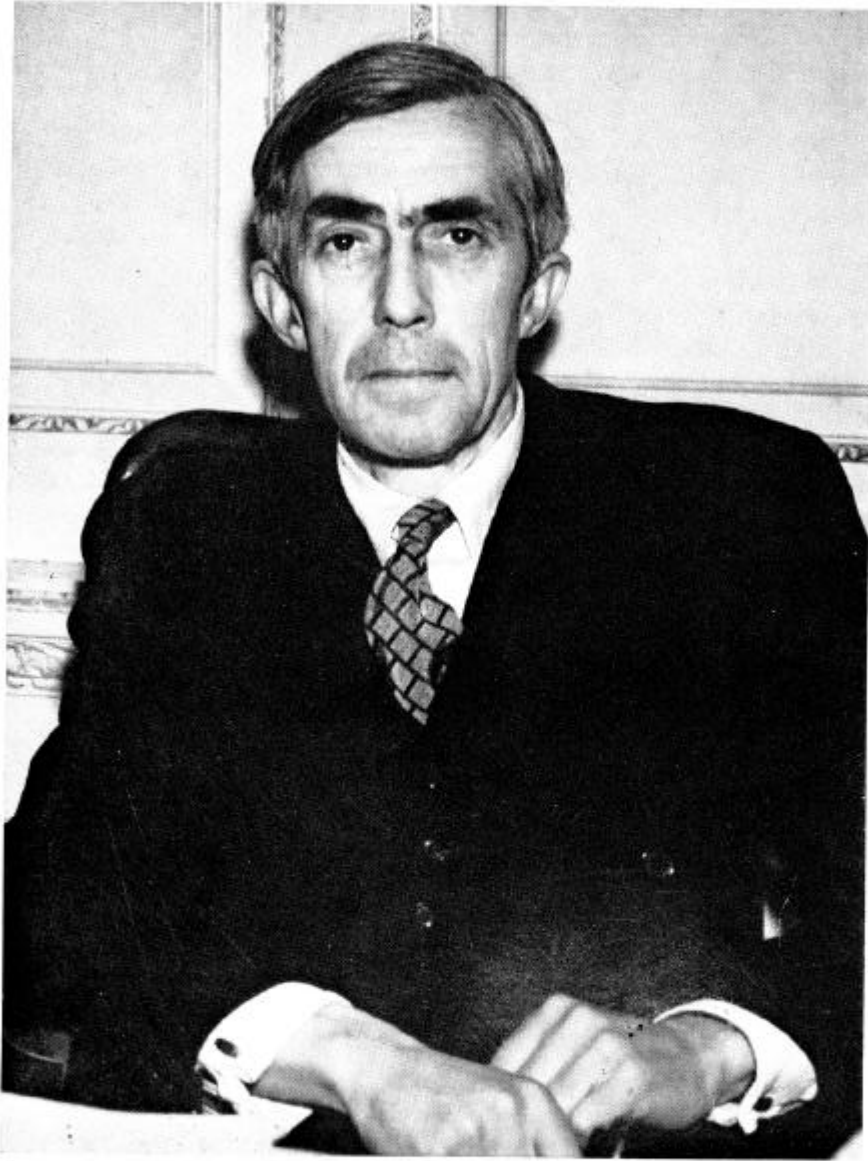


LATE LIV



SIR ROY HARROD

Oxford Mail

HENRY ROY FORBES HARROD¹

1900–1978

I

HENRY ROY FORBES HARROD was born on 13 February 1900. The first three years of his life were spent at Amlwch on the coast of Anglesey, where his father had sunk most of his waning fortune in a copper mine. His father, Henry Dawes Harrod, had not been marked out for mining ventures. Himself the son of a noted antiquary,² and a brilliant scholar as a boy, he had gone up to New College, Oxford; but becoming a convert to Roman Catholicism—under the influence, it was said, of Cardinal Manning—he was advised by his spiritual mentors to leave Oxford, and he became a solicitor. He also followed his father as an antiquary. Called in to help the purchaser of a Shropshire manor contest a claim of heriot, he found a muniment room full of deeds, which he drew upon to write a history of the Manor.³ But his sister's husband was

¹ Lady Harrod provided indispensable materials for this memoir and greatly helped its preparation by discussion with me and by commenting upon a draft. For the provision of materials or for illuminating certain passages I am very much indebted to the Poet Laureate, Sir John Betjeman; Professor Elizabeth Durbin; Eprime Eshag; Martin Gilbert; the Librarian of Westminster School, H. C. Keeley; Professor J. R. S. Revell; Professor R. S. Sayers; Bodley's Librarian, Dr Robert Shackleton; the Principal of Hertford, G. J. Warnock; Professor Sidney Weintraub. Permission to reproduce the portrait was kindly given by Mark Barrington-Ward as Editor of the Oxford Mail. I am further and deeply indebted to those who read a draft of this memoir and by their comments enabled me to improve it at many points—Lord Blake, Sir Alec Cairncross, Sir Stuart Hampshire, Sir Donald MacDougall, Professor J. E. Meade, Lord Roberthall, Professor Sir Austin Robinson, Maurice Scott, David Worswick.

The British Academy is indebted to the Editor of the *Economic Journal* and the Cambridge University Press for permission to reproduce this memoir, which originally appeared in the *Economic Journal* 90, 357, March 1980.

² Henry Harrod (1817–71), attorney practising for many years in Norwich, later a professional antiquary in Westminster, renowned for his pioneering work on the archaeology of Norfolk and his skill in deciphering ancient records; an early secretary of the Norfolk and Norwich Archaeological Society; author of *Gleanings among the Castles and Convents of Norfolk* (1857).

³ H. D. Harrod, *The Muniments of Shavington and The History of Shavington*

a member of the London Metals Exchange; he joined him there, and for a time prospered greatly. There was a tradition that as a young man he had proposed to a girl of sixteen and been rejected. Seventeen years later she accepted him.

Frances Forbes-Robertson, who thus became his wife in 1899, and the mother of Roy Harrod the next year, was one of the eleven children of an Aberdonian who had established himself in London as an art critic and journalist: for many years he was art critic of the *Sunday Times*. As a student at the Marischal College he had wanted to go into the army, but his mother, determined that it should be the Church for him or nothing, tore up his gown, and he took the coach for London. The wife he married there was accomplished in musical composition and painting. Their home became a centre for some of the outstanding artists and writers of their day. At Christmas the children would produce one of Shakespeare's plays. Frances's elder brother Johnston, the actor, has recorded how the production of *Hamlet* in 1867, when Frances was a baby, was attended by 'Madox Brown and his wife, Thornycroft and his family, Alma-Tadema, Rossetti, Sir Richard Garnet,¹ Mr and Mrs George Macdonald, Carl Blind, Sir Thomas and Lady Duffus Hardy, and, lying on the floor in front of them all, close to the "floats", Swinburne, who disconcerted me somewhat by lowly chanting the lines in his melodious voice in unison with mine'.² Frances had talents responsive to that stimulus: she grew up to write and paint. Her parents were freethinkers, but, holding that girls' education in England was inferior, they sent her to a convent school in Rouen, where her ardent imagination was fired by the joyful ceremonies of the Roman Catholic Church, and she was received into it. As a young woman she parted company with her parents, and with an audacity rare at the time took her own flat in Chelsea. She became the secretary of the Society for the Prevention of Cruelty to Children; she painted portraits; she contributed stories to the journals, and published volumes of these as well as novels.³ In the 1890s she enjoyed the company, in the *County of Salop*, (both 1891). Printed at the Salop Printing Works, Shrewsbury.

¹ Perhaps this was meant for Richard Garnett, at that time aged 32, Assistant in the Library of the British Museum, and later Keeper of Printed Books; though he was never knighted.

² Sir Johnston Forbes-Robertson, *A Player under Three Reigns* (London, 1925), p. 43.

³ After her marriage she continued to publish novels, very various in theme and style, some highly romantic.

friendship and admiration of Anthony Hope Hawkins, Thomas Hardy, Bret Harte, Henry James, George Meredith,¹ and Oscar Wilde, especially of Wilde.²

On their marriage, Henry and Frances Harrod removed to Amlwch. Frances came back to London for the birth of her first and, it was to prove, her only child. Two days after her delivery Henry read a paper to the Society of Antiquaries on a Defence of the Liberties of Chester in 1450. But his affairs had been worsening when he sank the remainder of his capital with his brother-in-law in the copper mine: there he lost it all. In 1903 the family returned to London. In 1907 Henry was hammered on the Exchange. They moved from their pleasant house and garden to a cramped flat off Kensington High Street.

Roy's mother let him have no children's books: he began on Shakespeare and Shelley. He was excused the entrance examination for Colet Court, the preparatory school for St Paul's, on the strength of his recitation of a chorus from Swinburne's *Atalanta in Calydon*. His mother laid stress on recitation, and he delighted in it. 'Fashionable ladies came in their Edwardian flounces,' he wrote in later life, '. . . and they had to go up four flights of narrow, and rather sordid, stone stairs . . . They filled our drawing room to overflowing, in order to hear me recite.' Looking back at the same time he reflected that though 'getting the sense right was what primarily distinguished my uncle' (Sir Johnston Forbes-Robertson) 'as the greatest Shakespearean actor of his time . . . I think I had sufficient voice to convey more exactly even than he did Shakespeare's greatness as a poet'.

From Colet Court he won a scholarship to St Paul's. But his mother lying on the playing field there heard cockney accents among the boys, and was determined that her son should go to Westminster. At the end of his first year at St Paul's he sat the Westminster scholarship examination, but was not elected. He had to continue another year as a scholar of St Paul's, under the displeasure of the High Master, preparing for a second try at Westminster; and this time, in 1913, he was successful.

¹ *Letters of George Meredith, collected and edited by his son* (London, 1912), ii, p. 503.

² Rupert Hart-Davis (ed.), *The Letters of Oscar Wilde* (London, 1962), esp. pp. 513, 802-3. On their marriage, Henry and Frances Harrod conveyed a letter by Frances's artist brother Eric to Wilde in his exile in Paris, inviting him to visit them in Amlwch.

Every writer is shadowed all his life by a reader over his shoulder, receptive or quizzical, censorious or approving. Harrod owed it to the responsive appreciation of a mother at once cultivated and devoted, that he was able—in one of the two styles he commanded—to write with the free-flowing animation, the unselfconscious expansiveness of mind and heart, that are possible only for those who are basically assured of their acceptability. He could dictate the passages of his eloquence with the same freedom as he could pen them. His vocabulary was rich, in a conventional way, sometimes lush, Swinburnean even. Did it occur to him that when he wrote like that some folk would smile? If it did, he would have thought them dull of soul. Had not his mother's delight been manifest as he recited Shelley's 'Indian Serenade'?

His mother's influence guided his later bearing powerfully in another way. She had been accustomed from earliest childhood to meeting some of the most eminent figures in the world of art and letters in her parents' home. When she launched out on her own, her beauty and vitality proved attractive in their own right to men of letters of the front rank. Her son was to follow her in his sense of natural affinity for persons of the highest distinction, and absence of embarrassment in approaching them. He was impelled towards illustrious company, in which he never doubted his own rightful place. In this he was wholly devoid of snobbery or conceit. It was the air he had breathed as a boy. In his way, he had been born in the purple.

His affinity for men of eminence may have had another source in the circumstances of his boyhood. His father was not discharged from bankruptcy for ten years; meanwhile he went daily to a post in the City, as Secretary of the East India Rubber Co., at a salary of £3 a week, which with an allowance of £2 from his brother-in-law was all the family had to live on. His pride was broken, his spirit quenched. His wife was wracked by the fear that he was drinking too much. He died in 1918. His son felt unable to talk about their difficulties with him: it always remained a mystery to him that a man of such great ability had been able to do nothing to retrieve his fortune. Studies of business leaders in America have shown how often boys who made their way up by outstanding energy and force of character had fathers who were weak and ineffective, and mothers who were able and vigorous, and bore the responsibility of bringing up the children.¹ Such a mother may inculcate in

¹ W. Lloyd Warner and J. C. Abegglen, *Big Business Leaders in America*

her son a deep sense of his obligation to achieve for her what his father failed to provide, and at the same time give him confidence in his power to do so. But it seems that the son may also be prone to attach himself in his early life to a man of achievement who will fill the place that should have been the father's in his boyhood.

Harrod's ties with his mother remained strong if ambivalent until her death in her late eighties. Every day, as long as she lived, if he did not see her he wrote to her.

II

Harrod entered Westminster as a King's Scholar in 1913. He did not board with the other scholars in College, but continued to live with his mother, and joined a dayboys' House. Hereby he escaped the harshness of what was then the tyranny of seniors over juniors in College, but even so life must have been hard for him. He was outgoing, talkative, and argumentative, wide-ranging in his interests and reading, generous and humane in his impulses, sensitive and earnest; but not good at games. An incongruous figure he must have seemed to the majority who at their private schools had been cased in the buckram of convention, and reacted with contempt and hostility to the free play of mind and imagination. There was a tradition by which the Head of the House on taking office entered in a ledger an appreciation of the personality and work of his predecessor, and a statement of the principles on which he would rule the House himself. When Harrod became head in 1917 his long entry—it ran to more than 5,000 words—was vibrant with his hatred of the intolerance that he saw as the basic evil of school life.

Individuality and idiosyncrasies are swept away; all are moulded after the common likeness, or if they are too stubborn to yield cannot be admitted into the polite society of house or of school. Some lose their old identity, others hold out, a few of course are regular public-school boys to start with; they have a happy life predestined for them. But those who take on the required attitudes, acting from weakness of character or natural sycophancy, rarely become altogether satisfactory; while those who hold out, though occasionally 'chastened' are usually ruined . . . Unable to attain the full life and friendship which a school should provide, they became soured, disheartened,

(New York, 1955), based on their *Occupational Mobility in American Business and Industry, 1928-1952* (University of Minnesota Press, 1955). See also E. E. Hagen, *On the Theory of Social Change* (MIT, 1962), p. 222.

unmanned; their individuality is not allowed to develop freely and becomes objectionable through depression . . . I use the term bully; physical torture no longer exists; but where ridicule, contempt, and exclusion act powerfully on a boy's nature, I think steps have been taken which deserve that title.

He records that he himself when already a monitor had been ambushed by some of the athletes of the house, strapped to a table, 'and unofficially beaten'.

There is a passage that displays at once his compassionate empathy for the gamut of human nature and his artist's eye for the lineaments of personality. Of one contemporary, acknowledged to be the best classical scholar in the school, he recorded that

because he had an unpleasant voice, an unpleasant figure, he was utterly neglected by monitors and masters alike. Receiving nothing but ignominy, his sense of responsibility was never allowed to develop and so low was he made to estimate his own abilities that . . . he refused a commission in 1916 and is now fighting as a private in France. Not only was he deprived of all self-reliance, but finding no friends at school and having an unsatisfactory home he could acquire no hope or happiness in life, and regarded chances of death at the front as a blessing.

Against those last words a later hand has entered 'R.I.P. (Sept. 1918)'.

As Head of his House Harrod was before his time. His rule, liberal and humane, was well liked by all save the seniors who felt that it did not sufficiently support their authority. His successor deemed it necessary, in the interests of restoring discipline, to tan more boys in his first fortnight than Harrod had tanned in a term.

The memorials of those years show already the characteristics that were to be strongly marked in later life. Here is the free-flowing command of language, sometimes repetitious, sometimes eloquent; a rhetorical tendency to push a case to the limit and dramatize it; but also the need and gift for friendship, and a perceptive interest in the variety of personality; a deep and protective compassion; and magnanimity. The Debating Society heard a fierce attack from him on the ethics of conscription: 'the failure of the voluntary system would entail a defeat greater than any Germany could inflict upon us'. It also heard the future economist systematically analysing the possible forms and consequences of a revival in wartime of Sumptuary Laws. The demolition was complete; but he added that such measures

as nationalization of the railways and a reform of the law of inheritance were needed to ensure an even distribution of wealth. The records reveal also the reformer and zealous campaigner. There came to his hands a paper written by one of the Scholars, exposing the unhappiness of life in College. 'I urged him to make use of it and wrote for it a covering letter to the Dean (sc. of Westminster), which I got signed by the captain of the school, two college monitors, the captain of Grant's and other high dignitaries.' It is noteworthy that he went straight to the Dean.

In his last two years at school Harrod gave up classics for History. 'A don from University College, London, came to lecture to us for one hour each morning; after that we were left free without supervision; only when we had exhausted every possible subject of conversation among ourselves, did we revert to our reading; none the less in those two years I seem to have read more good books than at any other time in my life.'¹ He read widely in philosophy—'I had studied my J. S. Mill thoroughly, (and) was excited by the idea that Russell and Whitehead had put the logic of mathematics on a better foundation than did Mill'.² He knew Whitehead personally through his friendship with his son, soon to be killed in the war. He also read Marx and Kropotkin: he received the Moore and Aveling translation of *Das Kapital*, presumably at his own request, as an Essay Prize in 1916. Westminster failed to notice and develop his natural bent for mathematics. Before he went there, when he was 12 or 13, 'I knew', he said,³ 'about the binomial expansion and incommensurables; I knew what the square root of minus one meant.' But when he entered the school and, being put on to elementary simultaneous equations, asked for a remove, it was denied him on the ground that in arithmetic he was making as many mistakes as the other boys in the form.

Mathematics apart, the school gave him stimulus and—be it only through the exigencies of staffing in wartime—the freedom in which to develop the innate talents that had been so intensely fostered in a literary and artistic home. In 1918 he won a scholarship in history at New College, Oxford. When

¹ R. F. Harrod, *The Prof* (London, 1959), p. 40. 'In boyhood my great debt was to J. S. Mill, always to be relied on to kindle enthusiasm in the adolescent mind.' Roy Harrod, *Foundations of Inductive Logic* (London, 1956), p. viii.

² *The Prof*, p. 60.

³ In his speech to the Economics Sub-Faculty at Oxford, 22 July 1967.

the next year he went up there, he was full of eagerness to learn, to explore the universe of thought, to make friends and converse with them.

But first he joined the Royal Field Artillery as a cadet. We do not know all that this meant to him, only that it was important to him that he 'enlisted'—did not await the call-up. Term after term, the names of boys who had been in the house with him had been added to its list of the fallen: even in September 1918 the prospects of a subaltern's survival must have seemed uncertain. He was setting out from home for the first time, and for the uncouthness of the barracks. But the Armistice came while he was still on Salisbury Plain.

III

He was commissioned, but only after he had been demobilized, and he was able to go up to Oxford early in 1919.

Here Warden Spooner prevailed upon him, despite his scholarship in modern history, to begin by reading Greats—ancient history, with philosophy not of the ancient world alone. The opportunity to pursue the philosophic inquiries on which he had already entered may have solaced or attracted him, but he was to find the school of philosophic thought then prevailing in Oxford altogether unsatisfying, and indeed antipathetic. It was at its most rigorous and austere in his tutor H. W. B. Joseph, and in all his memoirs Joseph is the only figure of whom he has left a portrait that is unkind and even contemptuous. But when he took an essay to Joseph his young and ardent spirit, trusting that philosophy would illuminate the great issues of human existence, would have been arrested half way through his first sentence by the question 'What do you mean by—?' and held down to the task of reducing each statement to an ordering of simple expressions each of intuitively perspicuous meaning, until all momentum was lost to his argument, and he was forced down from the heights of philosophy into a valley of dry bones. With this method went a parochial faith in the authority of the categories of thought to legislate for the sciences, that seemed to him grossly arrogant. The memorial to Joseph in the college cloister says of him truly that 'he esteemed himself little'. His colleagues regarded with affection the rustic simplicity of his mien. But in him Harrod met for the first time a relentless, unappreciative and deflating critique. He was sorely wounded, and many years later the smarting of the wound could still break down his prevailing urbanity.

Meanwhile, however, he had a widowed mother to support: it was essential for him to get a First and a Fellowship; he made peace with his adversary, and Joseph who happened to be examining that summer congratulated him on the excellence of his philosophy.

Perhaps it was a habit acquired in his last years at Westminster, certainly it suited his own temperament, but he felt he could learn more from his contemporaries than from his tutors. 'It is to be emphasised', he has written, 'that at Oxford and Cambridge the main part of an undergraduate's education is imbibed from other undergraduates.' The medium of this education was conversation—'a certain mode of frankness in discussion', and 'the clash of opinion'. 'The dons form a background for these vital processes',¹ but only a background, from which they should not push themselves forward.

He took his First in Greats, and within a year—an achievement that marked already his outstanding capacity for concentrated and rapid work—another First in Modern History. Llewellyn Woodward was to rate him the ablest of his pupils. Before he sat the History School he was approached with the prospect of a Fellowship at Hertford College. This would have been one of the Fellowships endowed by the banker J. C. Baring: under the terms of his Trust it was an 'indispensable qualification' that candidates should declare themselves bona fide members of the Church of England or other Protestant episcopal church. Harrod had been brought up as a Roman Catholic, but his devout father was withdrawn and ineffectual, his mother had lapsed; he himself as a schoolboy had ceased to hold any religious faith. The terms of the Baring trust seem not to have been put to him explicitly: he understood only that he would be required to subscribe to an affirmation of Christian faith, and he asked whether this might be regarded by the present Fellows as a vestigial formality. He was told that by just one, Lord Hugh Cecil, it would not be so regarded: that was enough, he could not go forward.

But in July of that year, 1922, he was elected at Christ Church to a Lectureship in Modern History and Economics; and this was to lead to a Studentship—the equivalent of a Fellowship at other colleges—that he was to retain continuously until his retirement in 1967. The Honours School of Philosophy, Politics, and Economics was to be examined for the first time in the following summer, and there were few candidates as yet.

¹ R. F. Harrod, *The Life of John Maynard Keynes* (1951), pp. 58–9.

The new lecturer would be required to assist in the teaching of history, and Harrod was in fact to do so for some time, over a wide range. Half his tutorial hours of up to twenty a week were to be given in history, medieval as well as modern: he remembered later having set an essay on the eastern frontiers of Germany in the eleventh century. For the teaching of economics he could rely on no more systematic preparation than he had gained from a special subject in public finance, money and banking in the History School, whose documentation consisted of some of the major Budget speeches from Pitt onwards, and the great nineteenth-century Reports on monetary policy, prices, and trade. But for the first two terms of his appointment the College released him, in its view for foreign travel, but not in his. Walter Runciman gave him a letter of introduction to Keynes, who took an immediate liking to him, and arranged for him to spend a term at Cambridge as a member of the High Table at King's. There he attended Keynes's lectures on Money, and took part in the sessions of Keynes's Political Economy Club, where he heard Keynes's paper on Malthus discussed by Dennis Robertson, and found Austin Robinson's paper on British Capital Exports 'perhaps more intimidating to an Oxford man than the many-sided brilliance of the master . . . a fine example of Cambridge thoroughness, accuracy and theoretical expertise'.¹ Above all, he took weekly essays to 'the master', Keynes himself. In the midst of the term Keynes was called to Berlin with other economists of international standing to advise on the stabilization of the mark: on his return his analysis of the German problem of inflation gave to his lectures an added excitement.

There can be few subsequently eminent economists whose tuition in the subject was at once so concentrated in time as Harrod's and so distinguished in the person of his tutors. For on his return to Oxford he placed himself in the hands of Edgeworth, the Drummond Professor of Political Economy. He attended Edgeworth's lectures, and took essays to him on cost curves and international trade. 'We used to sit side by side at a little table, and he'd go through my various diagrams.'² On an issue in which they had conducted 'a rather controversial correspondence' Harrod had shown 'a sort of youthful obstinacy'—but this was to be not merely a youthful trait.

Between Keynes and Edgeworth had come five months, from

¹ Harrod, *Keynes*, p. 327.

² In his speech to the Economics Sub-Faculty at Oxford, 22 July 1967.

December 1922 to April 1923, in Berlin. It must have been regretfully that he terminated his intensely stimulating residence in Cambridge, in order to fulfil the expectations of his college; though he said that he did himself wish to widen his view of economics. A lack of subsequent references implies that the cultural turmoil of Berlin at that time set little mark on him. He attended Berlin University, and the lectures of Moritz Bonn and Melchior Palyi at the Handelshochschule. In the summer, moreover, he returned to Germany to receive informal instruction from von Schulze-Gaevernitz, a pupil of Weber, at Freiburg im Breisgau. But he received no apparent stimulus from his immediate contacts with German economic thought, nor did he maintain close contacts with it subsequently. The work he was to do in the years that followed down to the War was a projection of the lines laid down by Keynes and Edgeworth.

But it was an original projection, an achievement of great boldness, granted only to the union of imaginative vigour with technical mastery. The numerous papers and the two books that he published between 1927 and 1940 ranged over money and banking, international trade, imperfect competition, and the variations of cost, the trade cycle, and economic development. These writings contained a number of original contributions to the body of economic analysis.

In his 'Notes on Supply'¹ he defined an 'increment of aggregate demand curve.' In a later footnote² he observed that 'Mrs Robinson has christened my somewhat clumsy increment of aggregate demand curve with the more elegant name "marginal revenue curve"'. The implication was plain that he had given birth to the concept at an earlier date. In the summer of 1928 he had been staying in Cornwall with his mother, smoothing over her quarrels with other guests in the hotel, working through a pile of School Certificate examination papers, and sitting up through the night to develop the first original idea he had had in economics. He sent the paper to Keynes as editor of the *Economic Journal*. While he was still in Cornwall Keynes sent it back to him with adverse comments from Frank Ramsey. The blow was crushing. He suffered a nervous breakdown, could not eat or read, and felt especially that someone was continually tugging at a long hair that was tangled in his brain. Some years later he told John Betjeman about this

¹ *Economic Journal* 40 (June 1930), pp. 232-41.

² *Economic Journal* 43 (June 1933), p. 338.

when they were staying together at a friend's house in Hampshire; when he was leaving the house for the local station Betjeman was moved to write the lines

He stands in the mist
With a hair in his brain
At Bentworth and Lasham station,
And waits in vain
For a passing train,
Capital, Credit, Par, Inflation.

(Remembering this recently Sir John has written 'Roy was one of the only dons who spoke to my generation as though we were his contemporaries. One could say anything one liked to him.') In the end—though not quite the end—he recovered sufficiently to resume his duties in College at the beginning of term. A year later he took Ramsey's letter out of a drawer, and thought he saw that his strictures arose from a misunderstanding. He wrote to dispel it; Ramsey withdrew at once, and the paper was published. Study of Joan Robinson's preface to her *Economics of Imperfect Competition* indicates, Harrod claimed, 'that if Keynes had not listened so readily to Ramsey's criticisms and the article had appeared in 1928, my claim to have "invented" this well-known tool of economics would be without challenge'.¹ But in fact that Preface lists a number of explorers who had been arriving at this pole at about the same time.² His originality is not in doubt: priority is a nicer matter.

In 'The Law of Decreasing Costs'³ Harrod made clear the form of the long-period cost curve as the envelope of the short-period cost curves. It was assumed that an initial choice of size of plant could be made from an array of plant sizes, each with its own parabolic cost curve, arranged in descending order of minimum average cost according to the economies of scale. The long-period curve was defined as the locus of the lowest possible average cost of production for any given output, on

¹ R. F. Harrod, *The Life of John Maynard Keynes* (1951), pp. 159–60 n. 2.

² Joan Robinson, *The Economics of Imperfect Competition* (1933), pp. vi, vii. Sir Austin Robinson states that the first mention of the concept in Cambridge, in the essay by his pupil Charles Gifford, was derived from the paper by T. O. Yntema, 'The influence of dumping on monopoly price', *Journal of Political Economy* 36, 6 (Dec. 1928), pp. 686–98. Here we read: '... the monopoly will seek to maximise . . . total gross revenue less total cost. At this maximum point the marginal increment in gross revenue (hereinafter called "marginal gross revenue") will just be balanced by the marginal costs' (p. 687).

³ *Economic Journal* 41 (Dec. 1931), pp. 566–76.

the assumption that the right size of plant was chosen to secure that cost. This locus was then shown to be the envelope of the cost curves of the plants providing the lowest possible cost for the given outputs. The implication was that each plant would, at that output, be operating below capacity.

International Economics (1933) was a highly original work, bursting out of the expository confines of the Economic Handbook Series, and destined to maintain large sales through four subsequent editions. Here Harrod expounded the basic principles of comparative cost with production carried on under varying marginal cost, whereas previous elementary expositions had usually been content with constant costs. Instead, again, of taking a simple model of a country exchanging exports for imports, he took the more complicated and realistic case of trade between countries in each of which there are goods and services variously capable of being internationally traded. In the chapter on World Monetary Reform he proposed what was in 1965 to be christened 'the crawling peg'. Implicit in his analysis throughout was the concept of the foreign trade multiplier.

That concept was to be made explicit in *The Trade Cycle* (1936). This work has a dual aspect. In one aspect it appears as a theory of the old type, proceeding deductively from assumptions about the behaviour of economic agents. Though reference is made to the empirical findings of three American economists—J. M. Clark, Paul Douglas, and Wesley Mitchell—the assumptions are largely *a priori*: 'in making his calculation the entrepreneur takes pencil and paper and writes down, say, 4 per cent, or, say 3½ per cent' (p. 112); the Relation, the dependence of the level of investment on the change in consumption, is authenticated only in that it serves to explain the observed greater fluctuation of the output of capital than of consumer goods. But the argument that proceeds in this way is masterly of its kind. A model is constructed that goes some way towards meeting the author's claim 'that by a study of the interconnexions between the Multiplier and the Relation the secret of the trade cycle may be revealed' (p. 70). This is a work whose boldness and ingenuity in attack, and complete control of the materials at the chosen level of abstraction, make the reading of it still exciting more than forty years later.

In its other aspect *The Trade Cycle* marks a break through the thought barrier between static and dynamic theory. Almost the

first of Harrod's publications¹ had been a critique of D. H. Robertson's views on the extent of the fluctuation of output and prices that was desirable in the interests of development. Keynes's stress in the *Treatise* on the role of investment in determining the level of activity may well have caused Harrod to reflect further on the change in the setting that investment implies. In the Preface to *The Trade Cycle* the difficulty is plainly stated, that because saving implies accumulation and growth it cannot be handled within static analysis. This is followed by the brilliantly simple proposal, 'to adopt a procedure in relation to the factor of growth similar to that of static analysis, to seek, namely for the moving equilibrium of a steady state of growth, by asking what sort of action we must suppose individuals to take in certain circumstances, so that, having regard to the circumstances and the factor of growth which their action entails, they will not be able to improve their position otherwise than by continuing to act as they do' (pp. viii-ix). More particularly, 'what amount of saving will prove justified, taking into account the factor of growth which the saving necessarily entails?' The 'dynamic determinants' which explained the swing of the cycle—the propensity to save, the shift to profit, the marginal capital coefficient—provided 'merely a rough sketch of what ought ultimately to be so elaborated, as to constitute the second main division of any treatise on economic principles. Fresh fields of thought await the pioneer' (p. 167).

These fields Harrod himself entered with his 'Essay on Dynamic Theory'.²

Static theory [he said at the outset] consists of a classification of terms with a view to systematic thinking, together with the extraction of such knowledge about the adjustments due to a change of circumstances as is yielded by the 'Laws of supply and demand'. It has for some time appeared to me that it ought to be possible to develop a similar classification and system of axioms to meet the situation in which certain forces are operating steadily to increase or decrease certain magnitudes in the system. The consequent 'theory' would not profess to determine the course of events in detail, but should provide a framework of concepts relevant to the study of change analogous to that provided by static theory for the study of rest' (p. 14).

He provided a significant part of that framework in the same

¹ 'Mr. Robertson's views on banking policy', *Economica* 20 (June 1927), pp. 224-32. This examines certain contentions advanced in D. H. Robertson, *Banking Policy and the Price Level* (1926).

² *Economic Journal*, vol. 49 (March 1939), pp. 14-33.

essay. At the highest possible level of generality, which he chose deliberately, he represented the rate of growth 'warranted' by the propensity of an economy to save, in the presence of a given power of new investment to generate additional income, by an identity which he called the Fundamental Equation. The 'natural' rate of growth was that at which the economy was capable of growing under full employment, given its actual rates of technical improvement, capital accumulation, and growth of the labour force, together with its people's relative valuations of work and leisure. Gloomy inferences followed. There was no reason why the natural and the warranted rates should coincide: but if the warranted were the higher, there would be prolonged depression, and if the lower, a sequence of booms each bound to be cut off. The 'principle of instability', moreover, showed that the path of warranted growth ran through a field of centrifugal forces: any departure from it would set up reactions that tended to move the economy yet further away. This argument had been much revised and rewritten as the result of a lengthy correspondence with Keynes, who persisted in expressing his misgivings until he had 'at last, seen in a flash what it is all about'.¹

Soon after the essay appeared the war began in Europe, and the Fundamental Equation was little noticed until the thoughts of economists returned to economic growth after the war. What was basically the same identity² was then formulated quite independently by Domar.³ So it came about that a priority of seven years was collapsed, and a concept basic to much subsequent theorizing about growth became known as the Harrod-Domar relation.⁴

¹ Donald Moggridge (ed.), *The Collected Writings of John Maynard Keynes* xiv, II, pp. 320-50. The words quoted are on p. 345, where Keynes continued: 'Your argument as now expounded shows, quite correctly, that *if* there is a warranted rate of growth, an increase in excess of this rate will lead to the results you indicate. But this assumes that there *is* a warranted rate. That is the basic assumption I have been allowing you to get away with. In general there is *no* warranted rate, and special conditions are required for a warranted rate to be possible.'

² R. F. Harrod, 'Domar and dynamic economics', *Economic Journal* 69 (September 1959), pp. 451-64.

³ Evsey D. Domar, 'Capital expansion, rate of growth, and employment', *Econometrica* 14 (April 1946), pp. 137-47.

⁴ Paul Streeten has pointed out that the Fundamental Equation had been formulated by Gustav Cassel in his *Theory of Social Economy* (pp. 62-3 of the English edn. 1923). Cassel stated that the German text of this work had been completed in 1914. David Worswick has also drawn attention to the

Besides these major original contributions, there were fresh suggestions that Harrod drew from his intuition or introspection as he built up his theory. His early commentary on D. H. Robertson made use of the likelihood of 'money illusion'—that a reduction of the real wage brought about by a rise in the cost of living over against an unchanged money wage would provoke less reaction than an equal reduction in the real wage brought about by a cut in the money wage over against an unchanged cost of living.¹ In his theory of the trade cycle he proposed a Law of Diminishing Elasticity of Demand: the elasticity of demand confronting individual sellers would fall as the general level of activity rose, because as buyers became more prosperous they would take less trouble to compare offers and find the best one.² As a member of the group of Oxford economists gathered by Hubert Henderson to discuss with businessmen the way in which they reached their decisions, he found himself challenged to account for their general adoption of the full cost principle of pricing when it was not a profit-maximizing principle: he suggested that it might be considered as a moral rule. 'The essence of a moral rule is that while adherence to it cannot be shown to be productive of advantage in each particular case taken singly, there is a clear apprehension that general adherence to it will be a general advantage.' The full cost principle is a rule whose adoption by any one entrepreneur is much helped if others adopt it too, and it is more likely to commend itself widely because it is a unique rule, and because most entrepreneurs have to take their decisions about prices in so much uncertainty that no alternative course suggests itself to them as being clearly more to their private advantage.³

appearance of the same identity at p. 185 n. 1 of Erik Lundberg, *Studies in the Theory of Economic Expansion* (Stockholm Economic Studies, P. S. King, London, 1937; reprint by Blackwells, Oxford, 1955).

¹ 'Mr. Robertson's views on banking policy', *Economica* 20 (June 1927), pp. 224-32.

² R. F. Harrod, *The Trade Cycle* (1936), pp. 17-22.

³ 'Price and cost in entrepreneurs' policy', *Oxford Economic Papers* 2 (May 1939), pp. 1-11. In a later paper, 'The theory of imperfect competition revised', first published in *Economic Essays* (1952), Harrod drew again on the responses of businessmen to the Oxford Research Group, and provided a further interpretation of the full cost principle. This paper began with the finding that the businessmen did not have regard in fixing their prices to short-term marginal revenue, but were much concerned about the effect of present prices on future competition. It was therefore necessary to consider a long-period

The contributions to economic theory which in these ways were outstanding for their originality were also distinguished by their style. Especially in *The Trade Cycle* Harrod's exposition displayed the craftsmanship that had been already manifest in some of his papers. Here was manifest the strength of the second of the styles he commanded—the philosophic, as distinct from the eloquent. His prose was spare, exact and perspicuous. The structure of his argument had a Euclidean economy of phrase and a magisterial simplicity derived from the selection of essentials.

But the range and flexibility of his style were also shown by the expressiveness of the reviews that he contributed to the learned journals in these years before the War—the eloquence of his tributes to Pigou¹ and Hicks,² or the sensitivity of his appreciation of the colourful qualities of Frank Knight.³ The review is at once a test of professional attainment and an exacting art form: the reviewer must give an account of the aim of the author and the content of the book, and provide his own appraisal and reasoned critique; he must be fair to the author but honest with himself; yet all this within brief compass, and so as to be readable. Harrod's first review for the *Economic Journal* was of Helen Bosanquet's *Free Trade and Peace in the Nineteenth Century*.⁴ Edgeworth as Editor told him 'I thought your review was most excellent. It was exactly what we wanted.' His subsequent reviews were no less accomplished.

Throughout these years Harrod remained in close contact with Maynard Keynes. In the summer of 1926 he stayed for a fortnight with Maynard and Lydia at Tilton while he worked on the galleys of *The Treatise*. He saw Keynes's thought about public works develop from 1924 onwards through his contact with Keynes's work for the Liberal Party and its Yellow Book of 1928. In the summer of 1935 Keynes sent him the galleys of the *General Theory*. The correspondence that followed,⁵ were

marginal revenue curve. This would show that 'in many cases the equilibrium price would be equal to full cost (i.e. including overheads and profit)' (p. ix).

¹ Review article, 'Professor Pigou's theory of unemployment', *Economic Journal* 44 (March 1934), pp. 19–32.

² Review of *Value and Capital*, by J. R. Hicks, *Economic Journal* 49 (June 1939), pp. 294–300.

³ Review of *The Ethics of Competition and other Essays*, by Professor F. H. Knight, *Economic Journal* vol. 44 (March 1936), pp. 102–4.

⁴ *Economic Journal* 35 (June 1925), pp. 294–6.

⁵ Donald Moggridge (ed.), *The Collected Writings of John Maynard Keynes*, xiii, 1, pp. 526–65.

we now, not knowing the writers' names, to judge it only by the internal evidence, would appear as a discussion between equals in knowledge, authority, and intellectual stature. Harrod maintained his positions with firmness, ease and perspicacity. Where he felt Keynes stood in need not of criticism only but of reproof he was unsparing. Apart from a host of detailed comments on matters of consistency or clarity, he was concerned with two major issues. One was the tactical wisdom of Keynes's attacks on the classical economists: these, he urged, would only alienate the younger economists who knew the analysis well that Keynes was attacking and would think that his attack was overdone. Keynes answered that 'I *want*, so to speak, to raise a dust; because it is only out of the controversy that will arise that what I am saying will get understood'.¹ The other issue was a particular case of the first. Keynes had dismissed the notion that the rate of interest played any part in equilibrating savings and investment on the ground that these were only two names for the same thing. But Harrod, while accepting that savings were equal to investment in the same sense as the quantity of anything sold was identically equal to the quantity bought, maintained none the less that it was still possible and necessary to distinguish supply curves of savings and demand curves for investible funds: the mistake of the classical economists had been only to fail to recognize that any one position of the supply curve of savings implied a given level of income, and different levels of investment would imply different positions of the savings curve. The discussion under this head resulted in Keynes drawing from a note by Harrod a diagram which he

¹ Op. cit. p. 548. Keynes went on to say to Harrod 'Take your own case . . . If I had left out all the parts you object to about the classical school, you would have simply told me that you were largely in sympathy and liked it. But my attack on the classical school has brought to a head the fact that I have only half shifted you away from it.' Keynes then accused Harrod of not having grasped his main contention. But Harrod replied (on 30 August 1935, p. 553) 'No, no; you do me throughout great injustice. I have understood you much better than you think. . . . Your view, as I understand it is *broadly* this:

Volume of investment determined by $\left\{ \begin{array}{l} \text{marginal efficiency of capital schedule} \\ \text{rate of interest} \end{array} \right.$

Rate of interest determined by $\left\{ \begin{array}{l} \text{liquidity preference schedule} \\ \text{quantity of money} \end{array} \right.$

Volume of employment determined by $\left\{ \begin{array}{l} \text{volume of investment} \\ \text{multiplier} \end{array} \right.$

Value of multiplier determined by propensity to save.

Keynes replied (p. 557) that his theory 'could not be stated better'.

inserted—the only one—in *The General Theory*. Altogether, Keynes concluded, ‘I have gained a great deal from your hard knocks, and would like some more’.¹

Amid all his work in economics Harrod retained a productive interest in philosophy. In the paper entitled ‘Utilitarianism Revised’² that he read to the Philosophical Society he was not concerned with the problems of utility raised by the economists’ analysis of demand: this was strictly an essay in moral philosophy, in which he reformulated Utilitarianism in a way that he held to run closer than did the usual statement to the common moral consciousness. For an action to be good, he maintained, it must be altruistic; and though the goodness of an action is to be judged by the ultimate ends it serves, we cannot say that there is a sole ultimate end, namely pleasure. With this propaedeutic he proceeded to what he regarded as his special contribution, an account and vindication of moral obligation such as was not generally thought consistent with Utilitarianism. The basis of this—and here the economist appears—is the observation that ‘there are certain acts which when performed on 12 similar occasions have consequences more than 12 times as great as those resulting from one performance’.³ A crude Utilitarianism will take account of the consequences only of a single performance. ‘A more refined Utilitarianism’ will take account of the consequences of repetition, and so implicitly accept the Kantian obligation to so act that one’s action may become a general law. This paper continues to stand high in the regard of moral philosophers.

Another train of philosophic inquiry was set off by a meeting in Oxford at which he heard G. E. Moore and Bertrand Russell address themselves to the subject of Memory in terms, as it seemed to him, of the utmost banality. ‘I returned to my rooms,’ he said, ‘my brain on fire. . . . There had been no hint whatever that we are entitled to trust memory simply because our personal experience gives us inductive reasons for doing so.’⁴ Thereby he was led to examine the possible logical basis of induction. His reflection on Keynes’s *Treatise on Probability* converged on the same problem: he departed from Keynes in that whereas Keynes had suggested that data known directly were certain, and only the inferences from them were subject to probability, he himself now maintained that the data known

¹ Op. cit. p. 559.

² *Mind* 45 (April 1936), pp. 136–56.

³ Op. cit. p. 148.

⁴ R. F. Harrod, *Foundations of Inductive Logic* (1956), p. xi.

through memory were so subject. In the early months of the war he set his thoughts down in an article that appeared in *Mind* in 1942.¹ One day in 1942 when Keynes came in to an interdepartmental committee of economists for which Harrod had prepared a lengthy memorandum, he touched him on the shoulder in passing and said 'I am afraid that I have not had time to read your memorandum, but I have been reading your paper on Memory'.²

IV

These achievements would have been outstanding if they had occupied all his energies: they are all the more remarkable beside his other activities at the time. When he had first joined the senior common room at Christ Church he had been disappointed in his colleagues, whose conversation for the most part was not so entertaining, or their outlook so enlightened, as to make their society congenial. He found more pleasure at first in the company of the group of cosmopolitan and aesthetic undergraduates around Harold Acton. Here, as he wrote later, the conversation on subjects mainly personal and artistic was 'light, gay, varied and quick moving . . . I remember the delight and joy of going among it, so far above and beyond, as it was, the normal discourse of Oxford High Tables'.³ At the same time he had plans to read for the bar, on his way to politics: he acquired textbooks of law, and ate dinners at the Inner Temple. He arranged private lessons in mathematics. But he had too much to do already. He was teaching for long hours as well as lecturing. He held a clear conception of what 'the private hour' should do. He repudiated the notion of the tutor as a coach preparing his pupil for an examination: this seemed to him a prostitution of the true function of a university, and a cramping of the development of the pupil's own intellect and personality. That development could come freely and fully only through the pupil's own reading and thinking, and above all through his discussions with his contemporaries. The role of his tutor was to discourse at large, bring him the harvest of wider reading and longer experience, and open prospects beyond those immediately before him. According to this interpretation of his function, he was devoted to his pupils. His colleague Robert Blake has characterized his practice.

¹ 'Memory', *Mind* 51 (January 1942), pp. 47-68.

² Harrod, *Keynes*, p. 141.

³ M.-J. Lancaster, *Brian Howard, Portrait of a Failure* (1968), p. 213.

He listened to their essays, criticised particular points of fact, style, presentation, logic, and discoursed on some theme arising out of them, often with personal reminiscences of people and episodes. His pupils did not get what too many expect and, alas, nowadays too often receive; a potted lecturette, covering the principal aspects of the topic together with hints on how to answer a question in the Schools. But the more perceptive among them left his spacious rooms in Kilcannon¹ feeling that they had been in contact with a brilliant, many-sided intellect and often that they had had a glimpse of the great world where decisions were taken and policies framed.²

When at the end of 1929 he became Senior Censor, an office that combined the administrative duties of a senior tutor and tutor for admissions with part of a dean's disciplinary duties, he held on looking back that he 'regarded this position as a most delightful one, indeed much the pleasantest that I have ever had';³ and a chief reason was that it immersed him in the undergraduate life of the college.

But meanwhile he had thrown himself into more than one campaign within university and college. In his biography of *The Prof* he told how he was drawn into these affairs by his devotion to the Professor Lindemann⁴ whom he found in the common room at Christ Church when he joined it. He gave the source of that devotion as his finding in 'the Prof' a need and gift for conversation that for him just then was like water in a thirsty land. But something more is needed to explain the exertion of a compulsive attraction by one whose outlook, way of life and values were so different, and might even in some ways have been expected to be repugnant. It may be that though 'the Prof' was only fourteen years the older, his continental

¹ His pupils between his Censorship and his marriage will remember his rooms in the Canterbury quadrangle.

² At p. 11 of Robert Blake (Lord Blake), 'A personal memoir', in W. A. Eltis, M. F. G. Scott, J. N. Wolfe (eds), *Induction, Growth and Trade: Essays in Honour of Sir Roy Harrod* (1970), 1-19.

³ Harrod, *The Prof* (1959), p. 149.

⁴ F. A. Lindemann, Lord Cherwell (1886-1957), son of an Alsatian financier and his American wife; at school in Germany; Ph.D. in physics at Berlin where he continued to work in contact with leading European physicists until 1914; during the First World War in experimental aviation at Royal Aircraft Factory, Farnborough, and learned to fly in order to demonstrate the principle on which an aircraft could be recovered from a spinning nosedive; from 1919 professor of physics in Oxford, where he developed the Clarendon Laboratory; from 1921 a friend of Churchill, and personal adviser to him throughout the War 1939-45; Paymaster-General in Churchill's administration, 1951-3.

and wartime experience set him further above Harrod in point of maturity than his age alone might have done, and this, together with his possessive desire for Harrod's company, qualified him to fill the vacant place of the strong supportive father in Harrod's life. At least Harrod was to serve as his agent and advocate in a succession of affairs with a filial loyalty. There was first an intrigue over the election of a Chancellor of the University in 1925. Then when in 1929 Harrod joined the Hebdomadal Council—the highest executive body of the University, and his election to it before he was 30 was a tribute to the respect accorded to his qualities—he put forward 'the Prof's' case that the Radcliffe Trustees should site their new telescope in Oxford and not in South Africa. Within the College, he championed 'the Prof' in two struggles that 'the Prof' waged against many of his colleagues on issues of precedence and status. In some of these affairs he showed an intense interest and energy in political manoeuvring, but he also naturally adopted another way of campaigning very unlike that of the party manager: from a perhaps isolated position, and he cared nothing for the weight of authoritative disapproval to which he was exposed, he would fire a bombardment of lengthy memoranda, until the time came to sally forth and summon up all his powers to win the final day by oratory. Once he had taken up a cause he held to it with unshakable tenacity, and defended it with great resourcefulness in argument; his confidence was unassailable. Gilbert Ryle the philosopher once said that 'Roy could fight a battleship with a rapier better than any man living'.

In 1930 he undertook the further commitment of serving on the Commission appointed by the University to consider the future of a Bodleian Library that was bursting out of its existing quarters. He was very much the junior member—one of his colleagues, G. N. Clark, was only 40, but the other three averaged over 67. From the first he determined to take his own line. While the others were discussing the features of the libraries they were visiting in Europe and America, he was preparing his separate report. He would not accept the recommendations of the majority because they did not 'attach sufficient importance to the two principles of accessibility and concentration' and did not 'provide a permanent solution of the library problem'.¹ His own recommendations for carrels and

¹ *Library Provision in Oxford. Report and Recommendations of the Commission appointed by the Congregation of the University* (Clarendon Press, 1931). Separate Report by Mr H. R. F. Harrod, signed 27 February 1931.

access to the stacks, for the building of a repository for less wanted books, and the consolidation of two detached libraries with the main building, did not form part of the plan initially adopted by the University. The Congregation of the University did add to that plan the making of experiments in the use of carrels and research rooms adjoining the stacks, and the provision of a site for a repository; but these were tacked on to the end of a long agenda, and no action was in fact taken on them. In the New Library the research rooms were separated from the stacks by a public corridor. The site available at St Cross for a repository was not developed. This is now seen as an opportunity missed. Harrod had been more far-sighted than the majority. They held that the New Library would give the Bodleian the space it needed 'for two centuries or at least one'; he held that it might be full again in another fifty years, and he was right. In 1975 the University built a repository at Nuneham Courtenay—eight miles away, instead of the short walk to St Cross.

But though his proposals had received only a formal recognition, Harrod was appointed to the Library Building Committee. He felt, moreover, that the contacts he had made meanwhile with the officers of the Rockefeller Foundation, to whose munificence the University owed the New Library—he believed they would have preferred the more imaginative developments he proposed—were helpful a few years later, when he took part in setting up the Oxford Institute of Statistics.

Through these years he was also involved in politics, as an ardent Liberal. His liberalism may need some interpretation for a later generation to which that body of principles has appeared like one of those Australian rivers that after watering many fruitful fields merge their last runnels with the sands of a wilderness; but in his young days its vitalizing current still flowed powerfully down from the heights of idealism. His links with the Party may have been formed early: T. P. O'Connor was his godfather, he proclaimed his faith in Asquith's government while at school, and on coming up to Oxford in 1919 he refounded the Liberal Club. He canvassed for Sir John Simon in Spen Valley in 1919, and was a frequent visitor to his house, as he was to Walter Runciman's. He was a friend of the Asquith family, and on visiting terms with the former Prime Minister and his wife when they were living in retirement not far from Oxford; it was to secure Asquith's nomination that he exerted himself at the instigation of 'the Prof' in the election

of the Chancellor of the University in 1925. In General Elections he served as the agent of the Liberal candidate, Gilbert Murray, in the constituency which was at that time formed by the University of Oxford. He took part in the Liberal Summer Schools—he heard Keynes urge the claims of home against foreign investment in the School of 1924, and next year include Sex Questions in the five main issues of future concern to the Liberal Party. When the National Government was formed in 1931, Walter Runciman proposed that he should become its economic adviser, but being strongly opposed to its deflationary policy, he offered himself instead in the election to speak on Labour platforms where there was no Liberal candidate, and he did so speak on a number. He then collaborated closely with the Oxford economists who as members of the New Fabian Research Bureau were taking part in the discussion and formation of Labour Party policy under the aegis of Hugh Dalton as Chairman of the Policy Sub-Committee of the National Executive of the Party.¹ But by the time of Mussolini's Abyssinian adventure he had come to see the dominant issue, transcending the old party lines, as resistance to the aggressors and dictators, and in that cause he spoke again—though paradoxically—from a Labour platform in 1935. 'When the news of Munich came, the most shattering political event of my lifetime, I retired to bed for a day or two', he recorded later.² A by-election occurring in Oxford shortly afterwards, he took the initiative in proposing that the Liberal and Labour candidates should stand down in favour of an Independent anti-Munich candidate—A. D. Lindsay, the Master of Balliol. He became Chairman of Lindsay's committee, and threw himself into the campaign, indoors and out; but his man lost.

He had felt a responsibility for bringing the influence of economists to bear on national policy under the impact of the world depression. Keynes's thought, as he had seen it grow in the preparation of the *Treatise* and the defence of Lloyd George's proposals for public works, guided his skilful drafting of a letter for which he secured the signatures of 40 other economists,

¹ In January 1932 he gave the first paper at a NFRB Conference on the Socialization of Banking. He was a signatory of a paper prepared for the Finance and Trade Committee of the Policy Sub-Committee, and entitled 'Proposals on the Control of a Financial Panic, Policy No. 113, March 1933, by a group of Oxford Economists who are members of the Party.' In November 1933 he took part in a NFRB Conference on Some Aspects of Socialist Planning.

² Harrod, *The Prof*, p. 171.

Keynes among them, in *The Times* of 5 July 1932. His diagnosis was that the revival of activity depended upon a reversal of the fall of wholesale prices in the past two and a half years, and more particularly in a restoration of the ratio of flexible to inflexible prices. The means was to be found in increasing the flow of spending: the banks should try 'to put fresh money into circulation', the Government should remit taxation and speed up expenditure on 'sound schemes of construction and development', financing them by bank loans. In a later article,¹ he made the point that credit policy—as in the low rates of interest then prevailing—was alone not enough: a low rate of interest was no incentive to borrow and invest in the presence of *expectations* of a further fall in prices. Hence the need for public works and an unbalanced Budget, the flow through which he proposed to regulate as a Reflation Fund, which would be terminable when the wholesale price index reached the level of 1928, or unemployment fell to a certain level, or the tax yield rose to a certain figure. A less ambitious variant of this proposal, applying to the budget of central Government alone, appeared the next spring in a letter² for which, indefatigably, he secured the signatures of 36 other economists: the Budget should be divided into expenditure on current and capital account, and the latter should be financed by borrowing. His immediate aim was still, not the expansion of demand and employment (though these effects were expected) but 'a restoration of the general level of British commodity prices'; he saw this as the necessary condition for the recovery of activity. It is typical of the superficial state of statistical studies in those days that he did not ask—nor apparently did his fellow signatories query³—whether the course of wholesale prices in the United Kingdom would not in any case be dominated by prices in world markets. Recovery did in fact proceed, but when in 1937 a fresh recession seemed to have begun in the United States he obtained the signatures of a number of British economists to a letter which he addressed to President Roosevelt, recommending an expansionist policy. In August of the next year⁴ he called for action before we in the UK were caught in the downward spiral. In rearmament, he said, we already had a kind of public works policy: what we needed now was a way of making credit policy effective—interest rates were low but new issues had been difficult. So

¹ 'From a Correspondent', *The Times*, 4 November 1932.

² *The Times*, 10 March 1933. ³ I write as one of them. H.P.B.

⁴ 'Turnover' article, *The Times*, 11 August 1938.

the banks must increase their holdings of investments: the Bank of England must provide them with more cash and the Treasury with more shorts. No doubt they would then only buy gilts, but 'one market soon affects another in the Stock Exchange'.

In this same year, 1938, he married Wilhelmine ('Billa') Cresswell, daughter of Captain F. J. Cresswell of the Norfolk Regiment. His colleague Robert Blake has recorded how

they lived in a delightful house belonging to, and a very modest stone's throw from Christ Church. Furnished and decorated with admirable taste by Billa it became a social centre for the more amusing undergraduates and the less dull dons. There must be a host of people to whom it brings back memories of gay parties, excellent food, and memorable conversation. During the vacations the Harrods would normally depart to their house in Norfolk, Billa's home county. But in term Christ Church saw almost as much of Roy Harrod as it did in his bachelor days.¹

Two sons were born to them, in 1939 and 1940.

When the war came, it brought no summons to service. Keynes in fact nominated Harrod and Kahn to the Treasury as suitable for immediate recruitment, but it did not call them in. 'The Prof', however, who had moved to London as adviser to Winston Churchill, now First Lord of the Admiralty, asked Harrod's help in gathering a staff that would assist him in briefing Churchill on the range of issues coming before the Cabinet. Harrod found, first and foremost, his former graduate student Donald MacDougall, and then some of the assistants at the Institute of Statistics. Next 'the Prof' asked him himself to join what was now S Branch. The prospect of working in close proximity to Churchill was exciting to him. He had formed a relationship of friendship with the Churchills before the war. Their son Randolph had been his pupil, and when Randolph had been proposing to break off his studies in Oxford in order to go on a lecture tour in America, Harrod had gone over to the Churchills' house at Chartwell with him, and heard Churchill deliver a sonorous eulogy of the benefits of a university education. After that he had stayed at Chartwell several times. Just before the General Election of 1935 he wrote to Churchill to plead for understanding of the true meaning and the idealism of the young men who in the Oxford Union and other student bodies had voted for resolutions saying that they would not fight for King and Country: he

¹ Robert Blake (Lord Blake), 'A personal memoir', p. 11.

called on Churchill to stand out as he alone could do at the head of those who would fight to resist the aggressors and Covenant-breakers.¹ From that time onwards he felt that this common cause of resistance to the dictators, and especially to Hitler, formed a link between himself and Churchill. When on 1 January 1940 he joined S Branch, he found himself being taken by 'the Prof' to meet Churchill from time to time. At one of their first meetings Churchill asked him to find out if the canals could carry more freight.

But within S Branch he was not at ease. What was wanted there was the compilation and assessment of statistical evidence, and its reduction to compact conclusions. Only quantitative arguments would move 'the Prof'; only brief papers could be put before Churchill. This was not how Harrod's mind worked. In the complexity of economic affairs, drawing inferences from the statistical evidence is like the building of a pyramid, in which on the basis of a broad initial coverage one works up to what seems in the end a small point. In Harrod's quick and imaginative mind the pyramid was inverted: he would seize on one statistical point and develop the length and breadth of its implications. The administrators who were working with all the available statistics did not recognise their own world in his constructions. His powers of persuasion, moreover, were rhetorical: his argument needed space in which to expand. So it came about that he was unable to fill the role of economic adviser to Churchill for which it seemed to him he was naturally cast. 'The Prof' stood between him and direct contact. He could gain influence with Churchill only by drafting papers that in the first place would interest and convince 'the Prof', but these must be based on quantitative evidence, and that was not his line. This personal problem concerned him deeply.

It came to a head in May 1940 when Churchill became Prime Minister. Might not S Branch, hitherto a band of irregulars, now be established as the Prime Minister's Economic General Staff, and might not he himself hold a recognized position as a member of that Staff—presumably as Permanent Secretary—and cease to be the fifth wheel of the coach that he had felt himself to be so far? He has told how he put that to 'the Prof' as they sat in St. James's Park. 'The Prof' told him how he himself meant to gain and use the power to help Churchill, by serving not as a Minister but as a detached scrutineer of the

¹ The correspondence will be found in the volume of documents to appear as Martin Gilbert (ed.), *Winston S. Churchill: The Wilderness Years*.

war effort. Harrod understood, but it was not what he himself had expected and so greatly desired. 'I felt that this was a crucial point and that I ought to persist, although it seemed so paltry and egoistic to do so. Finally "the Prof" became cross. "Things are too serious, I really have not time now to enter into all your personal difficulties." And there the matter rested.'¹

Harrod remained with S Branch. He was employed chiefly as the Branch's outside man, representing it on many inter-departmental committees, but he felt increasingly that he was not doing the kind of work to which he could make a real contribution. He wished to be free to develop his thoughts on post-war policy independently of 'the Prof'. In the spring of 1942 he decided to leave; not without qualms lest, amidst all the concern arising from the advances of Rommel in North Africa and the Japanese in South East Asia, the news of his leaving might bring 'a minute's flicker of displeasure' to Churchill.

V

He fell back on his academic base in Oxford, and became deeply absorbed in plans for post-war reconstruction, especially of international economic relations. It was a disappointment to him that he was not called in by a Department. This he attributed to what he believed was the widespread distrust of 'the Prof's' irregulars in Whitehall, though it seems more likely to have been due to his abilities and his conception of his role having shown themselves unadaptable to the requirements of an economist's employment within the administrative system. But for some time before he left S Branch he had been taking part in committee work on proposals for a Clearing Union, and subjecting Keynes 'to a bombardment of memoranda in favour of co-operation with the Americans, of a world bank, etc'.² He reminded Keynes of a paper that Keynes had given to the Economic Section of the British Association in 1938, recommending buffer stocks of commodities, and Keynes took the proposal up as an adjunct to the Clearing Union. The issue that concerned Harrod most deeply was how to avoid the tragic errors of the 1930s and the mutual frustration of countries that sought—or, they would have said, found themselves forced—to reduce their own deficits by imposing restrictions on imports that increased the deficits of their neighbours. By Article VII of the Mutual Aid Agreement the

¹ Harrod, *The Prof*, p. 227.

² Harrod, *Keynes*, p. 531.

United Kingdom had undertaken to give up protective and discriminatory measures, so far as 'governing economic conditions' would allow, in the course of post-war reconstruction. This posed an acute problem for a country that immediately after the war would face a mountainous deficit in its balance of payments. There were those—notably Hubert Henderson—who held that this made the maintenance of controls and discrimination inevitable. But Harrod's liberalism and expansionism alike were in revulsion against that. He exerted himself through his memoranda to support the American initiative to develop a new international order.

As the discussions that were to lead up to Bretton Woods proceeded, the dilemma of British policy appeared sharply in the question of what provision should be made for adjusting an imbalance. Harrod has described how, travelling in a crowded and dimly lit compartment of a midnight train, he came in a smudged Treasury typescript on the American offer of a 'scarce currency' clause.

As I sat huddled in my corner, I felt an exhilaration such as only comes once or twice in a lifetime. There were the dishevelled soldiers sprawling over one another in sleep; and here was I, tightly pressed into my corner, holding these little flimsy sheets. One had the urge to wake them all up. 'Here, boys, is great news. Here is an offer, which can make things very different for you when the War is over; your lords and masters do not seem to have realised it yet; but they soon will. . . . Here is the real thing, because it will save us from a slump and make all those Beveridge plans lastingly possible.'¹

Before he went to bed he wrote to tell Keynes how vital he felt the clause was. Keynes had supposed that the clause, put in by Harry White, would be scotched by the State Department. He was wrong: it remained, to be accepted by Congress and form part of the statute of the International Monetary Fund.

When Harrod was recalled to Whitehall, to help the Fifth Sea Lord prepare a brief on the Fleet Air Arm, his work in the Admiralty twice took him on missions to the United States concerned with the allocation of naval aircraft under Lend-Lease. This gave him the opportunity to pursue his dominating interest in international reconstruction by making personal contact with Harry White, Adolph Berle, Dean Acheson, and Eddie Bernstein.

That interest also carried him into domestic politics. Harcourt

¹ Harrod, *Keynes* (1951), p. 545.

Johnstone, then Secretary to the Department of Overseas Trade, asked him to advise the Liberal Party on post-war planning, and at Johnstone's suggestion he wrote *A Liberal Plan for Peace*.¹ It was also at Johnstone's suggestion that he stood in the General Election of 1945. His purpose was to awaken public opinion to the great opportunity afforded to this country, if only it would realize and seize it, by American magnanimity and constructive imagination: his whole campaign was centred upon Article VII. He had to oppose the Conservatives (or in his constituency of Huddersfield the National Liberal who was the equivalent) because they showed signs of reverting to protectionism; but this without the least criticism, overt or implied, of his friend Churchill. His campaign must have been strangely removed from the expectations of most of the voters, but he was also Beveridge's candidate, and a substantial minority—nearly one in six—voted for him.²

At the end of that year he wrote the pamphlet *A Page of British Folly*, in which with a rhetoric that still carried the ring of the Huddersfield hustings he attacked the blindness of those in high places who could not or would not see that our vital interests depended on our seizing with both hands the offer that the Americans were making of a new international order. His indignation was needless. It is possible that in 1941–2 he had had some influence on and through 'the Prof' in securing the willing acceptance of Article VII and countering the notion that this was a concession that had been wrested from our weakness. But his sense that the opportunity of Anglo-American collaboration was being allowed to go by default in 1944–5 can only show how little aware he was of all that was being done at that time, notably through the Economic Section of the Cabinet Office, towards the formation of the IMF and what later became the GATT.

Meanwhile he had prepared evidence to two Royal Commissions. He regarded that on Population as being charged with the responsibility of facing a national menace of the utmost gravity: when people grasped this they would demand action of commensurate scale and vigour. Accordingly he took up a proposal he had put before the Manchester Statistical Society in 1939, by which those with no children or few should contribute to a fund out of which benefits should be paid to

¹ Anonymous (Gollancz, London, 1944).

² The result was Mallalieu, Lt. J. P. W. (Lab.), 33,362; Mabane, W. L. (Lib. Nat.), 24,496; Harrod, R. F. (Lib.), 11,119.

those with more than two children, but a separate fund should be maintained at each income level, so that the benefits could be proportionate to the income of the parents, without the higher incomes drawing on the contributions of the lower. This idea he now developed in a scheme of great detail, ingenuity and impracticability. When he gave oral evidence it was mauled by Hubert Henderson as Chairman of the Commission: he came back with numerous Appendices intended to make good the demonstrated defects.

The basic concern of the second Commission, that on Equal Pay, he regarded as essentially the same. For though he began his memorandum with an economist's explanation, along Edgeworth's lines, of how market forces could assign lower pay to women than to men within the same category of capability, he went on to argue that unequal pay was one of those arrangements that, however they came about, persist only because they serve social ends—if they did not they would be changed, whatever the market forces making for them. The social ends served by unequal pay were the support of the 'breadwinner', and the withholding from able women of attractive alternatives to the way of life of the housewife and mother. He proceeded to recommend a variant of the plan he had put to the Population Commission. Men and women should continue to be paid at present rates, 'but childless men should only receive pay at the female rates, the difference between what the employers pay out and what the childless men receive going into an Insurance Fund'. When a man 'had his first child, he would be stepped up to the full male rate. If he had more than two children he would draw handsome endowments from the Insurance Fund.'¹

VI

That he was not called to fill the Drummond Chair of Political Economy in his own University of Oxford when it became vacant in 1945 was a disappointment to Harrod: the more painful, because Sir Hubert Henderson, the choice of the Electors as the new Professor, was directly antithetic to himself in his approach both to economic theory and to current economic policy. With his prevailing magnanimity Harrod was to pay tribute to Henderson's contribution to economics

¹ Appendix IX to Minutes of Evidence taken before the Royal Commission on Equal Pay (HMSO, London, 1946). 2. Memorandum submitted by Mr R. F. Harrod, para. 67.

in Oxford before the War, especially in the formation of the Economists' Research Group,¹ yet he could not but be conscious of Henderson's outspoken disregard for the kind of theory represented by his own *Trade Cycle*, while Henderson's advocacy of restrictions and bilateralism ran full tilt against what he felt to be the supreme need of the hour for our wholehearted acceptance of the practical implications of Article VII. But it was not his way to grieve long, still less to lose heart, and he was happy to be able to stay in his beloved college of Christ Church. In 1952 he became Nuffield Reader in International Economics, an appointment he held until his retirement in 1967 together with his Studentship at Christ Church.

From 1945 to 1961 he was joint editor with Austin Robinson of the *Economic Journal*, he himself being responsible for the articles. He conceived of the scope of the Journal in the manner of Keynes from whom he took the task over: the main interests of the economist seemed naturally to lie in the great contemporary issues of national and international policy, and in the applications of economic analysis to them. If he had a bias, it was against the inclusion of studies of structure and institutions, or of industrial economics, which did not seem to raise issues of sufficient magnitude or apply theory of sufficient luminosity. But he was no less averse to the development of procedures, models and theorems, however imposing, that had no bearing on policy. He took great pains with papers that he thought could be improved to bring them into publishable shape. He used his ability to write long letters rapidly in his own hand in order to correspond with their authors; likewise to keep in touch with Austin Robinson, through the sixteen years of their harmonious partnership. Like Keynes, he enjoyed going into detail and taking trouble over particulars.

When he had come back to academic studies after the war, it was to take up his work on dynamic economics, first published in his 'Essay' of 1939. The lectures that appeared as *Towards a Dynamic Economics* (1948) provided a discourse extended around the Fundamental Equation connecting the rate of growth, the propensity to save, and the marginal capital coefficient, together with a fresh discussion of the supply of savings and the determination of the rate of interest. This second part is full of original hypotheses and penetrating argument. Criticism of the dynamic theory proper indicated that it was not capable

¹ 'Sir Hubert Henderson, 1890-1952', *Oxford Economic Papers*, NS 5, suppl. (June 1953), pp. 59-64.

of great analytical development or practical application.¹ It obtained its simplicity by burking the index-number problem and excluding from consideration the possible effect of changes in the rate of interest on the capital coefficient. It defined no equilibrium path of growth, in the sense of a path from which deviations would be checked. It showed that a movement on either side of the 'warranted rate' would be carried further in the same direction, but in itself gave no account of this process or how it would be contained: this was a limitation arising from confining dynamic theory by definition to the study of rates of change, and excluding the dating of variables, that is, the study of lags. However coherent might be a theory built of such rarefied assumptions, one could hardly proceed directly from it to practical policy.

In the event, Harrod's subsequent publications did not mark a substantial development of his initial suggestions.² He proposed a second Fundamental Equation, in which the natural rate of interest appears as equal to the rate of growth of income per head when this is adjusted for the declining marginal utility of income. He offered two suggestions to fill the gap in the original argument, according to the mathematics of which an economy once off the path of warranted growth must simply swing ever further away. One suggestion was that savings would rise and fall with the actual growth rate, so that the warranted rate would rise in the boom and fall in the slump. The other suggestion was that countervailing government action should be brought into the equation, and a desired budget deficit or surplus be comprised with savings. *Towards a Dynamic Economics* was translated into German, Japanese, and Russian, and in part into Hungarian. The relationships it had explored were basic to one type of the theory of economic growth as that was to be much modelled in the next two decades—John Hicks used the term 'Harrod-type Macrodynamics' as the title of a chapter concerned with 'the working of an economy, in which all investment is induced investment. . . . It is a model

¹ Joan Robinson, 'Mr. Harrod's dynamics,' *Economic Journal*, 59 (March 1949), pp. 68–85. J. R. Hicks, 'Mr. Harrod's dynamic theory,' *Economica*, 16, (May 1949), pp. 106–21.

² The main publications were: 'Supplement on Dynamic Theory' in *Economic Essays* (1952), pp. 278–90. 'Second essay in dynamic theory,' *Economic Journal* 70 (June 1960), pp. 277–93. 'The "neutrality" of improvements,' *Economic Journal* 71 (June 1961), pp. 300–4. 'Themes in dynamic theory,' *Economic Journal* 73 (September 1963), pp. 401–21. *Economic Dynamics* (1973).

of this kind which I shall call a Harrod-type model.'¹ But in the postwar years Harrod did not put forth original work in economic theory to be compared with his outstanding achievement in the 1930s. His main interest now lay in current policy.

He himself would have felt that this judgement on his postwar years was warped, because it left out of account the way in which his whole approach to those problems of policy had been transformed by his breakthrough into a dynamic way of thought. He laid stress on this. He felt it gave him special insights and set him apart from those who were still imprisoned in static concepts: it gave him confidence to persist in his advice when it was contrary to the general view. But it does not appear that he made any close application of a particular apparatus. What was required, he said, was 'that current events should be reviewed against some presupposed "normal" rates of increase'; and that 'one must establish . . . what the current phase of the trade cycle is'.² These practices were surely not unusual, nor did they presuppose the availability of a particular analytic framework. In his last major work, *Economic Dynamics* (1973), he adhered to his concepts of the actual, natural, and warranted rates of growth, and discussed a tabulation of seven cases in which they stood in various relations one to another; yet the incisive arguments that the work brings to bear on many current problems seem to owe nothing to this formulation, but to proceed directly from the reflections on the contemporary scene of a mature and independent mind.

VII

Maynard Keynes's brother Geoffrey had been so impressed by the obituary notice of Maynard that Harrod had composed for *The Times*, that he entrusted him with the writing of Maynard's life. It was a task for which he was exceptionally qualified. He had been Keynes's pupil in Cambridge, and seen him at work as tutor and lecturer there. He had worked on the proofs of both the *Treatise* and the *General Theory*. Latterly, albeit as a freelance, he had played some part in the Anglo-American affairs that had been the main concern of Keynes's last years.

¹ J. R. Hicks, *Capital and Growth* (1965), p. 114. In a footnote attached to the last quoted sentence, Hicks said 'I use this expression . . . so as to allow myself the liberty of neglecting qualifications, very properly introduced by Harrod (and by Domar) in their relevant writings, but which for my present purpose, do not signify.'

² *Topical Comment: Essays in Dynamic Economics Applied* (1961), p. 2.

But his affinity for Keynes was not only that of an economist. His own predilection for philosophy had antedated his interest in economics, as had Keynes's. His liking for conversation and the company of sociable and witty young men—he had his own continuing contacts with Bloomsbury—gave him an understanding of Keynes's friendships, and the ability to depict the atmosphere of that remarkable ambience. He brought to his task, moreover, an extraordinary power of concentration, of rapid assimilation and selection of materials, and of unflagging writing supplemented by dictation.

The biography that appeared in 1951 is a highly individual work of genius. Harrod was not capable of standing back from his subject, for he had known Keynes as his master; yet for all the ardour with which he set about his task, his draughtsmanship remained scrupulous. Having personal knowledge of many of the scenes and transactions that it fell to him to describe, he naturally wrote in the first person, and the reader is generally conscious of his personal voice. His prevailing lack of self-consciousness allowed him to slip easily into the vein of personal reminiscence and reflection, and sometimes to describe persons more interesting to himself than of direct relevance to the biography; but the effect is to catch the spirit of the times, the mood and mien and manner of a particular group, that was indeed germane to his subject, and to preserve them for later generations. His Boswellian delight in his own participation and presence in some of the affairs he describes, whether in the evolution of economic theory, in society, or in international affairs, still conveys to the reader the excitement of the moment.

In these ways his work remains for all time as an outstanding portrait of a man of extraordinary talents in his own unique milieu.

There is another way in which it has historical perspective. For all the variety of his interests, Keynes had moved in a narrow circle. It had never happened, in school or business or war, that he had had to live and work within one of those mixed communities where men of very different origins, qualities and manners have to reach an accommodation with one another. He believed, Harrod wrote, 'in the supreme value of intellectual leadership, in the wisdom of the chosen few'; 'he never ceased to believe that the well-being of society depended on the strong, clear thinking of the few'. But repeatedly Harrod emphasizes how this view of Keynes's could agree with the facts of political life only in the phase of the development of

British society and the British Empire in which his own early years had fallen. That life would be secure for the intellectuals, and that their influence would be effectual, he called 'the presuppositions of Harvey Road'—the road in Cambridge where Keynes's parents had set up their solid and enlightened late Victorian household. He was at pains to display those presuppositions against their transient setting.

The style of his work is copious and rapid, with the impact and engagement of the spoken rather than of the written word. There is no quest for the exact expression or the apt image: rather, the reader is carried away by the flow of the writer's sheer energy, and the force of his ideas. But in another way this is a highly selective work. The available materials were multitudinous. The effect of those presented—and of the absence of those left out—depends upon the skill of the author in choice and arrangement. This had been a first object of creative concern with him. 'From the very beginning onwards,' he said,¹ 'from my first thoughts about the book long before I put pen to paper, the matter to which I gave greatest attention and lavished greatest care and in which I felt I was, so to speak, drawing on my best powers, was not the ascertainment of facts, not the elucidation of theory, but so arranging matters that each influence or thought or episode should make a sufficient but not excessive impact on the reader's mind.'

Eight years later he made another biographical study of an older man whose intellectual powers he admired intensely and to whom he had been devoted; but *The Prof* was a work of a very different kind. As its subtitle said, it was a personal memoir, and as he wrote his pen glided into passages of autobiography, descriptive especially of his participation in S Branch during the war, and his relations with Churchill. These passages flowed naturally from his having written the book largely from memory, in six weeks of continuous writing during the summer vacation. As he lived through those scenes again, his outgoing and expressive narrative conveyed their tension and fascination. Perceptive and sensitive in the personal relations to which he attached the highest value, and retentive of the nuances of speech and manners, he drew at the same time a lively, memorable portrait of 'the Prof'. He himself felt that to achieve this was in its way a more arduous task than to construct the monumental biography of Keynes: for whereas the nature of Keynes stood out for all to see, 'the Prof' was an

¹ In a letter to the present writer, 8 June 1951.

enigmatic figure, widely misunderstood, by some even hated. 'What I then had the task of doing was to try to convey the true man, his character, his greatness of mind and his integrity.'¹

Meanwhile he had published a major work on philosophy. In his *Foundations of Inductive Logic* he took up the problem he had raised in his paper of 1942 on Memory. Hume had denied that inductive arguments could be given a logical basis, and even that their conclusions could be shown to be rationally warranted: what Harrod now offered was a refutation of Hume. With mingled modesty and confidence he claimed to have solved a problem that had baffled all philosophers hitherto. 'If induction is to be vindicated, it must be vindicated without any prior assumptions about the nature of the universe whatever',² and he set out to show how this could be done. John Stuart Mill, uneasy at assuming the principle of the uniformity of nature, tried to show that this principle could itself be derived from experience; but apparently it could be so derived only by induction that began by assuming it. Harrod followed Mill in holding that an expectation of uniformity is based upon our experience, but set out to escape Mill's circularity by showing how this expectation can be and is formed without our making any prior assumption about the nature of the universe. The solution he proposed rested on 'the principle of experience'. This 'must be taken, as a minimum, to mean that the mere fact that things have been found in experience to be thus and thus gives, in and by itself, a valid reason for holding that they will continue to be thus and thus for the time being'.³ If, then, a person who is moving in time or space along a continuity in which he finds that things continue to be thus and thus, predicts at each successive point of his journey that they will so continue for a short extension of the time or space already covered, he will be right much more often than he is wrong. For 'if we are crossing an expanse, but know not what part of it we have reached, we are unlikely to be on its extreme edges; when we say this is "unlikely" what we mean precisely is that if we always believe that we are on the extreme edge, we shall much more often be wrong than right, and conversely'.⁴ But, said the critics, though this holds of the array of predictions made in the whole course of the traverse of a continuity of experience, what is in question is the likelihood

¹ In his speech to the Economics Sub-faculty at Oxford, 22 July 1967.

² Roy Harrod, *Foundations of Inductive Logic* (1956), p. vi.

³ *Op. cit.*, p. 50.

⁴ *Op. cit.* p. 78.

of being right or wrong in the prediction made at any one point, and the likelihood over the whole array does not help us there—unless it is the old postulate of the uniformity of nature smuggled in under a new appellation.¹ The philosophers were agreed that the *Foundations of Inductive Logic*, for all its ingenuity, and for all the weight and subtlety of its discussion of many logical questions, failed to make its main contention good. But Harrod remained convinced that he *had* made it good, and continued to regard the *Foundations* as the greatest of his achievements, and his claim to immortality. That his ideas were not more widely noticed he attributed to their being essentially mathematical, so that they were not of interest to or understood by the literary philosophers; while as he lacked mathematical training, he could not on the other hand give them the development that would commend them to the mathematical exponents of probability theory.

He contributed a further discussion of inductive argument to the *Proceedings of the Aristotelian Society*.² and later published what he himself described as a caustic attack on J. L. Austin's *Sense and Sensibilia*.³ Austin's method took him back to the ways of his tutor Joseph, which he had hoped had vanished from Oxford. Its major weakness he found in its making the solution of philosophic problems depend on the structure of language, and of the English language in particular. Why not Japanese? 'It is most unfortunate for philosophic studies . . . that the common man has chosen to describe sensory events by means of a transitive verb. . . . The answer to Austin's problem is simply that we sometimes give the words 'see, perceive, etc.' a grammatical object which is intended by the speaker and taken by the listener to be an external object, and sometimes (less frequently) one which is intended to be a sense datum.'

VIII

For some years after the election of 1945 Harrod maintained his purpose of entering politics. In 1946–8 he was a member of the Liberal shadow Cabinet, but he left it because he judged that

¹ See the review by Peter Alexander, *Mind* 68 (Jan. 1959), pp. 108–111; and A. J. Ayer, 'Has Harrod answered Hume?', in W. A. Eltis, M. F. G. Scott, J. N. Wolfe (eds.), *Induction, Growth and Trade* (1970), pp. 20–37.

² 'The general structure of inductive argument', *Proceedings of the Aristotelian Society*, ns 61 (1960–1), pp. 41–56.

³ *Philosophy*, 38 (July 1963), pp. 226–41. This was one of a number of papers on Austin's *Philosophical Papers*, ed. J. O. Urmson and G. J. Warnock (1961).

it was ineffective and that his views were better represented by the post-war Conservatives. He sought unsuccessfully to secure adoption as a Conservative Parliamentary candidate. In the course of time, however, he found himself also parting company from the Conservatives, because they were too prone to deflation at home, and too anxious to accede to the Treaty of Rome on terms restrictive of our ability to import from the Third World.

He had expected after the war that he would be called on to advise the authorities, and their not calling on him caused him deep disappointment. It was perhaps because he had not proved able to make an effective contribution within S Branch that 'the Prof', when he became a member of Churchill's cabinet in 1951, rebuffed him as an economic adviser. But there was a wider obstacle. For all his unmistakable intellectual ascendancy he was also generally recognized as lacking the ability to base recommendations upon practical judgement that is required of an economic adviser, and is found in some people whose theoretical powers are not of his order. He stressed in his *Life of J. M. Keynes* how 'in all his works, whether on domestic unemployment or international monetary institutions, Keynes appears as a man of expedients, full of plans for modifying arrangements in this way or that, in order to produce a better result; but, unlike most men of expedients, he always related his projects closely to the fundamental theory of the subject . . . He believed in planning and contriving. A way could be found . . . He always had a scheme.'¹ Harrod himself was apt to attach to his discussion of current problems 'plans for modifying arrangements' whose sometimes startling impracticability assorted oddly with his authoritative bearing, and discounted the impact of all the wide knowledge and acute reasoning that had been brought to bear in the preceding argument. His three pamphlets of 1946-51 charging the authorities with mismanagement had been felt by those who were bearing the practical responsibilities of economic policy at the time to do less than justice to the complexity of the considerations they had to take into account. Generally it came to be felt that his recommendations were out of touch with the constraints under which the administrators were working. Only when Macmillan was Prime Minister did he feel that his memoranda were receiving sympathetic attention, for Macmillan shared his distrust of the Treasury's reliance on deflation to correct the balance of payments. There was also an occasion when Macmillan

¹ Harrod, *Keynes* (1951), pp. 163, 192.

instructed Alec Cairncross to arrange what he called a joust, to discuss import control—a lunch at which a number of economists of varying outlook were invited to meet Harrod, and the Prime Minister himself sat back and listened with amusement to the debate.

But for the most part Harrod had to advocate policy through the press, and this he did with unflagging energy for more than thirty years. The bibliography in his *Topical Comment* shows that already in 1951–9 he had published 356 articles, through 99 media. The bibliography in his Festschrift adds 160 books, contributions to books, and articles, in 1960–9; and that is not the end.¹ He wrote regularly for the *Financial Times*. He was an excellent journalist—clear, well informed, building his argument up with short sentences, often spicing it by being agin the government. In addition, on the first day of each month, from April 1955 to December 1966, he supplied Phillips and Drew the stockbrokers with a memorandum on the current situation. These memoranda provided a commentary of a straightforward kind on the main indicators of the movement of the British and US economies, with frequent special reference in the early years to Germany. The statistical evidence was not handled with facility. But on issues of banking and finance, international monetary arrangements, or the Federal Reserve System, there was a greater freedom of movement, and a powerful flow of information and ideas. Generally the discussion was editorial in style and content.

Throughout these publications certain themes were sustained with ardour. From the chapter on 'World Monetary Reform' in the first edition of his *International Economics* onwards, Harrod showed himself specially concerned and informed in the problems of international monetary policy. Immediately after the war he censured the Government for its failure to fund the sterling balances and make sterling convertible; it was part and parcel of its mistaken policy that it undertook far too big a programme of domestic investment—'the general maxim should be that if you want to get the foreign balance right, take your eyes off the foreign balance and concentrate on reducing domestic capital outlay; then the

¹ Harrod prepared a supplementary bibliography of articles and letters published in daily and weekly journals, of which copies are held by the Library of Nuffield College, Oxford; the Institute of Economics and Statistics of Oxford University; the Department of Economics of the University of Pennsylvania; and M.F.G. Scott of Nuffield College.

foreign balance will get right of its own'.¹ He was strongly opposed to the devaluation of sterling in 1949, on the ground that it would turn the terms of trade against the United Kingdom. When in 1952–3 he served as economic adviser to the International Monetary Fund he was struck by the fact that the shortage of international reserves would be largely relieved if the commodity value of gold were restored to what it had been in 1939. He consequently advocated a raising of the dollar price of gold, a measure which was politically taboo at first, but which came to be increasingly accepted as salutary in the course of the years during which he continued to advocate it.² He came to believe that gold would provide a more suitably expansive base for international credit than any drawing rights under the costive control of central bankers. In the early days of the movement for European unity he was active in the European League for Economic Co-operation, and served as rapporteur in a number of continental congresses. But after the failure of Maudling's approaches in 1958 he came to doubt whether the United Kingdom would be able to negotiate sufficient modifications of the Treaty of Rome to provide for the growth of world trade, particularly by giving the countries of the Commonwealth and the Third World full access to the developed markets of Europe. By 1962 these misgivings had gone so far that he came out as an anti-marketeer.

But his main theme was that of the potentialities of economic growth, and of the changed approach to economic policy that was imposed by a dynamic system of economic thought. 'His consistent concern', he wrote of himself in some biographical notes, 'was to make the well-informed understand that the new ideas entailed great changes in policy maxims. He liked to think of himself as an apostle of growth economics.' In particular, when the removal of import restrictions in the 1950s was followed, in each phase of rising activity of the British economy, by a rapid increase of imports of manufactures, and a severely passive balance of payments, he was highly critical of the orthodox remedy of restraint on domestic spending, prices, and wages. By the end of the 1950s the priority that he gave to the object of growth led him to advocate an alternative strategy. The domestic economy must be run continuously at a level of effective demand, the only test of whose adequacy was whether

¹ Roy Harrod, *Are These Hardships Necessary?* (Oct. 1947), p. 63.

² See Harry G. Johnson, 'Roy Harrod on the price of gold', in Eltis *et al.* (eds.), *Induction, Growth and Trade* (1970), 266–93.

the full growth potential of the economy was being activated. 'Excess demand is really no more than a nuisance. No production is directly lost by it. Therefore if there is to be an error—one cannot expect the economic policy makers to hit the target of optimum demand precisely—the error should be on the side of over full demand and not on that of under full demand.'¹ The inflationary effects at home should be checked by incomes policy. As for the balance of trade, the lack of incentive to export when the home market is booming should be met by amending the rules of GATT to allow the provision of export incentives by countries in deficit; and we should proceed to what is already permitted under GATT, the imposition of import controls for as long as we were in deficit. Import restrictions would check the growth of manufactures in the less developed countries, but there should be 'large scale bulk purchase contracts for buying their manufactures, running over, say, 5 or 10 years'.² With this approach it followed that even at times when the Treasury was piping all hands to the fiscal and monetary pumps, Harrod was calling for the injection of fresh streams of purchasing power.

In the course of time he found increasing recognition overseas. He had been a member of the UN Sub-Commission on Employment and Economic Stability in 1947–50. Besides his six months with the IMF in 1952–3 he maintained frequent contacts with the United States. He greatly enjoyed international congresses, and was in much demand as a lecturer abroad. In 1966 he was awarded the Bernard Harms Prize of Kiel University. He had a special regard for Japan, which he visited four times—he esteemed the Japanese as 'the greatest nation in the world'.³ When he retired from Oxford he resumed the very happy relationship he had established in 1964 with the University of Pennsylvania, under the affectionate aegis of Professor Sidney Weintraub,⁴ and he spent a term there in each of 1967, 1969, and 1970. When an age limit precluded his return to Philadelphia, in the two following years he visited the University of Maryland, and spent a term at Claremont Graduate School with his devoted friend from IMF days, Professor Randall Hinshaw.⁵

¹ Harrod, *Towards a New Economic Policy* (1967), p. 53.

² *Op. cit.* p. 58.

³ *Economic Essays*, 2nd edn. (1972), p. xii.

⁴ A tribute to Sir Roy Harrod by Sidney Weintraub appeared in the *Journal of Post-Keynesian Economics*, 1 (Fall 1978), pp. 124–5.

⁵ A tribute to Sir Roy Harrod by Randall Hinshaw appeared in the *Journal of International Economics*, 8 (August 1978); pp. 363–72.

Meanwhile at home he had served for thirteen years on the Migration Board of the Commonwealth Relations Office. He was knighted in 1959. He had been elected a Fellow of the British Academy in 1947; in 1962-4 he served as President of the Royal Economic Society. Honorary degrees were conferred on him by the Universities of Aberdeen, Glasgow, and Warwick, as well as by Pennsylvania, Poitiers, and Stockholm. For five years he was a member of the executive committee of the sponsors of the University of East Anglia. An office in which he took especial pride and pleasure was that of Curator of Pictures in his own beloved college of Christ Church. He launched an expedited programme of cleaning, arranged the compilation of a new catalogue, took endless pains to find a suitable artist for a portrait of Anthony Eden, and above all engaged the interest of a benefactor whose largesse made possible the construction of a splendid new gallery. With no less pleasure, and characteristic attention to detail, he served as Curator of the Senior Common Room. He died on 8 March 1978.

IX

So great an activity of such sustained intellectual intensity was made possible only by a great and natural concentration of effort. Harrod's interests were wide and his pleasure in conversation was sustained, but he had no hobbies or chores and felt no need for exercise of any time-consuming and distracting kind. He read with extraordinary rapidity. When he wrote, 'he never blotted out a line'; or he would dictate a script that needed no amendment when his secretary brought it back. His mind was ceaselessly revolving. Whatever he took in hand he gave himself to wholeheartedly: he took endless pains with it. Especially was this true of his efforts to help his friends, not least those—like a colleague at the IMF forced out by McCarthy—whom he felt the world had wronged. The passionate indictment of intolerance that he had entered in the ledger of his House continued to animate his magnanimous liberalism. His loyalty to his friends never wavered even when their misfortunes were of their own making: he exerted himself strenuously to help them. In overlooking the faults of others, as in transcending slights inflicted on himself, he was the most generous of souls.

The combination of gifts that could produce both his works in economic theory and philosophy, and his biographies of Keynes and 'the Prof', is extraordinary. Perhaps it could be

said that those gifts, and the formation they received in the first quarter of our century, were not altogether well matched with the turn that economic affairs and the analysis and administration of them were to take in the ensuing years. As one views the theoretical power and literary craftsmanship of Roy Harrod, one is reminded rather of the age of Adam Smith and Hume. His intellect was of a stature to stand with theirs.

HENRY PHELPS BROWN