

HOW THEORY CAME TO ENGLISH CLASSICAL ECONOMICS*

William O. Coleman*

ABSTRACT

The confidently theoretical method of English classical economics is traced to the Enlightenment's struggle to resolve the disputes between rationalism and anti-rationalism which had dominated the 17th century. It is argued that, in an attempt to resolve these disputes, several Enlightenment authors, including David Hume and Dugald Stewart, sought to unite empiricism with the notion of law-like universe by arguing that economic laws are no more than general facts apparent from everyday life. This position, by denying that theory had any connection with the hypothetical, the instrumental or the abstract, blurred the distinction between theory and fact, and taught Classical economists to see their theorising as fact. This position thereby gave the Classical economists licence to pursue their theoretical speculations, free from any doubts or uncertainties about their theorising.

I INTRODUCTION

Classical economics, it is generally allowed, was predominantly theoretical in its method. If Smith's work had an important empirical dimension, Classical economics in its Ricardian formulation was staunchly theoretical. Thomas De Quincey expresses this judgement of Ricardo's economics as well as any,

... in 1819, a friend in Edinburgh sent me down Mr Ricardo's book: and ... I said, before I had finished the first chapter, 'Thou art the Man!'. I supposed thinking had been extinct in England. All other writers had been crushed and overlaid by the enormous weight of facts and documents; Mr Ricardo had deduced, *a priori*, from the understanding itself, laws...and had constructed... a science... standing on an eternal basis (De Quincey, 1971 [1823], p. 101).

In sympathy with this enthusiastic expostulation, Ricardo claimed, at one point, that his conclusions were as 'demonstrable as any of the truths of geometry'

* Economics Department, University of Tasmania, GPO Box 252C, Hobart, 7001, Australia.

(Ricardo, 1952, Vol. 8, p. 390). Complementing this confidence in theory was a relative unconcern amongst leading Classical with the particular facts of economic life (Blaug, 1956).¹

Classical economics, it might be said, provides a high point (or low point?) of a naive overconfidence in theorising and a cool indifference for the results of empirical inquiry.

Why was this so?

Prodding this question soon reveals a puzzle. Classical economics barely existed in the year 1700 and was substantially completed by the death of Ricardo. Thus Classical economics was the fruit of 'the Enlightenment', that somewhat ill-defined but still identifiable epoch in human intellectual history.² But the Enlightenment saw itself as empiricist, or (perhaps more accurately) 'Lockean', in that it tended to believe that the senses, rather than the intellect, were the fountainhead of knowledge.³ The principal lights of this period could be quoted almost *ad nauseam* expressing their allegiance to the doctrine that observation was the source of knowledge.⁴

How may one explain this puzzling emergence of a theoretical economics from an empiricist parent? The explanation begins with the fact that the Enlightenment did not live up to its professed empiricist methodology. (This has long been noted by critics, for example Taine, 1876). To adopt McCloskey's terminology, there was a discrepancy between the 'official methodology' of the Enlightenment and the actual methodology of that period. The Enlightenment aspired to an empirical method, but in reality frequently tended to a theoretical one (Taine 1876, Ch. 2, Book III).

This paper argues that this discrepancy is manifested in an economic method developed by David Hume (1711–1776) and Dugald Stewart (1753–1828). This 'Hume–Stewart method' claimed that economic laws are no more than general facts apparent from everyday life. This method was therefore plainly

¹ Classical economics, according to critics such as Blaug (1956), did not often let itself be troubled by any apparent divergence between the facts and its predictions. De Marchi (1970) has disputed Blaug's claim. But this critic still allows that it is 'obvious' that Ricardo was sceptical of empiricism as a method of discovery, and that J. S. Mill 'never allowed [facts] to rise above theory and take on a valid status of their own'.

² The very usefulness of the concept may have encouraged its overuse. Furbank (1992, pp. 451–2) provides a critical evaluation of the concept of the Enlightenment.

³ Modern empiricism is not synonymous with the empiricism of the 18th century. The empiricism of the Enlightenment was more psychologistic and less truly epistemological than that of the 20th century; it was more concerned with sources of awareness, rather than the grounds of rational belief.

⁴ For example, Diderot; 'in order to speak pertinently of a bakery it is necessary to have kneaded dough ... it is long experience which instructs, and all men who write on commerce without having bought or sold a needle ... expose themselves to several stupidities' (reprinted in Benot, 1954, pp. 14,15). Condillac; 'Collect the facts, make hypotheses indicated by the facts, and conclude with experiments which confirm or correct these hypotheses' (Condillac, 1947 [1775], Vol. 2, p. 28). Bentham; 'any work that has been published or will be published on ... any branch of the moral sciences is an attempt to extend the experimental method of reasoning from the physical sciences to the moral' (Bentham, 1952, p. 101). Helvétius; 'Philosophy cannot advance without the staff of experience: it does indeed advance but constantly from observation to observation, and where observation is wanting it stops' (Helvétius, 1969 [1772], Vol. 1, p. 99). See also Voltaire (1943 [1743], p. 41).

empirical in aspiration. And yet it was, in reality, strongly theoretical in effect. This was because the 'Hume–Stewart method', by denying that economic laws had any connection with the hypothetical, the instrumental or the abstract, blurred the distinction between theory and fact. From the 'Hume–Stewart method' the Classics learnt to see their theory, not as theory, but as fact. It was by the absorption of this method that the 'empiricist' Enlightenment yielded a theoretical economics. It was by the absorption of this method that the Classical economists acquired their supreme confidence in their theorising, and their unconcern with judging it against particular fact.

II THE LEGACY OF 17TH CENTURY RATIONALISM AND ANTI-RATIONALISM

To understand the work of Hume and Stewart one must understand the dualism in the Enlightenment's theory of knowledge. This dualism had its roots in the philosophical divisions of the 17th century. The 17th century had been dominated by great rationalist philosophers, such as Descartes and Leibniz. But their dominance was challenged by critics such as Pierre Bayle and John Locke.⁵ The division between the rationalism of Descartes and Leibniz and the 'anti-rationalism' of Bayle and Locke was left unresolved at the beginning of the 18th century. Hume and Stewart's methodologising was part of the 18th century's endeavour to harmonise this division between 'rationalism' and 'anti-rationalism'.

But what is meant by 'rationalism'? 'Rationalism' is not a single idea but a complex of many, and as a consequence its analysis is intricate.⁶ To help manage this intricacy this paper will treat rationalism as composed of two sets of ideas: one set concerned with epistemology, and the second set concerned with the general nature of the world. We will begin with a discussion of the second set of ideas.

The general nature of the world

To rationalists the world is law-like, not anarchic. It is an order not a chaos, a structure not a heap. Since it is a structure, rationalists maintain that any disorderly appearance of the world is deceptive. A large part of observed variability is only apparent: the reality is uniform. In so far as rationalists concede that observed disorder is a reality, they believe it is not fundamental; it is superficial. Underlying the surface variability is the operation of a hidden order, which explains all the evident variety. This sense of underlying order expresses itself in the belief that particular cases will be explained by general laws, or 'principles'.

Anti-rationalists have the opposite perception of the general state of reality. The world is not a structure, it is a heap. The variety we observe is a reality, not

⁵There is no point in exaggerating the differences between these philosophers: Leibniz had some definite anti-rationalist sympathies, and Locke had a strong rationalist strain. Yet the contrast between the two groups survives their similarities.

⁶Schumpeter describes the concept as 'protean' (Schumpeter, 1954, p. 113).

a phantom; it is fundamental, not superficial. Particular realities can be explained only by reference to other particular realities, not by fewer and fewer general laws.

This difference in outlook of anti-rationalists from rationalists is exemplified by their differing judgements of the uniformity of human conduct. Locke, for example, typified anti-rationalists in his stress on the immense variety in human behaviour: Spartans treated theft as lawful and customary, Sardinians buried alive their decrepit parents, Persians left corpses to be eaten by dogs, and polygamy 'here is regarded as a right, there as a sin, which in one place is commanded by law, and in another punished by death' (Locke, 1954, p. 171).

Leibniz, in contrast, typified the rationalist belief that human conduct was uniform:

The foundations are everywhere the same; this is a fundamental maxim for me which governs my whole philosophy (Leibniz, 1981 [1765], 490).

My great principle, as regards natural things, is that of Harlequin, Emperor of the Moon, ... *that it is always and everywhere in all things just like here.* That is, nature is fundamentally uniform ... (*ibid.*, p. xliv).

In sympathy with Leibniz, many of the *lumières* of the 18th century were inclined to dismiss reports of strange and different human behaviours as illusory; they were just pirates' tales, or gothic fables. This 18th century scepticism of the variety in human nature we will call 'uniformitarianism', following Lovejoy.⁷

Epistemology

Rationalists and anti-rationalists also differed regarding the sources and limits of human knowledge. Perhaps most importantly, they differed over the relative significance of the intellect and the senses as sources of human knowledge.

To rationalists the senses are a weak and unreliable source of knowledge; they penetrate only the surface and are misled by appearances. But the intellect, the 'mind's eye', is reliable and powerful, as long as the ideas to which it applies itself are 'clear and distinct', or 'evident': these last words are the touchstone of rationalist epistemology. Consequently, rationalists believed that knowledge begins with 'principles' that are 'so evident they need only to be understood to be believed' (Descartes, 1985 [1644], Vol. 1, p. 145). These 'self-evident' principles could then be manipulated by deductive logic, an operation of the intellect, to demonstrate an indefinitely large range of more particular results.

Although these supposedly evident principles need only to be understood to be believed, rationalists allowed that non-philosophers will be generally

⁷ Lovejoy went so far as to say '... the central and dominating fact in the intellectual history of Europe for two hundred years—from the late sixteenth to the late eighteenth century' was '... the general attack upon the differentness of men' (Lovejoy, 1948, p. 81). This 'Uniformitarianism' was according to him 'the first and fundamental principle of this general and pervasive philosophy of the Enlightenment' (*ibid.*, p. 79).

unaware of them. This is because these truths are not manifest, or plain to see; they require a well prepared mind to receive them. So, to rationalists, truth was something to be trapped with ingenuity, rather than gathered absent-mindedly. As a consequence, rationalists put a great stress on method in the acquisition of truth. And given that truth is not plain to see, an important part of the right method for hunting out truth was the use of 'hypothesis', 'assumptions', and 'models'.

To anti-rationalists, by contrast, our knowledge comes only from 'observation' or sense reports. The intellect cannot constitute a fundamental source of knowledge, since the 'mind's eye' can only see what was previously deposited there by the senses. In keeping with this depreciation of the intellect, anti-rationalists were dubious of the value of abstractions and conceptualisations: they tended to avoid hypotheses, models, and 'systems' (hypothesis was identified with mere 'speculation'); and they tended to dismiss method in the acquisition of knowledge. To anti-rationalists there is no 'logic of discovery': knowledge is not something which can be produced in any quantity we choose, so long as we 'follow the instructions'. The growth of knowledge cannot be rushed; it has advanced by slow experience or fortuitous accident, and ingenuity cannot hasten this erratic advance. Those truths which are genuinely knowable will 'speak for themselves'; they are apparent. And those truths which are not apparent will remain hidden, in spite of all ingenuity.

It may appear from this account that the rationalists of the late 17th century were the 'theorists', and the anti-rationalists were the empiricists. But such a simple conclusion is prevented by the ambiguity of the term 'theory'. To expose and cut through this ambiguity it will be useful to distinguish five meanings of the term 'theory'.

- (i) *Theory as revealed religion.* In this view theory consists of a set of truths which have a special and mysterious provenance. It is an endowment of knowledge whose source is not the ordinary sources of knowledge; experience and testimony. It is somehow guiding and informative beyond experience and testimony. This view of theory, regrettably, seems popular with undergraduate students. But we also see this view expressed in the remark 'Theory tells us ...'.
- (ii) *Theory as hypothesis.* This conception of theory is widely held; it is essentially Popper's conception of theory (Popper, 1963, p. 115).
- (iii) *Theory as useful fiction.* This is an instrumentalist position, (see Vaihinger, 1924).
- (iv) *Theory as abstraction and deduction.* This sees theory as the product of the operation of the mind's eye.
- (v) *Theory as general principles or general truth.* In this sense theory is a statement of law-like truths with a wide, but not necessarily universal, application.

In senses (iv) and (v) Rationalism is undeniably 'theoretical' in orientation. But notice that (iv) and (v) agree with different tendencies in rationalism; sense (iv) agrees with the rationalist doctrines regarding the source of

knowledge, while sense (v) agrees with the rationalist doctrines regarding the general nature of the world. The important point for the purposes of this paper is that these two tendencies of rationalism are logically distinct; it is not logically necessary to be both rationalist with regard to the source of knowledge, and rationalist with regard to the nature of the world. A perfectly tenable position is to be rationalist with respect to one, and anti-rationalist with respect to the other. It would be perfectly tenable, for example, to assert the existence of law-like general truths, and at the same time to assert that observation was the source of knowledge. This position would make its adherent theoretical (and rationalist) in sense (v), but anti-theoretical (and anti-rationalist) in sense (iv).

It is such a mixed rationalist/anti-rationalist position which, so importantly, acquired great popularity early in the Enlightenment. This popularity is illustrated by the allegiance to this mixed position of two early Enlightenment figures, both of whom were significant for economics; Francis Hutcheson and Bernard Mandeville. They both combined rationalist and anti-rationalist elements in composing their picture of the human world. They both saw the world as a functioning order and human nature as essentially uniform (i.e. rationalist with regard to the nature of the world). At the same time they both maintained that experience is the source of knowledge (i.e. anti-rationalist with regard to the source of knowledge). Hutcheson, for example, saw uniformity as 'copiously diffused through the universe' (Hutcheson, 1973 [1738], p. 77); he was uniformitarian. To rebut the notion of the world is fickle and extraordinary, he wrote mockingly of readers (such as Locke) with a taste for travel writing, and the 'wondrous Credulity of some Gentleman of great Pretensions in other Matters to caution of Assent, for these marvellous Memoirs of Monks, Friars, Sea-Captains, Pirates' (Hutcheson, 1971, p. 204). And in keeping with his rationalist 'metaphysics' Hutcheson saw the world as a harmonious structure;

Observe all nature as far as our knowledge extends; we find the contrivance good (Hutcheson, 1969, [1755], Vol. 1, p. 180).

But although Hutcheson was rationalist with regard to the general nature of the world, Hutcheson remained an empiricist in epistemology. It is our 'present discoveries' in science which has shown how the contrivance of the world is good (*ibid.*, p.180).

Mandeville, too, was a uniformitarian.

When I have a Mind to dive into the Origin of any Maxim or political Invention, for the Use of Society in general, I don't trouble my Head with inquiring after the Time or Country, in which it was first heard of ... but I go directly to the Fountain Head, human Nature itself (Mandeville, 1924 [1729], Vol. 2, p. 128).

And Mandeville, like Hutcheson, saw the world as a harmonious structure; in the neglected 5th dialogue between Cleomenes and Horatio in the *Fable of the Bees* Mandeville paints a picture of an entire universe in which all parts

interlock, and in which the apparently jarring elements actually serve a useful end. But however rationalist he was with regard to the general nature of reality, Mandeville was also a vehement empiricist in epistemology.⁸

III HUME AND THE RESTORATION OF THE *A PRIORI*

The combination which Hutcheson and Mandeville attempted of rationalism and anti-rationalism proved to be highly potent for economics. But as they had left it, it was also highly fragile; it was difficult, in the face of the bounty of reports of the anarchic variety in the human world, to assert both that the human world was law-like and that the source of our knowledge was experience. One might say that the combination of empiricism and uniformitarianism as attempted by Hutcheson and Mandeville was too frail to survive; it would either be broken or strengthened. Montesquieu broke it; he took the obvious lesson of empiricism and rejected uniformitarianism. David Hume, by contrast, sought to strengthen the combination. He sought to fasten uniformitarianism to empiricism by suggesting how the two may be made consistent. In doing so Hume made palatable for social science the crucial mix of rationalism regarding the existence of laws and anti-rationalism regarding the source of knowledge.

How did Hume achieve this reconciliation of uniformitarianism and empiricism? The reconciliation rests on a distinction between proper and improper empirical methods. One improper empirical method consists of freely giving credit to reports of strange human behaviour. This is improper because such reports are often deceptive. (This is a classic rationalist strategy; the appearance of variety is only an illusion.) Hume argued in favour of this assertion in a dialogue at the close of *An Inquiry Concerning the Principles of Morals*.

In this dialogue Palamedes returns from Fourli, a country 'whose inhabitants have ways of thinking, in many things, particularly in morals, diametrically opposed to ours' (Hume, 1975, [1751], p. 324). Palamedes tells of his companion in Fourli, Alcheic, who was 'extremely celebrated' for his virtue; Alcheic was a pederast who had married his own sister, had murdered his father and had assassinated his 'intimate friend' Usbek, an act for which he received special acclaim. Once Palamedes has finished the tale, Hume alerts the reader that Palamedes' apparently fantastic 'traveller's tale' is composed merely from the chronicles of Greece and Rome. One could in the same way, says Hume, contrive apparently fantastic travellers' tales from his contemporary France and England; duelling over trifles; 'jails, where every art of plaguing and tormenting the unhappy prisoners is carefully studied', even 'the superiority of females'. Hume's suggestion is that what is commonplace to the West could be given the appearance of oddity by the device of a foreigner's traveller's tales of the

⁸ Mandeville's stress on experience and disdain for 'speculation' is articulated at considerable length in his *Treatise on Hypochondriack and Hysterick Diseases* (Mandeville, 1976 [1730]).

West.⁹ The lesson, in other words, is that since the commonplace can be made so easily to appear strange, we should be ready to suspect that the reportedly strange is actually familiar. Therefore, said Hume, one need not conclude from reports of human explorers (or anthropologists) that 'fashion, vogue, custom and law' are the chief foundation of human conduct. Rather the actions of humankind spring from the application of common, familiar sentiments, such as 'resentment of injury', 'self-love', and the 'passions between the sexes' (*ibid.*, p. 22). To quote Hume,

It is universally acknowledged that there is a great uniformity among the actions of men, in all nations and ages, and that human nature remains still the same, in its principles and operations. The same motives always produce the same actions: the same events follow the same causes.... Would you know the sentiments, inclinations and course of life of the Greeks and Romans? Study well the temper and actions of the French and English... (*ibid.*, pp. 83-4, 88).

Hume was, then, a rationalist regarding the general nature of reality. There are general laws of human nature.

Having repudiated the superficial empiricism which menaced the validity of general principles of human nature, Hume reindorses the necessity of a proper empiricism. As an empiricist he recommended that we restrict ourselves to the plain and apparent, i.e. that which is 'in view'. 'The simplest and most obvious cause which can there be assigned for any phenomenon, is probably the true one' (*ibid.*, p.299). But as a believer in latent uniformity he recommended that generalisations be based on a broad range of experience. Hasty generalisations from narrow experience would give a false significance to superficial correlations. He was, therefore, wary of the frailty of the narrowly based extrapolations of the Political Arithmeticians. His intention, for example, in writing 'Of the Balance of Trade' was, he said, 'to remove people's errors, who are apt, from chimerical calculations, to imagine they are losing their specie, ...' (Hume, 1969, Vol. 1, p. 144).

The need for experience which is both plain and broadly based suggested to Hume that the Science of Man should focus its attention on the experiences of everyday life. 'Daily experience' consequently becomes a thing of fundamental importance to Hume. Attention to this daily experience will yield factual generalisations; such as 'all men resent injury'. These factual generalisations constitute Hume's general principles.

Having provided an empirical foundation to general principles Hume pressed his empiricist method further: he rejected the possibility of an *a priori* method which was genuinely distinct from the *a posteriori* method.

⁹This suggestion was not new; it was the gimmick of Montesquieu's *Lettres Persanes* of 1721. But Hume would draw from such a foreigner's 'traveller's tales' of Western society different lessons from those which Montesquieu would draw. Montesquieu would infer, 'We would appear strange, therefore we are strange. We are as strange as the foreign world'. Hume would infer, 'We would appear strange, therefore strange appearances deceive. The foreign world is as normal as us'.

Nothing is more usual than for writers ... to distinguish between reason and experience, ... But notwithstanding that this distinction be thus universally received, both in the active and speculative scenes of life, I shall not scruple to pronounce, that it is, at bottom, erroneous ... (Hume, 1975 [1751], p. 43).

The distinction between *a priori* and *a posteriori* is erroneous, says Hume, because sciences which are supposedly the result of mere reasoning will be found to terminate 'in some general principle or conclusion, for which we can assign no reason but observation and experience' (*ibid.*, p. 44). Hume illustrated the point by comparing *a posteriori* and *a priori* reasonings about the consequences of allowing arbitrary power to monarchs.

The History of a Tiberius or a Nero makes us dread a like tyranny, were our monarchs freed from the restraints of laws and senates: but the observation of any fraud or cruelty in private life is sufficient, with the aid of a little thought, to give us the same apprehension; ... In both cases, it is experience which is ultimately the foundation of our inference and conclusion (*ibid.*, p. 44).

This attempt of Hume to abolish the *a priori* as a distinct province of thought would seem to be radically empiricist in its consequences. But it had quite the opposite significance. By his assertion that the *a priori* was really *a posteriori*, Hume restored *a priori* 'theory' in the eyes of the empiricists. By his assertion that laws were no other than general facts known from daily life, he gave the emerging Classical economics a method in which economists could use deductively manipulate general principles, safe in the knowledge that they were true empiricists.

Having provided an empiricist rationalisation for the method of principles, Hume made one step further in a rationalist direction. He proposed that these general principles could be deductively manipulated to provide predictability about the general course of things. He provided the justification for this contention in what amounts to a methodological preface to his economic essays (Hume, 1987, pp. 253–255).

it is certain that general principles, if just and sound, *must always prevail in the general course of things*, though they may fail in particular cases; and it is the chief business of philosophers to regard the general course of things. I may add, that it is also the chief business of politicians; especially in the domestic government of the state, where the public good, which ought to be their object, depends on the concurrence of a multitude of causes (*ibid.*, p. 254).

Hume evidently believed a kind of 'law of averages' was in operation in which any disturbances to general principles netted themselves out. In his own words, the general tendency of a society may be compared to a bias in a die: the bias 'may not appear in a few throws, [but] will certainly prevail in a great number' (*ibid.*, p. 112). The 'bias' in a society's affairs is law-like and may be inferred from general principles.

In summary, Hume restored deductivism, 'theory' and general reasonings from the place from which they had been so rudely shaken by anti-rationalists, such as Locke. He did this by,

- (i) Proving the existence of general principles of human nature against their destruction by an invalid empiricism of 'travellers' tales'.
- (ii) Tracing general principles to general facts known by everyday experience.
- (iii) Arguing that deductive systems based on such general principles will yield predictions which are true in general, if not universally.

However, Hume's method was not immediately accepted. Hume's successor, Adam Smith, cannot be said to have adopted Hume's doctrine that general principles were simply general experience. Smith's own attempt at compromise between rationalist and anti-rationalist philosophies drew him to something like an instrumentalist interpretation of general principles. With rationalists, Smith believed that observation can only provide knowledge of the surface realities. But with the anti-rationalists he believed that observation was the source of knowledge. These two premises would seem to imply that we cannot know deep and hidden realities. However, Smith made a crucial addendum; that statements about deep and hidden realities may yield correct predictions, even if there are no grounds to believe they are true. They are accurate even if false; they are 'useful fictions'. Smith worked this out in his *History of Astronomy*, in which he states 'all philosophical systems are mere inventions of imagination' (Smith, 1982 [1795], p. 105). He insinuates that even Newtownianism is not exempt from this characterisation (*ibid.*, p. 105).

IV STEWART AND THE 'EXTRAVAGANCIES' OF POLITICAL ARITHMETIC

The Classical successors of Smith did not follow Smith's path, but found their way to a method which emphasised intellect, introspection, and deductivism. They were guided in this journey by the methodology of Smith's pupil and literary executor, Dugald Stewart, who in turn was guided by David Hume.

Stewart outlined his methodology of science in *The Elements of the Philosophy of the Human Mind*, the first volume of which was published in 1792. Stewart saw himself as a stringent empiricist. But, as J. S. Mill justly observed, Stewart 'introduced as much of the *a priori* philosophy as could in any way be made reconcilable with Baconian principles' (J. S. Mill, 1963, Vol. 11, p. 341). This is seen well in his economic methodology.

Stewart, notwithstanding his empiricism, insisted on the importance of general principles in political economy. Following Hume he reconciled the method of principles with empiricism by supposing that the principles of political economy are 'general facts' (Stewart, 1867, p. 524) founded on experience. With specific regard to Smith's principles of political economy, Stewart repeatedly pressed that their foundation lay in daily experience.

The premises, it is perfectly obvious, from which these [i.e. the *Wealth Of Nations*] conclusions are deduced, are neither hypothetical assumptions, nor metaphysical abstractions. They are practical maxims of good sense,

approved by the experience of men in all ages of the world; and of which, if we wish for any additional conformation, we have only to retire into our own bosoms, or to open our eyes on what is passing around us. (*ibid.*, p. 525)

In Stewart's view anyone could, like Smith, 'open their eyes' and see that it is folly for a shoemaker to make his own clothes. And so anyone may with justice conclude with Smith that 'what is prudence in the conduct of every private family, can scarcely be folly in that of a great kingdom'. Therefore, although Smith may be said 'in one sense to indulge in theory' when he is arguing for such things as free trade, in a more 'philosophical sense', Smith is merely relying on 'those maxims of expediency, of which every man may verify the truth by his own daily observation' (*ibid.*, p. 135). Theory is really just the facts of everyday life.

Because the foundations of economic principles lie in direct and everyday experience, Stewart firmly repudiated the notion that theories are essentially hypothetical.¹⁰ So confident was Stewart in the factuality of 'theory' that he issued a scandalised reprimand of Smith over the instrumentalist tendencies in the *History of Astronomy*.

Mr Smith himself has been led ..., into expressions concerning the Newtonian discoveries, which seem to intimate, that, although he thought them far superior, in point of ingenuity, to anything the world had seen before, yet, that he did not consider them as so completely exclusive of a happier system in times to come ...

If the view which I have given ... be just, it will follow, that the Newtonian theory of gravitation, ... is as little liable to be supplanted by the labours of future ages, as the mathematical conclusions of Euclid and Archimedes (*ibid.*, pp. 462–4).

Because the 'political economy of every day experience' was not hypothetical, Stewart denied the claims of the Political Arithmeticians ever to stand in judgement of the doctrines of Political Economists. In support of this stance Stewart instanced the debate over the economic efficiency of slavery. From the everyday fact that labour acts in its own interest, Smith had argued that slave labour is more costly than free labour. This had become something of a 'principle' amongst political economists. However, certain 'political arithmeticians' had disputed this with the supposed facts of American slavery. But a better appreciation of these far away facts, said Stewart, had vindicated Smith

¹⁰ Some of Stewart's confidence in the factuality of principles presumably derives from the doctrines he absorbed from his philosophic mentor, Thomas Reid (1710–1796), the originator of the Scottish school of 'philosophy of common sense'. In his *Essays on the Intellectual Powers of Man*, Reid displays a scorn for hypothesis even stronger than Stewart's. In Reid's judgement 'the history of philosophy in all past ages' 'ought to have taught men, long ago, to treat with just contempt hypotheses in every branch of knowledge, and to despair of ever advancing real knowledge in that way' (Reid, 1785, p. 49). Reid dedicated the *Essays* to Stewart 'because if these Essays have any merit, you have a considerable share in it, having ... favoured me with your observations on every part of them' (*ibid.*, p. iii).

and political economy. The lesson is that these facts of everyday life, those which we understand and are so sure of, are a much better basis of principles than 'facts' about things which are not part of our everyday life. Stewart then pressed the attack on political arithmeticians a stage further.

The facts which the political philosopher professes to investigate are exposed to the examination of all mankind; and while they enable him, like the general laws of physics, to ascertain numberless particulars by synthetic [i.e. deductive] reasoning, they furnish the means of estimating the credibility of evidence resting on the testimony of individual observers (*ibid.*, p. 523).

Therefore, concluded Stewart,

... instead of appealing to political arithmetic as a check on the conclusions of political economy, it would often be more reasonable to have a recourse to political economy as a check on the extravagancies of political arithmetic' (*ibid.*, p. 523).

Here one sees the critical *a priori* turn of Stewart. One sees here how an ostensibly empiricist thinker actually insulates theory from empirical check. Instead of 'the data rejecting the model', it is now a case of 'the model rejecting the data'.

The justification of Stewart's use of theory to do a 'quality check' of the 'facts' of Political Arithmeticians had its roots in Hume. It was Hume, recall, who had scoffed at the 'chimerical calculations' of Political Arithmeticians concerning the balance of trade. And Stewart's 'quality check' formed an exact parallel to Hume's recommended method of judging the authenticity of historical documents; that is, to ascertain, on the basis of our knowledge of the general character of human motivations, whether the reported circumstances 'could ever induce' the reported actions (Hume, 1975 [1751], p. 84). Stewart's stance also echoed the Enlightenment's scepticism of 'travellers' tales', something which Stewart shared; Stewart reproved Locke for his 'credulity in the admission of extraordinary facts, of which has given so many proofs in the first book of his *Essay*, and which seems to have been the chief defect in his intellectual character' (quoted in Locke, 1959 [1706], p. 448).¹¹

There is one other argument in favour of 'theory' which Stewart borrows from Hume; the notion that conclusions based on general principles are true in general, if not true universally. Stewart buttresses his use of general principles by extensive quotation from what he calls Hume's 'profound reflections' on this argument in favour of general principles (Stewart, 1867, p.357, p. 399).

¹¹ See also Condorcet's judgement of travellers' tales: 'Unfortunately travellers are nearly always inaccurate observers: they observe things too hastily, through the prejudices of their own country or of that in which they are travelling; they discuss them with those into whose company chance has thrown them, and what they are told is nearly always dictated by self-interest, by the spirit of party, by patriotic pride, or merely by the mood of the moment' (Condorcet, 1955 [1795], p. 171).

V ENGLISH CLASSICAL ECONOMICS AND THE HUME–STEWART METHOD

Stewart taught his method to the political economists of the early 19th century. (Rashid, 1985; Fontana, 1985, pp. 96–105). He was the pre-eminent British philosopher at the beginning of the 19th century, and constituted, in John Stuart Mill's judgement, an 'important stimulus to the national intellect' through his 'extraordinary power' as a teacher (J. S. Mill, 1963, Vol. 9, p. 493). In 1793 and 1798, as *Professor of Moral and Political Philosophy at Edinburgh University*, he gave the only lectures in political economy in any university in Britain in that decade (Rashid, 1985, p. 251). His student audience included J. R. McCulloch and James Mill (De Marchi, 1983). He drew distinguished foreign visitors, including J. B. Say in December 1814, whose methodological views seem quite in harmony with Stewart's (Halévy, 1928, p. 272).¹² He was also carefully read by Richard Whatley, who in turn was a considerable influence on Nassau Senior (Rashid, 1985, p. 237).

The impress of Stewart's doctrines is plainly seen in English Classical economics. This impress is deepest in this leading methodological principle of English Classical economists: *The principles of political economy are general facts apparent from every day life*. This claim of Stewart was the centre piece Classical methodology.

The echo of this claim is clearly heard in Whatley's pronouncement on the nature of economic theory: 'Political-Economy, is indeed a science which is founded on facts; ...; but which yet requires for the establishment of its fundamental principles very little information beyond what is unconsciously, and indeed unavoidable, acquired by everyone. ... It professes not to bring to light new facts; ...; the subjects of which it treats are matters the most trite and familiar' (Whatley, 1832, p. 225, p. 3; see also Rashid, 1981, p. 738).

The claim is heard again in Senior's analysis of the basis of economic theory:

The first, or theoretic branch, that which explains the nature, production, and distribution of wealth, will be found to rest on a very few general propositions, which are the result of observation, or consciousness, and which almost every man, as soon as he hears them, admits as familiar to his thoughts, or at least, as included in his previous knowledge' (quoted in Bowley, 1937, p. 43).

Of Senior's four foundational 'general propositions' one was classified by Senior as a 'matter of consciousness', and the remainder were a 'matter of observation' (Senior, 1938 [1836], p. 26). Two of these last three (the positive marginal product of capital, and the diminishing marginal product of labour) were in Senior's view 'nearly self-evident' (*ibid.*, p. 26).

Cairnes also held that the stuff of economics were facts apparent from everyday life. He stated, 'The economist starts with a knowledge of ultimate causes' (Cairnes, 1888, p. 88). Unlike the case in physics, 'no elaborate process of induction is needed' for the discovery of these ultimate causes.

¹²J. B. Say: 'Nothing can be more idle than the opposition of theory to practice! What is theory, if it be not a knowledge of the laws which connect effects with their causes, or fact with facts?' (Say, 1865 [1803], p. xxi).

It is not necessary ... for this reason, that we have, or may have if we choose to turn our attention to the subject, direct knowledge of these causes in our consciousness of what passes in our own minds, and in the information our senses convey ... (*ibid.*, p. 88).

Everyone is conscious, to give an example, that one is motivated by wealth in undertaking an industrial pursuit. And our senses, to give another example, provide a 'direct proof' of diminishing returns.

James Mill, unlike Whately, Senior or Cairnes, did not press the origins of economic knowledge in everyday life. But he was their equal in stressing the essential empirical foundation of economic principles. In Mill's view

good abstract principles are neither more nor less than the accumulated results of experience presented in an exceedingly condensed and concentrated state (James Mill, 1964, p. 367).

As a consequence, James Mill shared Stewart's distress at misidentification of theory with mere hypothesis.

But, unhappily, the word Theory has been perverted to denote an operation very different from... VIEWING-OBSERVING...; an operation which essentially consists in SUPPOSING, and SETTING DOWN MATTERS SUPPOSED AS MATTERS OBSERVED. Theory, in fact, has been confounded with HYPOTHESIS ... (James Mill, 1869, Vol. 2, p. 403).

It was James Mill's judgement that 'Theory is literally VIEW' (James Mill, 1964, p. 374).

J. S. Mill also argued that principles differ from facts, not in being less empirically based or more hypothetical, but only in being more general. He borrows from Hume to make his point;

Suppose, for example, that the question were, whether absolute kings were likely to... oppress... their subjects. The practicals would endeavour to determine the question by a direct induction from the conduct of particular despotic monarchs, as testified by history. The theorists would refer the question to be decided by the test not solely of our experience of kings, but of our experience of men (J. S. Mill, 1844, p. 142).

For Mill, as for Hume and Stewart, the only difference between the *a priori* and the empirical is that the *a priori* is based on general, not particular, facts.¹³

¹³ The familiar Hume-Stewart distinction is presented 'On the Definition of Political Economy; and the Method of Investigation Proper to it'. But in this paper Mill veers sharply away from the Hume-Stewart methodology by stating that the premises of Political Economy are partial truths, which describe only some aspects of human nature (e.g. wealth maximisation). In fact, Mill traces his interpretation of economic principles to Stewart (J. S. Mill, 1970 [1872], p. 149). But it is Stewart's interpretation of geometry, not his methodology of social inquiry, which formed Mill's model on this point. Stewart's account of geometry, in Mill's judgment, amounts to the claim that geometry rests on propositions which 'are known not to be literally true, while as much as them as is true is not hypothetical, but certain' (*ibid.*, p. 149). Mill extended this notion to encompass economics. Senior naturally protested attempts to treat Political Economy as a 'hypothetical science' (Bowley, 1937, p. 61).

The doctrine that the principles of economics were general facts, apparent from everyday life, implied three other characteristics of Classical economics:

(i) *An assurance regarding the certainty of theoretical conclusions*

If the principles are apparent, the inferences from those principles must be equally secure. Thus Ricardo claimed his conclusions were as 'demonstrable as any of the truths of geometry' (Ricardo, 1952, Vol. 8, p. 390). In 1809 Mill had already applied the Euclidean metaphor to economics (Halévy, 1928, p. 272). Seventeen years before that Stewart had expressed the view that the Physiocrats 'have undoubtedly established with demonstrative evidence' (Stewart, 1867, p. 132) a few of 'the most important principles of political economy'.

(ii) *A disinclination to empirical research*

If the important principles are apparent from everyday life, why waste time scrambling for facts? For this reason Whately warns against the 'mistake of beginning by a crude collection of facts' (Whately, 1832, p. 224). For the same reason Senior complains of the

undue importance ... ascribed to the collection of facts, and their neglect of the far more important process of reasoning on the basis of *facts before them* ... the facts on which the General Principles of Political Economy rest may be stated in a very few sentences, in a very few words (Senior, 1938 [1836], p. 4. Our italics).

Notice it is the 'facts before them' which Senior believes economists should be attending to.¹⁴

(iii) *A disregard for tests*

Since theory was no other than fact there could be no tension between theory and fact, as the notion of 'tests' would suggest. James Mill, expressing this sentiment, declared his 'indignation' at the 'vulgar fallacy' that 'theory' might be at variance with 'practice' (quoted in J.S. Mill, 1924 [1873], p. 22), and in this he was simply following Stewart's judgement; 'Nothing, indeed, could be more absurd than to contrast, as is commonly done, experience with theory, as if they stood in opposition to each other' (Stewart, 1867, p. 521).¹⁵

As there could be no tension between theory and fact, the only possible tension would be between theory and 'false facts'. Thus the task incumbent upon political economists was not to test theory with fact; that would make no sense; but to use theory to check supposed facts.

¹⁴Even in their excursions into foreign history the classical economists were not avid for fact. It has been noted that Mill's *History of India* conforms to Stewart's method of 'theoretical history'. In composing history, Stewart claimed that 'it is of much more importance to ascertain the progress that is most simple, than the progress that is more agreeable to fact' (quoted in Mill, 1964, p. 385).

¹⁵James Mill commends Stewart's remarks on this point in his review of Stewart's *Philosophy of the Human Mind* (Mill, 1815, p. 183).

This position is seen well in the debate between Ricardo and Charles Bosanquet over the Bullion Committee's claim that the depreciation of the pound was traceable to the overissue of bank notes (Ricardo, 1952 [1811], Vol. 3, pp. 157–256). Bosanquet had endeavoured to refute the Committee on the basis of the facts of exchange rates and bullion exports. Ricardo's reply to Bosanquet rests on his assumption that the theory is factual, indeed, 'incontrovertible' (*ibid.*, p. 193). Ricardo then sought to expose as inaccurate the 'facts' which Bosanquet had used to challenge to this 'incontrovertible' theory. He concluded: 'Does Mr Bosanquet suppose that a theory which rests on so firm a basis of experience as this can be shaken by one or two solitary facts not perfectly known to us?' (*ibid.*, p. 165). Ricardo suggests that Bosanquet had been misled into giving credence to his 'facts' because of his lack of theory:

For any man to compare the account of the Hamburgh exchange, and of the Parisian, and not to see that the accounts were incorrect, that the facts could not be as so stated, is very like a man who is all for fact and nothing for theory (*ibid.*, p. 181).

Ricardo lamented that 'practical' thinkers without theory were unable to 'sift' their facts (*ibid.*). McCulloch, reflecting on Ricardo's reply, expressed his 'delight' in 'observing the ease with which a superior intellect ..., reduces false facts to their just value ...' (McCulloch, 1853, p. 474).¹⁶

If one was to try to summarise the impact of the methodology of Hume and Stewart, one may say that they supplied to economists of the early 19th century an empiricist adaptation of the rationalist requirement that knowledge derives from truths 'so evident they need only to be understood to be believed'. Knowledge now derived from truths 'so evident they need only be noticed to be believed'. By supplying this adaptation Stewart cleared a path for the *a priori* phase in English political economy of the first half of the 19th century. This was the period in which economics managed to combine the empiricist disdain for mere hypothesis ('speculation'), with the rationalist disdain for mere facts.

Obviously, not all classical economists were as impatient with empirical methods as James Mill or Ricardo. Nor did all dismiss the notion of tests. Malthus, for example, wrote that 'Before the shrine of truth, as discovered by facts and experience, the fairest theories and the most beautiful classifications must fall' (1986, Vol. 5, p. 5). But the existence of diversity within classical economics does not alter the character of its central tendency. And Malthus's eloquent appeal for tests loses its force, given his own strong doubts about the testability of economic theories.¹⁷

¹⁶ Other economists in the first half of the 19th century were not shy of using theory as a 'quality check' on facts. J. S. Mill, following the same logic, on one occasion when seeking to substantiate a factual claim, observed 'It appears to us perfectly consistent with the theory of the subject' (De Marchi, 1970, p. 273). (Mill is referring to the existence of an overissue of notes by private banks.)

¹⁷ Malthus: 'The last twenty or thirty years have besides been marked by a train of events of a most extraordinary kind; and there has hardly yet been time so to arrange and examine them as to see to what extent they confirm or invalidate the received principles of the science to which they relate' (1986, Vol. 5, p. 3).

In any case, the real question is not so much whether classical economists professed empirical methods, as to whether they practised them. The present paper amounts to the claim that in classical economics the mere profession of empirical method largely substituted for the actual performance of the empirical method. Malthus, for one, mostly conforms to that assertion. The notion (held by Keynes, Robert Torrens and others) that Malthus was a genuinely empirical author has been cogently criticised (Himmelfarb, 1955; Harvey-Phillips, 1983). Certainly, the core of the first edition of the *Essay on the Principle of Population* is *a priori* character. In the preface to that edition he claims that to establish his doctrine 'little more appears ... to be necessary than a plain statement, in addition to the most cursory view of society' (Malthus, 1993 [1798], p. 3). The second edition contains the historical sweep across continents and centuries, upon which his reputation as an empiricist rests. But Malthus's use of facts in the second edition seems purely illustrative. In the preface to the second edition he describes his doctrines of theory as 'incontrovertible' (Malthus, 1973 [1803], p. 2). He adds,

I have taken as much pains as I could to avoid errors in the facts and calculations which I have produced in the course of this work. Should any of them nevertheless turn out to be false, the reader will see that they will not materially affect the general scope of the reasoning (*ibid.*, p. 3).

VI THE ROLE OF THE *ECONOMISTES*

This paper has argued that the theoretical bent of classical economics is traceable to the Enlightenment's attempt to unite empiricism with the notion of law-like universe by the supposition that laws are no more than general facts. This position, by blurring the distinction between the ideal and the real, encouraged supposed empiricists to unwittingly adopt theoretical methods. This phenomenon is exemplified in the method of David Hume and Dugald Stewart. But it is not restricted to them. The appearance of 'false empiricism' is also found in eminent French economists of the 18th century, such as Condillac, Turgot and Quesnay.¹⁸ All three conjoined a belief in the notion of a law-like universe with a profession of empiricist principles. (In this they were doing the same as Hutcheson and Mandeville, as well as Hume and Stewart.) But, in spite of the homage they paid to empiricism, these three French authors pursued a method in economics which was, predominantly, theoretical. An example of this discrepancy between profession and practise is found in the writings of Quesnay.

In his article on 'Evidence' in the *Encyclopedie*, Quesnay confidently advances an empiricist doctrine of knowledge. Following Locke, Quesnay rejects both

¹⁸ One might include here two English authors with special associations with France: Jeremy Bentham and Richard Price. Bentham claimed that 'induction' is the only source of knowledge in the moral sciences (Bentham, 1952, p. 99). Bentham adds: 'What Bacon was to the physical world, Helvétius was to the moral'. The fact that Bentham could describe Helvétius's writings as Baconian is an illustration of how completely the Enlightenment had lost sight of that method. Richard Price, though an extreme rationalist and explicit critic of empiricism (Price, 1974 [1787], p. 23; Zebrowski, 1994), still asserted the necessity to refuse 'any causes and principles which cannot be proved by experience' (Price, 1974 [1787], p. 138).

axioms and innate ideas as a starting point for knowledge (Quesnay, 1958 [1756] Vol. 2, pp. 399,409). Knowledge begins, says Quesnay, with sensation.

the exercise of our senses is the principle of all certainty and the foundation of all our knowledge (*ibid.*, p. 406).

These sense reports are reliable:

There is a certain and constant correspondence between bodies and the sensations they supply us ... from whence results an evidence or a certainty of knowledge which we cannot refuse (*ibid.*, p. 405).

The intellect plays only a secondary role in the acquisition of knowledge. Abstract ideas are only 'confused and imperfect recollections' of particular sensations (*ibid.*, p. 411), and 'continually lead astray' humankind (*ibid.*, p. 411). But Quesnay's affirmation of empiricist principles in 'Evidence' sits uneasily with the method he often actually used in his economics. In *Le Despotisme de la Chine*, for example, Quesnay extolls the intellect, forswears historical inquiry and contents himself with unsubstantiated general claims.¹⁹

There is a still closer similarity between the method of Stewart and that of his near contemporary, Jean-Baptiste Say (1767-1832). Say, like Stewart, robustly professed his adherence to empirical methods, but with equal vigour repudiated statistical methods (see Menard, 1980; Breton, 1986). His method of reconciling his empiricism to his insistence on theoretical methods is the same as Stewart: economic theory consists of 'general facts' (Say, 1803; 1814, p. xx); since an 'abstract proposition is only the joint expression of many real facts' (quoted in Steiner, 1990, p. 680).

Given that this 'false empiricism' gripped French economists as much as some Scottish ones, the question arises as to what extent the French economists were responsible for the method of James Mill, Ricardo and their methodological allies. It is certainly plausible to suppose that their method provided an additional example and model to the English economists.²⁰ Say, to give one example, had

¹⁹ In Quesnay's opinion, the 'divine legislation ... is manifested to men through the light of reason, cultivated through education and the study of nature, and ... admits of no other controls than the free exercise of reason itself. It is only by this free exercise of reason that men may make progress in economic science' (Quesnay, 1946 [1767], p. 277). Quesnay also advises: 'Let us not seek into the history of nations or into the mistakes of men, for that only presents an abyss of confusion' (*ibid.*, p. 273). These quotations are drawn from the last chapter of *Le Despotisme de la Chine*, the one chapter Quesnay can truly claim to be the author of. The remainder of the book, which does contain extensive historical and factual material, is almost wholly plagiarized (*ibid.*, p. 129). A more sympathetic interpretation of Quesnay would not find a 'discrepancy' in his methodology, but would perceive an attempt to tread a middle path between theory and empirics.

²⁰ Turgot may have exercised an influence on Stewart, who quotes Turgot several times (1867, pp. 404, 459). Turgot's direct influence on English classical economics is judged by Groenewegen to be 'slight' (Groenewegen, 1983, p. 599). However, Mill's stress that every practical man must be a theorist has strong parallels in Turgot and Condillac, both of whose writings James Mill knew (see Mill, 1924 [1873], pp. 44; Groenewegen, 1983, p. 595). Mill wrote, 'All men, therefore, in every rational action of their lives are followers of theory' (Mill, 1836, p. 230). Condillac claimed that a person cannot survive without a 'system' which guides their decisions in daily life (Condillac, 1947 [1749], Vol. 1, p. 216). Turgot shared Condillac's attitude to the ubiquitousness of theories. Everyone who is not a madman must have a 'system', says Turgot (quoted in Groenewegen, 1977, p. 38).

displayed a hostility to statistics as early as 1803, in the first edition of the *Traité* (Benot, 1986, p. 1048), which was read and reviewed by James Mill.²¹

Elie Halévy (1928), going beyond the plausibility of an influence, definitely and exclusively credited the French economists with being the source of the deductivist method of the 19th century English economists. Say, in Halévy's hypothesis, was the 'transmission belt' between the 18th century *philosophe* economists and James Mill, and Mill in turn transmitted the method to Ricardo. In Halévy's judgement, the abstract method of Mill was something 'he had not himself invented', but something 'he had learnt ... from J. B. Say and his French predecessors' (Halévy, 1928, p. 273).²²

The consideration which seems to have guided Halévy in this hypothesis is that James Mill's method is a considerable distance from that of Smith, so Mill must have obtained his inspiration from somewhere outside of Britain, and the obvious place is France. But in this judgement Halévy neglected the fact that Say himself believed his method was sharply distinguished from that of the Ricardians.²³ Halévy also neglected Stewart as a source of inspiration and example to Mill: he neglected the man who lectured Mill on political economy, and to whom Mill said he owed 'the taste for the studies which have formed my favourite pursuits' (Mill, 1964, p. 2). Nevertheless, it remains a plausible hypothesis that elements of Say's stance reinforced Mill's methodology. But, in any case, any attempt to carefully divide the responsibility for the theoretical bent of English Classical economics between the Scottish and French authors would be misguided, since the Scottish and the French positions are merely variations on a common response of Enlightenment thought to the challenges thrown up by the debates of the 17th century.

VII CONCLUSION

This paper has argued that the confidently theoretical method of English classical economics is traceable to the Enlightenment's struggle to resolve the disputes between rationalism and anti-rationalism which had been raised in the 17th century. It has been argued that, in an attempt to resolve these disputes, several Enlightenment authors, including David Hume and Dugald Stewart, sought to unite empiricism with the notion of law-like universe by arguing that economic laws are no more than general facts apparent from everyday life. This position, by denying that theory had any connection with the hypothetical, the instrumental or the abstract, blurred the distinction between theory and fact, and taught Classical economists to see their theorising as fact. This position thereby gave the Classical economists licence to pursue their theoretical speculations, free from any doubts or uncertainties about their theorising.

²¹ It is worth noting, however, that Mill's 7,000 word review of Say's *Traité* does not mention Say's methodological opinions (Mill, 1805).

²² 'The theoretic and rational method came to him from the French economists' (Halévy, 1928, p. 282).

²³ Say believed that by his adherence to the facts he was distinguished from both the Ricardians (Say, 1865, [1803], p. xlvi) and the Physiocrats (Say, 1936, [1821], p. 282).

ACKNOWLEDGEMENTS

The author is indebted to the valuable criticisms of two anonymous referees, and to the bibliographic assistance of Christopher Clarke.

REFERENCES

- BENOT, Y. (1954). Un inédit de Diderot. *La Pensée*, 55.
- BENOT, Y. (1986). La place de la statistique et de l'arithmétique politique dans la méthodologie économique de Jean-Baptiste Say'. *Revue Economique*.
- BENTHAM, J. (1952). *Jeremy Bentham's Economic Writings*, Vol. 1. W. Stark (ed.). George Allen and Unwin, London.
- BLAUG, M. (1956). The empirical content of classical economics, *Journal of Political Economy*, 64.
- BRETON, Y. (1986). La place de la statistique et de l'arithmétique dans la méthodologie de Jean-Baptiste Say. Le temps des ruptures. *Revue Economique*, 37.
- BOWLEY, M. (1937). *Nassau Senior and Classical Economics*. George Allen and Unwin, London.
- CAIRNES, J. E. (1888). *The Character and Method of Political Economy*, 2nd ed. Macmillan, London.
- CONDILLAC, E. B de (1947). *Oeuvres Philosophiques de Condillac*. G. Le Roy (ed.). Presses Universitaires de France, Paris.
- CONDORCET, de A-N. (1955). *Sketch for a Historical Picture of the Progress of the Human Mind*. Trans. by June Barraclough, Weidenfeld and Nicolson, London.
- DE MARCHI, N. (1970). The empirical content and longevity of Ricardian economics. *Economica*, 37.
- DE MARCHI, N. (1983). 'The case for James Mill. *Methodological Discussions in Economics: Historical Essays in Honor of T. W. Hutchison*. A. W. Coats (ed.). JAI Press, Greenwich, Connecticut.
- DE QUINCEY, T. (1971). *Confessions of an English Opium Eater*. Penguin, England.
- DESCARTES, R. (1985). *The Philosophical Writings of Descartes*. Trans. by J. Cottingham, R. Stoothof and D. Murdoch, Cambridge University Press, Cambridge.
- FONTANA, B. (1985). *Rethinking the Politics of Commercial Society: The Edinburgh Review, 1802-1832*. Cambridge University Press, New York.
- FURBANK, P. N. (1992). *Diderot: A Critical Biography*. A. A. Knopf, New York.
- GRONEWEGEN, P. (1983). Turgot's place in the history of economic thought: a bicentenary estimate. *History of Political Economy*, 15.
- HALÉVY, E. (1928). *The Growth of Philosophic Radicalism*. Trans. by M. Morris, Faber and Faber, London.
- HARVEY-PHILLIPS, M. B. (1983). T. R. Malthus on the 'Metaphysics of political economy': Ricardo's critical ally. *Methodological Discussions in Economics: Historical Essays in Honor of T. W. Hutchison*. A. W. Coats (ed.), JAI Press, Greenwich, Connecticut.
- HELVETIUS, M. (1969). *A Treatise on Man*. Trans. by W. Hooper, Burt Franklin, New York.
- HIMMELFARB, G. (1955). 'Malthus'. *Encounter*.
- HUME, D. (1969). *The Letters of David Hume*. J. Y. T. Greig (ed.). Clarendon Press, Oxford.
- HUME, D. (1975). *Enquires Concerning Human Understanding and Concerning the Principles of Morals*, L. A. Selby-Bigge and P. H. Nidditch (eds), Clarendon Press, Oxford.
- HUME, D. (1987). *Essays, Moral, Political and Literary*. E. F. Miller (ed.). Liberty Classics, Indianapolis.
- HUTCHESON, F. (1969). *A System of Moral Philosophy*. George Oims, Hildeshelm.
- HUTCHESON, F. (1971). *An Inquiry into the Original of Our Ideas of Beauty and Virtue*. Garland, New York.
- HUTCHESON, F. (1973). *An Inquiry Concerning Beauty, Order, Harmony and Design*. Peter Krug (ed.). Martinus Nijhoff, The Hague.

- LEIBNIZ, G. W. (1981). *New Essays on Human Understanding*. Trans. by P. Remnant and J. Bennet. Cambridge University Press, Cambridge.
- LOCKE, J. (1954). *Essays on the Law of Nature*. W. Von Leyden (ed.). Clarendon Press, Oxford.
- LOCKE, J. (1959). *An Essay Concerning Human Understanding*. A. C. Fraser (ed.). Dover.
- LOVEJOY, A. O. (1948). *Essays in the History of Ideas*. John Hopkins University Press, Baltimore.
- MALTHUS, T. R. (1973). *An Essay on the Principle of Population*. 2nd ed. Dent, London.
- MALTHUS, T. R. (1986). *The Works of Thomas Robert Malthus*. E. A. Wrigley and D. Souden (eds). William Pickering, London.
- MALTHUS, T. R. (1993). *An Essay on the Principle of Population*, 1st ed. G. Gilbert (ed.). Oxford University Press, London.
- MANDEVILLE, B. (1924). *The Fable of the Bees: Or Private Vices, Publick Benefits*. F. B. Kaye (ed.). Clarendon Press, Oxford.
- MANDEVILLE, B. (1976). *A Treatise on the Hypochondriack and Hysterick Diseases*. Scholars Facsimiles and Reprints, New York.
- MCCLOSKEY, D. N. (1983). The rhetoric of economics. *Journal of Economic Literature*, 21.
- MCCULLOCH, J. R. (1853). *Treatises and Essays on Subjects Connected with Economical Policy*. Adam and Charles Black, Edinburgh.
- MENARD, C. (1980). Three forms of resistance to statistics: Say, Cournot, Walras. *History of Political Economy*, 12.
- MILL, J. (1805). *Traité d'économie politique*. *The Literary Journal*, April, 5.
- MILL, J. (1815). Dugald Stewart's 'Elements of the philosophy of mind'. *The British Review*. August, 6.
- MILL, J. (1836). Theory and practice, *Westminster Review*, 25.
- MILL, J. (1869). *Analysis of the Phenomena of the Human Mind*. Longmans Green Reade and Dyer, London.
- MILL, J. (1964). *James Mill. Selected Economic Writings*. D. Winch (ed.). Oliver and Boyd, Edinburgh.
- MILL, J. S. (1844). *Essays on Some Unsettled Questions of Political Economy*. John W. Parker, London.
- MILL, J. S. (1924). *Autobiography of John Stuart Mill*. Columbia University Press, New York.
- MILL, J. S. (1963). *Collected Works of John Stuart Mill*. J. M. Robson (ed.). University of Toronto Press, Toronto.
- MILL, J. S. (1970). *A System of Logic, Ratiocinative and Inductive*. Longmans, London.
- POPPER, K. R. (1963). *Conjectures and Refutations*. Routledge and Kegan Paul, London.
- PRICE, R. (1974). *A Review of the Principal Questions in Morals*. D. D. Raphael (ed.). Oxford University Press, Oxford.
- QUESNAY, F. (1946). *Despotism in China*. Trans. and ed. by L. A. Maverick. Paul Anderson, San Antonio.
- QUESNAY, F. (1958). Evidence. In *François Quesnay et la Physiocratie*. Institut Nationale des Études Démographiques, Paris.
- RASHID, S. (1981). Political economy and geology in the early 19th century: similarities and contrasts. *History of Political Economy*, 13.
- RASHID, S. (1985). Dugald Stewart, 'Baconian' methodology and political economy.' *Journal of the History of Ideas*, 45.
- REID, T. (1785). *Essays on the Intellectual Powers of Man*. Scholar Press, Menston.
- RICARDO, D. (1952). *The Works and Correspondence of David Ricardo*. P. Sraffa (ed.). Cambridge University Press, Cambridge.
- SAY, J-B. (1803). *Traité d'Économie Politique*, 1st ed. Paris.
- SAY, J-B. (1814). *Traité d'Économie Politique*, 2nd ed. Renouard, Paris.
- SAY, J-B. (1865). *Treatise on Political Economy: or, The Production, Distribution and Consumption of Wealth*. Lippincott, Philadelphia.
- SAY, J-B. (1936). *Letters to Thomas Robert Malthus*. George Harding, London.
- SCHUMPETER, J. A. (1954). *History of Economic Analysis*. Oxford University Press, New York.

- SENIOR, N. S. (1938). *An Outline of the Science of Political Economy*. George Allen and Unwin, London.
- SMITH, A. (1982). *Essays on Philosophical Subjects*. W. P. D. Wightman and J. C. Bryce (eds.). Liberty Classics, Indianapolis.
- STEINER, P. (1990). L'économie politique pratique contre les systèmes: Quelques remarques sur la méthode de J. B. Say. *Revue d'Economie Politique*, 100.
- STEWART, D. (1867). *The Elements of the Philosophy of the Human Mind*. Tess, London.
- TAINE, H. A. (1876). *The Ancient Regime*, translated by John Durand, Henry Holt, USA.
- VAIHINGER, H. (1924). *The Philosophy of 'As If'*. Trans. by C. K. Ogden, Kegan Paul Trench and Trubner, London.
- VOLTAIRE, (1943). *Lettres Philosophiques*. F. A. Taylor (ed.). Basil Blackwell, Oxford.
- WHATLEY, P. (1832). *Introductory Lectures on Political Economy*. B. Fellowes, London.
- ZEBROWSKI, M. K. (1994). Richard Price: British platonist of the 18th century. *Journal of the History of Ideas*, 55.

Date of receipt of final manuscript: 26 September 1995.

Copyright of Scottish Journal of Political Economy is the property of Wiley-Blackwell and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.