CHAPTER TWENTY-TWO

Keynes and the Cambridge School

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22.1 Introduction

We start with Maynard Keynes's central ideas. We then discuss the strands that emerged in the work of others, some contemporaries, some followers, some agreeing and extending, others disagreeing and/or returning to ideas that Keynes sloughed off or played down. *The General Theory* is the natural starting point. We trace developments from and reactions to it, especially by people who were associated, at least for part of their working lives, with Cambridge, England. In the concluding paragraphs, we briefly discuss the contributions of those not geographically located in Cambridge who nevertheless worked within the tradition of Keynes and the Cambridge school.

22.2 Keynes and the Classics

The General Theory emerged as a reaction to the system of thought, principally associated with Alfred Marshall and A. C. Pigou, on which Keynes was brought up and which he was to subsume, misleadingly, under the rubric of the classical school. Keynes rationally reconstructed the classical system by setting out what, though it could not be found in the writings of any one "classical" economist, must have been assumed and developed if sense were to be made of their attitudes and claims. (Keynes's procedure could be equally well described as opportunistic.) In its most stark form, the classical system assumes a clear dichotomy between the real and the monetary, with the real the dominant partner, at least in the long period. In a competitive environment there is a tendency to market-clearing in all markets (including the labor market), again, at least in the long period. This determines the values of equilibrium normal long-period prices and quantities, including those for the services of the factors of production. It also provides the theoretical value of T in Irving Fisher's version of the quantity theory of money (QTM) (Y in Marshall's version) and, together with the assumption of an exogenous value of M and a given value of $V(k)$, makes the general price level (P) proportional to M. The natural rate of interest – a real concept – equilibrates real saving and investment, determining the composition of full-employment Y, itself determined by the full-employment equilibrium value of employment in the labor market. The money rate of interest has to adjust to the real rate, which rules the roost.

This is more a Marshallian than a Ricardian view of the world; it assumes Say's Law in a form in which the original classical political economists would never have stated it, as far as full employment of labor (as opposed to capital) is concerned.

This system underlay Keynes's *Tract* and *Treatise on Money*, though Keynes champed at the bit of its constraints, wishing to analyze short-period happenings to production and employment and propose policies appropriate for other than that long run in which we are all dead. Even in the *Treatise on Money*, long-period stock and flow equilibrium and its attainment dominated the core of the analysis. Keynes felt guilty analyzing short-period changes in output and employment, but he did allow himself the banana plantation parable, the analysis of which was incomplete because Kahn's multiplier analysis had not yet occurred.

These constraints were virtually completely removed in *The General Theory*. The real-money dichotomy was discarded; money and financial matters entered from the start of the analysis, fully integrated with real happenings. Money, analytically, had all its dimensions – a store of value as well as a medium of exchange and a unit of account. Emphasis moved from the long to the short period. Keynes's predilections in this regard were reinforced by the approach and work of his favorite pupil, now colleague, Richard Kahn, whose King's fellowship dissertation, "The economics of the short period," made the short period worthy of study in its own right – though, as we shall see, it is not unanimously agreed that *The General Theory* is or should be short period in emphasis. The switch from saving determining investment to investment determining saving, which was already occurring in Cambridge and elsewhere, became complete in *The General Theory*. The money rate of interest, now the price that equalized the demand for and supply of money, ruled the roost; the *General Theory* version of the natural rate of interest, the *mec* (it should have been the *mei*), had to measure up to it. The heretical concept of an unemployment equilibrium or rest state, the point of effective demand, emerged as the central proposition of *The General Theory*.

With Say's Law refuted, QTM no longer explained the general price level. Keynes substituted for it a macroeconomic version of Marshall's short-period supply curve. With marginal-cost pricing usually assumed to occur, there was an upward-sloping relationship between activity and the general price level in any given situation. Some of his closest colleagues and co-workers – Roy Harrod, Kahn, Austin and Joan Robinson, Gerald Shove, and Piero Sraffa – had helped to develop the then emerging theory of imperfect competition. Keynes noted this but did not think it of central importance for his new, different purposes – he took as given the degree of competition. (Michal Kalecki showed in his review article of *The General Theory* how right Keynes's instinct was. Nevertheless, Kalecki and, subsequently the post-Keynesians, for example, Nicholas Kaldor, Alfred Eichner, G. C. Harcourt and Peter Kenyon, Sydney Weintraub, and Adrian Wood, were to make mark-up pricing, replete with a theory of the determination of its size, an integral part of the theories of employment and distribution.) Crucially, Keynes's philosophical views, developed while he was still an undergraduate and most comprehensively expressed in his 1909 King's fellowship dissertation, *A Treatise on Probability* (subsequently published in 1921), are an integral aspect of the complex analysis of *The General Theory*. We refer to the modern writings on the significance of this in the concluding paragraphs.

We should also mention the sad happening that Keynes's closest collaborator in the development of monetary theory during the 1920s, Dennis Robertson, parted company with him as *The General Theory* emerged. Robertson was shocked by Keynes's disrespect for his elders and betters (read Marshall). He thought the policy implications were dangerous because Keynes's analysis did not capture the rich, inescapable dynamics of the interactions of the real and monetary sectors of industrialized economies. They implied cyclical developments, around which monetary and fiscal measures should attempt to fit like a glove but not try to remove, in order to preserve the potential of long-term rises in productivity and the standard of living generally. The rift was both a personal and professional tragedy (a superb account of the psychological and intellectual reasons for it can be found in Fletcher, 2000).

Kahn and Joan Robinson were always hostile to the IS–LM version of Keynes's system as it came down to the profession and the textbooks, principally through J. R. Hicks's famous 1937 article. They never said why in print, but it became clear in the postwar period that they thought it cut out Keynes's emphasis on how an environment of inescapable uncertainty affected how (usually) sensible people did the best they could when making economic decisions. They also thought it impossible to properly set out Keynes's new ideas within the framework of Hicks's adaptation of the Walrasian system. The latter underlay *Value and Capital* (1939), written while Hicks was teaching in Cambridge in the second half of the 1930s (it was conceived when he was at LSE), so that it was the natural framework within which for him to try to understand Keynes's new theory. Keynes, Kahn, and Austin and Joan Robinson were always resolutely Marshallian in method, even for macroeconomics. Yet passages in *The General Theory* – see, for example, page 173 – may legitimately be interpreted in terms of IS–LM. They show its great limitations as well as the basic insight that it gives (see Moggridge, 1976, pp. 171–4). The two relationships cannot be taken to be independent of one another; changes in the value of a parameter underlying one may often affect those underlying the other, leading to Keynes's shifting equilibrium model and to the modern analysis of path-dependence (which Kaldor initially set out in 1934!). Several of Keynes's closest allies did *The General Theory* in terms of IS–LM, admittedly in algebra or words, not diagrams. Thus Brian Reddaway's review, and Harrod's and James Meade's contributions to the session at the Oxford conference at which Hicks presented his paper are so set out. Indeed, Hicks read Harrod's and Meade's papers *before* he wrote his and produced the diagram (see Young, 1987).

22.3 Keynes, Keynesians, and World War II

Although a group of Keynesians dispute it (see pp. 351–2 below), those closest to Keynes regarded Keynes's core model as set in the short period. He was mostly concerned with the employment-creating effects of investment expenditure and virtually ignored its capacity-creating effects. He analyzed the conditions for the establishment of a rest state that could be associated with unemployment in a situation in which the existing stock of capital goods, supplies of skilled and unskilled labor, the quantity of money, and the degree of competition were given. He provided a sketchy analysis of the trade cycle in a later chapter and made some asides about prospects for long-term growth (or their lack), but never systematically examined them in *The General Theory* itself. He set out policy proposals for attaining full employment in the short term, starting from a deep slump but, again, only sketched in the difficulties associated with sustaining full employment – Kalecki (1943) analyzed the crucial difference between the political economy of getting to full employment and sustaining it. In wartime, Keynes and his ideas played a major role in getting the British economy through World War II without major inflationary problems. Keynes illustrated his theory's generality in *How to Pay for the War* (1940). There he introduced the concept of an inflationary gap – aggregate demand in real terms exceeding full-employment aggregate supply – and the steps to be taken to eliminate the gap to avoid prices rising, queues forming, and order books lengthening.

During the war, two of Keynes's closest associates, Meade and Richard Stone, developed a comprehensive system of national accounts based on the relationships in Keynes's theory to help the war effort by avoiding bottlenecks and shortages. Building on these foundations Stone developed the accounts uniformly and internationally. (He received the Nobel Prize in 1984 for these "fundamental contributions." Meade received it in 1977 for his contributions to international economics, also built on Keynesian foundations.) Economic historians – for example, Alec Cairncross, Phyllis Deane, Charles Feinstein, and Brian Mitchell – used the Keynesian system and national accounts to reinterpret aspects of the Industrial Revolution and, in the case of Deane, to analyze the problems of developing countries.

22.4 Growth and Distribution

In the postwar period, Kahn, Joan Robinson, and Sraffa, stimulated by Harrod's seminal prewar and early postwar writings on growth (1939, 1948) and by the problems of reconstruction and development generally, turned their attention to "generalising *The General Theory* to the long period." (They were later joined by

Kaldor and then Luigi Pasinetti.) They reached back over the neoclassical interlude of resource allocation and price theory generally to the preoccupations of the classical political economists and Marx with growth, distribution, and the role of technical progress, taking in the findings of the Keynesian revolution in the process. Harrod posed two fundamental problems: first, the instability of his warranted rate of growth, g_w – the rate of growth which, if attained, would be sustained because actual outcomes would persuade decision-makers concerning accumulation that they were doing the correct rates of accumulation. If it were not attained, the economy would give out destabilizing signals; the actual rate of growth, g, would tend to move further and further away from g_w in either direction, depending upon whether g was greater than or less than g_w. The second problem was whether there were forces at work that could bring g_w and g_n together, where g_n, the natural rate of growth, represented the supply potential of the economy associated with the rates of growth of its labor supply in quantity and quality. There was no reason why g_w should equal g_n, because g_w was concerned with accumulators achieving their desires, not wage-earners necessarily being fully employed, as they would be on g_n. The Cambridge Keynesian growth theorists addressed these two basic problems. (John Cornwall, much influenced by Kaldor's approach in particular and unwilling to accept Harrod's assumption that g_n was independent of g_w, has over the past 40 years and more, illuminated our understanding of the development of capitalist economies over time by analyzing how g_w and g_n feed back into one another: see Harcourt and Monadjemi, 1999.)

To illustrate significant differences in their approaches, we consider those of Kahn and Joan Robinson, on the one hand, and Kaldor, on the other. Both developed macroeconomic theories of distribution. Kaldor called them "Keynesian" because he found their origins in the passages in the *Treatise on Money* on the widow's cruse and because they incorporated the Keynesian view that investment led and saving responded to it. Kaldor initially argued that in the long period the economy grew at full employment along g_n; the role of the multiplier was to determine the distribution of income between profits and wages, supposing that the marginal propensity to save from profits, s_{II}, exceeded that from wages, s_w, and money prices were more flexible than money wages in the long period. If the economy were not saving the right amount to allow the provision of the accumulation needed to keep the economy on g_n, the gap between planned investment and saving would so change the distribution of income as prices change more rapidly than money wages, as to bring about an overall saving ratio equal to the required investment ratio in long-period full-employment income. (In the 1930s, Kalecki developed a similar theory for the short period, but did not require the economy to be at full employment. Saving therefore could be brought to equality with investment by changes in income *and* its distribution, and the resulting rest state could be associated with involuntary unemployment. Moreover, Kalecki explicitly linked pricing practices and their determinants in different sectors of the economy to the distribution of income.)

Kahn and Joan Robinson developed their arguments in two stages. First, they examined the properties of Golden Ages, so-called because they were mythical states, never to be realized in reality. Their aim was to make precise certain definitions – profits, capital, saving, investment – and relationships which could only be made so in Golden Ages (or "steady states," as the neoclassical growth theorists called them) where expectations and actuality always matched. They identified several variants of Golden Age, some with desirable properties, others not, such as Bastard Golden Ages, with sustained unemployment of labor. They then attempted to analyze processes occurring in historical time (as opposed to the logical time of Golden Age analysis), never completely successfully. Indeed, toward the end of her life, Joan Robinson sometimes despaired of ever achieving this, though in one of her last papers (coauthored with Amit Bhaduri: see Bhaduri and Robinson, 1980), she was less pessimistic than in her nihilistic paper of the same year, originally entitled "Spring cleaning" (Robinson, 1985 [1980]). There she argued that we should scrap everything and start anew.

Kaldor, though, was happy to use steady-state analysis in descriptive analysis of the real world, making sense in explanations of the occurrence of his famous "stylised facts" – near enough regularities over time to require explanation. He wrote a series of papers in the 1950s and 1960s, starting from his famous "Alternative theories of distribution" (1955–6). They were both Keynesian and classical, because he now introduced a technical progress function relating productivity growth to the rate of take-up through accumulation of the flow of new ideas through time. In the most refined version, investment is specifically related to embodiment at the margin of new ideas and to productivity growth. All incorporate Kaldor's (and, eventually, other Cambridge growth theorists') refusal to accept the neoclassical distinction between movements *along* a given production function (deepening) and movements *of* the production function due to technical progress. Kaldor regarded the distinction as incoherent – new accumulation carried with it, indissolubly, new ways of making products and, often, new products themselves.

Kaldor's and Joan Robinson's views were not *that* different from the pioneering work of Wilfred Salter on vintages in *Productivity and Technical Change* (1960), except that, at any moment of time, the *ex ante* production function of "best-practice" techniques was whittled down to one point, endogenously created to meet the needs of the moment (in the light of expectations about the future), while Salter allowed a choice of techniques to occur. Eventually, Kaldor rejected this approach. He ultimately thought that the problems of steady growth arose from the difficulty of keeping the growth of the availability of primary products in line with the growth of the absorptive capacity of the industrial sectors of the world. In his view neither the Keynesian nor the neoclassical models could handle the *complementarity* of an integrated world. A multi-sector model was required to tackle the mutual interdependence of the sectors, where the development of each depends upon and is stimulated by the development of others. Different pricing behavior as between the sectors tended to frustrate the emergence of harmonious interdependence. Kaldor's approach has been developed by his biographer, Tony Thirlwall, often with John McCombie (see, e.g., McCombie and Thirlwall, 1994). But we have run ahead of our story.

22.5 THE CAPITAL THEORY CRITIQUE

Simultaneously with these positive developments of classical cum Marxian cum Keynesian ideas occurred a critique of the foundations of neoclassical value, growth, and distribution theory associated with the so-called Cambridge controversies in the theory of capital. Starting as an attack on the capital variable in the aggregate production function, it developed, especially in the hands of Joan Robinson and Kahn, into a critique of the long-period method – comparisons of long-period positions with different values of a key parameter to analyze processes occurring in actual time. Summed up in Joan Robinson's phrase, "History versus equilibrium," it is the error of using differences to illuminate the results of changes. Another strand of the critique was precipitated into the public domain by Joan Robinson in 1953–4 (developed long before by Sraffa, it was revealed with the publication of *Production of Commodities* in 1960.) It questioned the robustness of the intuition that prices, including distributive prices, were reliable indexes of scarcity. This intuition was refuted in the 1960s by the capital-reversing and reswitching results. They destroyed the theoretical foundations of the inevitability of a downward-sloping demand curve for capital (outside the domain of one commodity models) and of negative relationships between the rate of profits (r), on the one hand, and capital-output ratios and sustainable levels of consumption per head, on the other. Indeed, the coherence of the concept of a marginal product of capital (outside the one commodity domain) was called into question. The marginal productivity theory of distribution became problematic, for reasons other than those adduced within the neoclassical framework (see Mandler, 1999).

In the 1950s Kahn and Joan Robinson extended Keynes's liquidity preference theory of the rate of interest to take in the stock market, adding equities to bonds as financial assets competing with the holding of money. They built on Keynes's 1937 papers (see Keynes, 1937a,b) setting out his insight of the *Treatise on Money,* lost sight of in *The General Theory*, that finance, not saving, was the ultimate constraint on the rate of accumulation, provided that expected profits were buoyant. (Depressed expected profits obviously bite in a slump, regardless of the state of finance – hence Keynes's pessimism about an effective role for easier credit terms *on their own* in revival from a slump.) Also associated with these developments were Kaldor's seminal ideas from the late 1930s about the operation of markets where stocks dominate flows and expectations of future price movements on both sides of the market dominate the impact of the usual determinants of prices.

22.6 PIERO SRAFFA'S *PRODUCTION OF COMMODITIES*

Sraffa had started long before the 1950s on a critique of the foundations of the neoclassical value and distribution theory. The first public inklings of this, as Joan Robinson saw it, were in the 1951 Introduction to the Ricardo volumes edited by Sraffa in collaboration with Maurice Dobb. She was then searching for a satisfactory theory of the origin and size of the rate of profits in her emerging work on growth theory. In the Introduction, Sraffa discussed Ricardo's theory, starting with a reconstruction, historical and rational, which involved the use of a corn model to explain Ricardo's early view that the profits of the farmer ruled the roost. This was to be replaced in the *Principles* by a labor-embodied theory of profits, an obvious link to Marx but without the concept of exploitation. (Smith and Ricardo recognized the existence of class war and the lack of harmony in the operation of capitalism.) Joan Robinson had been absorbing Marx's messages from the mid-1930s, encouraged first by her friendship with Kalecki and then in order to take her mind off the war.

When *Production of Commodities* was published (1960), a few reviewers sensed Sraffa's twofold purpose – to provide a prelude to a refutation of the conceptual and logical foundations of (neoclassical) economic theory and to revive the approach of the classical political economists and Marx to value and distribution theory. The latter was intended to make possible a coherent theory of the laws of motion of capitalist society, already potentially there in Marx's writings, but with errors removed and unfinished business completed. Such were the views of Dobb (the leading Marxist economist of his generation in the UK) and Sraffa, Joan Robinson (with reservations), Ronald Meek, and Kalecki. The core organizing concept is the surplus – its creation, extraction, distribution, and use. In the book, Sraffa examines production with a surplus in a system of single commodity industries; the determination, first, of r and long-period relative prices when the value of w is given and then of w and prices when the value of r is given; joint production systems in order to analyze fixed capital; land, in order to take in price-determined rent; and the choice of technique to complete the story *and* show the nonrobustness of the intuition of price as an index of scarcity in distribution theory. The system of Sraffa's book is a rigorous representation of the structure of the centers of gravitation associated with the natural prices of Smith and Ricardo and the prices of production of Marx. It is not one side of Marshall's demand and supply story of the determination of long-period equilibrium normal prices (it has been so interpreted by even such astute critics as Samuelson and Mandler).

Sraffa's method is seen by Sraffians as the examination of the outcome of persistent forces in establishing centers of gravitation of the economic system. It incorporates the classical political economists' insight that in a competitive environment there is a tendency toward equality of profit rates in all activities; thus a theory of the overall rate of profits to which they tend in value is needed, a macroeconomic theory because it "could not be otherwise" (Pasinetti, 1962, p. 277). It provides the basis for the revival of classical theory as well as a prelude to a critique of neoclassical theory. The initial critique was spelt out in the capital theory debates of the 1950s to 1970s (see Harcourt, 1972). Positive aspects of the rehabilitation may be found in, for example, Heinz Kurz and Neri Salvadori's work on long-period production (1995).

22.7 Long-Period Keynesians

Sraffa, though a close friend of Keynes, was not bowled over by *The General Theory*. (He did defend Keynes's *Treatise on Money* against Friedrich von Hayek's attack, in the process using the concept of own rates of interest. Keynes used the concept to play a key role in the crucial, difficult chapter 17 of *The General Theory*. We suspect that Sraffa would not have approved, because he used the concept in an internal critique of Hayek's system, not to analyze actual economies.) Sraffa's followers embraced Keynes but argued that for his theory to be revolutionary, he must provide (or have provided) a *long-period* theory of effective demand purged of neoclassical leftovers in, for example, the *mec* of his investment theory which, they argue, is vulnerable to the capital theory critique (not so, according to Pasinetti). Murray Milgate (1982) is the most detailed argument for this viewpoint but there are prior articles by, for example, Pierangelo Garegnani, gathered together (including dissent from Joan Robinson) in the 1983 collection edited by John Eatwell and Milgate.

22.8 Luigi Pasinetti, Richard Goodwin, and Michal Kalecki

The most original, ambitious, and sustained attempt to marry classical political economy (as revived by Sraffa) and Keynes's insights is found in the writings of Pasinetti, senior heir to the "pure" post-Keynesian school of economic thought now that the founding members are dead. His multi-sectoral growth model, originally developed in his Cambridge Ph.D. dissertation in the 1950s and 1960s, and reaching maturity in his 1981 book (and 1993 students' guide), is a *tour de force*. It absorbs Kahn's and Joan Robinson's Golden Age analysis, *The General Theory*'s principal insights, Kaldor's growth and distribution theories, and Sraffa's analysis of value, distribution, and production-interdependent systems. It takes in the principal issues of what Baumol called the magnificent dynamics of classical political economy. A principal distinction stands out: Pasinetti's insistence that we understand the principles of an institution-free system before we take into account the role of institutions and particular historical episodes. Pasinetti illustrated this distinction in his discussion of the principle of effective demand in Keynes's theory (1997).

The method of the long-period Keynesians was never acceptable to Joan Robinson and Kahn, or to Goodwin and Kalecki (who never explicitly engaged with it). Joan Robinson experimented with the long period in a Marshallian sense in the 1930s after *The General Theory*'s publication, to see whether Keynes's new results went through in this setting. She became increasingly dissatisfied with her findings, in the postwar period, repudiating Marshallian method and concepts as such. Keynes was arguing by the early 1940s that long-period equilibrium probably had no conceptual basis in his new theory. (He did not go as far as Joan Robinson in spelling out why.) The really innovative developments are associated with Kalecki and Goodwin. (Goodwin supervised Pasinetti's research in its early stages.) They increasingly refuted the notion of the trend and cycle as separable concepts, brought about by nonoverlapping determinants. Independently, they developed models of cyclical growth as characteristic of the movement of capitalist economies. The basic idea was put succinctly (as ever) by Kalecki: "The long-run trend [is] but a slowly changing component of a chain of short-period situations . . . [not an] independent entity" (Kalecki, 1968; 1971, p. 165). Goodwin, too, ultimately married production-interdependence models (as well as Sraffa, Leontief was a mentor at the other Cambridge) with aggregate, Keynes-type cyclical models that also had Marxian ingredients (he was Harrod's pupil at Oxford and Schumpeter's colleague at Harvard) (see, e.g., Goodwin and Punzo, 1987). Bhaduri and Joan Robinson (1980) entwined Kalecki and Marx with Sraffa. Sraffa's role was to provide thought experiments at a high level of abstraction, resulting in an acceptable theory of the rate of profits.

22.9 Frank Hahn at Cambridge

We have concentrated on the writings of, mostly, those closest to Keynes (or his ideas) as well as being influenced by the classicals and Marx, and becoming more and more disillusioned with neoclassical economics. But we also mentioned how others discerned in the IS–LM approaches the core of Keynes's system, at least as a starting point and a pedagogical device. Although the developments flowing from this were deplored by the first group, this way of "doing" Keynes has been most influential in teaching and the development of theory and policy. Some developments occurred in Cambridge itself. Perhaps the most original is associated with Frank Hahn (in his LSE Ph.D. thesis, published years later in 1972; he came to Cambridge in 1960). Hahn modified the IS portion of Hicks's apparatus to take in a macroeconomic theory of distribution in which the marginal propensity to save from profits exceeded that from wages and induced investment levels had to be matched by corresponding voluntary savings. This implied a relationship between income levels and the share of profits. He married this with a supply-side story whereby entrepreneurs, operating in an uncertain environment, could only be persuaded to accumulate at a rate that made the income levels feasible and to organize production and employment so as to bring them about if they received certain shares of national income as profits. The intersection of the two relationships was a stable, short-period rest state for income and distribution.

In Cambridge, Hahn collaborated with Robin Matthews to write a survey article on growth theory (1964), the role model for surveys ever afterwards. Matthews also published two books on the trade cycle that were Keynesian in their orientation, one an historical study, the other a wide-ranging textbook in the Cambridge Economic Handbooks series. The second book was full of original ideas. One of the most innovative came from his 1950s study of the saving function and the problem of trend and cycle. He reinterpreted Duesenberry's ratchet effect by relating spending and saving to previous lowest levels of unemployment in booms (rather than highest levels of income) so that the growth in productivity was taken into account. He also wrote on the financial aspects of the Keynesian multiplier working out over time.

After an interlude on general equilibrium theory and giving his name to a process in growth theory, Hahn became a leading critic of monetarism and the

New Classical macroeconomics of the 1970s on. He was aghast at their policies and even more so at what he regarded as their intellectual dishonesty in claiming that their theoretical analysis of how the economy worked justified their proposed policies. Although he never understood Marx, we think he would have had some sympathy with Thomas Balogh's quip that monetarism was the incomes policy of Karl Marx. In the 1980s and, with Robert Solow, in the 1990s, he courageously criticized the monetarists from within, attempting to provide alternatives which, using modern theoretical methods, came up with Keynes-type results (Hahn and Solow, 1995). But there are none so blind . . . ; we fear that their work has been ignored by those they attacked *and* by their potential allies, the post-Keynesians.

22.10 RICHARD STONE AND JAMES MEADE IN THE POSTWAR YEARS

Stone, the first Director (1945–55) of the Department of Applied Economics (DAE), developed in collaboration with J. A. C. Brown an eclectic growth model which was nevertheless inspired by Keynes's original ideas. Known as the Cambridge Growth Project, the aim was to design a model that allowed the expenditure and production-interdependence of the British economy to be tracked over the medium to longer term under different scenarios. Its origin was Brown's suggestion that they bring together previous work in the DAE on social accounting, input–output, and consumer behavior to build such a model for the British economy. (The complementarity with Pasinetti's contributions is not fanciful.) David Champernowne (Keynes's pupil when Keynes was writing *The General Theory*) also made fundamental contributions in the postwar period in his own independent way to our understanding of Keynes's theory in the short and long periods, and to growth and distribution theory.

We must also document Meade's postwar writings, not only on international trade (in a Keynesian setting) at LSE but also on growth theory when he succeeded Robertson in the Chair of Political Economy in 1957. His growth theory was neoclassical in the Solow/Swan sense, but he never forgot his Keynesian credentials. As with Solow and Swan (who never forgot their's either), he assumed that short-period effective demand puzzles had been taken care of by an all-wise government, so that the long-period effects of substitution between the factors of production responding to changes in the prices of their services and the effects of technical progress could be analyzed. As a side issue, Meade (sometimes with Hahn) clarified some of the issues raised in Pasinetti (1962), on the dependence of the long-period rate of profits solely on the saving propensity of a class of pure capitalists and the natural rate of growth. Meade's 1966 note, using geometry superbly as ever, allows the reader/viewer to discover easily the properties of Pasinetti Land and its dual MSM Land, where Harrod-type ideas rule and the capitalist class has ceased to exist. (MS stands for Modigliani and Samuelson, who wrote a long paper on the issues, while M stands for Meade.) In the 1980s Meade, in collaboration with a number of younger colleagues, worked on stabilization policies, incorporating the techniques of control engineering. (Meade was a great supporter of Bill Phillips's pioneering work on these issues with these techniques at LSE in the 1940s, 1950s, and after.) Meade's last book, published just before his death in 1995, was concerned with policies directed at the attainment of full employment and a just distribution of income and wealth: a fitting endpoint for a lifetime of service and decency, steeped in Keynes's tradition.

22.11 Kaldor and Keynes's Mantle

The person at postwar Cambridge who most took on Keynes's mantle was undoubtedly Nicholas Kaldor. We have referred to his contributions to growth theory in which, initially, the Keynesian influence was strong. But it was within the framework of Keynes's own system that he made the most direct contributions, including an internal critique of details of the system. First, Kaldor could not accept Keynes's microeconomic foundations of, in the main, Marshallian marginal cost pricing. In its place, Kaldor put his representative firm/industry model of a price-leading and -setting oligopolist surrounded by followers. In the 1960s and 1970s he developed aspects of these views, on their own and in macroeconomic settings, providing fertile suggestions for future research. (Wood's 1975 book is the most direct heir.) Kaldor's objections were related to his lifelong preoccupation with cumulative causation processes and his appreciation of an all-pervading influence of increasing returns, especially in manufacturing industry, so that he could not accept atomistic competition as a general pricing model (outside primary industries). Secondly, he thought that Keynes made a tactical mistake by departing from his otherwise lifelong view to treat the money supply in *The General Theory* as exogenous, not endogenous, or at least given (probably what Keynes did). This is a mistaken view of how the banking system and the Central Bank operated. It also proved to be a hostage to fortune as monetarists grew more and more influential. Kaldor was one of the few UK voices in the wilderness taking them on. He was a pioneer of the view that the money supply is endogenous, that it is overwhelmingly demand that creates the money supply. Here he was joined by James Trevithick, who also continued the Keynesian tradition in teaching and in two classic texts, on inflation and involuntary unemployment respectively. Like Keynes, Kaldor was active in policy – advising the UK Labour governments in the 1960s and 1970s and international governments too, sometimes with unexpected and startling results.

22.12 Other Cambridge Contributors in the Postwar Years

Another Cambridge economist who made seminal contributions in similar areas is Robin Marris. *The Economic Theory of "Managerial" Capitalism* (1964) is a highly original account of modern firm behavior, the path-breaking aspects of which are now being fully realized. His 1980s and 1990s writings on imperfectly competitive foundations of the Keynesian system are also strikingly original and controversial – he argues that only these microfoundations allow Keynes's macroeconomic results to go through.

Bob Rowthorn published the seminal paper on conflict inflation in 1977. It is the starting point in the modern literature for discussions of this process, the idea that sustained rates of inflation bring about an uneasy truce between capital and labor. Both fail to achieve completely their aspirations for accumulation and standards of living respectively.

What of Austin Robinson, who worked so closely with Keynes for many years (and whose 1947 obituary article of Keynes is required reading alongside the subsequent biographies – Harrod, Moggridge, and Robert Skidelsky's unmatchable three volumes)? Austin was an applied political economist *par excellence*. Armed with his deep and astute understanding of Marshall, Pigou, and Keynes, and with his wide knowledge of the real world in developed and developing countries, in government service, and as an advisor, he devoted much time in the postwar period to development problems. (Austin also stressed what he considered to be a neglected aspect of postwar Keynesian developments, detailed analysis and knowledge of individual firm and industry behavior, and of regional problems.) In his writings on developing economies he made wise diagnoses and put forward sensible, practical humane policy proposals that took into account the detailed cultural and sociological characteristics of the societies and the aspirations of all their citizens. In these pursuits he was joined by Brian Reddaway, whose writings on development and on the British economy reflect a similar highly intelligent, practical approach. Reddaway succeeded Stone as Director of the DAE in 1955; he did and supervised applied work that was clearly Keynesian-inspired in its approach and theoretical structure. Reddaway (who succeeded Meade in the Chair of Political Economy) was succeeded at the DAE by Wynne Godley. With Frances Cripps, other DAE officers, and Robert Neild, Godley brought an amalgam of Marshall and Keynes to his view of how the UK economy works and how to forecast in the short term. He developed a consistent set of flow and stock constraints associated with the interrelationship of real flows and stocks and their financial counterparts. These had their origins in Keynes's theory and the characteristics of Marshall's long period, modified for macroeconomic analysis.

Finally, we mention the highly original approaches of Ajit Singh to development problems, Frank Wilkinson to the understanding of the labor market, and Tony Lawson to methodological and philosophical issues, all of which add considerably to the traditions and achievements of Keynes and the Cambridge school. Singh is a major spokesman for views that are a creditable and decent alternative to those of the so-called Washington consensus on development strategies. Wilkinson has analyzed in much detail the functioning of labor markets, both individually and in relation to the economy as a whole. He takes an historical and institutional perspective, and shows great sympathy and understanding for wage-earners and unions. Lawson's writings on critical realism and open systems, vestiges of which he discerns in Keynes's writings, have opened up an international debate on the legitimacy of mainstream theory and econometric practice. They assume a closed system. Lawson argues that a discipline such as economics should be concerned with analysis of an open system.

With the retirement and then death of many of the main *dramatis personae*, the Cambridge Faculty has become more and more a clone of leading US schools.

The traditions outlined here are still carried on by a besieged minority, mostly centered around the *Cambridge Journal of Economics*. Some still have a foothold in the Faculty; others form a thriving colony in the Judge Institute of Management Studies or are scattered around in colleges, as college, not university, teachers. More optimistically, in centers other than Cambridge, Keynes and the Cambridge tradition are to be found under the wide embracing rubric of post-Keynesianism.

22.13 The Cambridge Tradition in Other Centers

We think especially of the writings of the late Athanasios (Tom) Asimakopulos, Avi Cohen, John and Wendy Cornwall, Omar Hamouda, Marc Lavoie, Tom Rymes, and – most of all – the late Lorie Tarshis in Canada; the late Keith Frearson, Robert Dixon, Peter Groenewegen, the essay's authors (when there!), Joseph Helevi, John King, Peter Kriesler, John Nevile, Ray Petrides, Colin Rogers (and his South African countryperson, Christopher Torr), Trevor Stegman, Michael White, and others in Australia; the late George Shackle, Philip Arestis, Victoria Chick, Sheila Dow, Douglas Mair, Peter Reynolds, Peter Riach, Malcolm Sawyer, Ian Steedman, and others in the UK; and of the late Sidney Weintraub, Allin Cottrell, Paul Davidson, Sandy Darity, Amitava Dutt, Gary Dymski, the late Al Eichner, John Kenneth Galbraith (and son James), Rick Holt, Jan Kregel, Michael Lawlor, Fred Lee, Stephen Marglin, the late Hyman Minsky, Basil Moore, Edward Nell, Steve Pressman, Roy Rotheim, Nina Shapiro, the late Paul Wells, and others in the USA.

There are strongholds in continental Europe, particularly for those who were influenced by Piero Sraffa, as well as by Keynes. We have mentioned Garegnani and Pasinetti in Italy. We add Alessandro Roncaglia, Neri Salvadori, Claudio Sardoni, Roberto Scazzieri, and Paolo Sylos-Labini (and many others of course). In Germany, Bertram Schefold is a major Sraffian scholar, as were Heinz Kurz and Christian Gehrke (they are now in Austria). There are other major contributors in Austria, especially Michael Landesmann, Kurt Rothschild, and the late Josef Steindl. In Switzerland, Mauro Baranzini has written fine books and essays that especially reflect Pasinetti's approach. Heinrich Bortis's magnificent monograph (1997) is a synthesis of the main strands of thought to be found under the post-Keynesian rubric; it exhibits a humane political philosophy and provides a guide to effective, decent policies. In India, Amit Bhaduri, the late Krishna Bharadwaj, and their colleagues, especially at JNU, and the late Sukhamoy Chakravarty at the Delhi school have made major contributions to the tradition. In addition, they applied the approach in their deep understanding of economic and political processes in developing economies. Pervez Tahir in Pakistan critically evaluated Joan Robinson's writings on development in general and China in particular. In Central and Latin America (especially in Brazil), pupils of Davidson, Harcourt, Kalecki, and Marglin are making significant contributions broadly within the tradition described in the essay.

22.14 ECONOMICS AND PHILOSOPHY

Most important for our present purposes is the work of the past three decades on the links between Keynes's philosophy and his economics. Many seminal writings on these themes started their lives as Ph.D. dissertations in Cambridge – Rod O'Donnell, Anna Carabelli, John Coates, Flavio Comim, and Jochen Runde, for example. An early, influential volume, edited by Lawson and Hashem Pesaran, was published in 1985. Subsequently, John Davis published a major monograph (1994a) and edited a major volume (1994b) on similar themes.

Three crucial aspects of Keynes's economic writings, especially in *The General Theory* and after, emanate from his philosophical understanding. The first is the realization that in the operation of an economic system, the whole may be more than the sum of the parts – hence his emphasis on the need in macroeconomic analysis to avoid the fallacy of composition, a lesson largely forgotten as representative agent models have come to dominate modern analysis. The second is that in a discipline such as economics there is a whole spectrum of relevant languages, according to which issues, or aspects of issues, are discussed. It runs from intuition and poetry through lawyer-like arguments to formal logic and mathematics. All have rightful places; none should have a monopoly – truth does not only come in the guise of a mathematical model. The third (derived from Marshall) is that we need to analyze how (usually) sensible people decide in situations of inescapable uncertainty, the one sure constant of all economic life and therefore another "incontrovertible" proposition of our "miserable subject" (Keynes to Bertil Ohlin, April 29, 1937; see Keynes, 1973, p. 190).

Note

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