Between Keynes and Sraffa: Pasinetti on the Cambridge School[1]

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When Luigi Pasinetti arrived in Cambridge as a research student, it was the proud citadel from which Keynesian economics had conquered the world. Cambridge economics was alive and well in the hands of Keynes's successors. Joan Robinson and Nicholas Kaldor were producing a steady stream of original and provocative ideas. Less visible to the outside world, Richard Kahn and Piero Sraffa were equally important among the Cambridge Keynesians. Cambridge was the one European center able to maintain genuine intellectual independence and to exert considerable worldwide influence against the growing dominance of American economics. The young Italian student became in time one of the foremost Cambridge economists of his generation.

But that was long ago. Keynesian economics has fallen on hard times since then. Keynesians of one sort or another are still around but mostly on the outer fringes of the profession. The biggest group still doing homage to the master by taking the label 'New Keynesian Economics' propounds a Walrasian-infested doctrine that bears not the slightest resemblance to the Cambridge Keynesianism of the 1950's or '60's.

The leading figures among the postwar Cambridge economists attracted much attention in their day but are all but unknown among mainstream economists today. The concerns that motivated them and the problems they worked on are virtually incomprehensible to believers in intertemporal general equilibrium models. Joan Robinson's growth theory or the cycle models of Kaldor and Goodwin they would dismiss as without "microfoundations" since behavior is not reduced to intertemporal optimization based on rational expectations. The Cantabrigians' work

[1] A review of Luigi L. Pasinetti, **Keynes and the Cambridge Keynesians: A 'Revolution in Economics' to be Accomplished**, Cambridge: Cambridge University Press 2007, pp. xxiii, 384.

on distribution theory is hardly understandable to adherents of the marginal productivity theory who take for granted that the real rates of interest and profit are given by the marginal product of K. It is truly remarkable how the mainstream has managed to resign to oblivion the clear-cut victory of Old Cambridge in the Capital Controversy (in which Pasinetti played a prominent part) and then to ignore its implications for the measurement of capital, the neoclassical aggregate production function and the propositions derived therefrom. But economists who take capital and production theory seriously, and are aware of how much empirical humbug (Shaikh 1980, 1987) has been concocted with the neoclassical production function, will realize that the Cambridge school grappled with genuine problems that, while they bulge under the rug of today's economics, cannot in all decency be left there forever.

In this, his latest book, Luigi Pasinetti looks back to the Cambridge of his youth and reflects on the Keynesian revolution, on the accomplishments of the Cambridge Keynesians and on their eventual failure not only to carry the day worldwide but also to perpetuate a distinct school at home. The book consists of three distinct parts. The first comprises Pasinetti's Federico Caffé Lectures, "Keynes's Unaccomplished Revolution", from 1995. The third part "Towards a Production Paradigm for an Expanding Economy" proffers the outline of a theory which Pasinetti hopes could reinvigorate the Cambridge School and show it a way forward. In between, the reader finds a set of beautifully written biographical essays on Kahn, Robinson, Kaldor, Sraffa (three distinct pieces) and Richard Goodwin. These are sensitive well-balanced portraits. They are generous in appraising their contributions even as they point out the attitudes and "unwise behavior" of the dominant figures (Goodwin certainly excepted) which repulsed so many potential allies and recruits and were anything but helpful in spreading the influence of their school. Intellectual arrogance had been, I think, Keynes's Achilles heel and became a tradition perpetuated by those one-time Knights of the High Table.

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Pasinetti's perspective on the development of economics over the last 70 years is predicated on the view, now unfashionable in wide circles, that Keynes's *General Theory* was indeed "revolutionary" and that the revolution served the betterment of economic understanding and thereby of society. But what was it exactly that made Keynes's contribution revolutionary? Through the first twenty or so postwar years, there was a widely accepted and widely taught view of what the revolution was all about. Even Keynes's former Cambridge associates were slow to recognize that the neoclassical synthesis was not a true descendant of the Master and to declare the "bastard" illegitimate. In later years, more or less distinct interpretations of Keynes have multiplied even as the profession at large has ceased to care.

Pasinetti, interestingly, begins by asking: *When* did the revolution occur? He dates it, convincingly, to 1932. By the Spring of that year, Keynes had concluded that the *Treatise* could not be salvaged by a revised edition. He still gave his "Pure Theory of Money" lecture series which was largely based on it but members of his 'Circus' attended and gave him trouble. The summer of that year appears to have been a critical period. In the Fall, Keynes announced a new series of lectures with the title "The Monetary Theory of Production".The new title signaled a break with his previous work and a break with tradition. From this point onward, Keynes felt himself to be doing work that was revolutionary in nature. The young members of the Circus were all caught up in revolutionary ferment.

Much was being overthrown, that was clear. But it is striking that there was considerable uncertainty and lack of unanimity about the new regime. In the nature of the case, many details remained to be worked out. But in this instance the devil was not really in the details. Pasinetti quotes Joan Robinson's famous recollection: "There were moments when we had some trouble in getting Maynard to see what the point of his revolution really was."[2] This uncertainty at the very beginning already foreshadowed the diversity of opinion about "what Keynes really meant" which emerged once the neoclassical synthesis became widely recognized as a sham. We do not have this diversity of understanding about Milton Friedman and even less about Robert Lucas to take two later, dominant figures in macroeconomics. This peculiar persistence of diverse interpretations is a problem in its own right to which I will return later.

[2] I recall Hayek more than once telling about a conversation he had with Keynes during the war in the course of which Hayek argued that Keynes's pupils were oversimplifying *The General Theory* to an indefensible extent. His impression was that Keynes basically conceded the point. Keynes's response, however, was simply to the effect that it was not worth worrying about B once he got back to Cambridge he would set them right.

Pasinetti sees the proliferation of more-or-less Keynesian heterodoxies as the basic reason why opposition to neoclassical orthodoxy has been so ineffectual over recent decades. A common denominator that could serve as an alternative to the neoclassical paradigm, he argues, has to be sought at a deeper, more fundamental level than that of any particular behavioral or institutional assumption. The new title of his 1932 lectures, Pasinetti argues, indicates that the fundamental reorientation of economic theory which Keynes sought to carry through entailed supplanting an exchange-based theoretical paradigm with a production-based one.

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The minimal features of pure exchange models are individual endowments and utility functions and equilibrium prices that enable all desired exchanges to be executed. "All theorems, all elaborations, are normally developed first for this minimal model." Production and other features can be added but the pure exchange model is essential in that "it contains those analytical features, and *only* those features, which the theory cannot do without." Pasinetti's prototypical production model, in contrast, starts from the *technological* imperatives stemming from the division and specialization of labor. In this context, exchange is derivative, stemming from specialization in production. How it is institutionalized and organized is a matter that the minimal production paradigm leaves open (whereas the exchange paradigm necessarily starts by assuming at least private property and often also organized markets). Prices in the production paradigm are indices of technologically determined resource costs and, as such, leave open the question whether the system does or does not have a tendency towards the full utilization of scarce resources and, in particular, of labor. For the pure production paradigm these are the "features, and only those features, which Classical economic theory cannot do without."

Distinct "social philosophies" undergird Pasinetti's two paradigms. The exchange paradigm relies on individual self-interest, on consumer's sovereignty, and on markets and private property as the principal institutions needed to bring about a socially desirable and harmonious outcome. In putting the division of labor and specialization at center stage, the pure production model, in contrast, highlights the "necessarily *cooperative aspects* of any organized society [and] looks for responsibility of society as a whole" in bringing about a socially desirable outcome.

Pasinetti's argument could be pressed further -- as I imagine Kaldor might have done: Division of labor arises from economies of scale. If outputs per worker increase with the size of the network of cooperating agents, the marginal productivity theory of distribution cannot possibly hold. In such a context, the abiding interest of the Old Cantabrigians in alternative theories of distribution becomes readily understandable.

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The inspiration for Pasinetti's pure production paradigm is of course Sraffa:

> "In *Production of Commodities* he does not rely on any institutional set-up, he does not make reference to any historical context, he does not mention any kind of 'economic agent'. He carefully avoids making any assumptions on human behavior, on market structure, on competition, on returns to scale. He even avoids taking a specific stand on distribution...." (pp. 192-3).

The bleak austerity of the conception has its own fascination. It is social science without human actors and without human institutions, with nothing but engineering coefficients determining value. Pasinetti argues the virtues of *separating* "those investigations that concern the foundational basis of economic relations ... from those investigations that must be carried out at the level of the actual economic institutions." The "foundational essentialistic type .... [is] aimed at discovering basic relations which the Classical economists called 'natural'" in order to determine "the economic magnitudes at a level which is so fundamental... [as to be independent] of the rules of individual and social behavior." It is the very featurelessness of the paradigm that, in his view, makes it a suitable foundation on which heterodox economists, whatever their differences, could find common ground.

The model of *Production of Commodities* has a crucial limitation for Pasinetti's purposes however. In contrast to Leontief's input-output structure, for example, Sraffa's theory is not to be understood as assuming constant returns. It is, rather, a "snap-shot" of a production system seen at a point in time. It is capable of reproducing the state that it is in but *quantities* do not vary; they are held constant. It does not explain anything about the allocation of resources. Instead, the focus is altogether on finding a logical basis for objective measurement. It is a system for coherent, internally consistent macroeconomic accounting.

In the third part of the book, Pasinetti illustrates how the limitation of Sraffa;s original model can be overcome. The vehicle for the demonstration is his own *production of commodities by means of labor* model, a simplified structure without either circulating or fixed capital, but capable of generating growth with ongoing structural change. The rate at which labor productivity grows differs between sectors and since Engel curves differ across sectors so do the growth rates of sectoral demands as real income increases. The model will then show the release of labor by some sectors and the net absorption of labor by others. No institutional assumptions are made that might ensure a tendency towards full employment.

The model *tracks* the structural dynamics of the system but is not entirely satisfying as an explanation of the growth process. This is partly because relative prices and incentives play no part in the story. But it is also because one does not know, for example, whether the rate at which labor requirements in a sector diminishes is due to purely technical advances or to the realization of new economies of scale. The model does provide a method of *growth accounting* and a rigorously consistent one at that if the assumption is granted that different types and qualities of labor can be measured on a scalar as different quantities of a homogenized labor input. Economists may differ on whether this is better or worse than the utility-based index numbers entering into conventional national income accounting.

Pasinetti sets his two paradigms against a historical background, associating the pure exchange paradigm with the pre-industrial era of international trade and the production paradigm with the industrial era. The question then arises how his production paradigm will do in a post-industrial era where employment and value added in manufacturing are shrinking in relation to services. Pasinetti feels that this development makes his model with labor as the sole factor of production less farfetched. But does it not also make the technologically fixed coefficients evaporate into thin air?

One may understand the Sraffian project of putting economics on a scientific basis of objective measurement and admire the efforts of Pasinetti and others to advance that project -- and still remain skeptical of it. It is of course true that neoclassical economics hovers forever suspended between Ricardo and Menger -- between a social science based on purely engineering data and a subjectivist logic spurning quantitative data altogether. There may be no truly firm ground in the "abysmal gulf" between them[3]. Nonetheless the path of wisdom - if not of valor - may wind its way somewhere in the unprincipled middle ground between the two purist positions.

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From Pasinetti's perspective Keynes's revolution and Sraffa's revival of Classical economics are both part and parcel of the same reorientation of economic theory. This attempt to provide Keynesian antecedents for Cambridge's Classical revival I do not find persuasive.

Consider first the role of Marshall's ghost in the story. It is of course true that in the *General Theory* Keynes made a break with the Marshallian tradition. But over what exactly? Keynes had published Sraffa's famous 1926 paper in the *Economic Journal* and, more generally, lent much space to the debate initiated by Clapham's "Empty Boxes." Kahn and Robinson were much influenced by Sraffa's critique of Marshall and Robinson's *Economics of Imperfect Competition* is one of those works that owe much to Kahn's advice and criticism. But, as has often been observed, Keynes made no use of *Imperfect Competition* in his own work.

Marshall was not able to reconcile increasing returns and competition within his static apparatus. But he saw both increasing returns and vigorous competition all around him and stuck to the facts (being in any case conscious of the limitations of his analytical apparatus). Sraffa might not have disputed the facts (or so I suppose), but his objections to the economics of Marshall as well as all the other neoclassicals went deeper than the Laws of Return. As Pasinetti observes more than once, it was Sraffa's view that economic theory had gone off the rails completely in the course of the marginalist revolution. Utility-based demand theory had injected a subjectivism that removed any possibility of a science based on consistent measurements of objective magnitudes. So Sraffa sought to lead a return to the pure production theory of the Classics. I know of no evidence that Keynes broke with Marshall on this score. And I do not think that he had a technologically determined, institution-free production system as the core of his theory. Did he ever, at any stage in his career, give serious thought to the theory of

[3]Pasinetti, p. 179, 195, quoting Sraffa's papers.

production?[4]

The title of the new lecture series that Keynes introduced at a critical time was 'the *monetary* theory of production.' Pasinetti passes over this institutional feature without comment. But Keynes was above all a monetary economist and there are a number of good reasons to believe that the qualifying adjective is in fact critical.

Conjectures about how Keynes's ideas developed at this time are unavoidably speculative. That *caveat* made, I think it reasonable to believe that he had been puzzling over Kahn's multiplier. In an equilibrium model, investment and consumption should be inversely correlated. How then was one to explain the multiplier property? Why would the economy fail to stay on or return promptly to the production possibility frontier? Drafts of chapters apparently written in 1932-33 (but later abandoned)[5] show Keynes's thinking on this matter around the time of his "monetary theory of production" lectures. He contrasts a hypothetical "Co-operative Economy" in which labor is essentially bartered against wage-goods with an "Entrepreneurial Economy" in which money has to be used in all transactions. In the latter, the offer of labor is not an effective demand for wage-goods. Labor has to be sold for money and money used to buy goods.[6] The Co-operative Economy would have the stability properties presumed in neoclassical theory whereas the Entrepreneurial Economy would exhibit the deviation-amplifying multiplier property.[7] The Entrepreneurial Economy could end up in an unemployment equilibrium *because* it is a monetary economy.

Getting Marshall right is important also in order to understand the interminable wrangling

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[4]Keynes's response to the criticisms of Dunlop and Tarshis is indicative. In the *General Theory*, he had thought that the marginal product of labor and hence the real wage would be inversely related to aggregate employment. Dunlop and Tarshis, independently or each other, objected that this was inconsistent with empirical evidence. Keynes responded in effect that it was not important and he would not insist on this property of the theory.

[5]Cf. Keynes (1979), Chapter 3: "Towards the *General Theory"*

[6]This helps to clarify also the long Appendix to Chapter 19 of *The General Theory* the central point of which is Keynes's complaint that Pigou dealt with the labor market *as if* it labor was exchanged for wage-goods and not for money.

[7]For a fuller statement, see Leijonhufvud (2000), pp. 24 ff.

over what Keynes was all about. Pasinetti lumps Marshall together with Walras, treating both as exponents of the neoclassical exchange paradigm which he sees as entirely alien from a Keynesian perspective. But what distinguished Marshall from Walras (and from today's Walrasians) is far more important than what the two had in common. Marshall "did not build from choice theory, did not represent decisions as solutions to constrained optimization problems, and made no strong assumptions about the 'rationality' of agents" (Leijonhufvud 2006b). His economy was a complex dynamical system in which consumers and producers constantly had to adapt to changing conditions. His short-run partial equilibrium model was a handy, but imperfect, way to represent how a (representative?) module of the larger system functions.

Keynes found out that in the case of effective demand failures the system of interrelated market modules would not exhibit the stability properties of the isolated module and that, therefore, a more *general theory* was needed. He sought to follow Marshall's method of "freezing" a set of slower moving variables and deducing a point attractor for the remaining endogenous variables in his macromodel of multiple interrelated markets. But in truth there is no good reason to suppose that Marshall's method of translating a dynamic process into a temporal sequence of static equilibria will work for larger multi-dimensional systems. Different markets operate on different time-frames. In a system with multiple markets too many things are going on and at different speeds and the leads and the lags are not likely to be the same from one historical episode to another (Leijonhufvud 2006a).

Pasinetti quotes Keynes's homage to his Circus in the Preface of *The General Theory*: "It is astonishing what foolish things one can temporarily believe if one thinks too long alone..." This is not a statement one would make if the task were to find the total derivative of an IS-LM model or a dynamic stochastic general equilibrium model or to evaluate the effects of a change in the share of profits in a Sraffian production system. It is understandable if the problem is to figure out the path of a complex dynamical system for which the requisite mathematical tools were lacking. (Then IS-LM might be one of the "foolish things one can temporarily believe"!) One of the items that Pasinetti rightfully emphasizes in characterizing the Cambridge School and differentiating it from mainstream neoclassicism is *causality vs. interdependence.* His recollection of Joan Robinson is apposite here:

> Those who used to argue with her knew that she could grasp and keep in the back of her mind (to be brought out at the appropriate moment) *a whole series of chain effects and interdependencies,* which her interlocutors could hardly imagine (*italics added)*.

This, again, is not arguing about comparative statics. Keynes pupils knew what kind of system they were dealing with. But, although they developed strong convictions about the properties of that system, so did others -- eventually quite a few others -- and no one has had a mathematical representation adequate to settling all the differences of opinion that in time arose. It is no wonder that the debate over Keynes's contribution goes on with no end in sight.

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Pasinetti is one of the major theorists of his generation (and mine). In this book he looks back over the five decades of a distinguished career, reflecting on the people that have influenced him the most and on the later fate of their ideas. It is an exercise in imparting a coherent, understandable pattern to all the diverse and sometimes discordant impulses that have shaped his own work.

The book, unfortunately, will not have an audience among those younger economists who are convinced that mainstream economics is on the right -- indeed, on the optimal -- track. But readers who have their own doubts and disaffections with contemporary economic theory will find this an engaging book and a richer work than can be done full justice in a review such as this one.

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