James Mill and Classical Economics: 
A Reappraisal†

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There was a time when James Mill was presumed to have been a direct link between Smith and Ricardo in the Classical tradition by virtue of the substantive and editorial contributions he was thought to have made to Ricardo’s Essay on the Influence of a Low Price of Corn on the Profits of Stock (1815) and to the Principles of Political Economy and Taxation (1817). But the recovery and publication of the correspondence between Mill and Ricardo put an end to these speculations. We now know that Mill lent to the Essay only his moral support and preceded Ricardo “to write it over again more at large.” The Principles of Political Economy and Taxation was the result of this rewriting. By this date, Mill was almost wholly absorbed with writing his History of British India, and less concerned with political economy than with advancing Ricardo’s political education. 

The Ricardo-Mill correspondence leaves no doubt that the extent of Mill’s contribution was only to supply moral support and pressure to keep Ricardo hard at work during the two years that it took to write the Principles. But it does not necessarily follow that Mill made no contribution to the development of the mature classical tradition we associate with Ricardo. On the contrary, there appears to be a basis for arguing that the case is otherwise—that Mill did make an important, though quite subtle, contribution to the development of the mature classical tradition. This contribution is unrelated to his intellectual association with Ricardo and came about as a result of his participation in the so-called “Neophysicistic debates” which took place in England during the early 19th century. The focal point of these debates was the revival in England of the French Physiocratic’s doctrine that land is the only source of the economic surplus and that the surplus must be retrofitted in agriculture if an economy’s prosperity is to be preserved. This is the basis for the Physiocratic conclusion that it is essential for landlords to maintain an expenditure pattern which will maintain the circular flow, because the next they receive is not automatically returned to the income stream. 

The influence of Physiocratic doctrines in France waned when Turgot was deposed as Minister of Finance in 1776. But their revival in England during the early years of the nineteenth century, that is, in the period which intervened between the publication of the Wealth of Nations in 1776 and Ricardo’s Principles of Political Economy in 1817, is a significant development because it raises questions about the dominance of the Smithian system. Two events are associated with the 19th 

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‡H. Holdens, David Ricardo, The Johns Hopkins Press, 1910, pp. 73-81. 
century revival of Physiocratic doctrines in England. One is the revival of the bounty principle in 1804. Bounties had been suspended under the Corn Law of 1773 because grain prices had already risen above the level at which payments were authorized. These price increases reflected population growth and the wartime importation of imports. The second event which precipitated the Physiocratic movement was Napoleon's prohibition of trade with England under the decrees of 1806 and 1807. This blockade, coupled with poor crops, actually kept corn prices above the level specified by the Act of 1804. But its coincidence with the revival of the bounty principle intensified the economic and political conflict which had been growing, as England's industrial revolution progressed, between the remitter class and the recipients of wages and profits. The revival of Physiocratic doctrines about the origin and use of the surplus suggests that the system of thought we associate with the Wealth of Nations was being challenged, that Smith's system had not become the paradigm on which future research unequivocally was to be based and that there was, in fact, a scientific revolution in progress before Ricardo's Principles was published in 1817. Evidence that there was at least some awareness that an important change had taken place in economics after the publication of Ricardo's Principles can be inferred from an article written by Malthus in 1824 in which he credited Ricardo with having established what he termed "the new school of political economy."

This "new school" of political economy is what we now think of as "the mature classical tradition." While it retains much from the Smithian system, there are important differences which stem from Ricardo's rejection of those aspects of the Physiocratic system which Smith retained in the Wealth of Nations. We are accustomed to regard Smith and Ricardo as working within a common analytical frame.

work but it is the differences in their theoretical construct which are important in this connection. Ricardo's explanation of rent as a differential surplus which results from nature's riggadinogenis, is quite unlike that held by Smith and the Physiocrats, who viewed rent as a bounty of nature. Another important difference is Ricardo's conception of profit rather than rent as the primary source of the additions to capital which facilitate long-term economic growth. The concept of the priority of profit over rent as the chief source of surplus is also at the heart of the mature classical free trade position. Ricardo reasoned that the adverse implications of diminishing returns could be offset only by importing a cheaper factor, which had been growing, as England's industrial revolution progressed, between the remitter class and the recipients of wages and profits. The revival of Physiocratic doctrines about the origin and use of the surplus suggests that the system of thought we associate with the Wealth of Nations was being challenged, that Smith's system had not become the paradigm on which future research unequivocally was to be based and that there was, in fact, a scientific revolution in progress before Ricardo's Principles was published in 1817. Evidence that there was at least some awareness that an important change had taken place in economics after the publication of Ricardo's Principles can be inferred from an article written by Malthus in 1824 in which he credited Ricardo with having established what he termed "the new school of political economy."

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6 Wealth of Nations, Book II, Chapter III.

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stock is last year's harvest; i.e., a certain quantity of "corn." Thus, there is no fixed capital in Smith's model, the only form of capital is liquid in the form of corn which the productive sector transforms into more corn. However, unlike the Physiocrats, Smith had a well-developed theory of profits; profit is identified as a separate form of surplus (i.e., as distinct from rent) because the "value which the workmen add to the materials involves itself into two parts of which one pays their wages, the other the profits of their employers."

The rise of the capitalist class was regarded favorably because it transferred a greater share of society's resources to the control of the businessman who is superior by far, in Smith's judgement, in the interests of society than is the landowner. "A merchant is accustomed to employ his money chiefly in profitable projects, whereas a mere country gentleman is accustomed to employ it chiefly in expense."

Though Smith was ill-disposed toward the landlord class, he nevertheless maintained that the productive powers of land are unique, for here "natives labor along side of man." This is a conception which it was necessary to eliminate in order to establish the mature classical view that rent is a differential surplus which appears as population growth necessitates the extension of the margins of cultivation. In the Ricardian system, an increase in the labor cost of producing food causes money wage rates, (which are a function of the size of population and the wages fund), to rise, and profits, (which vary inversely with wages), to fall, thus, within the framework of the Ricardian system, income increases in rent are injurious to the prosperity of the country. These interrelationships are the basis for the special concern which Ricardo and the later classics had about the problem of distribution.

"The Wealth of Nations," whose central theme was protest against the restrictions of mercantilism, directed considerably less attention to this problem. Smith explained wages, profit, and rent as component parts of a natural price which tended toward a competitive level within which his "obvious and simple system of liberty." Even the landlord who "loved to map where he did not now" was regarded to be "like all other men" whose selfish objectives are directed toward the common good by the invisible hand of the market place. Thus, there was little real concern about conflicting class interests until industrialization generated an economic and political schism between the landed gentry and the recipients of wages and profits. This is the basis for Ricardo's observation in his Preface that "to determine the laws which regulate this distribution is the principle problem in Political Economy; much as the science has been improved by the writings of Turgot, Stuart, Smith, Say, Simson and others they afford little satisfactory information respecting the natural course of rent, profit, and wages."

James Mill was virtually the only one among the several who participated in the Physiocratic debates who unital pated Ricardo's concern about the determination of income shares and their long run trend. Analytically speaking, the behavior of the distributive shares was Mill's chief concern in his Essay on the Impolicy of a Bounty on the Exportation of Corn (1804), just as it later was the chief concern of Ricardo's Principle of Political Economy and Taxation (1817).
Unfortunately, the extent of Mill's concern with income distribution was obscured, perhaps because he approached the subject indirectly via his examination of the desirability of re- 
viving the bounty principle. The most impor-
tant aspect of his discussion of the bounty, 
from the standpoint of the future development of 
economics, was his insistence that the issue 
needed to be evaluated in terms of the relation-
ship between the property of the landholding 
class and that of the economy in general. He 
saw that such a policy would be defensible 
only if the special treatment it afforded to agri-
culture and the landholding class contributed in 
a special way to the well-being of society. And 
this, he argued, the policy could not accom-
plish. The technical explanation Mill offered 
was essentially the Smithian one, that the tem-
porary rise in farming profits and the increase in 
land rent which a bounty makes possible, 
will not permanently improve the real 
position of either the farmer or the landlord.
But Mill is not content to simply follow Smith. 
He finds it necessary to add a judgment of his 
own which anticipates the view of the landlord 
r's as a whole other classes of society, and is subse-
sequently incorporated into the mature classical 
paradigm.
Mill maintains that, even though it is tempo-
rary, the "bounty effect of a bounty is to put 
money into the pockets of the proprietors of 
the land, by taking it out of the pockets of the 
other classes of people." Even though Mill him-
selv avoids drawing anti-landlord conclusions, 
his observation is inconsistent with the Gestalt 
of class harmony we associate with the Smith-
ian paradigm. Ricardo subsequently presented 
an analytical apparatus explaining the relation-
ship of the distributive shares to one another 
and to free trade in corn, from which a har-
monious relationship among economic classes is 
candidly absent.
Mill's concern with the problem of distribu-
tion is also evident in "Commerce Defended"
(1806). Written as a response to the arguments 
of William Spence and William Cobbett that the 
consequences of Napoleon's trade prohibition 
against England would be minimal because land 
is the sole source of wealth, the first five chap-
ters of this essay are essentially a reassertion of 
the Smithian argument to the contrary.
But the chapter entitled "Consumption" con-
tains some new ideas. There are indicative of 
the paradigm testing inherent in the neo-Physio-
cratic debate and contributed to the mature 
classical position in a manner not yet fully 
recognized. The main objective of Mill's chap-
ter on consumption was to examine and evalu-
ate the Physiocratic argument that the well-
being of the economy is contingent on the 
progressive increase of expenditures out of 
the revenues derived from land. Mill's retort 
this argument begins with the observation that 
the requisites of economic well-being are mis-
understood because the word "consumption" is 
used in two different senses. "The one is an 
absolute destruction of property and in con-
sumption properly so-called; the other is a con-
sumption for the sake of reproduction, and 
righ, perhaps with more propriety be called 
employment than consumption." On the basis 
of this distinction (which he learned from J. B. 
Say), Mill thought of that part of annual pro-
duce which is consumed "unproductively" as 
being "annihilated," while that part which is 
saved is "employed for the purpose of repro-
duction... and appears again next year with 
its profit."11


Mill, unlike Spence, regarded government 
expenses as a prime example of unpro-
ductive consumption which annihilates re-
sources, and he was particularly critical of 
the Civil Wars. He criticized Spence for regard-
ging the growth of the debt and the taxes necess-
itated by it as a "public blessing" because the 
government spends what the landed propitriors 
would otherwise have saved. Spence is, he 
argued, confused by the meanings that are 
attached to the word "consumption." The ex-
pounditures of government take "from that part 
of the annual produce of the country which is 
destined for productive consumption and add it 
to the part which is destined for dead con-
sumption." Had the funds been used as capital 
instead of being consumed, "the country would 
have benefited."
At first glance it seems that Mill's explanation 
of the two meanings which may be attached to 
the word "consumption" is simply a renaming 
of the long familiar notion of productive and 
unproductive labor. But there is an important 
difference in that Mill does not follow Smith in 
assuming that agriculture is, for all practical 
purposes, representative of the three produc-
tive sector. This is evident in his illustration of 
the gains associated with productive consump-
tion. He hypothesizes a landlord who, contrary 
to Physiocratic prescription, cuts his expendi-
ture by £5,000. He agrees with Spence that 
these savings will not be hoarded but lent, let's 
say to a manufacturer, who will set to work to 
create an additional number of cloth dressers and 
spinners; he employs the carpenters, blacksmiths 
and other necessary artisans in erecting for him 
an additional number of looms. . . . The produc-
tion of the country for this year is, therefore, 
greater than it would otherwise have been by 
the amount of £5,000 with its natural profits.12 
Profit emerges, in this example, as an inde-
pendent surplus distinct from rent. Smith, 
as has already been pointed out, differed from 
the Physiocrats in also concerning of profit in this 
way. But, unlike Smith, Mill does not simul-
taneously insist on the primacy of the agricul-
tural surplus. It seems reasonable to infer that 
he did not follow Smith because he thought the 
most impressive gains to be derived from pro-
ductive consumption would accrue when divi-
ding of labor is associated with the accumula-
tion of fixed capital. Mill observed that "it is 
chiefly in manufacturers that this great advan-
tage of productive consumption has been real-
ized. . . . Agriculture the use of machinery is 
much more limited."

Mill's emphasis on the gains to be derived 
from productive consumption in manufacturing 
as compared with those that can be derived 
from the same process in agriculture (i.e., by 
transforming corn into corn), has implications 
for the role of profit in the economy which 
have gone unnoticed, and which relate to the 
anti-Landlord attitude inherent in the mature 
classical position. Smith had already estab-
lished profit as a form of surplus which is 
separate and independent from the rent of land 
by rejecting the Physiocratic notion that land 
alone is capable of yielding a surplus. Later, 
Ricardo was to make profit the primary surplus, 
and rent a deduction from it. This transition 
required an intermediate analytical step which 
Ricardo supplied with his theory of rent. By 
viewing a rent as a differential surplus which 
results from nature's niggardliness rather than 
from its beneficence, Ricardo was able to estab-
lish the priority of profit over rent. It has been 
established, from the Ricardo-Mill correspond-
cence, that he did this without any technical 
assistance from Mill.13 But Mill helped facilita-
tate this important aspect of the mature clas-
sical paradigm with his argument that the gains 
from productive consumption are significantly 
greater in the manufacturing sector than in the 
agricultural sector. Mill's argument provided an 
intellectual construct within which society was

13 Mill, op. cit., p. 194.
Economic Model of Solid Waste Disposal and Recycling*

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Introduction

The purposes of this paper are to develop a joint production model of solid waste recovery and extend the model to include some roles of efficient resource allocation with regard to waste products. Part II is a brief discussion of the taxonomy of solid waste management. Part III develops a model of joint production, and Part IV extends the joint production model adding externalities (social costs) resulting in a recycling production model. Aspects of the model examined include assumptions of the model, joint production of finished goods, intermediate goods and solid waste, and, decision rules (marginal conditions for optimization).

Taxonomy of Solid Waste Management

Solid waste includes both household and commercial wastes e.g., garbage (wet) or rubbish (dry). Waste may be either combustible, e.g., paper (largest component), wood, rubber and plastic or non-combustible, e.g., metallic and nonmetallic (construction rubble predominant) glass, porcelain, and plastic. Handling systems are integral to solid waste management. Included in sewer systems are the storage function, collection and transport function (which compose 80% of handling cost), processing function—compacting, grinding and shredding, and, treatment function (disposal).

Typical treatment processes are varied and are essential to recycling. The best known of these include landfill or dumping (most prevalent), and, incineration with residue making up about 40% of original weight of waste. This consists of metals, glass, ash and slag (for roadbeds, cinder blocks, or cement). Less well known is the composting function, which can also be done with food waste. Methane gas, which can be piped to a power plant or utilized for cooking, is a byproduct of this process.

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1. J. Black, "The Solid Waste Problem in Metropo-

litan Areas," California Vector Vol. 11:51 (Sep-\n
ember 1964).
3. Municipal refuse has just under half the heat con-

tent of an equivalent weight of soft coal. This will

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