JOAN ROBINSON: PORTRAIT OF A LADY

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Joan Robinson is the rebel with a cause *par excellence*. She has been at the forefront of most major developments, some of them revolutionary, in modern economic theory since the late 1920s. Joan Robinson has always believed passionately in her subject as a force for enlightenment and she has coupled this belief with an equally passionate hatred of social injustice and oppression. She has thrown in her lot with the wretched of the earth, whether they be the unemployed of the capitalist world in the 1930s, or the poverty stricken and militarily oppressed of the third world in the post-war era, or students cheated of the living fire by their professors in the 1970s.

Joan Robinson was born on the 31st October, 1903 into an upper middle class English family characterised by vigorous dissent and independence of mind. Her great grandfather was F. D. Maurice, the Christian Socialist; her father was Major-General Sir Frederick Maurice, the victim of the infamous Maurice debate in 1918. He subsequently became Principal of what is now Queen Mary College in the University of London. Her mother was Helen Margaret Marsh, the daughter of Frederick Howard Marsh, Professor of Surgery and Master of Downing at Cambridge. An uncle was Edward Marsh, civil servant, patron of the arts and scholar. Joan Robinson was educated at St. Paul's Girls' School and Girton College, Cambridge, where she was Gilchrist Scholar. She read for the Economics Tripos, 1922-25, graduating in 1925 with second class honours ("a great disappointment"). She married Austin Robinson, the Cambridge economist. 1926. After a period in India, the Robinsons returned to Cambridge in 1929. Joan joined the Cambridge Faculty as a Faculty Assistant Lecturer in Economics in 1931; subsequently she became a University Lecturer in 1937, Reader in 1949 and Professor in 1965. She was elected to a

Professorial Fellowship at Newnham and made an Honorary Fellow of Girton in 1965, and made an Honorary Fellow of Newnham in 1971. She "retired" from her Chair in 1971, remaining as active as ever. Cambridge has always been her geographical as well as her intellectual home but she is an intrepid and enthusiastic traveller, regularly visiting places as disparate as China and Canada. She is as excited now by the prospect of a visit anywhere as when she first went to India in the 1920s.

Joan Robinson has an incisive mind which allows her to cut to the heart of the matter, to see the logical fallacy of an intricate theoretical argument or the political realities of a complicated situation. She has the facility, which has increased with the years (it started from a high base), of distilling the essence of the matter in a few sharp crystal clear sentences, each one of which is the tip of an iceberg of knowledge and thought. She is able to make sense of technical literature, even though she is virtually innocent of mathematical training, because of a combination of superb intuition with equally superb logical powers. (One of her favourite sayings is: "As I never learnt mathematics, I have had to think.") These qualities explain why she is an outstanding theoretician. They also explain why her political analysis and judgements are sometimes simplistic and distorted, by-products of that ability to abstract and simplify which marks the good theoretician. Hers is also one of the toughest minds in the trade; she neither avoids nor minds confrontation. Here is the late Harry Johnson's description of a visit by her to Chicago (not recommended as a place for the timid). "Once she came to Chicago to talk to my students there; they looked at her and decided, "Well, we'll certainly show this old grandmother where she gets off". ... [T]hey picked their heads up off the floor, having been ticked off with a few well-chosen blunt squelches, ..." (Johnson [1974, p. 30]). Her barbs are spiced with a robust and civilized sense of humour, combined, it must be said, with what John Vaizey calls 'bleak Cambridge rudeness'. "They [the professors of M.I.T.] now admit ... that there is no logical reason why the pseudo-production function should be [well behaved]. They just assume that it is so. After putting the rabbit into the hat in full view of the audience it does not seem necessary to make so much fuss about drawing it out again" (Robinson [1966a, p. 308]). "This model was described as a parable. A parable, in the usual sense, is a story drawn from everyday life intended to explain a mystery; in this case it is the mystery which is expected to explain everyday life" (Robinson [1977c, p. 10]). As we shall see, she has the ability to cast off and start anew; she is no respecter of vested interests, certainly not her own, though at any moment of time she will argue fiercely in defence and in favour of her current position.

An original thinker, Joan Robinson is punctilious in documenting her mentors and sources of inspiration. Four close associates hold pride of place: Keynes, Piero Sraffa, Michał Kalecki and, over many years, Richard Kahn, whose "remorseless logic [has been] an ideal complement to her innovative enthusiasm" (Eatwell [1977, p. 64]). In the Foreword to her first big book *The Economics of Imperfect Competition* (Robinson [1933a, p. *v*]), she writes: "Of not all the new ideas, however, can I definitely say that "this is my own invention". In particular I have had the constant assistance of Mr. R. F. Kahn. The whole technical apparatus was built up with his aid and many of the major problems ... were solved as much by him as by me." In the Preface to her *magnum opus*, *The Accumulation of Capital* (Robinson [1956, p. *vi*]): "As so often, it was R. F. Kahn who saw the point that we were groping for and enabled us to get it into a comprehensible form." Piero Sraffa was the inspiration for at least two of her major contributions: *The Economics of Imperfect Competition* (much of the analysis of which she was later to reject: " ... to apply the analysis to the so-called theory of the firm, I had to make a number of limitations and simplifications which led the argument astray" (Robinson [1969a, p. *vi*])), and her contributions to the theory of value, distribution, capital and growth. She says of Sraffa: "I worked out a theory of imperfect competition, inspired by Sraffa's article [Sraffa [1926]]" (Foreword by Joan Robinson to Kregel [1973, p. *x*]). In her "generalisation of the *General Theory*", especially in considering the meaning of the rate of profits, she says: "Piero Sraffa's interpretation of Ricardo provided the most important clue and the long-delayed publication of his book *The Production of Commodities by Means of Commodities* put into a sharp form the ideas that I had been groping for" (Robinson 1951-1973, vol. 4, p. 125). He debt, as of us all, to Keynes is documented in many places; Kalecki's influence is discussed below. Of other contemporaries, we should also mention Ester Boserup, Harrod, Kaldor, Myrdal, Pigou and Shove, whose "teaching in Cambridge for many years past ... influenced the whole approach to many problems of economic analysis" (Robinson [1933a, p. *vi*]).

Of the greats of the past, Joan Robinson has been most influenced by Ricardo, Marx, Marshall and Wicksell. She finds herself today far more in tune with the former two than the latter two and, indeed, her lasting contribution to the subject, I venture to predict, will be seen as helping to form a unified system of political economy that is Classical-cum-Keynesian-Kaleckian in inspiration, directly applicable to the analysis of, and policy prescriptions for, problems of the modern world. She admires Wicksell, not so much for his contributions or approach, as for his candour and honesty, which she contrasts with Marshall's attitudes. "Unlike Marshall, ... Wicksell is very candid. When he cannot get an answer he admits the difficulty. This I found very helpful; I gave great credit to Wicksell - not for getting an answer but for seeing the problem" (Robinson [1951-1973, vol. 4, pp. 125, 259]). Of Marshall she says: "The more I learn about economics the more I admire Marshall's intellect and the less I like his character." (Robinson [1973a, p. 259]). "Marshall had a foxy way of saving his conscience by mentioning exceptions, but doing so in such a way that his pupils would continue to believe in the rule. He pointed out that Say's Law ... breaks down when there is a failure of confidence [but] this was mentioned by the way. It was not meant to disturb the general faith in equilibrium under laissez faire." (Robinson [1973b, p. 2].) "Both [static and dynamic] elements were present in his thinking and he showed great agility in appealing, in each context, to whichever would best suit his purpose of presenting a mollifying picture of the private-enterprise economy" (p. *ix* of Foreword to Kregel [1973]).

Her first major work was *The Economics of Imperfect Competition* [1933a]. There is a delightful story concerning Joan at this time. Quite a fuss was being made of her because of her book. Mary Marshall (Alfred's widow) congratulated her at a garden party and promised to tell Alfred, dead then nine years, that he was wrong to claim that women could not do original work in economic theory. In writing the book, Joan Robinson was inspired by Sraffa's 1926 *Economic Journal* article and his "sacrilege in pointing out inconsistencies in Marshall

... [who] *was* economics" when she came up to Cambridge in 1922. As Joan Robinson has come to see it, the inconsistencies related to a deep-seated conflict in Marshall's *Principles* between the analysis which is purely static and the conclusions drawn from it which apply to an economy developing through time with accumulation going on. As Sraffa saw it at the time and, we conjecture, Joan Robinson also, the inconsistencies related to the internal logic of static partial equilibrium analysis, especially the dilemma of reconciling the simultaneous existence of falling supply price and competition. Looking back 40 years later, Joan Robinson states that her "aim was to attack the internal logic of the theory of static equilibrium and to refute, by means of its own arguments, the doctrine that wages are determined by the marginal productivity of labour" (p. *x* of the Foreword to Kregel [1973]).

The latter part of the statement reflects hindsight and present attitudes. It cannot be sustained by either her stated objectives at the time or by the work she subsequently did in the same areas up to the 1940s, especially her papers on "Euler's Theorem ..." [1934a], "What is Perfect Competition?" [1934b] and "Rising Supply Price" [1941], that "excellent article ... which has not attracted the attention ... it eminently deserves" (Viner [1953, p. 227]). Probably Keynes (in his report on the book to Macmillans in November 1932) comes closest to the correct assessment. He refers to "a very considerable development of the theory of value in the last five years", developments to be found in journals and in "oral discussion at Cambridge and Oxford", and to the fact that there is "no convenient place" in which may be found "a clear statement of the nature of modern technique, or a summary of the recent work on the subject. Mrs. Robinson aims at filling this gap ... has done it very well. ... [T]he book will be for a little while to come an essential one for any serious student of the modern theory of value."

In *The Economics of Imperfect Competition*, Joan Robinson explores systematically the implications for firms in a competitive environment of facing downward sloping demand curves for their products, so that the profit-maximising prices and quantities are determined by the intersections of their marginal cost and marginal revenue curves. This analysis illuminated the real world facts (alluded to by Sraffa) that businessmen felt it was demand conditions rather than rising costs which limited their sales, and that firms could still make profits with plants running well below capacity, facts that were incomprehensible within the framework of the Marshallian-Pigovian theories that preceded it.

Joan Robinson subsequently refuted (in the Preface to the second edition, (Robinson [1933a / 1969, p. *vii*]) the approach of the book because of her dissatisfaction with the static method, its inability to handle time. She regarded as a "shameless fudge" the notion that businessmen could find the "correct" price by a process of trial and error, because it assumed that the equilibrium position towards which a firm is tending at any point in time is independent of the path it is *actually* taking. Thus she subjected her own analysis to what she regards as the most fundamental criticism of the general methodology of analysis by comparison of static equilibrium positions, a critique which she had developed in other areas in the ensuing years. She still approves of the section in the book on price discrimination but is distressed that the negative lessons of the book, especially the attack on the marginal productivity theory of wages within the confines of its own theoretical framework, have been ignored while the weaknesses have been frozen into orthodox teaching.

At the same time, Joan Robinson was playing a significant part in the formation and propagation of what has come to be known as the Keynesian revolution. Keynes was attempting theoretically to explain why the capitalist world at that time (the early 1930s) had fallen into a deep and sustained slump, in the process, as it turns out, mounting "a powerful attack on equlibrium theory." As now has become clear from the publication of volumes XIII and XIV of *The Collected Writings of John Maynard Keynes* (edited by Donald Moggridge), the most influential people persuading Keynes both to modify and to expand the analysis in his 1930 *Treatise on Money* (Keynes [1930]) and helping to develop his ideas by both criticisms and contributions, included Harrod, Kahn, Meade, Sraffa and Austin and Joan Robinson. The last five constituted the 'Circus' which argued out the *Treatise* and helped in the formulation of what was to become the *General Theory*. Reading the fascinating exchanges as Keynes moved toward the final draft of the *General Theory* (Keynes [1936]), it is clear that he respected and valued Joan Robinson's contributions and judgement. She herself was important, both for her critical grasp and for her expository powers in making the new theory widely accessible to students and others. Her little book *Introduction to the Theory of Employment* (1937b) is still one of the most lucid accounts that we have of the essentials of Keynes's theory, as are her "Essays 1935" (Robinson 1951-1973, vol. 4, part 2). Furthermore, she was one of the first to extend Keynes's analysis to an open economy.

In her essay "Kalecki and Keynes" (1951-1973, vol.3, pp. 92-3], Joan Robinson describes how in the early years of the depression, Keynes, who was groping for a theory of employment (which he ultimately was to find in his theory of effective demand, the possibility of sustained underemployment equilibria or rest states), set Kahn to work out properly the impact of a rise in investment on employment and saving in order to back up Keynes's argument supporting Lloyd George's scheme for public works. Kahn's famous article on the multiplier came out in 1931. The *Treatise* went to the printers for the last time in September 1930. It contained no theory of employment, being concerned mainly with fluctuations in the general level of prices, though it did have the "highly significant conception" of a relationship between investment and saving via profits. There followed a great bout of argument that churned over these ideas for three years. Austin Robinson [1977, p. 35] tells us that by the end of 1931, "the *questions* [which] the *General Theory* set out to answer" had begun to be asked by Keynes and his junior colleagues. "In 1933 [Joan Robinson] published an interim report [Robinson [1933b]] which clears the ground for the new theory but does not supply it." That, of course, had to wait until the publication of the *General Theory* itself in early 1936. Even then, they had "moments when [there was] some trouble in getting Maynard to see what the point of his revolution really was. ... [However,] when he came to sum it up [in Keynes [1937]] after the book was published he got it into focus" (Robinson [1973b, p. 3]). For Joan Robinson, the central themes of the *General Theory* were the theory of effective demand in which is integrated a theory of money and the interest rate, a theory of the general price level, and an analysis of the impact of an uncertain future on the present which occurs through investment expenditure, so locking Keynes's analysis securely into actual historical time.

Significant though her contribution to Keynesian (of the *General Theory*) analysis has been, the most significant step in her thought occurred when she decided to graft Marx onto Keynes (partly through the influence of Michał Kalecki, a Polish Marxist contemporary who independently discovered the main propositions of the *General Theory*). She herself dates this at 1940, though with Piero Sraffa and Maurice Dobb as colleagues and her interest in generalising the *General Theory*, it seems plausible to conjecture that her interest was aroused even earlier. "In 1940, as a distraction from the news, I began to read Marx ... For me, the main message of Marx was the need to think in terms of history, not of equilibrium" (p. *x* of Foreword to Kregel [1973]). Again hers is a view which benefits from hindsight; it was Harrod's work *Towards a Dynamic Economics* [1948], which she reviewed in 1949, that really brought this message home. She thus found in Marx what she also found in Keynes (and, fudged, because of its uncomfortable implications, in Marshall). For, as she has said elsewhere of the Keynesian revolution, "on the plane of theory, the revolution lay in the change from the conception of equilibrium to the conception of history; from the principles of rational choice to the problems of decisions based on guess-work or on convention" and "once we admit that an economy exists in time, that history goes one way, from the irrevocable past into the unknown future, the conception of equilibrium based on the mechanical analogy of a pendulum swinging to and fro in space becomes untenable" (Robinson [1973 , pp. 3, 5]). Thinking in terms of history also involves always asking what sort of society (and its accompanying institutions) is being examined and what social relationships rule in it. It involves, moreover, distinguishing between theories which deal with logical time and those which deal with historical time. "Logical time can be traced from left to right on the surface of a blackboard. Historical time moves from the dark past behind it into the unknown future in front" (Robinson [1977a, p. 57]).

Analyses in logical time are at best the flexing of intellectual muscles, sometimes in a framework in which to sort out doctrinal puzzles, usually as a preliminary to the real thing, the analysis of processes occuring in historical time. This approach also implies that economics is very much a "horses for courses" discipline, rather than a general theory into which particular situations may be fitted as special cases.

Her book on Marx (Robinson [1942]) is still one of the best introductory pieces to be found, despite its idiosyncracies and even though, or, perhaps, because in places it contains heresies that continue to infuriate the faithful. Especially is this true of her attitude to the labour theory of value, which has hardened over the years. Thus: " ... we are told that it is impossible to account for exploitation except in terms of *value*, but why do we need *value* to show that profits can be made in industry by selling commodities for more than they cost to produce, or to explain the power of those who command finance to push around those who do not?" (Robinson [1977a, p. 51]). To learn from Marx's ideas we do not have to remain "stuck in the groove that led him to them". Nevertheless, the book was not written "as a criticism of Marx [but] to alert my bourgeois colleagues to the existence of penetrating and important ideas in *Capital* that they ought not to continue to neglect" (Robinson [1977a, p. 50]). It abounds in insights and produces a lucid sketch of the skeleton that sustains Marx's system, a skeleton that is too often obscured by the flesh of Hegel, by polemic and by the lack of time and health to polish and rewrite that characterises much of Marx's own writing. All in all, therefore, it is a constructive and sympathetic critique of Marx's work. The same may be said of her subsequent writings on Marx, attitudes which contrast with the impatience she sometimes shows towards Marxists themselves.

The book led Joan Robinson into her two main preoccupations of the post-war period: on the positive side, the attempt to provide a "generalisation of the *General Theory*, that is, an extension of Keynes's short-period analysis to long-run development" (Robinson [1956, p. *vi*]), principally to be found in *The Accumulation of Capital* [1956] and interpretative books and articles that have grown up around and from it - *Exercises in Economic Analysis* [1960], *Essays in the Theory of Economic Growth* [1962b], *Economic Heresies* [1971]. A further influence on the way may well have been Rosa Luxemburg's book (1913) of the same name, to which Joan Robinson contributed the Introduction to the 1951 English edition (Robinson [1951-1973, vol. 2, pp. 59-73]). Joan Robinson's own work provides us with a Keynesian-Marxist framework (derived in structure from Kalecki's adaptation of the Marxian schemes of reproduction) with which to interpret the process of growth in capitalist economies and to tackle the grand problems of classical political economy: the possibilities of growth in output per head and the course of the distribution of the national product between broad classes in capitalist society as capital goods are accumulated over time, influenced principally by the nature of the "animal spirits" of the societies' businessmen, combined with population growth and technical advances. In this area she shares with Harrod and, possibly, with Kaldor and Pasinetti, the most influential contributions from the Keynesian school to the modern theory of economic growth and distribution.

The Accumulation of Capital sometimes has been misunderstood. Joan Robinson starts the analysis with an examination of the conditions necessary for steady growth, a search for the characteristics of what she calls golden ages. Too often this has been taken for descriptive analysis rather than the careful setting out of logical conditions and relationships, one of the principal purposes of which, as is hinted at by the very name, is to show how unlikely it is that they will ever be realised in fact. "I used the phrase 'a golden age' to describe smooth, steady growth with full employment (intending thereby to indicate its mythical nature)" (Robinson [1962b, p. 52]). In the subsequent clarifications and expansions of her findings she has emphasised more the lessons of the later chapters on the short period and the interconnections of short periods over time. She also has reiterated what she stated in the original work, that the sections on the choice of techniques of production at the level of the economy as a whole occupy more space than their importance (as opposed to their difficulty) warrants. Moreover, they relate principally to the realm of doctrinal debate associated with the vast literature on the aggregate production function rather than to that of positive analysis.

The second strand is associated with her sustained attack on the currently received paradigm of economics, the neoclassical theory of value, production and distribution. This has been centred in the last twenty-five years in the theory of capital, mainly because of her celebrated article "The Production Function and the Theory of Capital" (Robinson [1953-54]), which started off what have become known as the Cambridge controversies in the theory of capital. The latter is a reference to the fact that the main protagonists in the controversies have all been associated either temporarily or permanently with the two Cambridges, Cambridge, England, and Cambridge, Mass., where M.I.T. and

Samuelson and Solow, are situated. On the surface the argument has tended to evolve around whether or not it is possible to measure 'capital' as a factor of production, what units to use, is there a unit that is independent of distribution and prices and what sense, if any, may be made of the proposition that the marginal product of capital equals the rate of profits? But, as Joan Robinson has stressed again and again, the argument has not really anything to do with the problem of measuring and valuing 'capital', as opposed to the *meaning* of 'capital', but with the attempt by those she dubs the "bastard Keynesians" to reconstruct "pre-Keynesian theory after Keynes". "[I]t has nothing to do either with measurement or with capital; it has to do with abolishing time. For a world that is always in equilibrium there is no difference between the future and the past, there is no history and there is no need for Keynes" (Robinson [1973 , p. 6]) - or Marx. "The controversies over so-called capital theory arose out of the search for a model appropriate to a modern western economy, which would allow for an analysis of accumulation and of the distribution of the net product of industry between wages and profits ... [L]ong-run accumulation became the centre of interest, [so making] it necessary to come to grips with concepts of the quantity of capital and the rate of profit in the economy as a whole" (Robinson [1977c, pp. 5, 6-7]). Joan Robinson sees the response to her criticisms as the outcome of an ideological tide that reacts continually against the damaging criticisms of Marx, Keynes and Sraffa, that attempts to create an economic theory which by implication at least tends to support the status quo, in particular, democratic capitalist free market institutions and, in at least some influential quarters, a doctrine of *laissez faire*.

Here, it must be said, Joan Robinson has tried to get too many targets in her sights at one time. The groups most favourably disposed to *laissez faire*, Friedman and the Chicago School, and their burgeoning offshoots elsewhere, have been vigorously attacking what *they* take to be the exposed flanks of the Americans or "bastard Keynesians" who are led from M.I.T. and Yale, while Joan Robinson has been attacking what she takes to be other vulnerable areas. The attacked themselves could, with justice, claim that not only are they staunch advocates and defenders of middle-of-the-road to leftish Keynesian policies but also that they have provided a considerable amount of the ammunition that over the years has been used to destroy the more grandiose claims that may be made for a free-rein market economy as an efficient allocator of resources and maximiser of community welfare. As Tobin [1973, p. 106, n. 1] remarks, "[Samuelson's] work on the theory of public goods ... is only an outstanding example of the attention modern theorists, in America and overseas, have paid to the allocative failures of *laisser faire*". Thus, her simplicity of vision may be faulted in details but there is, nevertheless, considerable validity in her general argument: hence the irritation and anger that she arouses, especially in conservative academic and political circles.

In the debates, she has been tenacious and consistent, returning again and again to the theme that orthodox equilibrium analysis is incapable of handling the essential facts of a capitalist economy, namely, that it exists in real historical time, that it is investment decisions by capitalist businessmen (and not the saving decisions of households) which are the dynamic driving force of the economy, that uncertainty and unrealised expectations about the future are inescapable facts of life which *must* find a place in any theory of the development of a capitalist economy over time, that "interest [is] the price that a businessman pays for the use of finance to be committed to an investment [while] profit [is] the return that he hopes to get on it, [and that] wage rates are settled in terms of money [while] the level of real wages depends upon the operation of the economy as a whole" (Robinson [1977c, p. 5]). An index of her success in these endeavours is that both Samuelson (in the *Quarterly Journal of Economics* [1975]) and Hahn, in a number of places, including his Inaugural Lecture (Hahn [1973]) have either explicitly or implicitly conceded the validity of many of her claims. Tobin, in an otherwise rather pained review of *Economic Heresies* (Robinson [1971]) and the two Cambridges debates, nevertheless praises her for her repeated stress on the treatment of expectations and her objection that "Walrasian general equilibrium, even when enlarged to postulate markets in all commodities in all contingencies at all future dates, is no real solution" (Tobin [1973, p. 109]). Sir John Hicks, having repudiated aspects of those versions of Keynesian theory which are peculiarly associated with him through his 1937 *Econometrica* paper "Mr. Keynes and the Classics" (Hicks [1937]), now takes approaches which parallel closely those of Joan Robinson (see, for example, Hicks [1976, 1977]). In addition, along with others, especially Piero Sraffa, Joan Robinson has exposed the logical inconsistencies in those versions of neoclassical theory which attempt to provide a theory of distribution which could take the place of classical, especially Ricardian, theory and also, of course, of Marxian theory. These particular criticisms came to a head in the reswitching and capital-reversing debates of the mid 1960's. The debates themselves were the culmination of earlier discussions concerning whether certain results which were rigorously true of simple one commodity neoclassical models would continue to be so in more complex heterogeneous capital good models. Joan Robinson now regards these particular criticisms and results as "unimportant" (Robinson [1975]). She prefers to rest the weight of her critique on her more general methodological arguments, together with her stress on the indispensible need always to postulate what are the social relationships and institutions of the economy being modelled and at what stage in its history is the analytical story taken up. Finally, in her Richard T. Ely Lecture to the American Economic Association Meeting in 1971 (a personal triumph in which the main room overflowed into subsidiary ones and for which she received a standing ovation), Joan Robinson identified a second crisis in economic theory (the first being its inability to handle the interwar slump), the lack of a suitable framework with which to tackle the terrible problems of modern economic life - poverty, racism, urban puzzles and pollution, excessive population growth and war.

Her latest word on all this - to date, of course - is her comprehensive paper, "What are the questions?" (Robinson [1977d]). She starts by arguing that ideology and economic analysis are indissolubly mixed and that the dominant ideology exerts disproportionate power in the discipline at any moment of time, quoting Benjamin Ward [1972, pp. 29-30] in support. This leads her to savage Robbins's definition of economics when it is set in the context of a capitalist economy: "The question of scarce means with alternative uses becomes self contradictory when it is set in historical time, where today is an ever-moving break between the irrevocable past and the unknown future. At any moment, certainly, resources are scarce, but they have hardly any range of alternative uses" (1977d, p. 1322). She deplores a major distinction that is made in modern orthodox economics, that between micro and macro. One cannot exist without the other, for "[m]icro questions ... cannot be dicussed in the air without any reference to the structure of the economy in which they exist [or] to the processes of cyclical and secular change. Equally, macro theories of accumulation and effective demand are generalizations about micro behaviour. ... If there is no micro theory, there cannot be any macro theory either." (p. 1320). Moreover, the macro setting for orthodox micro theory is a kind of vague Say's Law world which, until very recently anyway, is *not* the macro world that is analysed in *its* own separate compartment.

We must also mention her contributions to the theory of international trade. As we saw, she was amongst the first systematically to apply the Keynesian mode of thought to the problems of an open economy; she wrote a seminal article on the theory of the foreign exchanges (Robinson [1937a]), and in her Inaugural Lecture *The New Mercantilism* (Robinson [1966c]) and lectures at Manchester University (reprinted in Vol. IV of her collected works, Robinson [1951-1973, vol. 4], she applied her general critiques of orthodox theory to the special area of international trade and suggested alternative avenues of approach. We should also mention a half-way house paper, Robinson [1946-7], in which she critically expounds the classical theory of international trade as it came down from Marshall, in order "to try to see what basis it offers for the belief in a natural tendency towards equilibrium" (p. 98).

She returns to this theme again in "What are the questions?", pointing out that Ricardo ("[i]n the famous story which begins with England and Portugal both producing both cloth and wine") was the first to commit the cardinal sin (in her eyes) of analysing a process going on through time by the comparison of two equilibrium positions, an invalid procedure that is, as we have seen, the centre piece of her critique of orthodoxy. (Ricardo, as a pioneer, is absolved.) It must be said that Samuelson, whom, along with Solow, she has criticised repeatedly for doing this, courteously but firmly denies it, producing chapter and verse in support (Samuelson [1975]). Furthermore, Garegnani, an influential ally of Joan Robinson and Piero Sraffa in their attack on neoclassical theory, also takes issue with her on this point. He argues that comparisons of long-run positions (not, note equilibrium ones, for equilibrium is a notion that is intimately related to supply and demand) *are* fundamental to economic methodology. However, the neoclassicals err when they try to incorporate the method with *their* overriding emphasis on the forces of supply and demand. *Their* theories, he argues, then run into insuperable logical difficulties, especially in the depiction of the demand curve for "capital" and the consequent existence and stability of long-run equilibrium positions, see Garegnani [1958, 1970, 1976]. That is to say, Garegnani wishes to preserve the tradition that began with the classicals of relating key concepts, for example, natural prices, to sustained and fundamental forces. He feels that Joan Robinson's attack on orthodoxy threatens this tradition also. Joan Robinson also wishes to retain the key classical concepts but scrap the method.

There is a puzzle that often emerges in discussions of Joan Robinson's contributions, namely, the lack of empirical work by her of at least the conventional kind. The answer probably lies in two areas: first, she principally has been concerned with fundamental theoretical questions, the necessary setting out of definitions, concepts and logical relationships, the provision of a framework which must precede good empirical work. Secondly, her close associates over the years, Kahn and, of course, Keynes and Kalecki, were applied economists in the old-fasioned sense *par excellence*. They made it their business to know intimately the institutions, the historical sequences and the orders of magnitude of particular situations and they had a feel for the limits of particular policy recommendations. Joan Robinson's work, therefore, often was complementary to theirs as was theirs to hers. Moreover, much of her theoretical work *is* based on Marshallian-type empirical generalisations, that is to say, broad qualitative statements which constitute either the basis for the development of a logical argument or the puzzles that are to be explained by theoretical reasoning.

Joan Robinson's admiration for and extensive writings on the Chinese experiment are well known, probably to a wider audience than those for any of her other works. She is always stimulating, full of insights, putting a complicated and changing scene into a managable framework. Her writing in this area contains a leaven of advocacy, a conscious effort to try to offset what she believes to have been the unsympathetic critiques of Chinese policies which emanated from orthodox circles. In addition, she has written extensively on the theoretical and practical aspects of planning in socialist societies, based on her experience with, and criticisms of, the Russian and Eastern European experiments.

Her championing of Kalecki's independent discovery of the main propositions of the *General Theory* is well known from a number of delightfully written and absorbing articles. (We mention, especially Robinson [1976] and [1977b]; the latter is also a fine introduction to, and exposition of, Kalecki's analysis of capitalism.) Moreover, time is confirming her judgement that "[in] several respects Kalecki's version is more robust than Keynes'" (Robinson [1977b, p. 10]). Nor has she neglected the involved intellectual's task of communicating to a wider circle than those within their discipline. She contributed a charming and influential book *Economic Philosophy* (Robinson [1962a]) to the New Thinkers Library in 1962. (It is, perhaps, too Popperian for most Marxists' taste.) Allen and Unwin have twice persuaded her to try her hand at books for a wide audience - *Economics: An Awkward Corner* (Robinson [1966 b]), which diagnosed Britain's economic ills, and *Freedom and Necessity* (Robinson [1970]), which is a model for a challenging introductory course in the social sciences - if only the teacher were Joan Robinson.

Last, but certainly not least, her concern for students and what they are taught has been evidenced in a number of areas. Generations of Cambridge undergraduates and research students have paid their tribute to a demanding but devoted supervisor, as a perusal of the prefaces of books by former students will show. She has lectured all over the world to students, often at their request, and she never refuses an invitation from students, if it is humanly possible for her to get there. In 1973 she wrote, with John Eatwell, a new type of textbook *An Introduction to Modern Economics*, which she fervently hoped would herald a new dawn in the teaching of Economics. It is splendid in conception but rough in execution. It is too ambitious - she tries to distill into one work for first year students her life-long ponderings and even the cream of the

British intelligensia whom she and Eatwell are accustomed to teach find it more than hard going. In addition, it is a long time since either author has taught first year students of *any* calibre so that they have overestimated the absorption effect. Nevertheless, it is a noble experiment which should not be ignored by the hidebound, the pedestrian and the timid. Let it also be hoped that it serves to produce the "generation well educated, resistent to fudging, imbued with the humility and the pride of genuine scientists [making] contributions both to knowledge and to the conduct of affairs that no one need be ashamed of" (Robinson [1951-1973, vol. 3, p. 6). But whatever the outcome of this particular venture, Joan Robinson herself has much more than fulfilled her own modest aim of doing "a little good here and there to set in the scales against all the harm" (Robinson [1951-1973, vol. 3, p. 6]).

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