

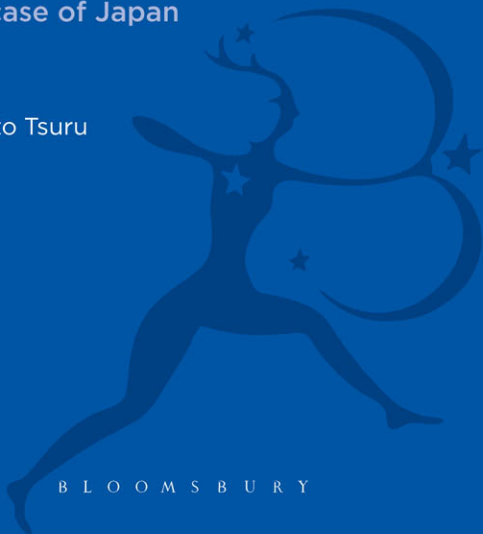


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THE POLITICAL ECONOMY OF THE ENVIRONMENT

The case of Japan

Shigeto Tsuru



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The Case of Japan

SHIGETO TSURU



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Preface

My interest in environmental problems originated in the 1930s while I was in the United States and was struck by the stark contrast between what was happening then in the Tennessee Valley and what had continued to harass the residents along the Watarasé River in Japan – both having a major copper mining centre in the upstream regions. Later, I had an occasion to read David Lilienthal's *TVA, Democracy on the March* (Harper & Brothers, 1943); and impressed as I was by the multi-purpose strategy of river-basin development with its implication of 'democracy on the march,' soon after the war I began organizing the 'TVA Study Group' among resource specialists, economists and political scientists in order to discuss the possibility of concretely applying some of the TVA principles to a number of regions in Japan. Out of this activity was born the Environmental Disruption Research Group (*Kōgai kenkyu iinkai*) in 1963, which was headed by myself and which from 1971 sponsored the quarterly publication (called *Kōgai Kenkyu*).

Ever since these early postwar years I have continued to be involved in environmental problems; and in the course of my empirical, often on the spot, researches I became convinced that the 'internal' logic of a particular institutional mechanism (such as the free enterprise market system) has to be remedied for the purpose of dealing with environmental disamenities. It is for this reason that I have chosen the title *The Political Economy of the Environment*, spelling out in some detail my methodological considerations in Chapter One. And, it may be suggested to those readers who wonder how these methodological considerations lead to a set of policy proposals for an environmentally sound new life style that they go directly to the last chapter and capture the intent of my practical recommendations.

I should probably bring to the reader's attention the date when I finished writing the closing chapter of the book, which was April 1998.

Shigeto Tsuru
Tokyo, Japan

January 1999

CHAPTER ONE

Methodological introduction

‘VALUE IN USE’ AND ‘VALUE IN EXCHANGE’

In the consideration of environmental problems today it is relevant to recall the distinction Adam Smith made between ‘value in use’ and ‘value in exchange.’ He wrote:

The things which have the greatest value in use have frequently little or no value in exchange; and on the contrary, those which have the greatest value in exchange have frequently little or no value in use. Nothing is more useful than water; but it will purchase scarce any thing; scarce any thing can be had in exchange for it. A diamond, on the contrary, has scarce any value in use; but a very great quantity of other goods may frequently be had in exchange for it.¹

If phrased in somewhat more specific terms, the distinction Smith proposed could be stated as one between ‘whatever possessing intrinsic value of its own as an object of human satisfaction’ and ‘whatever that is actually or potentially subject to pricing in the market.’ The former statement is much broader in scope than the latter, including within it not only conventional goods and services for consumption but also such things as natural beauty and rare species of wild animals and plants. The latter statement, on the other hand, though narrower in scope, has had the historical tendency of expanding its coverage, extending itself occasionally to cover those items the property of which can hardly be said to be salutary for human beneficial use, such as opium and baneful drugs.

In the discussion of economic problems in general I have found the distinction Smith made between ‘value in use’ and ‘value in exchange’ useful and often employed the contrasting terms of ‘the real (or physical) aspect’ versus ‘the value (or institutional) aspect.’ The *real* aspect is physical, transcending specific forms of socio-economic institutions, whereas the *value* aspect is social in the sense that it reflects an historically specific mode of production, such as a predominantly exchange economy. Not only is it important to

distinguish between these two aspects, but it is also of no less relevance, especially in dealing with environmental problems, to recognize the need to integrate the two while noting possible conflicts between them.

Advances in productive powers – the real aspect – may be likened, for example, to a rise in the *temperature* of H_2O , while the specific institutional arrangement of productive relations – the value aspect – may be likened to the *forms* of H_2O , such as ice, water and steam. A particular *form* of socio-economic institutions is likely to have a certain degree of historical stability often extending over a number of centuries, while having a certain internal logic characteristic of its own. In turn, such logic tends to have controlling effects over the physical or real aspect, as in the example of an exchange economy stimulating the spread of the division of labour, thus the specialization of particular skills.

On the other hand, the real aspect also has its own logic basically subject to natural laws which, as Francis Bacon said, ‘could be mastered only through the faithful compliance with them.’ And history records the process of a gradual but steady development of man’s knowledge and his mastery of nature, thus that of his own universal productivity. It is of special significance that this process, which can be likened to the increase in temperature of H_2O , was either accelerated by a particular socio-economic institutional form or retarded (or actually held back) by another particular institutional form. Furthermore, the process spoken of, which is the real aspect, is not necessarily passive to the value (or institutional) aspect; but just as a rise in the temperature of H_2O causes the transformation of the form from solid to liquid, the rise in human productivity can have a dynamic effect on the transformation of socio-economic institutions.

The distinction made by Smith between ‘value in use’ and ‘value in exchange’ can be further developed as I have done above. More recently, however, especially in connection with the discussion of environmental problems, a relevant distinction has been proposed between ‘appropriable’ resources and ‘inappropriable’ ones.²

A commodity is called appropriable when firms or consumers can capture its full economic value. . . . In a well-functioning competitive market, we would expect that appropriable natural resources would be efficiently priced and allocated. . . . An inappropriable resource is one whose use is free to the individual but costly to society. In other words, inappropriable resources are ones involving externalities.³

We may relate this distinction to the earlier one of Adam Smith's. Since appropriable resources can be priced and their full economic value captured by potential buyers, they may be classified in the category of 'value in exchange.' Inappropriable resources, like air quality and mountain views, on the other hand, cannot be individually appropriated, and generally be classified as 'value in use'; and since they could often be subject to negative externalities for the society, they are of special relevance to environmental economics. We shall come back to this problem later. But first, we have to clarify what is meant by 'negative externalities' mentioned above.

There are three major categories of economic activity unit: i.e. the household, the business firm and the nation state. Each one of them cannot escape from the operative logic of the society in which it functions. In a capitalist society, for example, the household (or the individual) sells its labour power as a commodity, receives the market-determined wage in return and seeks to maximize its satisfaction as a consumer; the business firm, typically taking the form of private capital, attempts to maximize its profit; and the nation state pursues what is usually called the 'national interest.' Each economic category 'internalizes,' as it were, those elements in the physical environment which are relevant to its activity and discharges what is not needed into the outside realm.

This discharging into the outside realm has the possibility of causing nuisance either to individual persons or to the community at large. The latter type is called 'public nuisance' and was dealt with by English law as early as in the sixteenth century. But the legal concern at that time was specifically with the injurious intrusion into *property rights concerning land* through the emission of obnoxious materials in general. Although such earlier legal concern was limited in the sense that it laid its main emphasis on 'anything injurious or obnoxious in relation to the property rights in land,' it did open a new way of separating the economist's vista into 'internal' and 'external.'

SHIFTING THE BOUNDARY BETWEEN THE 'INTERNAL' AND THE 'EXTERNAL'

In actual fact, the boundary which separates the 'external' from the 'internal' has shifted significantly in the historical process for each of the activity category we have spoken of. In the case of the household,

for example, self-sufficiency was the rule for each individual family in the aboriginal stage of human society. A family subsisted on whatever it could individually 'internalize' from the outside world. Then, by and by, the practice of barter began, enabling each household to obtain some of its necessities through direct exchange. The scope of domestic production gradually but steadily shrank until we came to a stage where a high degree of commercialization was attained not only in the realm of household goods but also in the wide field of services of all kinds. In a modern advanced society, being a housewife is no longer a full-time 'occupation.' Even what used to be considered by most people in Japan as a good tradition, namely, the caring of aged parents by the younger generation, is now disappearing in the trend which has created a need for 'external' provisions in the form of care services for the aged. Still further, what was at one time essentially a family-internal problem has come nowadays to be 'externalized' into an affair mediated by legal experts, as in the case of a strife between man and wife. There also has arisen what is called 'an interference of income' – a pet subject of Joseph Schumpeter, but exemplified by an experience of Keynes, who, upon coming to Washington, DC, for negotiations over the postwar economic settlement, was asked by the US counterpart official: 'where is your lawyer?' When it was explained that he had none, 'who then does your thinking for you?' was the rejoinder.⁴

In the case of business firms, on the other hand, shifting of the boundary between the 'internal' and the 'external' has been more in the direction of from the latter to the former. Most notably this is the case as regards the utilization of scientific achievements for business purposes.

What constituted the Industrial Revolution of the eighteenth and the early nineteenth centuries were technological innovations which could be described with practically no reference to the contemporary progress in the scientific world. The relationship between science and industry in those days was typically casual and unstructured. In other words, under capitalism, scientific knowledge has always been one of the *external* elements from the standpoint of a business firm.

Science, by nature, could not be an object of private ownership. It could thrive only when it was freely shared; nor did scientists know any national boundaries, let alone boundaries of private firms: they were servants only of scientific truth. This view of science and scientists could harmonize itself well with the basic philosophy of

capitalism as long as the relationship between science and industry remained typically casual and unstructured and any fruits of science could be 'packaged,' as it were, into 'patentable' technology under the control of private ownership.

But in the more recent decades, especially since the decade preceding the Second World War, science itself has become the central, strategic factor in the whole complex process of technological progress, best typified by the invention of nylon by the research staff of the Du Pont Company in the mid-1930s, replacing Japan's raw silk from the position of a unique export item. It was once held that knowledge had no marginal product. But now knowledge in a broad sense of the term is a cost factor just as patents or royalties once were and still are. Science thus has come to be embraced within the hold of private capital under capitalism as an *internal* matter, with a consequence that scientists as individuals have come to be employed by profit-seeking capitalist enterprises and to be subject to the logic of private capital. This is a contradiction of no small proportions. Whereas the very effectiveness of science lies in its being shared freely, private capital, in trying to internalize science, has to restrict the very freedom of scientists which is the *sine qua non* of their successful endeavour.⁵

In this era where productive forces have advanced to such a stage that 'private capital,' willy-nilly, is forced to embrace 'science' within its fold, there have been certain important consequences, such, for example, as that science has become a cost item of a private firm. But probably most important of all, from the standpoint of capitalism, is the changing function of profit as a barometer of contribution to the progress of productive forces. The profit-and-loss systems which provided an effective mechanism of incentives for private firms under capitalism is now impaired by the very behaviour pattern of gigantic corporations (which themselves characterize the modern industrial system) which are formed on the assumption of having both the market and science embraced within its fold. For one thing, the erstwhile mechanism of rewarding an innovator with excess profits which will disappear as the innovation is spread over the entire economy is now being replaced by a mechanism which enables a firm, through administrative prices, to retain the earning advantage *to the extent that it succeeds in preventing* the spreading of innovations over the entire economy. The principle of 'as one sows, so one reaps' still remains; but the difference now is that what used to be

external to individual firms is now *internalized* and is counted as a part of one's own sowing.

Another type of business activity, however, for which shifting of the boundary between the internal and the external has become mandatory in the recent years concerns industrial waste disposal. It was customary in the years past that business firms could discharge their industrial wastes externally with impunity, causing what is nowadays called 'negative externality.' Pigou's reference to smoke from factory chimneys possibly inflicting a heavy uncharged loss on the community was the classical example. In a more recent period of the 'scientific-revolution,' where modern large-scale industries have come to employ sophisticated techniques and highly complex materials, the pollution caused is no longer negligible in terms of damage to human health in particular. Thus, there has grown general consensus in modern developed countries to introduce in practice the so-called 'polluters pay principle,' which implies the shifting of the boundary between the internal and the external in such a way that 'negative externality' will be internalized by offending enterprises.

As we go further to consider the case of the third category of economic activity unit, that is, the nation state, we find the shifting of the boundary between the internal and the external has been especially dramatic in the post-second World War period particularly in connection with environmental problems. A call for the convening of the United Nations Conference on the Human Environment in 1972 by Ambassador Aström of Sweden at the UN Assembly meeting in 1968 marked a memorable turning point in this regard. Specific problems raised by Ambassador Aström were global in nature, such, for example, as the hot-house effect of the atmosphere and the eutrophy phenomenon in lakes and sea-coast areas. The concept of globalism, however, has been quite common among economists in the past in the sense of transnational or international relations or interactions, implying, though, still the integrity of nation states. The new approach requires transcending the boundary of nation states and is best couched in the expression of 'spaceship earth.' In fact, the idea of conceptualizing our world as a 'closed economy' in the sense that the earth has become a single spaceship without unlimited reserves of anything either for extraction or for pollution was advanced already by Kenneth Boulding and Barbara Ward in the 1960s.⁶ Boulding wrote:

In a space ship, clearly there are no mines and no sewers. Everything has to be recycled; and man has to find a place in the middle of this cycle. The 'space ship earth' simply repeats this on a larger scale. . . . In the space ship economy, consumption is no longer a virtue but a vice. . . . Human welfare will clearly be seen to depend, not on the throughput of the society – that is, not on the amount it can produce and consume – but on the richness and variety of its capital stock, including, of course, the human stock.⁷

One is tempted to recall a brief description of the earth by George Dillon, an American poet of the 1930s, to wit: 'a flying, flowering stone.' The poetic intuition of grasping this earth as one 'flying stone' is remarkable enough, although the adjective 'flowering' is hardly appropriate nowadays. The spaceship simile is indeed germane. Inside a spaceship, recycling is thoroughgoing, with everything needed to be *internally* dealt with. It may be said that in the case of our earth this internality is more complete inasmuch as residents of the spaceship earth cannot bring their foodstuff from outside like pilots of an actual spaceship. In addition, there are further difficulties for the spaceship earth in that firstly the number of its residents is increasing at least up to several decades ahead and secondly there is no master pilot who can issue commands on all occasions.

These constraints are often serious enough in face of the type of problems our earth is internally confronted with, for example, (1) the near certain probability of gradual exhaustion of non-renewable resources as the living standard is bound to rise for the ever-increasing population of the earth; (2) that the 'hot-house effect' of the earth is enhanced in the process of oxygen decrease coupled with increase of CO₂ in the atmosphere; and (3) the radioactive pollution which still remains with us as nuclear testing is continued by some countries. Be it noted that these problems are not endemic to a particular institutional characteristic of nation states but are types of physical phenomena *internal* to the earth as a whole, and that they demonstrate to us dramatically as examples of 'our capacity to intrude on the environment far outstripping our knowledge of the consequences.'⁸ Although it is normally the case that each of the viable economic activity units has capability to control its 'internal' affairs, the spaceship earth, having no master pilot at present, is only remotely capable of unified systematic control of its 'internal' matters of real or physical character.

CONCESSIONS TO THE PREVAILING POSITION OF THE
REAL-PHYSICAL ASPECT

The enemy of the market is not ideology but the engineer.

J.K. Galbraith, *The New Industrial State*,
Houghton Mifflin Co., 1967, p. 33

Some of the 'value in use,' in Adam Smith's terminology, which are not included in the category of 'value in exchange' have been termed 'inappropriable resources' in more recent years and cannot be priced in the 'internal' logic of the institutional aspect of a given society. Thus, their intrinsic value tends not to be evaluated sufficiently in the accounting in economics, with a result, in the case of Japan for example, that a large part of shore-lines with natural beauty have been reclaimed for factory sites with a prospect of monetary returns. 'A garden was encroached upon for the sake of expanding a kitchen' has been the metaphor used in critique of a policy slighting the 'value in use' that is inappropriable.

However, once we take a methodological stand of distinguishing the real-physical aspect and the value-institutional aspect, we realize immediately the importance of losing inappropriable resources and feel called upon to reflect over the habit of thinking which gives precedence to the value-institutional aspect. One of the clues for such reflection would be to look into the type of situations where conflicts arise because an inseparatively related phenomenon in its real aspect is split up in its value aspect.

Let me offer here a pedestrian example in this regard, that is the supplying of chicken eggs. Eighty years ago when I was a pupil in a primary school, our household used to keep a chicken-hut in the corner of our garden. It was my father's avocation; but for a child of my age it constituted a pleasant pastime to saunter about through a suburban field for chickenweed or to run to the hut, on hearing the typical note of clucking, for a fresh egg which was still slightly warm. From time to time, we took steps to hatching to increase the stock. We also made use of droppings as fertilizers for a little vegetable garden we had. In other words, the entire process of chicken-egg supply was conducted as 'closed circle' within our household with additional benefits on the side of giving taste of rural life to city dwellers. No doubt, even at that time there were commercially operated chicken farms. But their production process was typically of the

type not very far different from the one in our household, except it was on a much larger scale. What changed this process in recent years has been the development of the factory-type egg-supplying establishment, where hens are kept in a group of three within a narrow wire basket arranged in rows in such a way that feeding as well as collecting of eggs can be done with greatest economy. Droppings are also gathered by a conveyer system to be slurried for further disposal. Through such a process of modern egg-supplying 'industry,' productivity has been no doubt enormously raised. But at the same time, 'industrializing' of chicken-egg production caused us to lose the seat of its erstwhile suburban spectacle, thus making us aware that at least in this regard the days are gone now when man's life and that of animals complemented each other harmoniously in the bosom of Mother Nature while the economy of mass production intruded into our environment as a priority principle.

A lesson we learn from this kind of example is that policy considerations should be oriented toward giving prevailing position to the real or physical aspect in such a way that those biases caused by the 'internal' logic of a particular institutional mechanism can be remedied. How this reminder could be applied to each of the major categories of economic activity unit might be mentioned briefly here.

In the first place, there is the economic activity unit of the 'household' (or an individual person). If we are to yield prevailing position to the real-physical aspect, the market (or value) principle of equating the contribution of a unit of labour power with the wage payment could be questioned, especially in the modern period of automation where 'the creation of real wealth depends less on the labor time and the quantity of labor expended than on the power of the instrumentalities set in motion during the labor time.'⁹ In such a situation,

the great pillar of production and wealth is no longer the immediate labor performed by man himself, nor his labor time, but the appropriation of his own universal productivity, i.e., his knowledge and his mastery of nature through his societal existence – in one word: the development of the societal individual.⁹

It is to be noted, however, that in a much earlier period of technological development, that is, in the nineteenth century, the principle of 'giving according to one's needs' was enunciated as a matter of

human rights, notably by John Ruskin (1819–1900) whose best-selling booklet *Unto This Last* carried the implication of commanding to pay the same remuneration for the full day's work to the man who came belatedly to the work place as the last man. In the heyday of the commercial principle of the Victorian period Ruskin was a precursor of the modern principle of the welfare state which gives prevailing position to the real-physical aspect over the value-institutional one.

In regards to another major economic activity unit, that is, business firms, history reveals to us a rather typical course of development of the value-institutional over the real-physical aspect. Private enterprises under capitalism did develop, most typically in the case of Japan, by taking full advantage of the 'external' economies provided by the state while pursuing their 'internal' economies to the utmost and ignoring any 'external' diseconomies caused by them. Thus, in due course of such capitalistic development, not only the type of events exemplifying 'market failures' occurred frequently enough, but also some flagrant instances of environmental disruption arose, creating inevitably a realization that the 'Invisible Hand' of the market mechanism might be in need of emendation of some kind. The practice of refraining from detrimental 'spill-over effect' is one such consequence and the general agreement on the 'Polluters Pay Principle' (now accepted by the OECD countries) is a concession to the prevailing position of the real-physical aspect.

There is another important respect in which business firms have come to allow the value-institutional aspect to prevail over the real-physical one; and that is with respect to the contribution of the basic sciences to improvements in productivity. The very fact of cost reduction implies that there exists an agent of production whose contribution is greater than its market valuation. Scientific contribution belongs to this category. It is an openly available free good unless its application is patented.

However, in the current period of the 'scientific-industrial revolution,'¹⁰ it has come to be realized by many of the business firms that basic science itself needs to be embraced as a factor of production in the form of privatized know-how. This constitutes a recognition that the real-physical aspect of the production process could have a prevailing position in the latest period of capitalistic development.

When we come to the third economic activity unit, i.e. nation states, the need to confer the prevailing position to the real-physical

aspect has come to be accepted as a matter of common sense nowadays. Questions, for example, relating to the undeniable limitation of underground resources of the earth, or the warming of the earth's surface, not to speak of the pollution caused by nuclear-bomb experiments – all these involve the real-physical aspect of human activity which defies market-value accounting. In addition, from a yet longer standpoint, there is the question as to what, and how much of which, we are to bequeath as heritage to our posterity. This problem again can hardly be answered in terms of dollars and cents.

THE CONCEPT OF 'SOCIAL COSTS' REVIEWED

In the evolutionary process of the capitalistic system we can observe a development of the market economy gradually spreading its realm to cover practically all the produced goods and a large part of the endowed resources including land as well as human labour power. At the height of such development, however, there still remained a considerable portion of man's activities and nature's endowment which for one reason or another escaped a market valuation and thus arose the area called the 'external economy' and 'external diseconomy.' And it was characteristic of capitalistic development, as stated earlier, that individual private capital could make use of the 'external economy' freely while taking no responsibility for the 'external diseconomy' it caused. The latter involved a cost item, constituting a part of what in general terms has been called 'social costs,' of which environmental disruption is the most common example.

It has to be admitted that there is no unique definition of the term 'social costs' among economists. For example, the reputedly authoritative *The New Palgrave Dictionary of Economics* defines 'social cost,' as written by J. de V. Graaff, in the following manner:

The idea underlying the notion of social cost is a very simple one. A man initiating an action does not necessarily bear all the costs (or reap all the benefits) himself. Those that he does bear are *private* costs; those he does not are *external* costs. The sum of the two constitute the *social* cost.¹¹

Contrasted to this is the definition given by K. William Kapp in his classical work: *The Social Costs of Private Enterprise*, as follows:

The term social costs . . . covers all direct and indirect losses suffered by third persons or the general public as a result of private economic

activities. These losses may be reflected in damages to human health; they may find their expression in the destruction or deterioration of property values and the premature depletion of natural wealth; they may also be evidenced in an impairment of less tangible values. As an instrument of analysis the concept carries no quantitative connotation; it will serve its purpose if it helps to trace and to reveal a substantial proportion of the social losses of production for which neither law nor custom has as yet established an adequate responsibility of the individual producer.¹²

The contrast in the above two definitions is most striking, coming from the same discipline of economic science. But it may be conceded that the latter definition by Kapp gives a more specific focus upon the type of problems calling for social concern, although even in the mind of Kapp the concept is understood to cover not only what we nowadays call 'external diseconomies' but also the possible social losses due to the failure to provide for certain public goods (such as a light house) which are essential and yet are not profitable for private enterprises to undertake. This latter component, of course, can be minimized by adequate provision by public bodies.

It may be instructive, however, to follow Kapp in reviewing the concept of 'social costs' as he understood it, in order to obtain a historical perspective in relation to the development of the capitalistic market economy.

Kapp starts with Adam Smith. Smith, the champion advocate of 'the invisible hand,' was fully aware of the fact that the market mechanism could be relied upon to secure the optimum solution of the economic problem only if at least three conditions were fulfilled: (1) that there would be free competition; (2) that the free competition were restrained in their action by 'sympathy' and 'moral sentiments'; and (3) that in addition to defence and the administration of justice,

the sovereign or commonwealth erects or maintains those public institutions and those public works, which, though they may be in the highest degree advantageous to a great society, are, however, of such a nature, that the profit could never repay the expense to any individual or small number of individuals, and which it therefore cannot be expected that any individual or small number of individuals should erect or maintain.¹³

If these 'works' which Smith mentions were left to private enterprise, serious social losses would ensue; and in this sense we might say that here was an evidence of the recognition of social costs in Kapp's sense. But such awareness, it can be pointed out, was fairly prevalent

among nineteenth century economists; and as Kapp suggests, Smith's theory of 'public works' was 'an early specimen of the classical realization of the social returns of public investments.'¹⁴

A much more forcible way in which the social cost element was decried historically, however, was in connection with the impact of technological improvements.

An economist who personified the transition from Adam Smith's liberalism to socialistic 'economic romanticism' was Simonde de Sismondi (1773–1842), who started his career by publishing an expository book on Smith's *The Wealth of Nations* (*De la Richesse Commerciale*, 1803) and subsequently developed into a systematic critique of the 'Invisible Hand' effect of market equilibrium (*Nouveaux Principes d'Economie Politique*, 1819). Without denying the existence of equilibrating tendencies of the market, Sismondi makes it clear that the attainment of a new equilibrium, for instance, *after technological innovations*, is usually achieved only at the price of extraordinary human costs and capital losses. 'Let us beware,' he wrote, 'of this dangerous theory of equilibrium which is supposed to reestablish itself automatically. . . . It is true a certain equilibrium is reestablished in the long run, but only after a frightful amount of suffering. It is a fact that capital is withdrawn from a particular industry only as a result of bankruptcy of the owner, and workers give up their occupations only when they die; indeed, laborers who find it easy to shift to other occupations and move to other places must be regarded as exceptions and not the rule.'¹⁵

From Sismondi on, there developed, especially among European socialist writers of the nineteenth century, a recognition of the general thesis that the social costs of technical change are inherent in the process of dynamic change. A typical instance in this trend was Justus von Liebig's empirical discussion of social costs in agriculture,¹⁶ which obviously influenced Karl Marx to formulate the often-quoted statement that

all progress in capitalistic agriculture is a progress in the art, not only of robbing the laborer, but of robbing the soil. . . . In other words, capitalist production develops technology, and the combining together of various processes into a social whole, only by sapping the original sources of all wealth – the soil and the laborer.¹⁷

The Marxian political economy was actually a most systematic analysis of 'the social costs of private enterprise,' emphasizing in

particular the class antagonism between capital and labour and pointing towards the historical necessity of revolutionary struggle by labour to clear away such social costs.

It is noteworthy that Friedrich Engels, a close partner of Marx, conducted an early investigation into the 'human costs' of the industrial revolution in England¹⁸ and called attention to another kind of social cost, the full magnitude of which was brought to light only in more recent times, namely, the damage caused by air pollution. Engels' indictment is quite concrete. He wrote:

In London, two hundred fifty thousand fires crowded upon an area three to four miles square, consume an enormous amount of oxygen which is replaced with difficulty because the method of building cities in itself impedes ventilation. The carbonic acid gas, engendered by respiration and fire, remains in the streets by reason of its specific gravity and the chief air current passes over the roofs of the city. The lungs of the inhabitants fail to receive the due supply of oxygen and the consequence is mental and physical lassitude and low vitality.¹⁹

No less a person than William Morris (1834–96) whom Engels called 'a sentimental socialist' spoke more explicitly, even passionately, in critique of environmental disruptions in cities and country landscapes. In a lecture he gave in November 1883 in Oxford, he 'launched into a prophetic passage,' in Fiona MacCarthy's words, 'on the themes of great concern to modern environmentalists'²⁰ in the following manner:

To keep the air and rivers clean, to take some pains to keep the meadows and tillage as pleasant as reasonable use will allow them to be; to allow peaceable citizens freedom to wander where they will, so they do no hurt to garden or cornfield; nay, even to leave here and there some piece of waste or mountain sacredly free from fence or tillage as a memory of man's ruder struggles with nature in his earlier days: is it too much to ask civilization to be so far thoughtful of man's pleasure and rest, and to help so far as this her children to whom she has most often set such heavy tasks of grinding labour? Surely not an unreasonable asking. But not a whit of it shall we get under the present system of society. That loss of the instinct for beauty which has involved us in the loss of popular art is also busy in depriving us of the only compensation possible for that loss, by surely and not slowly destroying the beauty of the very face of the earth.

William Morris, who is remembered better for his advocacy of 'the arts and crafts movement' and also as a leader of the Socialist

League in England in the 1880s, had an eye-opening experience during his visit (between summer 1875 and spring 1878) to Leek, a small industrial town in Staffordshire, where he tried to obtain an intensive course in the technique of textile dying. There, 'for the first time he was faced with the realities of things he had previously considered only in the abstract: industrial landscapes, commercial production, the pattern of loyalties within a small community, the man-master tradition, the innate conservatism of the British working class.'²¹ According to J.W. Mackail, a son-in-law of Morris' close friend Burne-Jones, the experience in Leek apparently had altered Morris to become intensely concerned with the pollution problems. His friends remember him, perched on a stool at a street corner in the East End of London expostulating on the ruin of the landscape, in the oft-quoted words of his: 'God made the country, men made the town, and the devil made the suburb.'

If we are to broaden the concept of 'social costs' to include within it the social losses, or a kind of waste as ascertained against the normatively defined social welfare standard, as Kapp does, we can add another contribution by William Morris, in which he owed to John Ruskin for the importance of the problem, agreeing with him on 'the brutalizing cycles of contemporary commerce.' Fiona MacCarthy comments that 'Morris always insisted that Ruskin came at the right time and that he was the prime mover in the turning of the tide away from a blind faith in materialist progress and towards a perception of the damage to society this implied.'²²

If Morris could be called a champion of the 'Love of Art in Daily Life,' Ruskin was undeniably a champion of the 'Humanization of Ordinary Labor.' Both men in these regards were pushed to the periphery of the orthodox camp of Victorian economic thinking. It was characteristic of Ruskin to write, while discussing Adam Smith's doctrine of the division of labour:

It is not, truly speaking, the labor 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 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.²³

Ruskin was so critical of the contemporary orthodoxy of political economy that he characterized it as 'a science of gymnastics which

assumed that men had no skeletons,²⁴ and had an occasion to describe John Stuart Mill as ‘a flat fish – one eyeless side of his always in the mud.’²⁵ Aside from these Ruskinian somewhat abusive slurs, his castigating remarks in critique of excessive commercialism, spoken in his lecture to manufacturers in 1859, have the relevance even 100 years later as bespeaking of the wasteful expenditures entailed in the competitive society of private enterprise. The remarks are so appropriate that they are worth quoting at length:

You must remember always that your business, as manufacturers, is to form the market, as much as to supply it. If, in shortsighted and reckless eagerness for wealth, you catch at every humour of the populace as it shapes itself into momentary demand – if, in jealous rivalry with neighbouring States, or with other producers, you try to attract attention by singularities, novelties, and gaudinesses – to make every design an advertisement, and pilfer every idea of a successful neighbour’s, that you may insidiously imitate it, or pompously eclipse – no good design will ever be possible to you, or perceived by you. You may, by accident, snatch the market; or, by energy, command it; you may obtain the confidence of the public, and cause the ruin of opponent houses; or you may, with equal justice of fortune, be ruined by them. But whatever happens to you, this, at least, is certain, that the whole of your life will have been spent in corrupting public taste and encouraging public extravagance. Every preference you have won by gaudiness must have been based on the purchaser’s vanity; every demand you have created by novelty has fostered in the consumer a habit of discontent; and when you retire into inactive life, you may, as a subject of consolation for your declining years, reflect that precisely according to the extent of your past operations, your life has been successful in retarding the arts, tarnishing the virtues, and confusing the manners of your country.²⁶

In reading this paragraph, one is reminded naturally of Vance Packard’s *The Waste Makers*, 1960, which reminded us of the waste involved in the latest stage of capitalistic prosperity and also of the critical analysis of business enterprise by that unique American economist Thorstein Veblen (1857–1929), who wrote:

The absorption of goods and services by extra-industrial expenditures, expenditures which as seen from the standpoint of industry are pure waste, would have to go on in an increasing volume. If the wasteful expenditure slackens, the logical outcome should be a considerable perturbation of business and industry, followed by depression; if the waste on war, colonization, provincial investment, and the like, comes to an

abrupt stop, the logical consequence, in the absence of other counteracting forces, should be a crisis of some severity.²⁷

It may be mentioned in passing that William Morris did have some influence on the Fabian Socialists in Great Britain, particularly because G.B. Shaw (1856–1950) was a close family colleague. The Fabians, organized as a society in 1884, were in a sense pioneers in proposing the doctrine of the welfare state, devoting their analysis in large measure to the social costs in the industrial sphere.

A close associate of the Fabians in particular, that is, J.A. Hobson (1858–1940), calls for special attention not only as a broad-minded political economist but also as an advocate of the uniquely Victorian philosophy of net social welfare in the sense of social benefit exceeding social cost. His formulation was quite unique in terms of orthodox economics of his time, anticipating in fact what Kapp chose much later to frame the concept of social welfare as the difference between social benefits and social costs. As for Hobson, he represented

economic activity diagrammatically as generating human utility and incurring human cost on both the production side and the consumption side. Human utility is generated not only by consumption, which satisfies needs or offers ‘abundance,’ but also by production, when it takes the form either of art and exercise or of ‘labour,’ that is to say of satisfying work, as opposed to ‘toil.’ Human cost is incurred not only by production which takes the form either of ‘toil’ or of ‘malproduction,’ the latter referring to work which is degrading, but also by consumption which involves either satiety or ‘mal-consumption,’ the latter referring to such ‘base’ modes of consumption as the taking of drugs. The aggregate excess of human utility over human cost measures ... ‘organic welfare’ or ‘social welfare.’²⁸

Hobson’s reference to human cost in the form of ‘mal-production’ and ‘mal-consumption’ has the implication of social costs in the more modern definition by Kapp. But it is admitted by Hobson himself that many utilities and costs, as he visualized, are not reflected in the market and thus are difficult or impossible to measure. And this was a point of the neo-classical critique on Hobson’s formulation. However, as Michael Schneider writes: ‘Much of what modern theory has to say on external costs and benefits was anticipated by Hobson, in his discussion of the relationship between welfare and production.’²⁹ And as a matter of fact, A.C. Pigou, whose