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Sraffa's Early Philosophical Thinking

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Headnote

This paper investigates a number of aspects of Piero Sraffa's early philosophical thinking by placing him within the historical materialist tradition of reasoning about the relation of ideas to the historical process. It first distinguishes Alfred Marshall's views about the historical development of ideas by addressing Marshall's responses to the criticisms of William Cunningham of the English Historical School. Marshall's concept of economics as a universal engine of discovery was rejected by Sraffa in his early writings. Sraffa's critique of Marshall is then argued to lead to two early philosophical commitments on Sraffa's part: that deductivist modes of explanation are inappropriate in economics and that economics aims to explain the underlying structures of causal interaction that had been the concern of the classical political economists. The paper closes with brief remarks on how Sraffa's later philosophical thinking might be approached.

1. Introduction

It is well known that Piero Sraffa never produced any philosophical works nor wrote commentaries on the philosophical thinking of others. He himself responded to a 1966 request from the philosopher K. T. Fann that he write something on his interaction with Ludwig Wittgenstein, 'I have never written anything on philosophy or

Wittgenstein. If I ever tried this I doubt that I should ever complete it' (quoted in Fann, 1971, p. 48, n. 2). This suggests that any discussion of Sraffa's philosophical thinking must necessarily be speculative. In the absence of textual sources on which to base such a discussion, it seems that no firm conclusions can be reached or supported regarding Sraffa's philosophical views. This paper rejects this judgment, and adopts what might be regarded as a second-best strategy for investigating certain aspects of Sraffa's early philosophical thinking by attempting to position his thought in a particular philosophical tradition. While direct textual evidence would clearly offer the best grounds for claims about Sraffa's philosophical views, situating his economic thinking in the wider historical development of ideas with which he is generally associated also offers some grounds for making claims about his philosophical views. How reasonable these claims are depends in part on how reasonable the assumptions are that guide the method of historical interpretation employed and in part on how reasonable the assumptions are that are made about Sraffa himself. In the discussion that follows there are two of the former sort of assumption and three of the latter sort.

Regarding the method of historical interpretation, first, it is assumed that economic theory, as with other kinds of theory, develops in a wider intellectual context, and presupposes philosophical commitments generally associated with that context. These commitments may or may not be well recognized by those responsible for the theory in question, and may not be consistent with one another in important respects, but they may nonetheless sometimes be inferred with a reasonable degree of certainty from the theory in question and from other supporting evidence. Second, it is assumed that one important type of supporting evidence that may be used to infer implicit philosophical commitments is an individual's relation to a relatively well understood historical development of ideas. Theories and ideas often form by means of a sequence of arguments, counter-arguments, and replies; as did, for example, a number of key propositions in classical political economy. Individual thinkers occupy identifiable positions in such developments of ideas, and these may help us form judgments about their implicit philosophical views. Although, obviously, individual thinking does not always perfectly reflect the traditions from which it derives, such traditions are still a good guide to more careful investigation of an individual's philosophical commitments. Further, while there will always be debate over what characterizes a given development of ideas, there are nonetheless not infrequently propositions associated with a given development that are relatively non-controversial.

Regarding Sraffa, first it is assumed that his early contact with Italian Marxism, and particularly Antonio Gramsci, before Sraffa moved to Cambridge, exercised a formative influence on his philosophical thinking. Specifically, it is assumed that Sraffa held Marxist views about a number of subjects, which he maintained when he moved to Cambridge. Secondly, it is also assumed that, despite extensive debate over the meaning and content of Marxism, it is possible to establish a number of propositions that are widely accepted as Marxist. Broadly, Marxism in Sraffa's time can be agreed to incorporate the labor theory of value, an emphasis on class struggle, a commitment to creating a communist society, and the theory of historical materialism. In the discussion in this paper, I only make use of the last of these four foundational conceptions to elicit Sraffa's philosophical presuppositions, for the reason that historical materialism involves philosophical principles that clearly seem to underlie Sraffa's mode of reasoning in his economic writings.' Thus, thirdly, it is also assumed that historical materialist views-to be characterized below-play an important role in determining a number of the philosophical commitments that operate within Sraffa's economics.

This paper restricts its focus to Sraffa's early philosophical thinking for three reasons. First, Sraffa's involvement with Marxist and historical materialist ideas when in Italy constitute reasonable grounds for exploring whether he had associated early philosophical commitments. Second (as this paper will argue), since Alfred Marshall expressed clear views on the topic of the historical development of ideas in his contests with the English Historical School, Sraffa's early critique of Marshall's theory of supply offers an opportunity to compare two different understandings of the historical development of ideas, and to use this comparison to make claims

about Sraffa's philosophical commitments. Third, Sraffa's later writings, specifically his contributions in editing David Ricardo's Works and Correspondence (1951) and his Production of Commodities by Means of Commodities (1960), are the product of considerable further development in his economic thinking.² Since this further thinking may have had an influence on his philosophical commitments, it seems best first to establish his early views, and then consider whether they underwent subsequent modification. The focus in this paper on Sraffa's early philosophical thinking, then, is not meant to imply that this thinking is missing from Sraffa's later writings, but only that whether or not this is the case remains to be shown.

In the following section, then, I describe a set of philosophical propositions regarding the development of ideas in a process of historical development that may be said to stem from a historical materialist understanding. This philosophical focus on how ideas and theories evolve and are transformed is a characteristically Marxist one, although it has gained wider currency in the contemporary philosophy of science and economics methodology literature that draws on the post-positivist growth of knowledge thinking of Thomas Kuhn, Karl Popper, Imre Lakatos, and the sociology of scientific knowledge literature more generally. These historical materialist philosophical conceptions are then contrasted in Section 3 with an alternative conception of the development of ideas in history that may be found in the works of Marshall. Marshall developed many of his views about the development of ideas in his efforts to defend the continuity of development in economics from Adam Smith through Ricardo and J.S. Mill to W.S. Jevons and himself. His debates with William Cunningham of the English Historical School helped to sharpen his resistance to the type of reasoning historical materialism applies to the development of ideas. In Section 4 I turn to a number of Sraffa's early writings, and describe how he drew upon philosophical themes underlying historical materialism in criticizing Marshall's views. Sraffa's philosophical thinking regarding the relation of ideas to a process of historical development is inferred from this set of criticisms. In the fifth and concluding section, I briefly consider some of the issues involved in extending the paper's conclusions regarding Sraffa's early philosophical thinking to his later writings.

2. The Development of Ideas in a Process of Historical Development

The theory of historical materialism makes the development of ideas a function of economic development. Science, philosophy, law, ethics, art, and other forms of thinking reflect and depend, in some fashion, on the economic forms of production with which they are historically associated. The nature of this dependence has been long debated, but there is little disagreement that historical materialism rejects the traditional Enlightenment view that ideas develop autonomously according to a pure logic of theoretical investigation. Instead, ideas develop more as analogues of a process of material development so that important connections or inferences between ideas are contingent and empirical rather than rational and logical. For example, on a historical materialist understanding, we would say that it is thought 'reasonable' that the institution of marriage be regarded as a contractual relationship, not because this is a rational implication of the idea of the union of two individuals (as might be held on an Enlightenment view), but because as a matter of fact property relations in a system of private property contingently require such unions be thought of in terms of contracts. This is not to say that ideas about marriage as a contractual relationship are not susceptible of logical elaboration, as when the terms of a contract are differentiated and compared. Nor does it imply that we are unable to conceive of and seriously entertain the rational implications of the idea of the union of two individuals. Nor does it imply, more generally, that truth is historically relative. It is only to say that many of our most fundamental inferences commonly thought to be rational in nature are compelling in virtue of their being conducive to the economic forms in which they are embedded. At issue is merely how ideas develop over time, not their ultimate validity.

Ideas, then, do not develop so much logically and rationally, but rather by being in step with the process of historical development. One implication of this is that it is difficult to speak of intellectual and scientific progress within science, philosophy, law, and other forms of thinking, since development in these domains is not just a

development of ideas but also the development of a material process that selects and promotes some ideas over others. On the more traditional view, a process of development within the realm of thought relies on standards and criteria for key inferences between ideas that are closely tied to the nature of the ideas themselves and to general principles of reasoning. Progress in the development of ideas is understood as a process whereby we say a particular development in thinking better explains the facts or involves a more coherent explanation according to those standards and criteria. But when a succession in ideas and theories is driven by a material process of development, the standards and criteria for our inferences arguably become local, meaning that they do not cut across significantly different economic forms, because these forms involve significantly different accompanying conceptual structures with different standards and criteria for our inferences. Marxism, in advancing historical materialism as a theory of history that included an understanding of the development of ideas, thus offered more than local standards and criteria by virtue of its being an expression of the thinking of industrial labor as the universal class, and was thus a post-Enlightenment conception of the development of ideas.

A second implication that follows from the first is that attempts to speak of progress in ideas within a science or particular realm of thought often involve some sort of theoretical confusion. Since, on a historical materialist understanding, ideas and the inferences between them are compelling by virtue of their association with particular historical contexts, Enlightenment-inspired attempts to link ideas across historical contexts generally involve forms of inference that are without solid foundation. Although such inferences may appear superficially plausible and persuasive, because they distance themselves from the concrete contexts on which their ideas are based, they must misrepresent the world they purport to explain. Generalization is one means by which this distancing may be attempted. Generalization of course can be a successful form of inference when the phenomena concerned are relatively similar, as when one generalizes about the nature of industrial labor from descriptions of different types of factory employment; but generalization becomes questionable when it involves materially dissimilar phenomena, as when one generalizes about the nature of labor from descriptions of factory work and freehold farming. This type of generalization is particularly problematic when it is pursued across historical contexts that have markedly different types of ideas associated with them. In this instance, the standards and criteria for inferences between ideas are properly local in nature, and this sets boundaries on permissible generalization. Unjustified generalization across dissimilar types of ideas, then, involves theoretical confusion in the sense that dissimilar things are said to be similar when there are grounds for not treating them as such. Not infrequently, progress within ideas in the Enlightenment sense is thought to involve not only greater generality in theory, but also the widest forms of generalization.

With these two implications in view, then, we turn to Marshall, who defended the notion that progress in ideas had occurred in nineteenth century political economy, and who saw it to have involved formulating general propositions for economics.

3. Marshall's View of the Historical Development of Ideas

Krishna Bharadwaj (1978) describes the two-sided character of Marshall's early views (when he defined himself in relation to nineteenth century traditions in English political economy) in terms of Marshall's desire to emphasize continuity between Smith, Ricardo and Mill and his movement toward marginalist value theory in extending and moving Mill further from Ricardo. This 'contradictory posture, as a follower of the classical tradition as well as the progenitor of the new marginalist school' (Bharadwaj, 1978, p. 254), derived from a combination of Marshall's intention to 'systematise the supply-and-demand approach by moving towards an analytical symmetry between the two equilibrating forces' (Bharadwaj, 1978, p. 268) and a conviction that Ricardo's and Jevons's views that cost and demand respectively (and exclusively) determine value could be reconciled if one paid 'sufficient attention to the element of time' (Marshall, 1975, vol. I, p. 98). How are we to

explain this combination? There is evidence that Marshall believed that the reputation of political economy-or economics as he re-labeled the subject in his 1885 Inaugural Lecture-was in decline, and that conflict between the subject's past contributors needed to be minimized. The interpretation of Ricardo's ideas were pivotal in this respect. On the one hand, the English Historical school, especially in the person of one of Marshall's chief critics, William Cunningham, attacked the idea that economic principles such as Ricardo's theory of rent operated unchanged across historical periods (Groenewegen, 1995, pp. 469ff). On the other hand, the Ricardian Socialists and Karl Marx had used Ricardo's labor theory of value to support working class causes. Mill, however, had seen himself as a follower of Ricardo, and had boldly claimed that 'there is nothing in the laws of Value which remains for the present or any future writer to clear up. The theory of the subject is complete' (Mill, 1878, pp. 536-537). Thus, Marshall might both restore the reputation of political economy or economics and make a case for a single tradition in economics that ran to his own day were he able to show that Ricardo's ideas passed smoothly through Mill's to the latest developments in marginalist theory.

His supply-and-demand approach, which Bharadwaj shows Marshall built up out of Mill's departures from Ricardo, accordingly folded both Jevons and Ricardo into the same general framework. But in doing so, Marshall not only misinterpreted Ricardo's thinking in a number of important respects, he also adopted a view of how ideas developed historically quite different from what is involved in historical materialism as outlined above. To begin, Marshall had little choice but to claim that Ricardo had not fully understood his own ideas, since they were so clearly at odds in a number of ways with what Marshall wanted to claim was their true meaning. Thus, Ricardo was said to have 'purposely omitted many things which were necessary for the logical completeness of his argument,' since he thought them 'obvious' and was by his own account 'a poor master of language' (Marshall, 1920, p. 813).

Marshall was also constrained to argue that, if Ricardo's specific formulation of many ideas was inadequate from the perspective of a marginalist supply-and-demand approach, while those ideas were at the same time part of a single Smith-Ricardo-Mill tradition, then it had to be the case that a more fundamental version of those ideas could still be elicited, which counted as their essential content. This conclusion emerged clearly in Marshall's exchange with Cunningham, who had argued in an attack on Marshall's historical chapters in the Principles that economic doctrines, such as Ricardo's rent theory, always required revision in the light of events and history (Cunningham, 1892). Marshall defended himself by arguing that 'Ricardo's teachings' had 'general import,' and contained 'a living principle applicable, with proper modifications, to the income derived from almost every variety of Differential Advantage for production,' although indeed Ricardo himself had regarded his rent analysis as 'applicable only to the rents of farms' (Marshall, 1892, p. 512).

But what was the nature of this 'living principle' that gave 'general import' to Ricardo's rent analysis? Cunningham's arguments were part of a larger critique of Marshall's thinking expressed in 'The Scope and Method of Economics' appendix to the Principles that likened economics to physics as a science, and held that 'the part which systematic reasoning plays in the production of knowledge resembles that which machinery plays in the production of goods' (Marshall, 1920, p. 779). Ironically, then, Marshall reposed his 'living principle' in the idea of economics, as evidenced in the case of Ricardo's rent concept, as a set of tools or a machinery that could be employed and redeployed from one setting to the next. His understanding of generality and abstraction was consequently modeled on the idea of a machine that had the capacity to perform endlessly repetitive movements.

When the same operation has to be performed over and over again in the same way, it generally pays to make a machine to do the work ... Similarly in knowledge, when there are any processes of investigation or reasoning in which the same kind of work has to be done over and over again in the same kind of way; then it is worth while to reduce the processes to system, to organize methods of reasoning and to formulate general propositions to

be used as machinery for working on the facts and as vices holding them firmly in position for the work. (Marshall, 1920, p. 779)

This conception was part of an argument Marshall had developed in his inaugural lecture on 'The Present Position of Economics' (Marshall, 1885) that had distinguished between economics as an 'engine for discovery of concrete truth' (on the model of the 'universal engine' the theory of mechanics provides) and economics as a body of concrete truths or dogmas which themselves lacked universality (Marshall, 1885, p. 159).³

While attributing this high and transcendent universality to the central scheme of economic reasoning, we may not assign any universality to economic dogmas. For that part of economic doctrine, which alone can claim universality, has no dogmas. It is not a body of concrete truth, but an engine for the discovery of concrete truth, similar to, say, the theory of mechanics. (Marshall, 1885, p. 159)

Thus, Marshall answered Cunningham's charge that economic ideas at one level bore the imprint of events, but still reserved for economics the status of being a universal science by characterizing it as a machinery-'an engine of discovery of concrete truths'-that had been constructed so as to operate 'over and over again in the same way.'

An important implication of this conception of economic reasoning was that everyone works with the same machinery, even if at different times they use it to discover different concrete truths and defend different economic dogmas. The socialist inheritors of Ricardo's labor theory of value did not understand this, and had drawn revolutionary conclusions by mistakenly thinking that Ricardo's 'concrete truths' were universal truths. Marshall, however, believed that the 'essential' content of Ricardo's thinking set aside the labor theory of value, giving rise to the view (cf. Hollander, 1904) that Ricardo had lost confidence in the labor theory at the end of his life.⁴ On this reading, the Smith-Ricardo-Mill tradition remained intact, and it was possible to speak of progress within the science of economics. Moreover, Marshall's supply-and-demand apparatus was, in his own estimation, the culmination of this tradition, because it successfully united Ricardo's cost of production approach and Jevons's utility approach.

Within this single framework one consequently found universal standards and criteria for operating on economic problems and issues in the same way as if one were performing the same operation 'over and again' with a fine piece of machinery.

4. Sraffa's View of the Historical Development of Ideas

Sraffa studied Marshall's value theory as early as 1923 when he began lecturing at the University of Perugia (Roncaglia, 1983, p. 144). He had met Gramsci four years earlier just after the war, and by 1923 had made contributions to the leftist L'Ordine Nuovo. In 1924 he wrote to Gramsci that 'up till 1917, I was fixed in the pacifist socialism of 1914-15-which I was shaken out of by the discovery, made after Caporetto and the Russian Revolution of November, that the guns were precisely in the hands of the worker-soldiers' (Gramsci, 1978, p. 229). Gramsci recorded that although Sraffa was not an 'active element in our [Italian Communist] party,' nonetheless 'he is certainly still a Marxist' (Gramsci, 1978, p. 218). From these indications, and from other evidence regarding Sraffa's experience in Italy before emigration to Britain in 1927 (e.g. Potier, 1987, pp. 21ff), it is reasonable to suppose Sraffa adhered to the main tenets of historical materialism when he began to write on economic theory. Admittedly, this is not strongly apparent in his works on Italian banking and inflation, despite his emphasis on distribution and class conflict (Sraffa, 1920, 1922a, 1922b; cf. Panico, 1988). But his 1926 'Laws of returns' paper employed arguments which directly attacked Marshall's view of the historical development of ideas from a vantage point entirely consistent with historical materialist thinking.⁵

Sraffa began his discussion by registering a complaint against the complacency with which economists looked upon the supply-and-demand theory of value. It was not so much that everyone was convinced or in agreement about the nature of the theory, he argued, but rather that they were simply indifferent about it: 'an indifference which is justified by the fact that this theory ... has lost much of its direct bearing upon practical politics' (Sraffa, 1926, p. 535). Indeed, the theory had lost its relevance precisely because it had been transformed more and more into 'an apparatus of the mind, a technique of thinking' which does not furnish any 'settled conclusions immediately applicable to policy.' It is essentially a pedagogic instrument ... a theory, in short, in respect to which it is not worth while departing from a tradition which is finally accepted. (Sraffa, 1926, pp. 535-536)

The quoted words were those of J. M. Keynes from his introduction to the Cambridge Economic Handbooks series, but the conception of economics was clearly Marshall's.⁶ First, economics was characterized as a method of reasoning, and thus as a universal means of inquiry, rather than a set of concrete truths. Secondly, Marshall's 'engine of discovery' metaphor re-appeared in the idea of economics as an 'apparatus' or 'instrument.' Thirdly, economics in its current state was the product of 'a tradition' (that is, the Smith-Ricardo-Mill tradition) which was thought in its essentials to be complete and 'finally accepted.' Marshall had held each of these ideas, and Sraffa rejected them all.

Sraffa rejected these ideas, it can be argued, because they stemmed from Marshall's understanding of how ideas developed in history. Marshall, we saw, was led to his own methodological views by a desire to deny controversy in the science of political economy, and demonstrate a continuity of development from Smith through Ricardo to Jevons. This impelled him to characterize economics as a machinery, since he could thereby dissociate himself from concrete economic 'truths' that did not comport with his view of the destination toward which he wanted to believe Ricardo and Mill were headed. Moreover, the image of economics as a machinery suggested that economics retained its integrity irrespective of the uses to which it might be put, much like a tool from a workshop that could be well used or misused without changing its nature as a tool. Economics, then, was highly abstract and general in nature. The supply-and-demand apparatus was an all-purpose framework that applied to all contexts, but reflected the special characteristics of none in particular, because, as Sraffa put it, it was inspired by the fundamental symmetry existing between the forces of demand and supply, and is based upon the assumption that the essential causes determining the price of particular commodities may be simplified and grouped together so as to be represented by a pair of intersecting curves of collective demand and supply. (Sraffa, 1926, p. 535)

Sraffa believed, however, that economic ideas could not be dissociated from the settings in which they originated, and that the attempt to do this was the principal flaw in Marshall's treatment of the supply curve as being based upon the laws of increasing and diminishing returns-'the one dark spot which disturbs the harmony' in 'the modern theory of value' (Sraffa, 1926, p. 536). The classical economists who originally developed both laws in analyzing the early stages of industrial production in Britain had given neither much prominence, and in fact 'the general idea of a functional connection between cost and quantity produced was not given a conspicuous place' (Sraffa, 1926, p. 537). To produce his own conception of supply, then, Marshall had 'found it necessary to introduce certain modifications into the form of the two laws,' in order to merge them into a 'single "law of nonproportional returns"' (Sraffa, 1926, p. 537). This new law of supply was symmetrical with a corresponding law of demand, giving the supply-and-demand framework as a whole its 'essential content.'

This attempt at reconfiguring the law of supply, however, required that Marshall generalize over dissimilar phenomena involved in diminishing returns and increasing returns as understood by the classical economists. The former had been associated with the problem of rent, and the latter had been associated with improvements in the division of labor and general economic progress. However, it was Marshall's effort to modify the law of increasing returns, and thus to make it more a relationship between cost and quantity like the law of diminishing returns (for a single law of non-proportional returns), that involved the most questionable act

of generalization. On the one hand, increasing returns from greater economies internal to the firm was 'entirely abandoned,' while on the other hand external economies available to all firms 'was more and more emphasised' (Sraffa, 1926, pp. 537-538). Still, Sraffa commented,

Even in their present form ... the two laws have preserved the characteristic of originating from forces of profoundly diverse nature. Such heterogeneity ... involves a fresh difficulty when it is sought to classify the various industries according as they belong to one or the other category. [Thus] the wider the definition which we assume for 'an industry'-that is, the more nearly it includes all the undertakings which employ a given factor of production ...-the more probable will it be that the forces which make for diminishing returns will play an important part in it; the more restrictive this definition-the more nearly it includes ... only those undertakings which produce a given type of consumable commodity ...-the greater will be the probability that the forces which make for increasing returns will predominate in it. (Sraffa, 1926, p. 538)

Sraffa went on to say that precisely the same difficulty arose were we to emphasize Marshall's prime organizing concept, the element of time. Diminishing returns was the dominant concern the shorter the period of time, and increasing returns was the dominant concern the longer the period of time. But both did not operate in the same temporal space, as was required by Marshall's generalizing notion, the single law of non-proportional returns, any more than they served one definition of an industry.

I argued previously in this journal (Davis, 1993, pp. 26-29) that Sraffa's critique of Marshall took the form of an impossibility argument, whereby Sraffa argued that the tensions in Marshall's conception of the supply curve created two equally unattractive alternative ways of trying to understand supply-and-demand analysis. Marshall had sought to treat industries as relatively independent from one another in giving a partial equilibrium analysis of supply-and-demand as symmetrically opposed forces. On the one hand, however, precluding interdependence between industries requires that diminishing and increasing returns be treated so restrictively that the analysis only applies to a very few industries. This means that 'the supply schedule with variable costs cannot claim to be a general conception applicable to normal industries; it can prove a useful instrument only in regard to such exceptional industries as can reasonably satisfy its conditions' (Sraffa, 1926, p. 540). On the other hand, if a less restrictive treatment of diminishing and increasing returns is employed, then industries become genuinely interdependent, and 'it becomes necessary to extend the field of investigation so as to examine the conditions of simultaneous equilibrium in numerous industries' (Sraffa, 1926, p. 541). In either event, Marshall's symmetrical, partial equilibrium supply-and-demand analysis failed. It failed, arguably, because Marshall sought a level of generality in his effort to find an 'essential content' for economics that transgressed the concrete circumstances in which the ideas from which he generalized originated.

Marshall believed, that is, that the concrete circumstances that the classical economists addressed in their original formulation of diminishing and increasing returns were inessential occasions for application of a more abstract economic conceptual machinery. This meant that the standards and criteria for examining laws of returns as economic phenomena transcended their contexts of origin. From the perspective of the philosophical principles operating behind historical materialism, however, reasoning across material contexts, as is involved in generalization, tends to generate theoretical confusion. Sraffa thus believed that Marshall's supply curve analysis had to be confused, and his critique of the law of non-proportional returns consequently took the form of showing it to be self-contradictory: either it did not work on the terms Marshall thought it did (namely, as a 'general conception applicable to normal industries'), or if it did work, it was not on the terms Marshall wanted (namely, as a partial equilibrium analysis of relatively independent industries).

One could of course make a case for saying that contradiction was the chief mode of theoretical confusion those using historical materialist analysis sought to identify in theories of the development of ideas that assumed there could be progress within ideas. Yet while the concept of contradiction has played an important role in the

history of the theory of historical materialism, it is also a notoriously difficult concept to apply consistently and clearly. Moreover, although it is entirely reasonable to suppose that Sraffa had thought seriously about the concept of contradiction from the time of his exposure to Marxism, there is very little evidence in his published or unpublished work that he ever sought to use the concept systematically. Thus, the view here is that the notion of theoretical confusion Sraffa employed is only loosely associated with the more formal Marxist concept of contradiction. Sraffa, it seems fair to say, believed that Marshall's analysis created contradictions for itself, and that it did so because it operated with an unjustified conception of generalization that was itself derived from a conviction that progress within ideas was possible. Sraffa returned to these themes to open his lectures on advanced theory of value given shortly after arriving in Cambridge (see Sraffa, 1928-31). In his introductory remarks (p. 1) he rejected the notion that economic theory was a 'purely logical construction' such that, once one checked to see whether its assumptions somehow reflected the state of the world, it might then be employed in an essentially deductive manner. Such a conception implied that it was unnecessary to know the history of economic thought in order to understand economic theory. The problem with this view, he went on to say (p. 2), was that it disregarded the fact that economic analysis always originated in attempts to understand 'practical problems'. It was true, he allowed, that proposed solutions to economic problems were often cast in universal terms, but this was due in part to a desire on the part of those whose interest they served to give these solutions the appearance of being 'natural laws', and in part due to a tendency for theories gradually to become detached from the problems which gave rise to them. In either case, we may infer that, for Sraffa, understanding economic theories properly required understanding the concrete contexts with which they were originally associated.

I will not review Sraffa's well-known critique of Wittgenstein's early conception of logical form, which I believe only reinforces the themes already presented here (cf. Davis, 1988), but rather close this discussion with summary remarks about what it seems reasonable to conclude about Sraffa's early philosophical thinking. It should be emphasized that these conclusions only concern those aspects of Sraffa's early philosophical views that his critique of Marshall support, and are not necessarily meant to be taken as an exhaustive representation of all of Sraffa's possible early philosophical views.

First, then, Sraffa clearly rejected what has since come to be known as the deductivist mode of explanation (cf. Lawson, 1997), an approach that aims to demonstrate that (economic) reality is governed by abstract, universal laws under which all (economic) phenomena and events can be subsumed. In postwar philosophy of science thinking, the most influential statement of this conception is Carl Hempel's (1965) deductive-nomological or covering law model of explanation. A universal covering law, plus a description of initial conditions, permits any particular event or development to be explained in terms of (or deduced from) an underlying law of nature. Marshall sought to show that there were laws of supply and demand that played this sort of role in economics. Sraffa was opposed to this type of explanation, because he believed that ideas were tied to the particular historical contexts in which they arose. As he indicated in the opening paragraph of his 1926 paper, any analysis pitched at the level of generality that Marshall aspired to achieve 'lost much of its direct bearing upon practical politics,' and did 'not furnish any "settled conclusion immediately applicable to policy"' (Sraffa, 1926, p. 535). Economics was not a universal engine of discovery.

Secondly, Sraffa saw economics as a form of investigation that aimed to uncover the real, underlying structures of interaction between different groups and classes in particular historical circumstances. Whereas Marshall sought to reconcile economic phenomena with abstract, universal laws—essentially an epistemological project—Sraffa sought to account for economic ideas in terms of the process of development in which the producers of those ideas were involved. This referencing of the concrete conditions underlying the development of ideas reflects a conviction that economics is fundamentally an ontological form of investigation that traces out causal relationships. Sraffa was not interested in economics as 'essentially a pedagogic instrument, somewhat like the

study of the classics,' but in an economics more akin to 'the study of the exact sciences' (Sraffa, 1926, p. 535) in which one learned how things worked. How was it, for example, that rent was earned when landlords in Ricardo's time held a monopoly on corn production? Differential rent in the presence of diminishing returns was the mechanism by which distribution was worked out between landlords and capitalists. This particular structure of social-economic interaction, however, could not be understood if diminishing returns were re-interpreted as part of a general relationship between cost and quantity. Thus the rent mechanism was tied to the concrete circumstances in which it operated.

Sraffa's complaints against Marshall, therefore, derived from two related philosophical premises, each of which was rooted in Sraffa's early philosophical inheritance from historical materialism. On the one hand, he rejected a deductivist conception of science that failed to respect how ideas reflected concrete historical circumstances. On the other hand, he sought an economic analysis that elicited the real causal structures of interaction between historical groups and individuals. Together, these philosophical commitments placed economic reasoning at the discretion of those who sought to intervene in the historical process in the form of revolutionary politics. In contrast to Marshall's universal machinery, the tools Sraffa offered depended upon the occasion of their use, and might be discarded for new tools were historical circumstances to change.

5. Sraffa's Later Philosophical Thinking

The strategy adopted in this paper for eliciting Sraffa's early philosophical thinking relies on positioning Sraffa's thinking in a historical development of ideas with which he can be reasonably associated. This strategy creates difficulties for making claims about Sraffa's later philosophical thinking, because positioning Sraffa in a well identified historical development of ideas becomes more difficult for the period of his career in Cambridge when he moved to his principal life accomplishments. Whereas in his early years the experience of Italian communism was clearly central to his outlook, life in Cambridge introduced additional traditions of ideas which were, in some cases, considerably removed from European Marxist traditions. Complicating matters is the fact that Cambridge intellectual traditions were themselves undergoing significant transformation in the period from the late 1920s through the 1930s. Two important figures for Sraffa, Ludwig Wittgenstein and Keynes, each redirected their thinking in important ways, which implicates Sraffa as an important contributor to their later views—for Wittgenstein, the context dependence of meaning and for Keynes the own-rates of interest conception. Thus, not only are there additional intellectual traditions in which to position Sraffa, but his role in helping to create those traditions makes it hard to distinguish between positioning Sraffa within a tradition of ideas and Sraffa's 'positioning' a tradition of ideas.

These points suggest ways of approaching a possible account of Sraffa's later philosophical thinking. First, a central question is whether Sraffa modified his early views (or at least those aspects that may be reasonably determined) in significant ways in light of his intellectual experience in Cambridge. Second, to the extent that a case can be made for saying that modification did occur, the question that arises is how this may have been the result of his interaction with Wittgenstein and Keynes. The possibilities, it seems, are that Sraffa's ideas developed because he was influenced by these individuals, that his ideas developed in the process of influencing these individuals, and that his ideas developed on account of a combination of these two possibilities. No effort is made here to sort out these possibilities. Doing so would require considerably more thorough discussion of the ideas of Wittgenstein and Keynes, how their ideas changed, and what Sraffa's later writings might additionally suggest, than can be attempted here.

However, within this framework of possibilities it seems that the second of the two philosophical commitments discussed above deserves the greater attention. The first, Sraffa's critique of the deductivist mode of explanation is arguably an early career project. Having worked out for himself how Marshallian economics was unsatisfactory on a methodological level, Sraffa, especially with his personal history of involvement in Italian

politics, would likely have thought that his energies were better devoted to explaining the ways in which the political-economic process of his own time actually worked. This suggests that his attention would naturally have shifted to his second philosophical commitment, the positive project of explaining the structures of causal interaction in economic life that he believed had been the preoccupation of the classical political economists. Thus, given the dramatic changes in European economic systems during his time in Cambridge, Sraffa's later philosophical thinking could well have placed important weight on how one was to understand the forces of change and development in the underlying structures of economic life.

Footnote

For discussion of how class conflict operates in Sraffa's early work, see Panico (1988).

2 Sraffa began work on both Ricardo and Production of Commodities much earlier than they were published—Ricardo after his return from Russia in 1930 (Pollitt, 1988, p. 58) and sometime before 1928 in the case of his Production of Commodities (Sraffa, 1960, p. vi). But what was thought out at this earlier point in time is hardly clear, and in any event much more work was done on both projects in subsequent years.

3 Here the term dogma did not have the pejorative meaning it has since acquired, but referred rather to positions that might be taken on particular issues, such as that free trade was desirable taken in the context of the debate over the Corn Laws.

4 This view was later demonstrated to be false by Sraffa (1951, pp. xxxvii–xl). That Ricardo had not wavered in his commitment to the labor theory was also shown by the discovery in Ireland in 1943 of his lost final essay, 'On absolute value and exchangeable value,' in which Ricardo had written on the problem of finding a measure of value for the labor theory.

5 The 1926 paper also drew on Sraffa's paper in Italian from the previous year (Sraffa, 1925). See Andrews (1997) for arguments that have much in common with those made here.

6 Keynes's later quite different moral science conception of economics that dealt with 'motives, expectations, [and] psychological uncertainties' required that one be 'constantly on guard against treating the material as constant and homogeneous' (Keynes, 1971–1989, vol. XIV, p. 300). For a comparison of Sraffa's and Keynes's views, see Davis (1998).

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