



CHARLES CARTER

Charles Frederick Carter, 1919–2002

CHARLES CARTER was born on 15 August 1919. His father, Frederick William Carter, was a distinguished electrical engineer who became an FRS; his mother, Edith Mildred Cramp, was an active member of the Society of Friends. Perhaps his father passed on a mathematical ability and a skill in solving practical problems. From his mother's influence, he was a Quaker, and his continued devotion to the Society had a major influence on his life.

As a day boy at Rugby School he acquired a competence in mathematics sufficient for direct admission to Part II of the Maths Tripos at Cambridge in 1938. When he completed Part II in 1940 with First Class Honours he had not been long enough in residence to qualify for a degree.

He registered as a conscientious objector and sought exemption without conditions from military service. That was not granted and he spent three months in Strangeways Prison. He then worked with the Friends Relief Service until he returned to Cambridge in 1943. Charles met Janet Shea in the spring of 1943. Though not then a Quaker, she was working with the Friends Relief Service. They were engaged shortly before she lost a leg after a collision with a Fire Service lorry. In her collection of essays *Conversations with Myself* (2001), Janet wrote that careful thinking had made Charles decide that he should return to Cambridge for another three terms to complete his degree course so that he would be better equipped to take care of a handicapped wife.

He enrolled in Part II of the Economics Tripos in 1943, and at the end of the academic year was awarded a First in Economics and a Distinction

in Statistics. He was informed at the time that it was his outstanding performance in Statistics that got him his First. Charles and Janet were married during the Christmas vacation of his last year. They were a devoted couple for fifty years, loving parents of three children, and both matter of factly engaged in good works.

Carter's supervisor at St John's was Guillebaud, Alfred Marshall's nephew, and of course he was expected to study Marshall's *Principles*. Carter responded creatively to Marshall's analytical rigour and to his insistence that economic laws and reasonings were 'merely part of the material which Conscience and Common Sense have to turn to account in solving practical problems, and in laying down rules which may be a guide in life' (eighth edition, p. vi).

The young Carter was not impressed by Keynes's view (*Essays in Biography*, p. 175) that Marshall was too anxious to do good. Over twenty years later, in the Preface to his *Wealth* (Watts, 1968), Carter wrote that it had occurred to him that 'it might assist humility if people could be encouraged to think more exactly not just about the statistical measure of wealth, but the purposes which that wealth serves', and in the last chapter that 'the richer a country becomes, the less need it has to be ruled by economic thinking'.

In 1945 Carter was appointed Lecturer in Statistics at Cambridge, and in 1947 became a Fellow of Emmanuel College. He wrote many papers in his six years at Cambridge on a range of post-war economic problems. His main publications—*The Measurement of Production Movements* (1948, with Reddaway and Stone), papers on 'The New Index of Industrial Production' (London and Cambridge Economic Service, February 1948), 'The Real Product of the UK 1946–50' (LCES, August 1951), and 'Index Numbers of the Real Product of the UK' (*Journal of the Royal Statistical Society*, Vol. 1, 1952)—provided a better foundation for the attempted explanations of the roles of increased capital and labour in economic growth, and that of a rather large residual becoming known as 'technical progress'. Shortly after he left Cambridge, he and Andrew Roy wrote *British Economic Statistics* (1954) which examined the statistics used or available for the formulation of economic policy in the United Kingdom, and suggested significant improvements in the provision of statistics and in their use.

Two notes written during his time at Cambridge are of special interest. Apart from a demonstration 'in mathematical terms' of the relations between marginal and average cost and his 'simple diagrammatic exposition for those who find it easier to think in geometry' in his *Science of*

Wealth (Arnold, 1960), those two notes—on ‘The Dual Currency Problem’ and (with Harry Johnson) ‘Unrequited Imports and the terms of Trade’, in *The Economic Journal* in 1948 and 1950 respectively—were his only explicitly mathematical publications. The first, which he wrote at the request of Professor D. H. Robertson, was, he said, highly unoriginal and a sketchy and unrigorous mathematical treatment; the second was ‘a correction of Professor Pigou’s confusing mathematical argument’. Pigou’s response was that ‘Mr Carter is an expert mathematician and I have no doubt that the workings in the note are correct.’ In his review of Samuelson’s *Foundation of Economic Analysis* (*Economic Journal*, 1950), he wrote that the book lacked the lucidity and sense of unifying principle that one looks for in a work on foundations and that the maths in the volume—often obscure and wrong—would ensure minimum readership by non-mathematicians, and irritate ‘even hardy econometricians’. It is a pity that he did not respond to the challenge of writing a shorter, more lucid version, but his interest in solving pressing economic problems of the moment was too strong. Also like Marshall, and, I suppose, like Keynes, ‘he always felt a slight contempt from the intellectual or aesthetic point of view of the rather “potty” scraps of elementary algebra, geometry and differential calculus which make up mathematical economics’ (Keynes, *Essays in Biography*, p. 157).

The *Economic Journal* of March 1950 published Carter’s review article of Shackle’s *Expectations in Economics*, and of December 1953 his ‘Revised Theory of Expectations’. He approved Shackle’s rejection of the idea that businessmen make decisions on the basis of a mathematical outcome of a particular line of action—one of the besetting sins of economists is ‘to try to make rugged Marshallian entrepreneurs and slick city financiers dance to the dream-music of a mathematician’—but thought the Shackle theory unrealistic in focusing attention on two possible outcomes—a potential gain and a potential loss—and logically flawed in that it is impossible to devise a means of compounding two pure rankings (or one ranking and a numerical index) to make another unique ranking. Carter’s view of realistic postulates was influenced by the analysis of his own processes of thought in reaching decisions on the management of investment funds, first at St John’s and then as Director of the Friends’ Provident Life Office.

In 1952 he became Professor of Applied Economics at Queen’s University Belfast and a year later he was appointed a member of the United Nations Expert Committee on Commodity Trade, and later in that year the UN published its report *Commodity Trade and Development*.

In 1954 he became Chairman of the Science and Industry Committee established following the Belfast meeting of the British Association for the Advancement of Science at which there was concern that Britain's eminence in science was not matched by its performance in the application of science in industry. 'What Britain invents other countries exploit', was a frequent complaint, and Carter and I were entrusted by the Committee to find out why. We soon found that Britain was more eminent in scientific discovery than in the *invention* of new products and processes, and that British firms were not very good at making the transition from inventions to the use of inventions whether British or foreign. Our three volumes, which presented the results of our investigations and our proposals for improvement—*Industry and Technical Progress, Investment in Innovation, Science in Industry, Policy and Progress*—were published by Oxford University Press in 1957, 1958 and 1959. It was fashionable at that time for scientists to assume that more basic research would increase the opportunities for applied research which would increase the opportunities for engineering applications and so on. From our examination of the statistical relationships between scientific research and engineering development, and economic growth, and case studies of innovations—the introduction of new or improved processes and products—we were able to produce a much more realistic model of innovations which involved non-linear interaction between research, capital expenditure criteria, production and marketing. 'The Characteristics of Technically Progressive Firms' (*Journal of Industrial Economics*, March 1969) provided a statistical analysis of the characteristics, and we provided a check list that would enable firms to improve their performance in making innovations and, of special importance in Britain, in fully exploiting them. We also published a critical paper on 'Government Scientific Policy and the Growth of the British Economy' which proposed major changes in government procedures and policy. Carter was later a member of the Ministry of Technology's Advisory Council, though the establishment of that Ministry was not on our list of recommendations, and a member of the Government's Council for Scientific and Industrial Research from 1959–63.

Arising from those investigations, Carter wrote many analytical and policy papers such as 'How Much Research?' (*Federation of British Industries Review*, June 1960), 'Policy for Backward Industries' (*Manchester Statistical Society*, 1960–1), 'The Economic Use of Brains' (*Economic Journal*, 1962), 'The Problem of Scientific Research in Ireland' (*Irish Banking Review*, September 1962), and 'The Distribution of Scientific Effort' (*Minerva*, Winter 1963).

While at Belfast Carter was involved in programmes for economic growth on both sides of the Irish border. The prevailing mood in Northern Ireland did not favour such a light treatment of the border, but his Quaker convictions and detachment from institutional religion, quiet seriousness of purpose and obvious integrity, enabled him to calm local suspicions. After his move to Manchester he became a member of the Republic of Ireland's Capital Investment Advisory Committee (1956) and its Commission of Higher Education (1960–7). Then, as an indication of the acceptance in the North of his open-minded desire to find a solution to the Irish problem (he published with D. P. Barrett, *The Northern Ireland Problem* in 1962), he was from 1977–87 first Chairman of the Northern Ireland Planning Council.

He became Stanley Jevons Professor of Political Economy and Cobden Lecturer at the Victoria University of Manchester in 1959. His *Science of Wealth* (Arnold, 1960) is an elementary text book of economics 'for those whose only acquaintance with economics would be a subsidiary course taken for a single year, and in particular for those students of technology or science who wish to get a general idea of the working of the industrial-business world on which they may depend for a living.' The balance between description and analysis is ideal, and a third edition was published in 1973. His publications while at Manchester from 1959 to 1963 were restricted by his activities as editor of the *Economic Journal* from 1961. His attitude to the role of mathematics, as quoted earlier, certainly influenced his judgement on what should be published in the *Journal*, a judgement not always appreciated by mathematical economists.

While at Manchester he gave oral evidence to the Robbins Committee on Higher Education. In the written 'Proposals for Reform in University Education' (*Manchester School*, September 1963), he and I proposed to recapture some of the virtues of a free market in education by giving students—subject to appropriate tests of competence—a right to a government grant, free of any test of needs, equal to half the fee, and further needs-tested grants and loans, repayable during the first twenty years of working life, equal to the difference between grants and the total costs of fees and maintenance. We proposed also that each university receive separate grants for teaching, research and capital. The research grants would be administered by the Council of the Department of Scientific and Industrial Research, the Medical Research Council, and proposed Research Councils for the Social Sciences and the Humanities.

The proposal to separate teaching and research grants was strongly criticized at the time by many in the universities who maintained that it

failed to comprehend the intimate relations between teaching and research. In 1963 Carter was a member of the Heyworth Committee which recommended the establishment of a Social Science Research Council. In 1971, after his transfer to the new University of Lancaster, he wrote, with G. Brosnan and others, *Patterns and Policies in Higher Education*, and then in 1980 in the first year of his retirement from Lancaster, an excellent book on *Higher Education in the Future*.

In 1962 the University Grants Committee had appointed a Planning Board to establish the University of Lancaster, with Sir Noel Hall, Principal of Brasenose College, Oxford, as Chairman. The Board made its plans for the nature of the University and its buildings on a greenfields site, and then sought a Vice-Chancellor. Charles Carter was the Board's choice. I was a Visiting Professor in Australia at the time, and when I returned Sir Noel gave me an account of Carter's virtues. He added that although an outstanding economist Carter would not become a Fellow of the British Academy. (Hall got that wrong: Carter became a Fellow in 1970 during his time at Lancaster.) As a member of the Planning Board, and a colleague at Manchester, I was asked to persuade him to agree to be Vice-Chancellor. To my surprise persuasion was not needed. I knew of his dissatisfaction with academic governance at Belfast and Manchester, though I did not know of the strength of the Quaker presence in Lancaster and the region. How far that affected his ready acceptance of the position of Vice-Chancellor I did not know. Perhaps it was significant that the colours he chose for the university were red and (quaker) grey.

The speed with which he established the university was remarkable. In 1966 the first buildings on the campus were opened, and in 1968 the students started to move into their new college residences which provided also for teaching rooms and staff, but in the meantime the first 260 students had been admitted in October 1964 in temporary premises in Lancaster little more than a year after he became Vice-Chancellor. The university motto *Patet Omnibus Veritas* fitted his conviction that the door to higher education should become much wider, and the sooner the better.

He soon proved himself to be a superb administrator. When grants for residential buildings were less than expected he borrowed the necessary funds, and had buildings designed suitable for letting to visitors during student vacations. He attracted academic and research staff of high quality, and he was influential in providing for more student choice of the nature of their degree studies than was the case at Belfast and Manchester and similar universities.

He had a strong belief in the good sense of students if given responsibility, and he provided for formal student participation in university affairs. He was greatly disappointed when in the early seventies revolting students brought the university to a stop. To the surprise of many he promptly called the police and introduced a code of discipline.

He overcame rather dismissive views of teacher training colleges held at that time by many university staff, arranged for cooperative measures with teachers' colleges in the region, and made provision for the admission of students whose 'learning from experience' had prepared them for a university education. (He was later Chairman of the Learning from Experience Trust.)

His skill in assessing the teaching and research qualities of potential members of staff, and his encouragement of research activities led to a rapid growth of the university's rated performance in research. In the UGC's research rankings, Lancaster was ranked 16 out of 55 by 1989, and 14 in 1992.

He was so disciplined, and dealt with analytical, administrative and drafting problems so quickly, that he was able to maintain a great range of other activities. His *Wealth* (Watts) was published in 1968 to draw attention to the failure of the economists to relate their analyses of economic growth to a 'clear ultimate purpose'. After outlining economists' accounts of the factors in economic growth, he then analysed the relations between wealth and individual happiness and between wealth and the quality of civilisation. It should be a text in all courses in economics and politics. He edited the *Economic Journal* until 1970 and then became Secretary General of the Royal Economic Society. He continued to be a Director of the Friends Provident Life Office and remained on the Commission on Higher Education of the Republic of Ireland until 1967. His new activities included the Northwest Economic Planning Council (1965–8), chairing the Post Office Review Committee (1976–7) which showed how telecommunications could be detached from postal services and led to the creation of BT, and chairing the new Northern Ireland Economic Planning Council (1977–87). He was knighted in 1978 for public services. From 1966 he was a member of the Joseph Rowntree Memorial Trust, and from 1969 a member of the Sir Halley Stewart Trust. His Swarthmore Lecture of the Society of Friends was entitled *On Having a Sense of All Conditions* (1971). He gave many other lectures including 'Problems of Economic Growth' (published in *Essays in Modern Economic Development*, ed. R. L. Smyth, 1969), an evening lecture at the British Association meeting in Aberdeen in 1963, in which he gave his

estimate of £100,000 million as Keynes's contribution to economic growth.

Carter retired from the University of Lancaster in 1979 at the age of sixty, after an outstanding performance as Vice-Chancellor. He was able to give greater attention to the Northern Ireland Planning Council, to the Joseph Rowntree Memorial Trust (where he was involved in quiet initiatives to find a solution to the Northern Ireland conflicts, and later in a project on relations between central and local governments), and to the Sir Halley Stewart Trust, of which he was Chairman from 1986–97.

He had been Chairman of the Centre for Social Policies, which in 1978 was amalgamated with Political and Economic Planning to form the Policy Studies Institute. He became Chairman of the Research Committee of PSI and Editor of *Policy Studies* to which he contributed a range of papers on 'the state of the nation'. In 1971 he edited *Industrial Policy and Innovation* and contributed a chapter on 'Reasons for not innovating'. The Technical Change Centre publication *Knowns and Unknowns in Technical Change* (1985) included his paper on 'Innovation and Public Attitudes' in which he suggested amendments to the Carter and Williams conclusions in the years 1957–9. These were to put greater emphasis on the quality of education available to an elite of high-flyers, and the complications of government interventions. In 1989, his Presidential Address at the Annual Conference of the British Association for the Advancement of Science was also on the complexities of innovation. That he was also President in 1990 and Joint President from 1991–7 was an indication of his capacity to conduct orderly committee discussions and to formulate proposals that resulted in agreed decisions without great waste of time. In committees he was at his best as chairman. When a meeting was badly chaired he could get irritable and become tactless in discussion.

At PSI he initiated a proposal for what proved to be an excellent publication on *Britain in 2010* and he contributed working papers on macro and production issues and changes in consumption patterns. In a paper read to the Manchester Statistical Society in 1989, he looked further into the future—to 2015.

At the Rowntree Memorial Trust and the Halley Stewart Trust he was able to further his belief that wealth should be put to the service of those in greatest need, and he was disappointed that even Labour governments were so reluctant to introduce ethical taxation policies. In 1980 he had given the Eileen Younghusband Lecture on 'Personal Social Services in an Unsuccessful Economy', and in 1990 wrote a chapter on 'Constraints' in *The State and Social Welfare*, by Thomas and Dorothy Wilson

(Longmans, 1991). At the Joseph Rowntree Foundation he chaired a committee that explored relations between central and local government, and that led to the publication (also in 1991) of *Members one of Another: The Problems of Corporate Actions*.

Given his great range of activities it was not surprising that some people regarded him as formidable, even unapproachable. That he was rather shy and had a life purpose that made him guard against wastes of time explain that reputation, which was undeserved. He was very approachable and caring with his students and (most of) his colleagues. He had an impish sense of humour, and never thrust his austere religious views on others. I worked with him for some time before I realised that he was a Quaker—I had brothers who were ‘conscientious objectors’ but not Quakers. I enjoyed his company, and we remained close friends after he went to Lancaster as Vice-Chancellor and I to Sydney.

After he retired from the University of Lancaster he moved to Seascale in Cumbria. There he cultivated his garden—for part of his time—and a first-rate gardener he proved to be. Cumbria was a long way from London, but he could work on trains and enjoyed travelling in them and consulting Bradshaw, though his memory was such that he rarely needed to do so. He died on 22 June 2002. Charles Carter maintained his presence among the Whitehaven Quakers, and was for several years their Treasurer. He was ‘born into the Society of Friends’ and never strayed from it, and its opposition to war and active concern for the underprivileged. His *Wealth* ended with a quotation from William Penn: ‘So absurd a thing is man, after all his proud pretences to wit and understanding’, and he preceded that with his affirmation that what he considered ‘essential is the belief in self-fulfilment, and its advance to a higher level of achievement, through co-operation with or in union with a greater universal purpose. Those who cannot accept this belief will, I think, find it hardest to suggest a way in which we can avoid being mastered by our own affluence.’

BRUCE WILLIAMS

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