

Obituary

Noel Farnie Robertson (1923–1999): a memoir

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Noel Robertson was a man of many parts: friend and mentor to students and colleagues whose kindness knew no bounds; modest yet inspirational teacher; mycologist and plant pathologist whose thinking was often years ahead of its time; scientific manager of great ability and distinction; frustrated farmer; author; naturalist and bee-keeper; and above all, devoted husband and father.

We first met Noel Robertson in October 1960, when he was a young Professor of Botany at the University of Hull and we were rather shy and somewhat confused first-year students in the same Department. Both of us were deeply influenced by his teaching and example, an influence that has stayed with us all our lives. Indeed, one of us (D.S.I.) remained a close friend for almost forty years and had just completed a book with him, *Plant Disease* in the *New Naturalist* series, when he died on 2 July 1999. Both of us were educational oddities, like most of our fellow undergraduates, yet Noel Robertson had chosen us, without interview, as having 'potential'. He treated us as friends and equals from the first.

In our experience Noel was a remarkable teacher, yet his lectures and practical classes, the latter usually based on his own research interests, were often a minor shambles. With the bean-counting mentality prevalent in today's universities they would have won him few 'brownie' points! We remember one occasion when he arrived late for a 09.00 h lecture with bits of tissue paper over the razor cuts on his face, looking distinctly dishevelled. Halfway through the lecture he simply gave up and walked out, telling us as he did so that he had been at the Senate Dinner the night before, with all that that implied. Yet he inspired us and made us *want* to be mycologists and plant pathologists, like him. It is difficult to explain precisely how he achieved this. It may have been his great breadth of interests that



N. F. Robertson
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Fig. 1. Noel Farnie Robertson (1923–1999).

impressed us: natural history, botany and botanic gardens, agriculture and horticulture, fungal taxonomy and physiology, and the genetics and biochemistry of plant-pathogen interaction were all grist to his intellectual mill. Or perhaps it was the great enthusiasm he had for his subjects and the way he wrestled with the conflicting demands of a social conscience, borne of a Scottish Presbyterian upbringing, and a fascination for fundamental research with no obvious application in the real world of agriculture and horticulture. Or perhaps again it was because in most of his lectures he did not simply give us all of the facts, but told us stories about his own research and that of his students; not boasting, but simply eager to share with us the fascination of the questions he and they had been tackling. And what stories they were: early work on the Hartig net; pioneering research on parasexual recombination in *Fusarium*; hyphal tip growth and branching in *Neurospora* and other saprotrophs; the epidemiology and genetics of *Phytophthora infestans*; the mechanisms of resistance of potato to *P. infestans*; and the nutrition and genetics of *Phytophthora*'s in general. We did not come away from his lectures with a comprehensive knowledge of mycology or plant pathology, but we knew what scholarship was, we knew what it was to carry out mycological and plant pathological research and to feel the excitement of venturing deep into the unknown.

In his research Noel was often well ahead of the field in his thinking and insights, yet he received little or none of the glory for the advances he pioneered. Later, as his research students, we were to understand why. In part it was because he was a starter rather than a finisher: a spinner of ideas rather than the dedicated bench scientist willing to stick with a project through thick and thin. It was also because, we suspect, he lacked sufficient faith in his own ideas and abilities to give them his all. But above all it was because he was a generous supervisor and colleague, always willing to give away a good idea, expecting little or none of the credit for the resulting research. He belonged to that old school of supervisors who as often as not insisted that his students published alone, his own name appearing only in the list of acknowledgements at the end of the paper. For us, as independent-minded students, he was a model supervisor. He left us alone to develop our own ideas, but was always there whenever we needed an injection of new thinking or advice, or when we required the encouragement and support that was so essential in the sometimes isolated intellectual existence of a research student in the 1960s. His was not the prescriptive style of research supervision that characterises the care of postgraduates in today's large laboratories, but his approach worked for us, giving us at an early stage the freedom and confidence to develop our own research careers.

To appreciate Noel Robertson's breadth of interests it is necessary to look in detail at aspects of his career. He was born at Dundalk in 1923, but went to school at

Trinity Academy in north Edinburgh. He then went on to study at his local university, as was then the custom in Scotland. He read Botany, graduating from the University of Edinburgh with first class honours in 1944. At that time the Botany teaching in Edinburgh took place at the Royal Botanic Garden at Inverleith, on the north side of the city. During the time he spent at the Garden several of the intertwining strands of Noel Robertson's subsequent career were formed: his interest in horticulture and botanic gardens and his passion for fungal taxonomy and plant pathology, the last two without doubt inspired by Malcolm Wilson, then Reader in Mycology at Edinburgh.

After graduation, Noel's desire to do good in the world by applying his formidable intelligence to the solution of practical problems in agriculture, led him to Trinity College, Cambridge. There he gained a Diploma in Agricultural Science. He once described this as one of the happiest periods of his life, not because he particularly enjoyed the 'delights' of the Cambridge life, but because it gave him the opportunity to work on the land, learning to plough, sow and harvest, getting his hands dirty and gaining that special sense of fulfilment and pleasure that can only be had from hard manual work. His time in Cambridge culminated in work with Kenneth Smith at the Virus Research Station, with Frederick Bawden at Rothamstead and with a tour of the United States to study tree viruses. He then went on to work in the Cocoa Research Institute in Ghana, where he studied the viral swollen shoot disease of cocoa. This relatively brief sojourn overseas consolidated his interest in plant pathology, which we suspect he saw as an ideal vehicle for combining his interests in research and his desire to work for the well-being of humankind. The work on swollen shoot disease was ultimately written up, yielding a thesis which led to the award of a PhD degree by the University of Edinburgh.

Noel Robertson was soon recalled to Cambridge by F. T. Brooks (1882–1952), who needed a Lecturer in Mycology and saw the young Robertson as a rising star. There he was to become a colleague of two other great plant pathologists, John Rishbeth and Denis Garrett, both of whom had a deep interest in the world of the soil and of the root diseases of trees and cereals, respectively. Brooks, Rishbeth and Garrett were to make a great impact on Noel Robertson's thinking, especially Garrett who soon became a firm friend and mentor. It was during this time that Noel Robertson, with a succession of outstanding students, did some of his best research. Firstly, he studied the Hartig net in ectomycorrhizal associations with trees. Later, he and the late Eric Buxton carried out pioneering studies of parasexual recombination and variation in *Fusarium oxysporum*. Moreover, the rich farmlands of the Fens, with large areas dedicated to growing potatoes, took him into the field to study the epidemiology of *Phytophthora infestans*. And if this were not enough, in the laboratory he began to formulate his own revolutionary ideas about the mechanisms of hyphal

growth and branching, performing simple culture experiments that were to provide so many insights into the basic growth processes of fungi. In his pioneering studies of the parasexual cycle and hyphal growth he was undoubtedly a world leader. It is regrettable that he was given so little recognition for this.

But much more happened in Cambridge. He was able to devote time to teaching, which he loved, and to develop his own inimitable style already referred to. Also, he and his wife Doreen, rented, together with Max and Lorna Walters, adjacent flats in a beautiful house at Brookside on the edge of the University Botanic Garden. He and Max were able to share a love of natural history and of horticulture and Noel was able to develop his thinking about botanic gardens and their importance in the teaching of botany and in informing the public about the science of plants.

Noel was a socialist with radical conservative tendencies and was in consequence, temperamentally unsuited to what he saw as the Cambridge life of privilege and excess. After ten years there he knew that he had to move on, to a provincial university, where he would build his own Department from the bottom up, embodying in it his breadth of vision and belief in the rapidly evolving disciplines of plant pathology, biochemistry, genetics and ecology. And so it was that in 1959 he became Professor of Botany at the very small and then little known University of Hull. He was 35 yr, one of the youngest professors in the country.

We have already spoken of Noel's teaching and research at Hull. What also needs to be said, however, is that he attracted to that Department a team of young lecturers who, together with the existing staff, could provide undergraduates with a unique mix of traditional and modern botanical teaching. He also developed the small but very beautiful botanic garden as a model of its kind, with diverse teaching collections, specialist collections for systematics research, and experimental plots to support research in ecology, plant pathology, genetics and biochemistry. And just as important, it was a beautiful place, open to the public, providing a perfect setting for the enjoyment of plants and the natural world. An article on botanic gardens (Robertson 1962) shows that once again Noel was in the vanguard of modern thinking on his subject.

Into this model Department of Botany he attracted students from a great diversity of backgrounds, the majority of whom went on to highly successful careers in botany, biology, conservation and education. A whole generation owes him a great debt of gratitude for his inspirational teaching, his support and his friendship. And it was not just the students who benefited. The staff loved him and indeed everyone who came into contact with him loved him. Even our parents were struck by his humanity. For example, D.S.I.'s father, Stan Ingram, a toolmaker from Birmingham, met him only once on the day of his son's graduation in 1963. They spoke about Rover cars and other things of mutual interest. Now, at the age of 87 yr, Stan Ingram

still remembers that conversation, still remembers Noel Robertson's interest in him as a person and in what he did and why he did it.

Whilst all this was going on, Noel was playing a full part in the life of the University, most notably as Dean of Science, and in working for the welfare of students. He was also playing a full and active part in the professional world of mycology and plant pathology, especially as President of the British Mycological Society in 1964, an honour of which he was immensely proud. And all the time he was constantly torn between his love of research and teaching and his desire to work for the good of his students, his University, and his profession. It was all too much and in 1967 he suffered a massive heart attack. Miraculously, with the help and support of Doreen and his young family, he was able to return to work again after an absence of many months.

He knew, however, that the time had come to move on and for the running of his Department to be handed over to someone else. An offer came from the University of Edinburgh at about the time of the first International Congress of Plant Pathology in 1968. Was he interested in the Chair of Agriculture and Rural Economy there, combined with the post of Principal of the East of Scotland College of Agriculture? He did not know whether to take up this offer and one of us (D.S.I.) remembers well how he and another ex-student, Gillian Butler, took a day off from the Congress lectures to walk with Noel in the Royal Botanic Gardens at Kew and talk it all through. Using us as sounding-boards, he rehearsed with us the attractions of a new challenge, of returning to his native Scotland and to his first love, agriculture, and against these, the disadvantages of leaving behind a Department he had created and the world of mycological and plant pathological research. In the end, Scotland and agriculture won the day and he moved to Edinburgh in 1969, where a new phase in his career was to begin. His old friend and colleague, the distinguished biochemist and plant pathologist John Friend, took over as Professor of Botany in Hull.

The new posts in Edinburgh gave Noel Robertson a unique opportunity, during a period of agricultural expansion, to draw together and integrate in one institution, agricultural research and development, advisory work and teaching. During the 1970s, under Noel Robertson, the Edinburgh School of Agriculture became one of the most important centres for agricultural teaching and research in the world. Noel worked hard to promote the School of Agriculture and the East of Scotland College. It was a difficult Department to manage, being very large, fragmented and unwieldy. Indeed, according to one source, it was so unwieldy as to be totally unmanageable! Yet this quiet, self-effacing but fiercely resolute man drew the Department together, gave it a sense of purpose and led it through one of the most productive periods of its history. It was a job that he was good at and he loved it.

At the same time, he played a significant role in the

wider Scottish research community. He was a most successful Dean of Science in the University of Edinburgh, and he worked hard for the Edinburgh Centre for Rural Economy (later to become the Edinburgh Centre for Rural Research) of which he was Vice-Chairman for 13 yr. This was an organisation which brought together the heads and other representatives of a wide range of locally based research institutions and university departments concerned with land use and conservation. It played a significant role in promoting interdisciplinary research and other forms of co-operation. Moreover, he represented the University of Edinburgh on the governing bodies of various research institutes, most notably the Scottish Crop Research Institute, of which he was the Chairman of the Governors for nine years. He was also Chairman of the Conference of University Professors of Agriculture and Horticulture.

During this time, agricultural research in Scotland received unprecedented Government funding. It was this that enabled Noel Robertson to deploy his unique abilities and talents to the full to build such a vibrant Department, without having to dissipate his energies in the search for external sources of funding. Towards the end of his career, however, Government funding was gradually withdrawn and he was deeply depressed by the developments that took place subsequently. He believed strongly that research, development and advisory work should be free from the influence of commercial organisations. He did not believe in short-term contract research, being convinced that it was only with long-term funding that research of any consequence could be carried out. So his retirement came at just the right time. He received many honours for his contribution to Scottish agricultural science, especially election to Fellowship of the Royal Society of Edinburgh (FRSE) in 1969, and appointment as a Commander of the British Empire (CBE) in 1979.

But retirement for Noel was not one long round of golf, or dozing in front of the fire. Instead, he embarked on a third career, living life to the full and devoting his energies to a variety of projects. Immediately after stepping down from his post as Head of Department, he spent six months in Pakistan, helping to write the agricultural research plan for that country. After his return to Scotland, he became an active Trustee of the Royal Botanic Garden Edinburgh, drawing on his wide experience of management and his knowledge of botanic gardens and horticulture, to further its work in research and teaching. He also worked hard to promote the Garden as a place to be enjoyed by the general public, especially as a founder Committee member and Vice-Chairman of the Friends' organisation. And at last he became a farmer, albeit on a small scale, renting land and machines from a neighbour to build up first-class stocks of selected lines of narcissus. It was not a hugely profitable enterprise, but it gave him great satisfaction to set up a successful business of his own. He also found time to advise a rich friend on the planting of his large

garden Ellibank, especially with rhododendrons, drawing on the advice of the staff of the Royal Botanic Garden Edinburgh.

Noel was a countryman. Every day he walked with his dog, a border collie with a mind of her own, first in the Pentland Hills to the south of Edinburgh, and then, in retirement, in the hills and woodlands around Juniper Bank, near Walkerburn in the Scottish Borders and close to the River Tweed. These walks were important to Noel the naturalist, for they enabled him to study at leisure the plants, plant diseases, and fungi that grew in abundance there. He also kept bees, enjoying the process of caring for the bees themselves as well as gaining pleasure not only from giving honey away to friends, but also selling it and thereby indulging in the business activities that had always fascinated him.

Last, but not least, he worked on three books. The first, was a study of the importance of scientific research in increasing agricultural food production during the second half of the twentieth century, written in a fluid but idiosyncratic style that was immediately accessible to both specialists and non-specialists. The book was based on an outline and specimen chapter produced by Sir Kenneth Blaxter, the pioneer animal nutritionist, just before his death. Noel took the work from this point and carried it through to publication. Characteristically, despite having written most of the book himself, he placed Blaxter's name first on the title page. Later, with Ian Fleming, he wrote a delightful history of Britain's first Chair of Agriculture, established in 1790, the one that he himself had held for so many years.

And, finally, together with one of us (D.S.I.), he wrote *Plant Disease* for the Harper-Collins *New Naturalist* series. The proofs of the book finally came through only days before his death. In it, Robertson and Ingram were able to draw together their shared interest in all aspects of plant disease, from natural history to horticulture and agriculture, from taxonomy to genetics and biochemistry. For both of them, writing this book was a fascinating journey of discovery, not least because they were writing it together and could learn from one another. But it was not easy for either of them, for each had his own approach and style and therefore had to give way to the other in agreeing a final text. What was produced was a true collaboration and neither could claim to be the senior author. At the time of his death, Noel was already planning another book, *The Natural History of Farmland*. He would have written it without a co-author and it would have been a wonderful monument to a wonderful man. But it was not to be; he died peacefully on 2 July 1999.

Noel was married for 51 years to Doreen, doctor and cellist, whom he had known since their schooldays, and had four devoted children, two boys and two girls and seven grandchildren. For all his achievements in the worlds of research, teaching and management, he was first and foremost a family man, and proud of it.

His funeral service, held shortly after his death in the little parish church at Walkerburn, notwithstanding the presence of many distinguished botanists and agriculturists, was above all a family occasion. And such was Noel Robertson's modesty as a scientist that he had asked the Minister to make only passing reference to his academic work.

SELECTED PUBLICATIONS¹

Blaxter, K. & Robertson, N. F. (1995) *From Dearth to Plenty: the modern revolution in food production*. Cambridge University Press, Cambridge, UK.

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Wilson, M. & Robertson, N. F. (1947) The biology, culture, morphology, and relationship of *Lophodermium vagulum* sp. nov.; the cause of a disease of Chinese Rhododendrons. *Transactions of the Royal Society of Edinburgh* **61**: 517–531.

¹ We have been unable to complete a full inventory of Noel Robertson's publications, but have listed a selection of papers and books that we think give a flavour of his work, his interests and his scientific philosophy. A notable omission from the list is any publication on parasexual recombination. Although Robertson made significant contributions to the early work on this topic (see Robertson 1960), so far as we know none of the publications carried his name.