

The world improvement plans of Fritz Schumacher

[AQ1] John Toye*

This article approaches the centenary of the birth of E. F. ('Fritz') Schumacher with a contemporary question in mind. How do academic economists create an impact with their work and how can that be increased? It examines, in the case of Schumacher, various sources that could influence the impact that an economist makes. They include family background, education, professional formation, moral values, the underlying vision, the practical proposals put forward, contacts and networking, and the institutions built to ensure an intellectual legacy. Schumacher's career was that of a late developer—his many early failures being followed by the spectacular success of *Small is Beautiful* (1973). The two-stage pattern testifies to the importance of individual characteristics in making an impact and these many not be amenable to institutional policies.

Key words: E. F. Schumacher, Intermediate technology, Research impact, Sustainable development

JEL classifications: B3, F1, O1

1. Introduction

This year, 2011, marked the centenary of the birth of Ernst Friedrich ('Fritz') Schumacher, who is best known for his book *Small is Beautiful: A Study of Economics as if People Mattered*, published in 1973. The book was not a new creation, but a compilation of old lectures and articles, loosely pulled together. Its title, which David Worswick (2004) rightly called inspired, was in fact the choice of the publisher, Anthony Blond. Schumacher had proposed the much less arresting title of *The Homecomers*, which entirely lacked the stirring echoes of Mao's little red book, so popular at that time—not least with Fritz.¹ The title *Small is Beautiful* put that right, but it also clouded his message. Schumacher never advocated smallness of scale for its own sake (1973, p. 166). His concern was that the units of organisation of economic life should be of an appropriate size, meaning on a scale suitable for the human beings who worked in them, and that the technology in use should be affordable by individual workers. His central message was the need for mass access to

Manuscript received 17 March 2011; final version received 18 October 2011.

*The author wishes to thank George McRobie and Frances Stewart for valuable discussions about intermediate technology and Barbara Ingham for her comments on an earlier version of this paper.

¹ See his positive comments about Chinese education under Mao's regime in 1966 (pp. 9–11). The little red book was *The Thoughts of Chairman Mao*, which included such gems as 'a pig is a fertiliser factory' and 'let us walk on two legs'.

economic opportunity in a human-friendly form. Despite these ironies, *Small is Beautiful* sold over 700,000 copies worldwide, in at least 15 different languages (Binns, 2006, p. 218).

I reflect on Schumacher's centenary with a particular contemporary concern in mind. Much current discussion is focused on the impact of social science and the related questions of how to measure its impact and how to increase it. From this perspective, Schumacher's career presents a curious paradox. It was a game of two halves. During the first half, despite a good intuitive grasp of economics and professional connections with Keynes and Beveridge, he made little impact. During the second half, after he turned to religion (or, more precisely, to religions) and became a fierce critic of the economics he saw being practised, his ideas were given an enthusiastic welcome, starting in the USA but spreading virtually all over the globe.

In this paper I examine in turn a variety of different factors that could have contributed to his two-stage career's sharply differentiated impact. To analyse the sources of the impact made by an academic career, one may begin by breaking them down into the following eight categories.

1. Family background and family connections.
2. Education, training and early professional influences.
3. The subject's personality and ways of relating to others.
4. The moral values that inform the person's intellectual work.
5. The vision that the person creates to inspire others.
6. The practicality of the policy proposals arising from the vision.
7. The effort put into the dissemination of the work and associated networking skills.
8. The organisations that are created to perpetuate the person's ideas and proposals.

In successive sections I examine each of these factors as they relate to Schumacher's career. The penultimate section elaborates on the two contrasting phases of Schumacher's impact: an early period of failure, followed by a brief period of global success. The concluding section offers an explanation of this differentiated trajectory.

2. Family background and connections

Schumacher was born on 16 August 1911 in Bonn, the third child of Professor Hermann Schumacher, aged 43, and his wife Edith Zitelmann, aged 25. Hermann Schumacher was already established among the academic elite of pre-1914 Germany. He had been appointed to a chair in economics at Kiel University in 1899, unusually without having taken his doctorate, and spent a year at Columbia University as the Kaiser Wilhelm Exchange Professor before moving on to Bonn University in 1907. There he married the professor of law's youngest daughter, whom he discovered afterwards to be a talented mathematician.

Hermann Schumacher was recognised as an excellent teacher and was appointed as a tutor to the Crown Prince of Germany and his brothers. With the coming of World War I, Hermann was invited to advise on problems of wartime economic policy, especially that of maintaining food supplies for the civilian population. In 1917 he reached the pinnacle of his career, a chair of economics at Berlin University. After the German defeat of 1918 he advised the Weimar government on the problem of the 1923 hyperinflation, but he never recovered the eminence he had achieved in the final years of Wilhelmine Germany.

As for many prosperous professional middle class families in Germany, the Schumachers found that the war and its aftermath had undermined their standard of living. Like others, they suffered from the general shortages of food and clothing, and had to take paying lodgers into their fine suburban house that looked out over Berlin. Although Fritz was still a child during these events, he could hardly have been unaware that some mysterious misfortune had occurred to his family and to his country.

3. Education, training and early professional influences

At the Arndt Gymnasium in Berlin, Fritz was already driven by a strong sense of his own intellectual superiority. Like his mother he was good at mathematics, but this meant that he was told to keep quiet while others were taught. Bored and frustrated, he amused himself at the expense of his teachers and felt liberated when he matriculated at the age of 17. Returning to his birthplace, he signed up for courses of lectures in economics and law at Bonn University. Like the young Hans Singer who arrived at the same time, he reacted with enthusiasm to the teaching of Joseph Schumpeter. 'He doesn't parade a dry scholarliness but an incredibly lively knowledge' was Fritz's comment (Wood, 1984, pp. 14–15). When Schumpeter left Bonn on a lecture tour, Hermann advised his son to undertake a period of study abroad. Fritz went to the UK (of which he rapidly formed a very bad impression) and to the LSE, where he found Harold Laski to be the most attractive lecturer, although [AQ3] offering 'nothing but [socialist] propaganda' (ibid., p. 19).

After having returned to Germany and been offered a Rhodes Scholarship there, Fritz went up to New College, Oxford in October 1930 and decided to work towards a BLitt. Oxford reminded him of school, but after an irksome year studying to pass the qualifying examination, he embarked on a thesis on international finance and economic conditions in post-war Europe, a topic suggested by the work of both Schumpeter and Keynes. He took the opportunity to gain practical experience of banking with Warburgs. He then persuaded the Rhodes Committee that he needed a third year to be spent at Columbia University (his father's American alma mater) to study the New York money market.

At Columbia he felt much more at ease than at Oxford and formed a good relationship with H. Parker Willis, the professor of banking. In April 1933, Parker Willis invited him to become a lecturer at the Columbia School of Banking for the following academic year. During that year he had a sudden moment of clarity about the nature of economics. According to his daughter, 'there was a precise moment when, sitting in the library of Columbia University, all the pieces of information dropped into place and he suddenly realized that economics was simple'. As he liked to express it, economics 'could be written on the back of an envelope' (ibid., pp. 51–3).

At the request of Parker Willis, he contributed to a book about inflation. In his chapter, Schumacher discusses the use of inflation as a device to generate forced savings for investment. Working with Böhm-Bawerk's theory of the 'roundaboutness' of capital, he concluded that 'inflation in the form of producers' credits, i.e. forced saving, is a very powerful agent for the accumulation of capital, and that means, for the development of the economy' (Schumacher, 1935, p. 411). He disputed Hayek's contention that the capital so created would be destroyed after the forced expansion had taken place. It was a confident performance, drawing on the latest German economic literature, but it was wholly theoretical.

Alarmed by Hitler's rise to power, Fritz returned to Berlin in April 1934. Hermann Schumacher, now retired and out of favour, did his best to restart his son's academic career

by getting him a Rockefeller Foundation grant to research the world market for iron and steel. The work had to be done under Hermann's supervision, however, and father and son could not cooperate. Instead, Fritz spent much of his time perfecting his first 'world
 125 improvement plan'. This was a plan to reduce unemployment by a government labour subsidy, to be funded by a turnover tax falling most heavily on the firms that employed the most labour-saving machinery. Hermann instantly dismissed this plan as worthless.

Fritz then engaged himself in various business ventures, in the course of which he moved
 130 back to the UK in 1937. His business ventures began to fail as World War II broke out and investors shied away. Schumacher was given a home and employment as a farm labourer on Lord Brand's estate in Eydon, Northamptonshire. Like Hans Singer and other German refugees from Hitler, Fritz was interned in 1940 for several months. While interned he met Frank Burchardt, Director of the Oxford Institute of Statistics, who in March 1942 offered Fritz a job there. Though he had little respect for his colleagues at the Institute of Statistics,
 135 he stayed on until the end of the war. He then became a British subject and spent the years 1945–9 as a Colonel with the Allied Control Commission in Germany.

He returned to settle permanently in Surrey and this final move proved to be the most
 important milestone in his life and career. Hugh Gaitskell recommended him to become
 140 the Economic Adviser to the National Coal Board, a post that he held from 1950 until his retirement in 1971. In 1963 he also became its Director of Statistics and in 1967 its Chief of Planning. It was during these years that he slowly transformed himself from an applied economist into a guru of development.

4. Personality and ways of relating to others

The friends and companions of his youth remarked on Fritz's strong conviction of the
 145 validity of his own values, but also recognised the relevance of his values to the problems of Germany in the Hitler era. That self-absorption and self-assurance carried with it a certain air of dogmatism in his pronouncements and impatience with the views of others. Still less pleasing, he seemed to need to dominate social gatherings by putting others down. His early friends saw him as a leader, but one with a distinctly overbearing style.

Beneath the strong surface he must have felt much anxiety and insecurity, which
 150 manifested itself in attacks of boils, asthma and other forms of debilitating ill health, such as the enervation that afflicted him during his first year as a student in Oxford. He found himself caught between his desire to be a patriotic German and to press Germany's case against the harsh provisions of the Versailles Treaty and his fear of a resurgent German
 155 militarism that the Treaty had tried unsuccessfully to prevent. This conflict and subsequent family-related ones over his prewar emigration and postwar return to Germany in the victors' wake absorbed much of his emotional energy for the first 40 years of his life.

He recognised the restlessness of his own mind, constantly engaged on internal and
 external struggles over serious moral questions. He saw himself as engaged on a prolonged
 160 quest for truth. It began with the need to master the logic and facts of economics. His experience was, however, that these intellectual weapons for the most part failed to persuade. This was clear not only from the nightmarish success of the Nazi regime in taking over Germany, but also from the failure of his own 'world improvement plans'.

Once the war was over and he was safely installed at the National Coal Board, his
 165 personal quest for truth led him much further afield into religion, mysticism, astrology and parapsychology. He would discover whole new areas of thought, be convinced of new truths, become their enthusiastic propagator, be frustrated when others were not

convinced in turn and then move on to intellectual pastures even further afield. Over one weekend that he spent with Nicholas Kaldor, he enthused so much about his new interest in flying saucers that Kaldor became convinced that he had been the victim of an elaborate practical joke (Wood, 1984, pp. 230–1).

Fritz by no means lacked a sense of humour, but his awareness of how he affected others was partial. Active and energetic, he was driven forward by the sense that ‘life is real, life is earnest’ and that sense of vital intellectual exploration was his justification for his undoubted egotism. In his two marriages, his independence of action tended to rely on his wives’ emotional dependency. Despite his good looks and ability to charm, this made him a difficult man to be married to. However, as the years went on, his personal style mellowed, and he became noted for his gentle manner and a greater willingness to confront his own weaknesses.

180 5. Moral values

During the first 40 years of his life, Schumacher was utterly intolerant of religion and even succeeded in undermining the pious Christian beliefs of his first wife, Anna Maria (Muschi), whom he had married in 1936. Originally, his was the scepticism of the intelligent liberal who found the doctrines of the Christian Church simply not credible. During his period of internment he became a convinced Marxist and went through a short phase of fiercely militant atheism. This softened as he came under the influence of the late Victorian humanitarianism and conscience politics of William Beveridge.

The about turn gathered real strength only after 1950, when he became interested in Buddhism. He began to practise yoga and meditation as a personal discipline. When the government of Burma invited him as a visiting adviser on economic development, he was keen to accept and went on the mission in 1955.² His advice was that economic development should take place within the cultural context of the country, which was Buddhism. Therefore, rather than pressing ahead with Western-inspired schemes, Burma would do better following the Gandhian route of being satisfied with simple consumption goods and local, village-based production.

Gandhi’s doctrine of ‘ahimsa’ or non-violence seemed relevant to his work at the National Coal Board. He realised that, were energy use to continue to grow at its postwar rate, it would require either the expansion of nuclear generation, with all its attendant problems, or the rapid depletion of non-renewable fossil fuels such as oil. Such growth, on which the current model of capitalism seemed to depend absolutely, was unsustainable, he concluded, apart from doing violence to the natural environment.

In *Small is Beautiful* (1973), the references to God—and Beelzebub—were much more frequent than was at all normal in books on development economics in the 1970s. Schumacher asserted that ‘we still have to learn to live peacefully . . . with those Higher Powers which have made nature and have made [humankind]’ (1973, p. 18). In 1971 he followed his second wife (Vereni) and daughter into the communion of the Roman Catholic Church, the culmination of a long period of interest in Catholic theology and philosophy. Thus, although *Small is Beautiful* has a chapter on Buddhist economics, he now declared that the choice of Buddhism had no special significance. ‘The teachings of Christianity, Islam, or Judaism could have been used just as those of any other of the great Eastern traditions’ (1973, p. 47). His final religious position was thus akin to that of

² Dudley Seers had visited Burma as an economic adviser in 1951 and produced his own report.

Unitarian Universalists, i.e. rooted in Christianity but infused with the wisdom of other great religious traditions.

Schumacher's Christian roots were Thomist, i.e. Christianity as modified by the absorption of classical Greek philosophy. He quoted St Thomas Aquinas approvingly, as he did the Catholic Popes who derived their social teachings from Aquinas (1973, pp. 32, 99–100). He supplemented Thomism with the economic ideas of Gandhi—or what Indians know as 'khadi economics'. Schumacher believed that 'the classical-Christian culture . . . supplied man with a very complete and astonishingly coherent interpretation . . . of man, the universe and man's place in the universe' (1973, p. 76). Its coherence, however, had been shattered and fragmented, and neither modern science nor the modern humanities would be able to provide a substitute.

His basic complaint was that although scientific knowledge was useful in practical ways, it could not produce the moral values needed to control its own activities, so it must be subordinate in any educational curriculum to philosophy and literature.³ He appealed not for a return to the metaphysics and ethics of the past, but to a metaphysics and ethics that was appropriate to the problems of the day. The metaphysics, epistemology and moral philosophy that are the foundation of his post-1950 thinking he finally expounded in *A Guide for the Perplexed* (1977).

That book is a concise statement of refurbished Thomist ideas of the Great Chain of Being and the methods of cognition appropriate to each level of being, but it is not Christian in any exclusive sense. It is presented as the traditional wisdom of many religions or even of all religion, drawing on Buddhism, Taoism and reformed Hinduism and others for corroboration. The main implication for his vision is epistemological—the limits to what can be understood about economics using only quantitative methods modelled on the natural sciences.

Schumacher identifies Vilifredo Pareto as a key advocate of pressing all sciences (including economics) into the mould of physics. He concedes that 'a certain kind of "progress" is obtained; a kind of knowledge is accumulated which, however, more likely than not becomes a barrier to understanding and even a curse from which it is hard to escape' (1977, p. 117).

How does the curse of this kind of economic thinking operate? 'If economic thinking pervades the whole of society, even simple non-economic values like beauty, health or cleanliness can survive only if they prove to be "economic"' (1973, p. 41). Earlier he had relied on the methods of social accounting (no date, probably 1945; 1945C, pp. 25, 42). Now he argued that social cost/benefit analysis, by which utilitarian economists balance quantifiable and non-quantifiable costs and benefits alike, could not produce meaningful results:

All it can do is lead to self-deception or the deception of others; for to undertake to measure the immeasurable is absurd and constitutes but an elaborate method of moving from pre-conceived notions to foregone conclusions; all one has to do to obtain the desired result is to impute suitable values to the immeasurable costs and benefits. (1973, pp. 41–2)

6. The vision to inspire others

Schumacher's later vision was thus of an economics subordinated to meta-economic values. It is a vision expressed most clearly not in the title of *Small is Beautiful*, but by its subtitle: *A Study of Economics as if People Mattered*. He believed that what he called 'science

³ His is precisely the view expressed by Matthew Arnold on 'Literature and Science' (1884).

for understanding' had been supplanted in the West by what he called 'science for manipulation', a science restricting itself to visible and external low-level phenomena in the name of objectivity and for the purpose of exercising power (1977, pp. 64–7). While there was nothing wrong with manipulation *per se*, without a science for understanding to which it was subordinated, science for manipulation would inevitably produce inhuman consequences.

He found examples of these inhuman consequences in many areas of economic life. The use of the money metric to reduce all types of economic activity to components of an aggregate GDP, the growth of which had to be maximised, obliterates fundamental distinctions of kind between and within economic sectors. The primary sector contains both renewable and non-renewable resources, but failure to recognise this distinction led to unsustainable growth plans. The consumption of non-renewable natural capital, while accounting for it as if it were production that generates income, was a fundamental error. What appears in the national accounts as income growth may be no more than the depletion of the planet's original wealth. This is illusory growth, conjured up from particular definitions of what constitutes GDP.⁴ Yet he criticised not just the illusion of growth, but also the reality of growth.⁵ 'There can be growth towards a limited objective, but there cannot be unlimited, generalised growth', he asserted (1973, p. 29). Sustainable development is thus a key element in Schumacher's vision.

An acceptance of the right meta-economic values would give the primary renewable sector, i.e. agriculture and forestry, a new priority and reverse the economic trends of previous decades. Instead of more urbanisation, investment in rural culture would draw people back to the land. Instead of greater mechanisation, rural employment in worthwhile occupations would be created. Instead of chemical cultivation, there would be a reversion to organic methods. Instead of the gross exploitation of animals, their treatment would become more humane.

In the manufacturing sector, Schumacher felt that it was necessary to throw his weight against what he called industrial 'giantism'. He was, in fact, not in favour of smallness *per se*, despite the title of his most famous book. He saw that a balance had to be struck between the advantages of large- and small-sized organisations and judged that the contemporary need was a tilt in favour of shrinkage:

What is the meaning of democracy, freedom, human dignity, standard of living, self realisation, fulfilment? Is it a matter of goods, or of people? Of course, it is a matter of people. But people can be themselves only in small comprehensible groups. Therefore we must learn to think in terms of an articulated structure that can cope with a multiplicity of small-scale units. (1973, p. 68)

The goal of sustainable development, he concluded, required a profound reorientation not just of conventional economics, but also of science and technology. The forces of production themselves had to be tamed. Their trajectories must be switched away from the drive to invent machines and projects on an ever larger and ever more polluting scale towards generating methods of production that are small scale, accessible to all and supportive of the creativity of labour.

A major motive for scaling down production equipment was the promotion of full employment. This was desirable not in order to maximise production, but because work could be a good activity in its own right rather than a source of disutility and, if it were

⁴ This criticism followed related criticism of GDP as an indicator of welfare by Dudley Seers (1969).

⁵ In this respect, he followed on from Ezra Mishan (1967), although Mishan used the economists' terminology of 'spillovers' and negative externalities, while Schumacher did not.

300 a good activity, it should be widely shared. Given the way that industrialism had developed, much work had become mechanical, monotonous, meaningless and soul-destroying. The vision of work as bringing out the creativity of the worker would require much more effort to be invested in the humanisation of work.

In developing countries, the inhuman consequence was a ‘mutual poisoning’ of the rural and urban sectors. The introduction of modern technology in the urban sector causes unemployment in the traditional industries in the rural sector, leading the rural jobless people to migrate to huge slums in the urban areas, making urban living costly and unmanageable (Schumacher, 1965, pp. 91–2; 1966, pp. 4–6). The dual economy was intensified as a result of rural–urban migration, rather than gradually eroded, as the development model of Arthur Lewis had envisaged. The answer lay in developing a technology intermediate between the modern and the traditional, a technology whose use was attainable from within the boundaries of poverty and with which novelty could be integrated into an evolutionary process of improvement.

7. Practical proposals

315 After his father’s dismissal of his original world improvement plan to reduce unemployment, the young Schumacher involved himself in a series of other grand economic plans. These included his plan for a multilateral clearing union; his contribution to the Beveridge (1944) report on *Full Employment in a Free Society*; and his proposals in the British Control Commission for the socialisation of German industry, currency reform and a European Payments System. After his settlement in the UK in 1950, his plans for world improvement became more radical, more grandiose and more far-reaching, as is evident from the previous section. Eventually, they were vastly more influential.

Schumacher’s proposal for a multilateral clearing union derived from his thinking during late 1939 and early 1940 about the international economic conditions that would be conducive to peace. He identified the maintenance of balance in the current payments accounts of all nations as the critical requirement, but insisted that the responsibility for returning to current balance should lie with the surplus rather than the deficit countries (1944, p. 16). Because of his internment, it took him the whole of 1940 to complete his multilateral clearing union proposal. David Astor sent a copy to Lord Brand, who in turn sent it to Keynes for comment on 16 September 1941. The memorandum was entitled ‘Some Aspects of Post-war Economic Planning’ and it advocated an international clearing arrangement (Keynes, 1980, p. 21, n. 5). In mid-October, Keynes wrote to Schumacher that he was ‘thinking along closely similar lines and have been putting up proposals which go perhaps rather further than yours, but bear a strong family resemblance to them’.

335 Schumacher responded to Keynes by sending him further thoughts in a second memorandum two weeks later. On 5 November 1941, Keynes’s reply described it as ‘excellent’ but was lukewarm about Schumacher’s suggestion of publishing it. He wrote: ‘I think my own plan goes further than yours [but] I cannot disclose it yet, and it would be a pity to get discussion and criticism moving along different lines’ (Wood, 1984, p. 129).

340 Schumacher’s scheme was circulated in March 1942 by the Royal Institute for International Affairs under the title ‘Free Access to Trade’ and a revised version was published a year later (Schumacher, 1943A, pp. 150–65). By this time Schumacher was publicly criticising both the Keynes and the White Plans as flawed and worrying that Britain would be forced to resort to bilateral devices to manage the postwar current account (Schumacher, 1943B).

Schumacher participated in the formulation of another grand plan in 1943 as a member of the technical committee (with Nicholas Kaldor, Joan Robinson and Barbara Wootton) assisting William Beveridge with his inquiry into full employment (Beveridge, 1953, p. 328). This subject had not been properly covered in his previous report on Social Insurance—the ‘Beveridge Plan’ of December 1942. Schumacher took the lead in introducing Keynesian ideas about the cause and cure of unemployment into Beveridge’s thinking, an influence that Beveridge freely and fully acknowledged. However, Beveridge did not pick up some of the more unorthodox twists that Schumacher gave to Keynesian ideas. Opposed to what he called ‘the fetishism of investment’, Schumacher advocated boosting consumption by large-scale redistribution, subsidies to consumption and deliberately engineered inflation (Harris, 1997, pp. 434–5). An indication of his thinking at this time is in Schumacher (1945B). However, the final version of the report emphasised that public expenditure to maintain full employment should be directed to capital investment and social services, rather than to consumption (Beveridge, 1944, pp. 184–7; Harris, 1997, p. 439).

After the war, once again like Hans Singer, Schumacher received an offer of a senior job in the fledgling United Nations, but unlike Singer he did not accept it. Instead, he became an Economic Adviser with the Allied Control Commission in post-war Germany from 1946 to 1949. In this capacity, his first proposal was the socialisation of German industry. Businesses that employed up to 25 people could remain in private ownership, but all enterprises that affected larger numbers of people should be socialised in one way or another. This proposal made little headway and the German economic miracle of the 1950s was based on large corporations that were privately owned. He also opposed the currency reform of June 1948, because, in his view, it enriched the few while destroying the savings of the mass of the people. He devised a European Payments Scheme and campaigned for it vigorously, but this was rejected in favour of what eventually became the European Payments Union. These disappointments prompted a search for new bearings.

New bearings emerged slowly from his wide philosophical reading and his visits to Burma (1955) and India (1963) at the invitation of J. P. Narayan. Instead of supporting aid directed to the replication of a Western model of industrial growth, which he himself had once casually endorsed (1943A, p. 159; Kalecki and Schumacher, 1943, p. 29), he now criticised that model and those who advocated it, such as W. W. Rostow. He had two radical proposals: give aid to those who need it most, namely the poor, and for the rest, find out how they were making a living and identify ways of helping them to improve their livelihoods.

His grand plan for the governments of developing countries and for aid donors was the adoption of an ‘intermediate technology’. The plan was launched at the Cambridge Conference on Development (1964). It involved the creation of a large number of new workplaces whose equipment should cost on average not more than £70–100 per head, implying relatively simple methods of production and the use of locally available materials. The outputs should be buildings, building materials, agricultural implements and processed food and raw materials. In agriculture the emphasis should be on the application of green manure and tree planting. Such a strategy would need to be implemented on a regional rather than a centralised basis (1965, pp. 93–8). Schumacher recognised that a small portion of the industrial sector would continue to use modern technology, but advocated that future industrial investment should be much more broadly distributed.

8. Dissemination and networking

Fritz Schumacher was no slouch when it came to networking. On his first visit to the UK at the age of 18 he somehow was able to connect with Maynard Keynes, who invited him to come to Cambridge and to attend his Political Economy Club. This may have been because Keynes regarded Hermann Schumacher as an influential economist, but Hermann certainly did not instigate the meeting (Keynes, 1971, p. 327, n. 2; Wood, 1984, p. 20). Fritz also met Dennis Robertson and A. C. Pigou while in Cambridge and it was after his visit that he had resolved to become an economist.

In his student years in Oxford he came to know David Astor, son of Lord Astor and Lady Nancy Astor and heir to the Astor fortune. David Astor proved to be Fritz's most important lifetime patron. After Fritz's business ventures collapsed, he secured for Schumacher a cottage on the estate of his uncle, Robert Brand, and employment as an agricultural labourer. He commissioned Fritz to write articles for his father's newspaper, *The Observer*. It was also David Astor who was one of the three private financial backers of Beveridge's report on *Full Employment in a Free Society* (1944) and who persuaded Frank Pakenham to engage Schumacher as one of the technical consultants.

Once David Astor had become the editor of *The Observer*, he acted as a convenor of meetings for left-wing intellectuals and journalists, amongst whom Fritz was included. He also published in August 1965 a crucial article by Fritz (headlined 'How to Help Them Help Themselves') that touched off a strong public reaction in support of the idea of intermediate technology. George McRobie called a meeting at the Overseas Development Institute of those who had responded favourably to the *Observer* article, a meeting that resolved to set up the Intermediate Technology Development Group (ITDG).

9. Institutional launching pads

Before 1965, Fritz had promoted his ideas by working with existing organisations. In 1950 he joined the Soil Association, an organisation that believed that modern farming was going up a blind alley by using chemical fertilisers and pesticides, and that to preserve the fertility of the soil and a naturally balanced ecosystem, the adoption of organic methods of farming was necessary. Their beliefs became one element in his growing philosophy of sustainability. He joined the Association's Council and became its President in 1970.

In 1959 David Astor convened a meeting at which Fritz met Ernest Bader, the founder of the Scott Bader Commonwealth. Bader, a Quaker, had turned his successful chemical company into a 'commonwealth' in which pay differentials were limited and profits distributed (after a deduction for reinvestment) to the workers. This alternative form of industrial organisation to the conventional privately owned firm fitted well with Fritz's ideas about the socialisation of industry, and he became a Trustee of the Scott Bader Commonwealth in 1963.⁶

However, the ITDG differed in that it was his own creation, reflecting his practical philosophy of finding out what people are doing and helping them to improve it. Thus, ITDG initially saw its role as assembling information about efficient labour-intensive technologies, publishing directories of intermediate technology for different industries and advising people on its use. In 1969 a separate consulting company was established to

⁶ Schumacher contributed a brief Foreword to Ernest Bader's biography (Hoe, 1978).

435 undertake work in this area for aid-donor agencies and in the 1970s offices began to be set
up in developing countries. When Schumacher died in 1977, the chairmanship passed to
his close colleague George McRobie.

10. Evaluation of career impact

440 Soon after Schumacher's premature death, George McRobie commented on the
impact of his life and work:

I am struck by the consistency with which his work has changed the course of events. When he
was in his thirties . . . he drew up a plan for a new monetary payments clearing system, which was
immediately adopted by Lord Keynes as the official UK government proposal on the subject. A
few years later he was the principal author of the famous Beveridge report on full employment.
445 (Schumacher, 1977, p. viii)

This account of Schumacher's impact is in need of some amendment, as McRobie did not
know Schumacher until the early 1950s. Firstly, Keynes had already produced his own
initial plan for an international clearing union when Schumacher's paper on multilateral
clearing arrived with him, and the former was what was developed as the official UK
450 government proposal on the subject. We have no evidence that Schumacher's paper
influenced Keynes's own plan for an international clearing union or about the ways in
which it did, if it did so.

Secondly, while Schumacher certainly convinced Beveridge to take a Keynesian
approach in his *Full Employment* report, he was not the only important contributor to its
455 drafting—Nicholas Kaldor also played a major part. More important than authorship was
the fact that the wartime coalition government had already decided to pre-empt this second
Beveridge report. Reacting to Beveridge's public criticism of Churchill, it withheld all
official cooperation from his team. It made sure that it published its White Paper on
Employment in June 1944, well ahead of *Full Employment in a Free Society*, which came out
460 in November 1944 (Harris, 1997, p. 438; Beveridge, 1953, pp. 401–3). So the latter had no
impact on the coalition government's policy. All in all, Schumacher's career until the early
1960s could be described as a success only on the cynical definition that 'success is moving
from one failure to another without any evident loss of enthusiasm'.⁷

The tide began to turn only at the 1964 Cambridge Conference. Nicholas Kaldor
465 dramatically attacked his proposal of intermediate technology as 'nonsense'. His grounds
were that where capital is scarce, it must be invested in projects with the lowest possible
capital/output ratio and 'research has shown that the most modern machinery produces
much more output per unit of capital invested than less sophisticated machinery that
employs more people'. Interestingly, though, despite this onslaught, the conference
470 organiser reported as follows:

The consensus was that intermediate technology has big possibilities and advantages. It is
emphatically not the case that intermediate techniques of manufacturing are necessarily less
efficient than advanced methods . . . In technical jargon, the simplified production may be the
optimum technique, given the characteristics of the market, the factor availability and the state of
475 skills. (Robinson, 1965, p. 27)

⁷ The other way of describing this situation is to say that everyone else 'ultimately had failed him and rendered him powerless', as Barbara Wood put it (1984, p. 328).

The feasibility of intermediate technology was, after all, an empirical question and knowledgeable people were willing to give it the benefit of the doubt (Robinson, 1964, pp. 440–2; Fieldhouse, 1988, pp. 181–2). Then, in 1965, Schumacher’s *Observer* article showed that the idea had a wide public resonance, on the basis of which the ITDG was launched. Even so, nobody—apart from Schumacher himself—expected *Small is Beautiful* to be the runaway, roaring success that it proved to be.

What was the nature of its impact? First of all, it did have a considerable impact on professional and public opinion about development. At the ideological level it reinforced the retreat from ‘modernism’ that was already in train in the 1960s and especially the retreat from the technocratic conception of how economic development should be promoted. It followed up F. R. Leavis’s prior attack on the technocratic views of C. P. Snow (Schumacher, 1973, pp. 71–8; Ortolano, 2009, p. 215). It was another step towards the dethroning of the expert, whether he be a scientist or an economist (for it usually was a ‘he’), from the authority and power in public life that he had enjoyed in the 1940s and 1950s.

This critique could not have gained traction unless it contained something more than the conservative lament that had already played counterpoint to the industrial revolution for more than a century.⁸ There was truth in it, as is confirmed by the contents of a typical symposium on technology and economic development produced by the magazine *Scientific American* (1965 (1963)). Some of the distinguished authors of this collection were complacently optimistic about the prospects of nuclear energy and the availability of non-renewable minerals (pp. 106, 117). Some *did* define underdevelopment as having an input–output table less complete than that of the USA and Europe (pp. 138–9). Some *did* assume that development required the application of modern techniques, which in turn required large-scale units that were beyond the capabilities of family-sized firms (p. 216).⁹ So, Schumacher’s critique had genuine contemporary targets and he was not simply knocking down the views of Aunt Sally.

Schumacher’s critique of economic development had a positive and constructive element to it. His theme that the pursuit of development needed a new moral compass in order to make it truly human-centred was an anticipation of the future shift to the agenda of ‘human development’. His own attempt to create such a moral compass in *A Guide for the Perplexed* (1977) may not have been widely adopted because of its Roman Catholic basis and associations. However, he had correctly identified a central problem in the theory and practice of development, which Amartya Sen eventually resolved from a quite different direction using his capability approach.

Schumacher also made a positive contribution by organising the provision of additional resources for governments and NGOs. It was not the case, as Kaldor for example alleged, that the intermediate technology that he was calling for did not exist in any shape or form. Some elements of it had been invented and propagated by colonial officials in the first half of the twentieth century—one thinks of official colonial booklets on improved latrines, improved grain storage vessels and improved stoves. Other elements were known only to a few interested specialists or had been forgotten. Other elements would need to be invented by a competent engineer. Much practical good was achieved through ITDG’s

⁸ ‘The statistician will register a growing progress and the novelist a gradual decline . . . The useful will take the place of the beautiful, industry of art, political economy of religion, and arithmetic of poetry’ (Henri Frederic Amiel in 1851, quoted by Briggs, 1965 (1963), p. 22).

⁹ However, a few (including Celso Furtado) saw that a different technology than the standard American–European variety would be needed for development (pp. 115, 189–90).

efforts at documentation, distribution and development of the scattered blueprints of intermediate technology.

520

[AQ8]

525

530

His theoretical and practical contributions had a recruitment effect. Schumacher inspired people who were to become leaders in development thinking in the last quarter of the twentieth century. Robert Chambers, a former Kenyan District Officer, continued Schumacher's critique of the development expert and published his best-selling *Rural Development: Putting the Last First* (1983) through the ITDG. His practice of participatory rural appraisal was fully in line with Schumacher's principle of finding out how the poor make a living and doing something to improve it. Frances Stewart was drawn into development economics by her interest in George McRobie's exposition of the idea of intermediate technology. Her doctoral thesis was an exploration of alternative technologies for certain Kenyan industries and an evaluation of their viability. She continued to work on many issues of human-centred development: employment, basic needs and adjustment with a human face. Other examples could be cited, but Chambers and Stewart are perhaps the most outstanding.

535

540

545

Schumacher's critique affected policy at the World Bank during the McNamara-Chenery era. The Bank's newly expanded research department began to examine the internal income distribution of developing countries. Viewed through the prism of a more equal income distribution, the question of choice of technique arose. Would a simpler technology for highway building or sewerage projects shift the distribution of income in favour of the poor? This was not a new question. Henry Bruton had already noted that importing modern technologies increased the capital/labour ratio in developing countries, which was the reverse of what would be needed to employ more of their relatively abundant factor, labour (1955, pp. 327–8). However, Robert Solow's neo-classical model (1956) then popularised the concept of technology as a universal library of blueprints freely available to all. This assumption eliminated the possibility that some countries had to import modern technology from others endowed with different factor proportions. Schumacher put this possibility firmly back on the Bank's agenda.

550

555

In order to make projects more beneficial to the poor, the Bank's project evaluation criteria were modified to give greater weight in the evaluation to the income that the poor derived from the project.¹⁰ This gave preference to the use of more labour-intensive technology in projects that the World Bank financed. There were, however, many influential people in whose eyes this modification was far too radical, amounting in their view to excessive government intervention in the marketplace. Their moment came when McNamara retired as President without appointing a new Chief Economist to succeed Hollis Chenery. This allowed the incoming President a free hand to choose Anne Krueger, a leading neoliberal, who immediately abolished income weighting in project appraisal.

11. The foundations of Schumacher's late success

Lastly, I turn to the relationship between Schumacher's career, in which high impact finally succeeded the long period of failure and the eight factors that I initially hypothesised as potential sources of impact.

¹⁰ Because at this time the World Bank still lent money mainly to finance projects, something that Schumacher had criticised when the Bank was being planned (1944, pp. 18–19), manipulation of its project appraisal criteria was its only way of being able to respond to his later ideas.

560 Despite the academic success and excellent social connections of his father, family ties must be judged an overall negative influence on Fritz's career. His filial piety masked an underlying lack of rapport with his father, which was aggravated by the latter's loss of prestige and his subsequent willingness to accommodate the demands of the Nazi regime. Fritz's decision to go to the UK in 1937 and to return to Germany as a British subject in 1946–9
565 caused considerable family tensions and personal stress. Thereafter, Fritz effectively had to build his own social network in the UK to replace the one that he had inherited but left behind.

Fritz's assessment of the value of his education was also overwhelmingly negative:

570 All through school and university I had been given maps of life and knowledge on which there was hardly a trace of many of the things that I most cared about and that seemed to me to be of the greatest possible importance for the conduct of my life ... [F]or many years my perplexity remained complete. It remained complete until I ceased to suspect the sanity of my perceptions
[AQ9] and began instead, to suspect the soundness of the maps. (Schumacher, 1977, p. 11)

575 This statement should not be taken too literally, however. All the evidence suggests that he had doubts about the soundness of the maps right from his secondary- and tertiary-level education. However, it is true that it took him until near the end of his life finally to sit down and draw his own map.

His training as an economist was patchy and haphazard, compounded largely of the capital theory of Böhm-Bawerk plus brief spells as an intern at M. M. Warburg and Chase
580 Bank. Although he gained considerable practical insight into the mechanism of international trade and finance, he was somewhat underequipped as an applied economist, even by the standards of the time. The defect was, however, partly compensated by what he learned by mixing as a young man with distinguished seniors in the economics profession. Yet the idea that Keynes ever thought that his mantle might pass to Schumacher (as Fritz once reported to his family) now seems quite implausible.¹¹
585

His powerful character and sheer energy was what carried him through to success, despite these handicaps. His commitment to the pursuit of his truth, whatever struggles with others that it involved him in and whatever it cost him in terms of a continuous self-instruction and continuous lack of responsive enthusiasm from others, showed that he
590 possessed a sheer intellectual grit that would eventually gather its reward. A person of average faint-heartedness would find it very hard to imagine how one could survive so many disappointments, let alone emerge triumphant at the end.

Beneath all the debate and activity was a moral sense, evoked first of all by the Versailles Treaty but maturing into broader ideals of social fairness that animated progressive circles in
595 the UK in the early 1940s. This moral sense could find no anchor in Marxism, because of its doctrine of historical inevitability, so it drifted off into world religions—and partly out again—until it finally dressed itself in Catholic social theory. The placing of these moral values in the context of the wisdom of mankind, widely gathered, greatly broadened their appeal. 'Although his book was about economics, he did not believe that the problems he was analysing
600 were essentially economic [but rather that] the real problem was a moral one', his daughter has written (Wood, 2001, pp. x–xi). The ability to transpose dry and difficult economic argumentation into a moral crusade was a principal ingredient in his change of fortune.

¹¹ In a letter dated 16 April 1949, Schumacher wrote to his parents that Sir Wilfrid Eady had said that Keynes told him that if his mantle passed to anyone, it would be to Otto Clarke or Fritz Schumacher (Wood, 1984, p. 135).

605 This moral reorientation continues to influence social science today. In thinking about development, Amartya Sen, Mahbub ul Haq and many others have elaborated the concept of ‘human development’. Economics more broadly has seen the rise of the economics of happiness. Under this rubric, economists and others have explored the determinants of human happiness beyond the increase in personal disposable income. They have found them in personal relationships, one’s work and one’s personal values, including religious belief (Layard, 2005). There is now an empirical basis for what Schumacher merely asserted.

610 Kaldor dubbed Schumacher’s vision ‘romanticism’, a view that other critics also shared (King, 2009, p. 117). Indeed, parallels with the romantic reaction to nineteenth-century industrialisation are not hard to find—the laments that the beautiful is being displaced by the merely useful, religion by political economy and poetry by arithmetic are all expressed repeatedly in Schumacher’s writings. However, his vision, while conservative at base, is not wholly one of nostalgic melancholy. On the contrary, it is turned into an optimistic kind of romanticism, full of hope and inspiration for the future. It does not call for a return to the past, but for a movement away from certain ‘poisonous errors’ of the past and towards the development of a ‘healthy’ economy and society. His idea of environmental and social sustainability is of a system capable of maintaining itself in perfect health by neutralising all internal and external threats. The metaphor is medical, looking forward to a recovery.

620 It is easy to see how ‘this book of heart and hope . . . and downright common sense about the future’, as one reviewer described *Small is Beautiful*, could enthuse American audiences. In practical terms, it bypassed big government and large corporations and put its faith in local initiatives and the self-help of ordinary people—a faith that many Americans readily share. From one perspective his proposals—e.g. for a cap on the capital cost of new workplaces—were wildly impractical, but they were signposts pointing in a direction that many people wanted to go. Even though the proposals were framed in an oversimple way, washing out all the attendant complications, he could point to steps that people could take along the path to which the signpost pointed. Despite their impracticality, Schumacher’s proposals were powerfully energising.

630 His networking was initially narrow and elitist and consisted of getting to know a few very important people who were sympathetic to his agenda and willing to give him help. In later life, he came to see that ‘you have only to find out how to touch the network: the network already exists’ (Schumacher, 1977, pp. 83–4) and that the smart move was to tap into them and shape them to one’s own purposes. This needed energy and commitment and the willingness to embark on a seemingly endless round of lectures and speeches, repeating the same ideas to many different audiences at home and abroad. It was in America where his folksy manner, his sprinkling of biblical references and his can-do determination brought him the largest and most rewarding response.

640 In organisational terms, Schumacher built what has been an enduring legacy. It is not just that his ideas continue to be reissued reverentially by new writers (e.g. Pearce 2001, 2006) or that there is a Schumacher Association, with headquarters in the USA, to house Schumacher’s papers and perpetuate his ideas. His ideas still animate two lively institutions. ITDG has continued to grow and flourish, changing its name to ‘Practical Action’ in 2008. In 2010 it was involved in around 100 projects worldwide, but concentrating its efforts in Kenya, Sudan, Zimbabwe, Peru, Sri Lanka, Bangladesh and Nepal. In 1991, Schumacher College at Dartington Hall, Devon opened its doors to teach courses on environmental and social sustainability and it continues to do so. In the wider commercial world, organic farming has become a growing reality, with a number of specialist centres spreading the organic farming message and showing how it is done.

In a number of ways, then, Schumacher shaped the modern world and may continue to do so if the revolt against consumerism gains further recruits. It was not his family, his education or the early influences on his career that helped him to create this impact. Rather, it was his indomitable personality, his moral values, the vision that he articulated and his skills and energy in reaching out to others. If this is so, it has rather sobering implications for those heads of academic institutions who are scurrying around seeking ways to increase their institutions' impact on society. If Schumacher's two-phase career is in any way representative, there seem to be too many stochastic factors involved in creating impact for it to be very amenable to a new set of university guidelines.

660 Bibliography

- Beveridge, W. H. 1944. *Full Employment in a Free Society: A Report by William H. Beveridge*, London, George Allen and Unwin Ltd
- Beveridge, W. H. 1953. *Power and Influence*, London, Hodder and Stoughton
- [AQ10] Binns, T. 2006. E. F. (Fritz) Schumacher, in Simon, D. (ed.), *Fifty Key Thinkers on Development*, Abingdon, Routledge
- Bruton, H. 1955. Growth models and underdeveloped economies, *Journal of Political Economy*, vol. 63, 322–36
- Fieldhouse, D. K. 1988. Ronald Robinson and the Cambridge development conferences, 1963–70, *Journal of Imperial and Commonwealth History*, vol. 16, no. 3, 173–99
- 670 Harris, J. 1997. *William Beveridge: A Biography*, Oxford, Oxford University Press
- Hoe, S. 1978. *The Man Who Gave Away His Company*, London, Heinemann
- Kalecki, M. and Schumacher, E. F. 1943. International clearing and long-term lending, *Institute of Statistics Oxford Bulletin*, no. 5, suppl. 5, 29–33
- Keynes, J. M. 1971. *The Collected Writings of John Maynard Keynes*, vol. XVI, London, Macmillan for the Royal Economic Society
- 675 Keynes, J. M. 1980. *The Collected Writings of John Maynard Keynes*, vol. XXV, London, Macmillan for the Royal Economic Society
- King, J. E. 2009. *Nicholas Kaldor*, Basingstoke, Palgrave Macmillan
- Layard, R. 2005. *Happiness: Lessons from a New Science*, London, Penguin Books
- 680 Mishan, E. J. 1967. *The Costs of Economic Growth*, London, Staples Press
- Ortolano, G. 2009. *The Two Cultures Controversy: Science, Literature and Cultural Politics in Postwar Britain*, Cambridge, Cambridge University Press
- Pearce, J. 2001. *Small is Still Beautiful*, London, Harper Collins
- Pearce, J. 2006. *Small is Still Beautiful: Economics as if Families Mattered*, Wilmington, ISI Books
- 685 Robinson, R. E. 1964. Conference on the role of industrialisation in developing economies, *Journal of Modern African Studies*, vol. 2, 440–2
- Robinson, R. E. (ed.) 1965. *Industrialisation in Developing Countries*, Cambridge, Cambridge University Overseas Studies Committee
- Schumacher, E. F. 1935. Inflation and the structure of production, in Willis, H. P. and Chapman, J. M. (eds), *The Economics of Inflation*
- 690 Schumacher, E. F. 1943A. Multilateral clearing, *Economica*, New Series 10, 150–65
- Schumacher, E. F. 1943B. The new currency plans, *Institute of Statistics Oxford Bulletin*, no. 5, suppl., 5, 8–29
- Schumacher, E. F. 1944. *Export Policy and Full Employment*, rev. edn, London, Fabian Publications Ltd and Victor Gollancz Ltd
- 695 Schumacher, E. F. 1945A. Review of J. B. Condliffe and A. Stevenson, *The Common Interest in International Economic Organisation*, *The Economic Journal*, vol. LV, no. 217, 96–7
- Schumacher, E. F. 1945B. Public finance—its relation to full employment, in Burchardt, F. A. (ed.), *The Economics of Full Employment*, Oxford, Basil Blackwell
- [AQ11] Schumacher, E. F. 1945C. *What will Planning Mean in Terms of Money?*, Cheam, Architectural Press, pamphlet
- 700 Schumacher, E. F. 1965. Industrialisation through 'intermediate technology', in Robinson, R. (ed.), *Industrialisation in Developing Countries*

- 705 Schumacher, E. F. 1966. *Economic Development and Poverty*, London, Africa Bureau, pamphlet
- Schumacher, E. F. 1973. *Small is Beautiful: A Study of Economics as if People Mattered*, London, Blond and Briggs Ltd
- Schumacher, E. F. 1977. *A Guide for the Perplexed*, London, Jonathan Cape
- Schumacher, E. F. 1979. *Good Work*, London, Jonathan Cape
- [AQ12] Seers, D. 1969. The meaning of development, *International Development Review*, vol. 11, no. 4
- [AQ13] Simon, D. (ed.) 2006. *Fifty Key Thinkers on Development*, Abingdon, Routledge
- Solow, R. M. 1956. A contribution to the theory of economic growth, *Quarterly Journal of Economics*, vol. 70, 65–94
- Toye, J. 2006. Hans Singer's debts to Schumpeter and Keynes, *Cambridge Journal of Economics*, vol. 30, no. 6, 819–31
- [AQ14] 715 Willis, H. P. and Chapman, J. M. 1935. *The Economics of Inflation*, New York, Columbia University Press
- Wood, B. 1984. *Alias Papa: A Life of Fritz Schumacher*, London, Jonathan Cape
- Wood, B. 2001. Foreword, in Pearce, J. *Small is Still Beautiful*, London, Harper Collins
- Worswick, G. D. N. 2004. Schumacher, Ernst Friedrich [Fritz] (1911–1977), in *Oxford Dictionary of National Biography*, Oxford, Oxford University Press
- [AQ15]