morris (1882, p. 242).

Division of Labour

Ruskin most severe critique was reserved for the division of labour. To understand why he was so opposed to economic growth driven by technological change, it is essential to understand his objections to the division of labour.

> We have much studied and much perfected, of late, the great civilized invention of the division of labour; only we give it a false name. It is not, truly speaking, the labour that is divided; but the men:—Divided into mere segments of men—broken into small fragments and crumbs of life; so that all the little piece of intelligence that is left in a man is not enough to make a pin, or a nail, but exhausts itself in making the point of a pin or the head of a nail.[20]

As Hobson (1898) argues, the problem with conventional thinking about the division of labour is that it is not clear why the utility of the consumer be more considered than the disutility of the producer. The loss of the producer should be set against the alleged gain of the consumer, and Ruskin believed that when this is done, the reality of the consumer's gain is denied.

Ruskin was not the first to criticise the division of labour in this way. Carlyle (1843) had done so vigorously. And indeed, Smith – though much impressed with the power of the division of labour as

17 17 Unto This Last (1862), *Works*, vol. 17, pp. 91–92

18 18 Scitovsky (1976) talks of "increased monotony".

19 19 Indeed, there is much in common between their two philosophies – see Roe (1921).

20 The Stones of Venice Vol. II (1853), *Works*, vol. 10, p. 196

an engine of economic growth (Wealth of Nations, Book I) – had some harsh words to say on the subject in Book V.[21] Post-Ruskinians in particular were very exercised by the potential damage of the division of labour. One of the most memorable attacks is by Morris (1879, p. 82).

Complementarities Between Material Wealth and Ruskinian Wealth

Ruskin and others talk of an inevitable trade-off between Ruskinian Wealth and material wealth. But this is not inevitable. Sometimes we can only achieve Ruskinian wealth if we are in possession of the necessary *material* wealth. Solow (1973) observes that while he has no great affection for the motor car, he would get very little pleasure from knowing that the countryside is beautiful unless he could visit it. For the town-dweller, natural resources can only be converted into Ruskinian wealth when he has a particular piece of material wealth at his disposal. In the absence of that, the town-dweller has no *acceptant capacity*.

Ruskin's assessment of technology may be unduly negative. For Ruskin (and Morris after him) technology is more often than not equated to a machine which acts to de-skill labour. Ruskin is less disposed to concede that technology can equally provide tools that *add* to the skill of the worker. Ruskin seems to categorise the results of technological advance into machines or tools, according to whether he approves of the results – rather than anything else. In any case, the distinction is not clear-cut, as some machines may be deskilling at first use, but then the innovative employee will find a way to turn it into a tool that is skill enhancing. The key here may again be one of timing. What is at first a de-skilling machine can later become an enhancing tool. The computer is a good example of this. Seen at first as a labour-saving machine, it has become, for many, a labour-enhancing tool.

21 21 Smith (1776/1909), Book V, p. 263-264

Despite these reservations, we shall take a pure Ruskinian view of technology in the simple model that follows. It is a machine that enhances productivity and the creation of material wealth. But, by de-skilling and de-motivating the labourer, this machine reduces his/her capacity to create Ruskinian Wealth from material wealth and natural resources. We treat technology in this way so as to capture an essentially Ruskinian perspective, while recognising that it is an exaggeration, and that such a view fails to capture the dual role of technology as machine *and* tool.

4. Simple Static Model of Mercantile and Ruskinian Wealth

The very simple (and entirely static) model developed below does nevertheless capture the essential character of the difficult relationship between mercantile (or material) wealth and Ruskinian wealth. The model defines Ruskinian wealth for *an individual* - and not necessarily a *representative individual*. This paper makes no attempt to address the interesting but complex aggregation issues that arise here.

In the model, material wealth and natural resources are the *fuel* for wealth creation and Ruskinian wealth is the life produced from that *fuel*. However the mapping from the first to the second is not trivial: it depends on Ruskin's concept of acceptant *capacity* in consumption. In practice, acceptant capacity will depend on many things, but here we simply account for the effect of natural resources and technological change on acceptant capacity. In particular, we are interested in the way that "dumbing down" related to the division of labour may mean that consumers are less good at deriving Ruskinian wealth from natural resources. If so, they depend on increased material wealth in their vain struggle to maintain quality of life and become less resistant to the squandering of natural resources.

Mercantile (or Material) Wealth

$$MW = M_0 + mT \tag{1}$$

where T is the process technology and mT represents the effect of technological change. Assuming full or fixed employment, (and holding lots of other factors constant), the equation describes the effect of technological change on material wealth.

Natural Resources

$$NR = N_0 - \pi T \tag{2}$$

where πT represents the environmental cost of this technological change. This can be pollution *or* the depletion of natural resources. (In a more complex model we should perhaps separate these two).

Ruskin's Concept of Acceptant Capacity

As noted above, this is the ability to turn natural and material wealth into Ruskinian Wealth:

$$A = \beta NR \quad \alpha T \tag{3}$$

where βNR indicates that acceptant capacity is higher in a better environment and αT indicates that advanced processes (involving, for example, a high division of labour) reduce acceptant capacity (dumbing down of the labour force). It has something in common with human capital.

Ruskinian Wealth

As described above, this is value "in the hands of the valiant"; that is, material wealth plus natural resources multiplied by acceptant capacity.

$$RW = A(MW + NR) \tag{4}$$

Using equations (1), (2) and (3) to substituting for A, MW and NR in (4), and rearranging, we obtain:

$$RW = \beta\left[M_0 + N_0\right] + \left[\beta\left(m - \pi\right)N_0 - \left(\beta\pi + \alpha\right) . \left(M_0 + N_0\right)\right]T - \left[\left(\beta\pi + \alpha\right) . \left(m - \pi\right)\right] . T^2 \qquad (5)$$

Thus Ruskinian wealth is a quadratic in T. From (5) this we can calculate:

$$\frac{\partial RW}{\partial T} = \beta(m - \pi)N_0 - (\beta\pi + \alpha)(M_0 + N_0) - 2(\beta\pi + \alpha)(m - \pi)T \qquad (6)$$

$$\left.\frac{\partial RW}{\partial T}\right|_{T=0} = \beta(m - \pi)N_0 - (\beta\pi + \alpha)(M_0 + N_0) \qquad (7)$$

and:

$$\frac{\partial^2 RW}{\partial T^2} = -2(\beta\pi + \alpha)(m - \pi) \qquad (8)$$

When the slope of the Ruskinian wealth function is positive at $T=0$, and the second derivative is negative - see equations (7) and (8) - the character of the model can be summarised in Figures 1 and 2. These assume (for simplicity) that the units of different aspects of wealth are conformable.

Figure 1

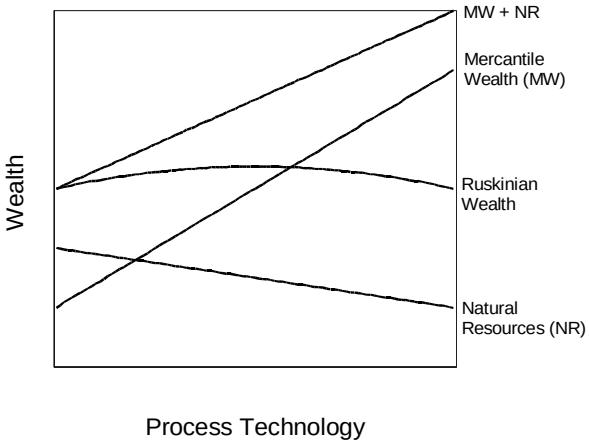
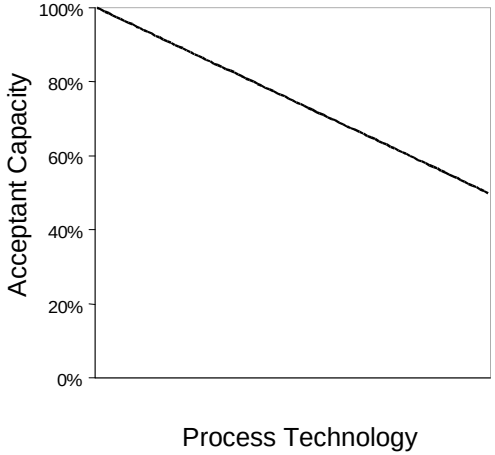


Figure 2



At the "base level" of technology (T=0), acceptant capacity is defined as 100% (Figure 2) but falls off as process technology advances (because of the division of labour, or other reasons). In Figure 1, we can see how Ruskinian wealth (RW) compares with the (vertical) summation (MW+NR) of mercantile wealth (MW) and natural resources (NR).

At the left-hand end of the graph, the two are the same, but as the process advances, RW falls short of MW+NR as acceptant capacity falls below 100%. Figure 1 shows that RW has a maximum in the middle of the graph.

In this case, we can work out the level of T which maximizes Ruskinian wealth by setting equation (6) equal to 0 and solving for T*:

$$T^* = \frac{\beta(m-\pi)N_0 - (\beta\pi+\alpha)(M_0+N_0)}{2(\beta\pi+\alpha)(m-\pi)} = \frac{\beta N_0}{2(\beta\pi+\alpha)} - \frac{M_0+N_0}{2(m-\pi)} \qquad (9)$$

This is positive so long as the slope of the Ruskinian wealth function is positive at T=0 *and* the second derivative of the Ruskinian wealth function is negative.

From (9) it is easy to show that the effects of different parameters on T^* (the optimum process technology) are as follows:

$$\frac{\partial T^*}{\partial \alpha} = -\frac{\beta N_0}{2(\beta\pi+\alpha)^2} < 0 \qquad (10)$$

This means that the more technology change reduces acceptant capacity, the lower is the optimum advance in technology. Next:

$$\frac{\partial T^*}{\partial \beta} = \frac{\alpha N_0}{2(\beta\pi+\alpha)^2} > 0 \qquad (11)$$

This means that the faster natural resources augment acceptant capacity, the higher is the optimum advance in technology. Next:

$$\frac{\partial T^*}{\partial \pi} = -\frac{\beta^2 N_0}{2(\beta\pi+\alpha)^2} - \frac{M_0+N_0}{2(m-\pi)^2} < 0 \qquad (12)$$

That is, the higher the environment cost of technological change, the lower is the optimum advance in technology. Next:

$$\frac{\partial T^*}{\partial m} = \frac{M_0+N_0}{2(m\pi)^2} > 0 \qquad (13)$$

The greater the effect of technological change on production of material wealth, the higher is the optimum advance in technology. Next:

$$\frac{\partial T^*}{\partial M_0} = -\frac{1}{2(m\pi)} < 0 \qquad (14)$$

The greater the starting level of material wealth, the lower is the optimum advance in technology. And finally:

$$\frac{\partial T^*}{\partial N_0} = \frac{\beta(m - \pi) + (\beta\pi - \alpha)}{2(\beta\pi + \alpha)(m - \pi)} > 0 \quad [\ if\ \ T^* > 0] \qquad (15)$$

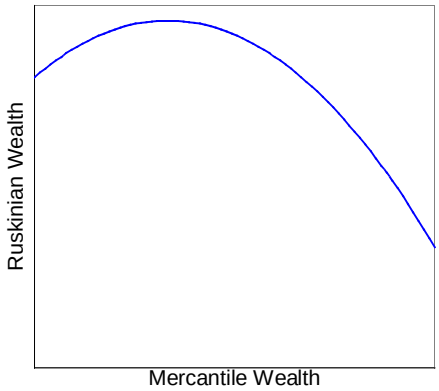
To see this last assertion, compare equation (15) with (9) and note that:

$$\frac{\partial T^*}{\partial N_0} \cdot N_0 > T^* \qquad (16)$$

Equation (15) means that the greater the starting level of natural resources, the higher is the optimum advance in technology. This could perhaps be called a *California effect*.

Two interesting observations can be made about the properties of the model – and these derive from Figures 1 and 2 in a straightforward way. First, Figure 3 shows that there is (up to T*) a positive relationship between material and Ruskinian wealth, but beyond that there is a negative relationship or trade-off.

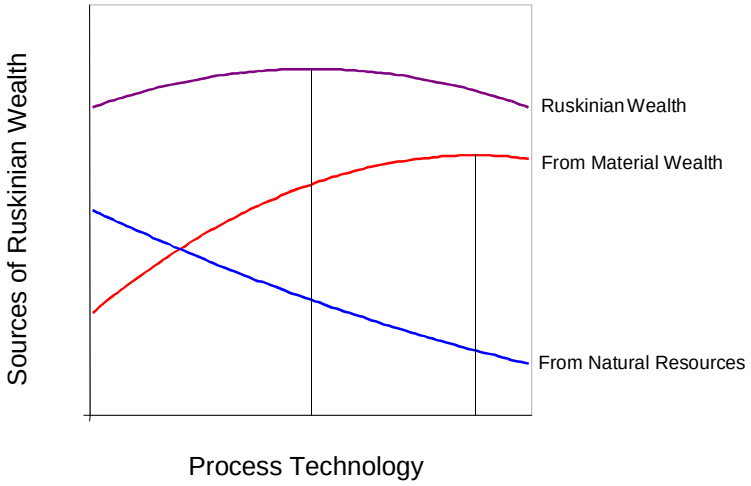
Figure 3



Second, that the contribution of natural resources to Ruskinian wealth falls steadily while the contribution of material wealth rises.

This is illustrated in Figure 4 (below). Ruskinian wealth rises at first, reaches a maximum, and declines thereafter. But the contribution to Ruskinian wealth from consumption of material wealth continues to rise after that, albeit as a declining rate. The contribution from natural resources falls steadily, partly because technological change depletes natural resources, but equally because it reduces acceptant capacity.

Figure 4



5. Conclusion

This paper has developed a simple Ruskinian model of technological change, material (or mercantile) wealth and Ruskinian wealth. This shows that Ruskinian wealth is probably maximised at an intermediate level of technological advance. In this simplistic form, the model might not appear to have any obvious application. Nevertheless, a more sophisticated and elaborate version of this model could in principle help us to identify the level of development at which it is timely to seek no further economic growth.

This Ruskinian perspective, though quite compelling, presents a huge challenge to those who seek to measure economic progress.

The fact that somebody will pay for something is neither a necessary nor a sufficient condition for that something to be a contribution to Ruskinian wealth. Acceptant capacity is very hard to measure. Items may trade at a price that overestimates their contribution to Ruskinian wealth, but at the same time some of the purest forms of wealth are free. It seems that measuring Ruskinian wealth requires us to examine *directly* what material wealth does to enhance the quality of life. And that makes for a huge and unmanageable project at a macroeconomic level.

As a very small step towards resolving this huge challenge for economics, this paper has asked a simpler question. In what circumstances will the pursuit of growth in mercantile wealth also lead to growth in Ruskinian wealth? And, by contrast, in what circumstances will the pursuit of growth in mercantile wealth lead to a *decline* in Ruskinian wealth? The paper has derived an expression for the optimal rate of technology advance.

In this paper, the individual is not just a consumer but also a worker. The ability to turn conventional material wealth into Ruskinian wealth will depend on many factors. Here, we have looked just at the impact of technological change (through the division of labour) and the environment. But many other factors will impact on this.

1) where there is a dependence effect (Galbraith, 1958) so that those who produce new products and services create the demand for these
2) where work in a highly competitive environment is stressful and where regulations about working hours are not observed
3) where pressure of work leads to the break up of the family
4) where globalisation leads to an increasing requirement for transportation beyond what any transport network can support, leading to persistent congestion

Keynes (1930) observed that to advance the prospects of our grandchildren, we may have to accept that "fair is foul and foul is fair", at least for another hundred years. To advance Ruskinian wealth (in aggregate) we may be obliged to pursue the advance of material wealth at the expense of that Ruskinian wealth derivable from natural resources. As we approach the end of Keynes' hundred year horizon, however, some believe that the economy is "locked into" a trajectory of striving for mercantile wealth, even if that is working against aggregate Ruskinian wealth. In terms of Figure 4, we may be at or near the point of maximal Ruskinian wealth, but continuing to strive to go further, to obtain more from growth in material wealth.

One obvious shortcoming of the model presented here is that it contains no dynamics. Given a particular "base level" of process technology, the model asks whether further advances in technology are desirable. If not, then the economy has presumably reached an optimum state where no further change is desirable. Practically speaking however, it is quite likely that this concept of an optimum should really be applied to a *rate of technological change* and not to a given *level* of technology. People can adapt to certain rates of change without impairing acceptant capacity – but higher or more unpredictable rates cause problems. It would be messy, though not difficult in principle to extend the model to contain such dynamics.[22]

References

Beckerman (1974) *In Defence of Economic Growth*, London: Jonathan Cape

[22] [22] It will have something in common with our analysis (Swann and Gill, 1993) of the capacity of companies to adapt to rapid technological change. When change is consistent with corporate vision, then even quite rapid changes can be accommodated without undue organisational stress. But when change is radical, or in other words, inconsistent with corporate vision, then it will cause much distress. See also Christensen (1997).

Boulding K. E. (1968) "The Economics of The Coming Spaceship Earth", in *Beyond Economics: Essays on Society, Religion and Ethics*, Ann Arbor: University of Michigan Press

Carey J. (1992) *The Intellectuals and the Masses*, London: Faber and Faber

Carlyle T. (1843/1893) *Past and Present*, London: Chapman and Hall

Christensen C. M. (1997) *The Innovator's Dilemma: When New technologies Cause Great Firms to Fail*, Boston MA: Harvard Business School Press

Clark K. (1964) *Ruskin Today*, London: John Murray/Penguin Books Ltd

Galbraith J. K. (1958) *The Affluent Society*, London: Hamish Hamilton

Gorman W. M. (1959) "Separable Utility and Aggregation", *Econometrica*, 27, 469-481

Henderson W. (2000) *John Ruskin's Political Economy*, New York: Routledge

Hobson J. A. (1898) *John Ruskin: Social Reformer*, London: James Nisbet and Co. Ltd

Keynes J. M. (1930/1972) "Economic Possibilities for Our Grandchildren", reproduced in *The collected writings of John Maynard Keynes, Volume 9: Essays in Persuasion*, pp. 321-332, London: Macmillan for the Royal Economic Society

Leontief W. (1947) "Introduction to a Theory of the Internal Structure of Functional Relationships", *Econometrica*, 15, 361-373

Marx K. (1844) *The Economic and Philosophical Manuscripts*

Marx K. (1867) *Capital* [Volume One]

Meadows D. L. (1972) *The Limits to Growth*, New York: Universe Books/Potomac Associates

Mill J. S. (1848/1909) *Principles of Political Economy*, London: Longmans Green and Co.

Mishan, E. (1967) *The Costs of Economic Growth*, London: Staples Press

Mishan, E. (1973) "Growth and Anti-Growth: What are the Issues?", in A. Weintraub, E. Schwartz and J. R. Aronson (eds.) *The Economic Growth Controversy*, White Plains, NY: International Arts and Sciences Press Inc.

Morris, W. (1879/1966) "Making the Best of It: Paper Read Before the Trades' Guild of Learning and the Birmingham Society of Artists", in *The Collected Works of William Morris*, Vol. 22, New York: Russell and Russell

Morris, W. (1882/1966) "The Lesser Arts of Life: A Lecture Delivered in Support of the Society for the Protection of Ancient Buildings", in *The Collected Works of William Morris*, Vol. 22, New York: Russell and Russell

Roe F. W. (1921/1969) *The Social Philosophy of Carlyle and Ruskin*, Port Washington NY: Kennikat Press

Ruskin J. (1996) *The Works of John Ruskin*, ed. E. T. Cook and A. Wedderburn, CD-ROM Version, Cambridge: Cambridge University Press

Schumacher E. F. (1974) *Small is Beautiful*, London: Abacus/Sphere Books Ltd

Scitovsky T. (1976) *The Joyless Economy*, New York: Oxford University Press

Sen A. K. (1999) *Commodities and Capabilities*, Delhi: Oxford University Press

Shaw G. B. (1918/1973) *Ruskin's Politics*, Pamphlet

Smith A. (1776/1910) *The Wealth of Nations*, Everyman Edition, London: J. M. Dent and Sons

Solow R. M. (1973) "A Dialogue on the Issues", in A. Weintraub, E. Schwartz and J. R. Aronson (eds.) *The Economic Growth Con-*

troversy, White Plains, NY: International Arts and Sciences Press Inc

Strotz R. H. (1957) "The Empirical Implications of A Utility tree", *Econometrica*, 25, 269-280

Swann G M P and J Gill (1993) *Corporate Vision and Rapid Technological Change*, London: Routledge

Tsuru S. (1993) *Institutional Economics Revisited*, Cambridge: Cambridge University Press

Veblen T. (1898-99) "The Instinct of Workmanship and the Irksomeness of Labor" *American Journal of Sociology*, Vol. 4

Wilmer C. (ed., 1985) *Unto This Last and Other Writings by John Ruskin*, Harmondsworth: Penguin Books Ltd