

Blueprints for rural economy: Philip Lowe's work in rural and environmental social science

Neil Ward B.Sc., Ph.D.¹  | Jeremy Phillipson B.Sc., M.Phil.²

¹ Vice Chancellor's Office, University of East Anglia, Norwich, UK

² Centre for Rural Economy, Newcastle University, Newcastle upon Tyne, UK

Correspondence

Neil Ward, Vice Chancellor's Office,
University of East Anglia, Norwich, UK.
Email: neil.ward@uea.ac.uk

Abstract

Philip Lowe died in February 2020, and so an academic career spanning five decades in environmental and rural social science and the sociology of knowledge came to an end. A pioneer of the social science of environmentalism since the early 1990s, Philip Lowe had been closely associated with the Centre for Rural Economy at Newcastle University in the UK and had been the intellectual force behind establishing rural economy as both a subject and mode of social science analysis. This article reflects on a career and the evolving concept of 'rural economy' as an economic form, a policy realm and a knowledge practice. Through this history, it presents an account of the contribution of Philip Lowe's research and writing that, as a result of his death, now stands as a bounded and complete body of work for the benefit of future generations of scholars.

KEYWORDS

Centre for Rural Economy, environmental politics, Philip Lowe, Rural Economy and Land Use Programme, rural economy, rural studies

This is an open access article under the terms of the [Creative Commons Attribution-NonCommercial-NoDerivs](https://creativecommons.org/licenses/by-nc-nd/4.0/) License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

© 2021 The Authors. *Sociologia Ruralis* published by John Wiley & Sons Ltd on behalf of European Society for Rural Sociology

INTRODUCTION: PHILIP LOWE'S CAREER IN SUMMARY

The content of an academic career cannot be fully understood without reference to its context. Philip Lowe was one of Europe's most prominent social scientists in the field of environment and rural development. His career began in the early 1970s at a time when environmentalism was gathering pace as a critique of industrial development models, and his first major contribution was to the social science of environmentalism and environmental politics. His second contribution was to give shape and intellectual coherence to 'rural economy' as both a subject and mode of social science inquiry. Echoing the holistic traditions of classical political economy, he framed rural economy as a complex and contested economic form and a policy realm shaped by economic, social and environmental interests and public authorities. Philip's third contribution was to conceptualise the rural economy as a set of knowledge practices. For social scientists interested in understanding and acting within rural economies, he emphasised the potential in harnessing the natural sciences as allies in interdisciplinary research and developed new insights into the performativity of expertise in policy and practice (Lowe, 2010, 2012; Lowe & Phillipson, 2006, 2009; Lowe et al., 2008, 2009, 2013a, 2019).

Philip Lowe was born in Hull in 1950. He studied natural sciences at Oxford University, then pursued postgraduate work at Manchester and Sussex, joining the University College London (UCL) as a lecturer in Countryside Planning in 1974. He developed an interest in the politics of rural conservation and out of this interest produced the first major sociological study of the British environmental movement, *Environmental Groups in Politics* (Lowe & Goyder, 1983). With Graham Cox and Michael Winter, he went on to examine agricultural policy-making and the struggles between farming interests and environmental pressure groups in a series of studies of agricultural corporatism (Cox et al., 1985a, 1985b, 1986a, 1986b, 1987, 1988, 1989, 1990a, 1990b). He helped found the Rural Economy and Society Study Group, a vibrant cross-disciplinary social science network that thrived during the 1980s (Lowe & Ward, 2007; Winter, 1985), and with Michael Winter, he served as the British editor of *Sociologia Ruralis* and strengthened interactions between British and European rural and environmental social scientists (Lowe & Boudiguel, 1990).

In 1988, with Richard Munton and Terry Marsden, he established the Rural Studies Research Centre at UCL and led a series of major studies of rural change, focusing on the politics of house-building and land development (Lowe et al., 1993a, 1993b; Marsden et al., 1993) and the regulation of farm pollution (Lowe, 1992; Lowe et al., 1997). During this period, he also began influential work on European environmental policy in the context of European integration (Lieverink et al., 1993) and the implications of Europeanisation for UK environmental policy (Lowe & Ward, 1998; Ward & Lowe, 1998; Ward et al., 1997).

In 1992, after almost two decades at UCL, Philip was appointed to be the first Duke of Northumberland chair in Rural Economy at Newcastle University and director of the University's new Centre for Rural Economy (CRE). Under his leadership, CRE helped advance the 'rural economy' as a distinct subject of academic inquiry (Allanson et al., 1995). The Centre's reputation grew during the 1990s, and it became an influential voice in the UK and internationally on questions of agricultural and rural policy. Philip's research was always informed by his strong networks among policy-making bodies. For example, he was a member of the National Policy Committee for the Council for the Protection of Rural England and a member of the Socio-Economic Advisory Panel for English Nature, England's nature conservation agency. After the 1997 UK general election, he took on various roles advising government, as an advisor to the then Secretary of State for Agriculture and as a member of the Board of the Countryside Agency.

In 2003, Philip was appointed to lead a pioneering £27 million research programme into Rural Economy and Land Use (Relu) funded by the UK Research Councils. This major Programme funded almost 100 research projects involving 500 researchers. In his 10 years as Relu director, Philip produced important new insights into interdisciplinarity and associated rural and environmental knowledge practices (Lowe, 2010; Lowe & Phillipson, 2006; Lowe et al., 2013a). However, in 2010, Philip was diagnosed with Parkinson's disease, which undermined the momentum of what was becoming a significant contribution to interdisciplinarity and the sociology of knowledge. Nevertheless, he continued to write and to support his junior colleagues. His body of work totalled over 330 publications, including 24 books and 88 journal articles.

This article provides the first overview of Philip Lowe's scholarship in its entirety. It examines the evolution of his work through four phases. For each phase, we outline the political and intellectual context, the main projects and partnerships, and the insights and contribution Philip generated. The first phase centres on the 1970s and studies of the then burgeoning environmental movement in Britain. The second, centring on the 1980s, sees Philip focusing more specifically on rural and agricultural policymaking and Europeanisation. The third phase covers Philip's directorship of the CRE and his efforts to forge a theoretically and empirically distinctive approach to rural economy. Finally, the fourth phase covers the Relu Programme and Philip's intellectual contribution to the sociology of knowledge and interdisciplinary research in the spheres of food, farming, rural economies and land use.

THE 1970s: ENVIRONMENTALISM, ENVIRONMENTAL POLITICS AND RURAL PRESERVATIONISM

Context

After graduating in natural sciences from Oxford University in 1971, Philip moved to Manchester and then to Sussex for postgraduate work. The late 1960s and early 1970s were turbulent times that saw the birth of modern environmentalism and contemporary 'science and technology studies' (STS). Two 1962 books helped frame the intellectual climate of this period. First, Rachel Carson's *Silent Spring* (1962) alerted the world to the pervasive effects of chemical pesticides and ignited the world's ecological imagination (Lear, 1997). Environmentalism challenged notions of 'progress' and, by the early 1970s, the Club of Rome were pointing to fundamental limits to growth (Meadows et al., 1972). Second was Thomas Kuhn's *The Structure of Scientific Revolutions* (1962), which opened up new potential for the development of a sociology of science. The University of Sussex established the Science Policy Research Unit (SPRU) in 1966, and in 1971, Roy MacLeod, a historian of science and founding research fellow at SPRU, helped launch an important new journal, *Science Studies* (which later became *Social Studies of Science*). The new journal 'marked the beginning of a radical, vigorous and sometimes cheeky effort to treat the natural sciences as fair game for an unstinting social and historical analysis' (Lynch, 2011, p.3). Together with a group at Edinburgh University, SPRU and the journal served as a crucible in the development of STS.

Partnerships, projects and publishing

At Manchester University, Philip studied for a Masters in Science Policy in the Department of Liberal Studies in Science. His thesis, entitled *Environmental Pressure Groups: A Study of*

their Organization and Effectiveness, compared the structure, strategies and effectiveness of the National Trust and Friends of the Earth, the former redolent of the 'old politics' of the environment, and the latter, just founded in 1970, suggesting the 'new'. He pursued further postgraduate study in the history of science at SPRU culminating in his MPhil thesis entitled *Locals and Cosmopolitans: A Model for the Social Organisation of Provincial Science in the Nineteenth Century*. Supervised by Roy MacLeod, the thesis is a study of the 19th century institutional development of popular science in provincial Britain. It traces the growth in popular science using a survey of the 230 provincial scientific societies that published in that century. It presents a model for the evolution of provincial science and explains the gradual institutional and geographical separation of 'professional' and 'amateur' science. The study helped establish Philip's life-long interest in the provincial, the rural and the peripheral, in opposition to the metropolitan, the urban and the core.

Philip began lecturing in the countryside and rural planning at the Bartlett School of Architecture and Planning at UCL from 1974. There he worked alongside Gerald Wibberley, who combined a chair at UCL in Countryside Planning with a senior position at the University of London's agricultural college, Wye College, in Kent. Together they taught on a degree in Rural Environmental Science but in an atmosphere of some intellectual hostility in an institution with a strong agricultural focus and some suspicion of this new emphasis on the environment. Wibberley was an inspirational figure— an academically fearless visionary who doggedly challenged the conventional orthodoxy of farming's primacy among rural land uses (Clayton, 1993) and became a vocal critic of industrialised agriculture (Derounian, 2018).

By the mid-1970s, Philip was becoming an authority on the environmental movement, and he analysed the place of scientific expertise in this important new social and political force. He examined the role of science in the government's response to the Torrey Canyon oil spill and the establishment of the Royal Commission on Environmental Pollution (Lowe, 1975a, 1975b). He published a piece in *Nature* (Lowe & Worboys, 1976) on 'the ecology of ecology', which explored the ambivalent relationship between science and environmentalism, arguing that on the one hand, science was often cast as the villain while, on the other, scientists had also been in the forefront of alerting society to environmental problems. The piece examined ecologists, in particular, as a disciplinary group that had seemed to be untainted by the reductionist and industrial associations of much modern science. Their very marginality to mainstream science was becoming a purist asset and the article provocatively argued that ecology was becoming as much a social movement as a branch of biology.

His first major grant from the Economic and Social Research Council (ESRC) funded empirical research between 1977 and 1981 into environmental pressure groups, published as *Environmental Groups in Politics* (Lowe & Goyder, 1983). The study traced the roots and rise of the environmental movement, the organisation of environmental pressure groups and the ways they were functioning locally and nationally. The book explains how the British public had become increasingly attuned to environmental issues and how an environmental lobby had grown to reflect these concerns. Two broad categories of the environmental group were identified based on their orientation towards change. The first, which included the National Trust and Civic Society, was termed 'emphasis groups' whose aims do not conflict with widely held social goals or values. The second was 'promotional groups' who more actively promote value change and so have a more provocative and confrontational style. The book presented detailed case studies of the Henley Society, Friends of the Earth, the National Trust, the Royal Society for Nature Conservation, and the European Environmental Bureau.

Insights and contribution

From this first period, *Environmental Groups in Politics* is Philip's best-known piece. Its distinctive contribution was in the rigorous, theoretically informed, but empirically grounded analysis of who were these environmentalists, what motivated them, the earlier traditions this new movement was rooted in, and its campaigning and political strategies. The case studies showed in some detail how emphasis groups tend to have close relationships with government officials, while promotional groups challenged policies and procedures from a more distanced standpoint. They enabled quite a sophisticated analysis of the dialectical relationship between the internal and external relations of different types of groups. The book helped establish a whole new field of work in political science and environmental sociology alongside other pioneering work by Tim O'Riordan (1981) and others. Yet even before this first book, Philip's sociological studies of the relationship between science and the environmental movement and its politics broke new ground (Lowe & Warboys, 1976, 1978). They also paved the way for what was to follow. The disciplinary insights of history, sociology and political science were brought to bear upon this very contemporary phenomenon, and the sociology of science would be something Philip would return to over his career.

THE 1980s: COUNTRYSIDE CONFLICTS AND RURAL CHANGE

Context

During the 1980s, as elsewhere, British farming was coming under sustained critique from campaigners (e.g., Shoard, 1980), academics (e.g., Bowers & Cheshire, 1983) and politicians (e.g., Body, 1982, 1984). Growing evidence of landscape change and the destruction of wildlife habitats, coupled with concern about agricultural pesticides and pollution, heightened opposition to agricultural policies aimed at supporting intensive production. These problems transformed the popular image of farmers from one of working closely with nature to that of highly subsidised polluters and 'destroyers' of the countryside. Environmental problems were compounded by surplus production and financial pressures in the Common Agricultural Policy (Marsden et al., 1993). European integration, not least through the Single European Act 1986, meant European policy-making increasingly influenced rural planning and environmental management. The environment became a salient issue across Europe. In the UK, this prompted a rapid greening of government policy in the late 1980s. Influential in government was the work of UCL environmental economist, David Pearce, whose *Blueprint for a Green Economy* became essential reading for those interested in environmental policy and sustainable development (Pearce et al., 1989), although UCL was also home to critiques of environmental valuation and cost-benefit analysis (see, e.g., Adams, 1974; Burgess et al., 1988).

During the early 1980s, Philip's research had begun to focus on the struggles between environmental pressure groups and the agricultural sector. The passage of the Wildlife and Countryside Act, 1981, provided a political focus for this struggle. After the Bill was announced in June 1979, a protracted consultation and parliamentary phase meant a more than 2-year saga during which the agriculture and environmental lobbies were pitted against each other (Lowe et al., 1986a). Subsequent struggles covered the loss of valued landscape features, the gradual development of environmental payments to farmers for conservation and environmental benefits (Baldock et al., 1990; Cox et al., 1988; Lowe et al., 1986a) and the rising problem of water pollution from farm

wastes and pesticides in the politically charged atmosphere around the privatisation of the water industry (Lowe et al., 1997; Ward et al., 1998).

Partnerships, projects and publishing

Following the research that underpinned *Environmental Groups in Politics*, Philip obtained grants from the Nuffield Foundation, the ESRC and others to fund his work in the mid-1980s examining the politics of farming's environmental controversies. His work in this period was influential in understanding corporatist and pluralist styles of politics and policy-making and the roles of groups with insider and outsider status when seeking to influence government. A highly productive collaboration developed with Graham Cox and Michael Winter, both then at the University of Bath, which traced the evolution of agricultural corporatism through a period of profound structural change for both agricultural and environmental interests. The relationship between farming interests and the government had been characterised as a close partnership (Self & Storing, 1962), but by the late 1980s, the authority of the farming lobby had been 'significantly weakened' (Cox et al., 1988, p.323).

Academic networking further enriched Philip's research during the 1980s. The first network involved the Rural Economy and Society Study Group (RESSG) in the UK. Established in 1978 as 'a forum for all those studying the social formation of rural areas in advanced societies [and] to encourage theoretically informed investigation and analysis of rural issues' (Bradley & Lowe, 1984, p.1), the group brought together isolated rural scholars and previously diffuse networks from across the social sciences. It soon grew to include more than 100, mainly younger, researchers and went on regularly to attract research council funding for organising major conferences on rural themes (see, e.g., Bradley & Lowe, 1984; Buller & Wright, 1990; Cox et al., 1986a; Lowe et al., 1986b; Marsden and Little, 1990).

A second set of networks were with European scholars, especially in France and The Netherlands, and also became the start of a long-standing link with David Baldock at the Institute for European Environmental Policy (IEEP). Philip won grants from the ESRC for Anglo-French comparative research in rural social change and built upon this with further work on the politics of the environment and rural areas in the UK, The Netherlands and France from 1987 to 1989. Philip's French comparative work was helped by his former research assistant, Henry Buller, moving to France. The exchanges were very productive and culminated in the magnificent *Rural Studies in Britain and France* (Lowe & Bodiguel, 1990) – a comparative analysis of the evolution of rural studies across six disciplines in the two countries.

By the mid-1980s, Philip was an established international expert on agriculture and countryside politics. He also continued to publish important contributions in environmental politics (Rüdig & Lowe, 1986) and wider environmental social science and political philosophy (Lowe & Rüdig, 1986). In addition, he began to engage with the increasing importance of European environmental policy and politics. A key development was his partnership with Richard Munton of UCL's Department of Geography, and Terry Marsden then at London South Bank University. The three headed an ambitious bid to the ESRC for a Countryside Change Centre based at UCL. Under strong competition, theirs was one of only two funded from among 30 applications, along with the Countryside Change Unit at Newcastle University. The award funded three full-time research staff for the London team for 3 years to carry out a major study of the social and economic restructuring of rural Britain, with detailed local case study work in Buckinghamshire, Devon and Cumbria (Lowe et al., 1993a, 1993b; Marsden et al., 1993; Murdoch et al., 2003). In addition, with

Richard Munton and Graham Cox, Philip led another large project to study the agricultural pollution problems around farm livestock wastes and agricultural pesticides—the Pollution, Agriculture and Technology Change (PATCH) Programme—which brought a further three research assistants. By the end of the 1980s, Philip was leading major programmes of social science research into rural change and environmental regulation with a large group of academic researchers. As these new initiatives were taking off, he continued to write and publish with his collaborators at Bath and in France on countryside conflicts, corporatism and European comparative studies. He also began working with Terry Marsden and Sarah Whatmore editing a series of international volumes on rural studies (see, e.g., Marsden et al., 1990, 1992; Lowe et al., 1990, 1991; Whatmore et al., 1994).

Insights and contribution

The 1980s was a productive period for Philip, with the contributions of the Countryside Change Programme and PATCH Programme coming to fruition in the early 1990s. The UCL Countryside Change Programme provided a rural counterpart to prominent social science work on urban and regional restructuring in economic geography and regional studies (e.g., Cooke, 1989). It highlighted the changing relationship between production and consumption interests in rural areas and the crucial role of property rights in mediating rural change. It advanced the concept of the ‘differentiated countryside’ to demonstrate how the breakdown of a strong national policy framework was leading rural areas to develop along different trajectories according to their regional context and the relative balance of production and consumption interests (Lowe et al., 1993a, 1993b; Marsden et al., 1993; Murdoch et al., 2003). Significantly, the two programmes brought actor-network theory (ANT; Callon, 1986; Latour, 1987) into British rural studies. It went on to spread through British human geography and other social sciences. Researchers Jonathan Murdoch and Judy Clark were the most enthusiastic harbingers of ANT and, with his background in STS and the sociology of science, Philip embraced the approach (Clark & Lowe, 1992). ANT became the theoretical organising principle behind Philip’s study of the farm pollution problem, *Moralizing the Environment* (Lowe et al., 1997).

THE 1990s: TOWARDS A BLUEPRINT FOR THE RURAL ECONOMY

Context

In the 1990s, environmental policy-making gathered pace. As elsewhere, environmental economics and appraisal came to be seen by the UK government as key to ensuring environmental considerations were factored into decision-making. The ascendancy of environmental economics led to spirited debates about the limits of technocratic economism in reflecting social values around environmental goods. From his vantage point co-ordinating two large research programmes at UCL examining a range of environmental issues, Philip engaged in debates about ‘costing the countryside’ (Lowe et al., 1993c). The 1990s also saw key developments in Europe. The 1992 Maastricht Treaty signalled a new wave of European integration, and the decade was bookended by two major reforms to the Common Agricultural Policy (CAP) in 1992 and 1999, separated by a significant growth in the Structural Funds that meant vast increases in sums available to support rural development. In Europe, and through national governments and regions, a new struggle for resources and influence played out between farming representatives

and wider rural development interests, including environmental and conservation bodies, social and community groups and small business organisations. With Wibberley ringing in his ears, Philip moved geographically and in his focus within rural politics to engage with the neoclassical economists and with the farming lobby on new terrain.

Partnerships, projects and publishing

In December 1991, Philip attended a major conference on 'Costing the Countryside' in York, organised under the auspices of the RESSG (see Flynn & Pratt, 1993). He played a prominent role in questioning the new enthusiasm for environmental economics and some of the fundamental assumptions held by those academics and government economists swept up in this movement. The debate became heated at times. What participants would not have known was that Philip was about to move from the company of the classical political economy scholars of the London team (such as Munton and Marsden), and join the largely neoclassical economists at Newcastle University, a move to a different disciplinary culture and a very different rural region. The new disciplinary context was at times a challenge, but the rural north proved an inspiration.

The appointment to the newly established Duke of Northumberland chair in Rural Economy at Newcastle to set up and lead the CRE was eye-catching and the pivotal move of Philip's career. A strong tradition of agricultural economics and rural economy research existed at Newcastle, first through the work of the Agricultural Adjustment Unit in the 1970s and, more recently, through the work of Martin Whitby and colleagues in the Countryside Change Unit. The new chair and two endowed research fellowships were financed through a fund-raising appeal following the death of the 10th Duke of Northumberland in 1988 and a proposal developed by Whitby to establish the CRE. The Centre's focus on 'rural economy' rendered it distinctive from other UK research centres and groupings specialising in food, farming and rural studies. It was a fantastic opportunity, bringing new resources to what was already a strong institutional setting. Philip moved to take up the post in April 1992 and appointed Hilary Talbot from Bristol University as CRE's research manager. From the London team, Jonathan Murdoch joined CRE as a research fellow, and Neil Ward followed in early 1993.

As a sociologist-cum-political scientist, Philip initially found himself rather like a cuckoo in the Department of Agricultural Economics and Food Marketing. He worked hard to build up the CRE during its early years and forged links with like-minded social scientists across the University, including the Centre for Urban and Regional Development Studies. He also assiduously cultivated CRE's role as a research centre for England's rural north. He was struck by the breadth of the University's Faculty of Agriculture and Biological Sciences, the range of research in agricultural sciences, farm business management and food marketing, and the access that such a faculty brought to the Ministry of Agriculture, Fisheries and Food. Newcastle University was an institution on the map for agricultural policymakers.

An early high-profile event was a symposium on the UK Government's (1994) new sustainable development strategy and its implications for agriculture that attracted senior civil servants to Newcastle to engage with academics from across the university (Whitby & Ward, 1994). A string of work continued in EU environmental policy (Ward et al., 1995, 1996, 1997), building on Philip's previous European work (Leifferink et al., 1993), and on the impacts of Europeanisation on British environmental policy and administration (Ward & Lowe, 1998).

Philip strove to develop a theoretically informed approach to rural economies and sustainable rural development. Early work with CRE researchers Paul Allanson, Guy Garrod and Jonathan Murdoch produced an agenda-setting evolutionary perspective on rural economies (Allanson et al., 1994, 1995). Philip further developed this conceptual approach with Murdoch and Ward through an engagement with Dutch scholars at Wageningen Agricultural University working on endogenous (or ‘bottom up’) rural development (van der Ploeg & Long, 1994; van der Ploeg & van Dijk, 1995). The CRE contribution was to seek to strike a balance, maximising the capture of value-added locally, but harnessing extra-local networks and resources (Lowe et al., 1995; Murdoch et al., 1994). This work helped crystallise CRE’s approach to ‘neo-endogenous rural development’, which was pursued further by Chris Ray, who joined CRE later in the 1990s (Ray, 1999, 2000, 2006; see also Gkartziou & Lowe, 2019). Philip produced his own ‘blueprint’ for a rural economy (1996) as part of a collection of CRE’s work (Allanson & Whitby, 1996).

In 1994, much of England’s rural north was designated an Objective 5b area under the Structural Funds and significant new EU monies flowed to support rural development. Philip was appointed to the Northern Uplands Programme Board and convened a series of CRE workshops for stakeholders across the region to develop a common analysis and understanding of the opportunities the programme brought. The exercise helped forge CRE’s role as an independent research resource *for* the region and *of* the region and inspired the creation of the Northern Rural Network (NRN) as well as the first large scale regional survey of rural micro-businesses (Raley & Moxey, 2000). A decade later, the NRN had over 1300 members across the rural North and would convene several workshops each year for local and regional practitioners and policymakers to engage with research findings and discuss rural development problems and initiatives. The regularity of these events and CRE’s independent and facilitative role helped grow a rich and extensive rural policy network that became an important influence upon regional and national rural policy and inspired similar initiatives in the US and Japan, while also catalysing a rich vein of international exchange and comparative scholarship, for example, through the ‘Trans-Atlantic Rural Research Network’ (see Ando, 2012; Shucksmith et al., 2012).

As CRE’s reputation steadily grew, it became a more influential voice on the national and international stage on questions of agriculture and rural policy. It became a challenge to work out where all the PhD students at CRE were going to be accommodated—always a nice problem for a research centre to have. A steady stream of international visitors would come to spend their sabbaticals at the Centre. In July 1997, the European Commission published its Agenda 2000 reform proposals for the CAP and Structural Funds. CRE’s work in the rural North left it well-placed to contribute to discussions about the reforms, and especially, with echoes of Wibberley, the potential for shifting CAP monies from farming towards wider rural socio-economic development purposes.

After New Labour’s election in 1997, Philip was swept into an array of roles advising ministers and government departments. He was appointed as a special advisor to Labour’s Agriculture Minister, Jack Cunningham, and the then European Commissioner for Agriculture, Franz Fischler, journeyed to Newcastle to pick Philip’s brains on the Agenda 2000 reforms, which proposed a new ‘second pillar’ to the CAP to include agri-environmental and rural development measures. Philip was also the expert advisor to a host of parliamentary select committees and was appointed to the Board of the new Countryside Agency in 1999 where he played a vital role in bringing national recognition to the breadth and profile of rural economies.

Philip was invited to 10 Downing Street to brief the Prime Minister’s advisors on the Agenda 2000 reforms and became a key figure among the UK rural policy network in interpreting the CAP’s arcane financing rules. He advised the then Rural Development Commission and the

statutory countryside and conservation agencies and, working with IEEP, helped open eyes to the possibilities for potentially radical reform (Lowe & Ward, 1998a, 1998b; Lowe et al., 1999, 2002). In late 1998, Tony Blair chose rural economies as one of the first topics for his new Cabinet Office Performance and Innovation Unit (PIU) to help plan the UK's approach to the European reforms. The PIU's first move was to call Philip for advice and input.

A key mechanism in the 1999 CAP reform was modulation, which permitted reducing direct payments to farmers (to subsidise production) and transferring the savings to pay for environmental management and rural development. CRE's research on the potential of modulation was mobilised in deliberations with the Prime Minister, cabinet ministers and political advisors. The then Agriculture Minister, Nick Brown, later wrote that the CRE research '*helped inform policy within the Ministry of Agriculture and later on within Government more generally*'. The UK's use of modulation led to a significant restructuring of the CAP. Brown wrote, '*As a reform it is far more sustainable than the regime it came to replace. That's quite an achievement but I don't think we would have got there without being able to back our point up with the evidence and arguments provided by Newcastle University's early research*'.¹ The UK's success with modulation led to the measure being introduced throughout the EU, transferring over €10 billion of monies by 2013—a significant greening of the CAP. *The Times* newspaper described CRE as the Government's 'favourite rural think-tank'.

Insights and contribution

The 1990s were Philip's most productive decade in terms of published output and his influence as an advisor to policymakers increased through the decade too. By the 1999 CAP reforms, he had become an influential national voice shaping the thinking of the rural policy community and Government in its approach to CAP and the Structural Funds.

Neo-endogenous rural development, though something of a mouthful, provided an intellectual and practical manifesto for rural development that had been distinctively forged at CRE. It drew together conceptual insights from economic geography around clusters, agglomerations and networks but combined with those from ANT, which emphasised the importance of the contingencies that rendered networks either strong and effective or vulnerable.

Perhaps Philip's most significant achievement of this period was in the building up of CRE and its collegiate research culture. As director and figurehead, he drove a significant proportion of the centre's projects, but there was a sense that by the end of the decade, CRE's research had reached a critical mass and became self-sustaining.

THE 2000s: RELU—A RADICAL EXPERIMENT IN INTERDISCIPLINARITY

Context

The start of the new century was a high point in rural policy-making in England. A new Rural White Paper was published in November 2000 setting out an ambitious reform programme, and the Government announced its radical move on CAP reform but disaster struck in early 2001 in the form of a serious outbreak of Foot and Mouth Disease (FMD). The Government was caught on the back foot and its response to the outbreak precipitated a rural economic crisis as the public were

actively discouraged from visiting the countryside and businesses and communities were severely disrupted. Philip mobilised CRE to produce surveys and ideas to help address the crisis, but in the aftermath of FMD, the Government resorted to a renewed focus on the agricultural industry with less emphasis on the wider rural economy. The abolition of the Ministry of Agriculture was symbolic, but the new Department for Environment, Food and Rural Affairs (Defra) took climate change as its core integrating theme, and rural affairs became relegated to the margins (Ward & Lowe, 2007).

For research and policy, however, new questions emerged about rural economy and land use. These included the potential for new uses of rural land including to mitigate climate change and the promotion of food quality and supply chain innovation. These issues were set against the backdrop of FMD and growing demands for interdisciplinary research in a policy discourse dominated by sustainable development and pressures for greater accountability of science (Lowe & Phillipson, 2006). In response, the UK research councils joined forces and bid to Government for a major cross-council initiative, to be co-ordinated by the ESRC, but with funding from the Natural Environment Research Council and the Biotechnology and Biological Sciences Research Council. An initial £25 million was allocated to the Relu Programme, which commenced in 2003 and ran until 2013.

Partnerships, projects and publishing

Philip's work in the early years of this decade centred on the FMD crisis and the lessons to be learned. CRE staff conducted surveys of business impacts (Bennett et al., 2001, 2002; Bennett & Phillipson, 2004; Phillipson et al., 2002a, 2002b, 2004) and ESRC-funded research into government decision-making and lesson-learning (Donaldson et al., 2002; Ward et al., 2004). When the Relu Programme was launched, Philip was appointed director from 2003, supported by Jeremy Phillipson as assistant director, and they would be joined later by Anne Liddon as science communication manager. Philip's background as an undergraduate in natural sciences and his early research on scientific expertise in environmental and conservation politics and policy-making, coupled with almost three decades of social science work on rural, environmental and agro-food issues spanning political science, sociology, geography and planning, made him uniquely placed to help co-ordinate and add intellectual value to a vast programme of research into rural economy and land use issues.

Relu provided the ideal opportunity for Philip to project onto the national stage the approach to research capacity-building and engagement with policy and practice that he had honed at CRE—a radical approach in which sharp distinctions between the producers and users of knowledge and between the scientific process and application of research results are dissolved. Relu would impact science policy and approaches to knowledge production far beyond the rural field, with the programme influencing the growth of interdisciplinarity and knowledge exchange within the UK science base (Meagher, 2012; Meagher et al., 2016). Crucially, it brought attention to the need and scope for change in the institutional structures and practices that reinforce expert and disciplinary divides and hinder the ability of research to address complex sustainability problems (Lowe & Phillipson, 2009). It helped convince the research councils of the value of interdisciplinary research, equipping them with insight into the constraints and techniques for enabling this approach.² Relu went on to influence the design of several major new research programmes, as well as processes of interdisciplinary research commissioning, assessment and decision-making. However, Philip himself argued there was unfinished business, that Relu did

not entirely 'break the mould' and that 'the challenge looking ahead is how to further translate its programme innovations into changes in policy and procedure within the Research Councils' (Lowe et al., 2013b, p.45).

Philip was an extremely active director, working closely with individual project teams to ensure lessons were learned and transmitted. The programme catalysed novel connections between, for example, on the one hand, human geographers, sociologists, economists, political scientists, anthropologists with, on the other, ecologists, hydrologists, plant scientists, vets and animal scientists. It tested out various forms of interdisciplinary working in what Philip would often describe as a large-scale experiment in radical interdisciplinarity across the social and natural sciences. As well as broadening and strengthening collaboration between the environmental and social sciences, Philip's leadership of the programme helped to forge new strategic links between the social and biological disciplines pertaining to major issues of food chain risk and management of animal and plant diseases.

Relu posed a huge challenge of co-ordination and involved research councils as well as researchers in new ways of working.³ Sir Howard Newby, chair of Relu's Advisory Committee, recalled that 'Philip could credibly talk the language of science to scientists. In the end, his sheer doggedness won many of them over. I used to compare chairing the early meetings of the Relu advisory board to the Northern Ireland peace talks, but gradually mutual respect was established, and Philip's leadership was vindicated'. Relu became recognised as the exemplar of how research councils could work together and add value to their interdisciplinary work and also more effectively engage stakeholders throughout the research process.⁴ It also provided a testbed for ways in which strategic research programmes can enable governments to navigate and access expertise across the research base (Lowe et al., 2013b). As well as conducting surveys of interdisciplinary research practices (Lowe et al., 2009; Lowe et al., 2013a; Phillipson et al., 2009;), the Director's Office team also undertook ESRC-funded research into the knowledge practices and role of field-level advisers as intermediaries between science, rural policy and land management practice. The *Science in the Field* project opened a rich vein of thinking underpinning the Relu experiment linked to the nature and performance of expertise and expertise exchange (Phillipson et al., 2016; Proctor et al., 2012). In this research, Philip identified the shifting polarity between expert and inexpert that can be essential to interprofessional or interdisciplinary working. At this time, he also chaired the Vets and Veterinary Services Working Group, set up to consider the changing public priorities in Britain for farm animal health and welfare, food safety and public health, and the capacity of farm animal veterinarians to respond. According to the then Chief Veterinary Officer, Philip '*earned the respect and active support of veterinary professionals*', leading to his influential report (the 'Lowe Report') into the future direction of the profession (Lowe, 2009).

Insights from Relu would also inform wider capacity-building in science policy-making. As a member of Defra's Science Advisory Council, for example, Philip instigated and led an influential review into the role and capacity of social research within the Department, which triggered a significant expansion in social science capability that continues to this day in informing many areas of Defra's work (Defra Science Advisory Council, 2007).

In 2009, Philip chaired the Scientific Committee of the XXVI European Society for Rural Sociology Congress. His keynote address that opened the congress focused on the performativity of rural sociology, that is, the difference it makes in shaping the social and material world (Lowe, 2010). 'A social science that does not strive ceaselessly to understand itself is hardly worthy of the name' (p. 311), he began, before setting out what it means to be an 'engaged social science', tracing the evolution of the discipline in the US and Europe over the 20th century and the interplay

between the two communities. He showed how European rural sociology resisted the universalising tendencies of Americanisation and how its contrasting emphasis on the particular helped support the development of an active rural, structural and regional policy for Europe.

Insights and contribution

Relu attracted extensive international interest and its pioneering insights have proved useful in fields where problems require a mix of knowledge and expertise from natural and social sciences, such as climate change, flooding, plant, animal and human diseases. In many ways, through its substantive insights and impacts, and its methodological and institutional legacies, Relu paved the way to a more holistic approach to countryside policy, what has now become the new normal. The programme would turn out to be the conclusion of Philip's career. He led, with boundless energy and great intellectual authority, what was at the time the most substantial programme of interdisciplinary academic work funded by the UK Research Councils. Under his leadership, the programme departed radically from the 'end-of-pipe' role conventionally accorded to social scientists in technical programmes, of helping to overcome social constraints to advances in science and technology. It brought critical social science perspectives to bear 'upfront' in setting an agenda for interdisciplinary research and into the shaping of socio-technical innovation (Lowe et al., 2008; Lowe et al., 2013a), while firmly establishing the argument that 21st century concerns with growing instabilities in the natural world require 'a more equal, immediate and intense interaction between ... social and natural scientists' (Lowe et al., 2013a, pp. 208–209).

Through Relu, Philip was, therefore, able to put into practice an agenda he had propagated throughout his career when calling for a re-engaged, creative and strategic role for the social sciences inside the design of technological change and environmental management (Lowe, 1992). He helped raise the profile and significance of interdisciplinary work and experience within the basic disciplinary communities, with a contribution set out in six landmark volumes of prominent mono-disciplinary journals—including the first-ever issue of the *Journal of Applied Ecology* on ecology and the social sciences (Phillipson et al., 2009) and the first-ever interdisciplinary issue of the *Philosophical Transactions of the Royal Society* (Wilkinson et al., 2011) on the management of animal and plant diseases. These mapped out emerging research frontiers at the interfaces between the social, biological and environmental sciences.

LEGACY: PHILIP LOWE'S SCHOLARSHIP AND THE FUTURE OF EXPERTISE

It is notable how wide and varied Philip's influence has been, ranging from academic leadership in environmental studies to conceptualising rural change, promoting interdisciplinary working and helping shift the balance of farm policy from production to sustainability. This article is our personal account of the whole body of his work, but there will be other accounts, with different emphases, from those, like us, fortunate enough to have joined him along his way.

Reflecting on the early days of Philip's career, Roy MacLeod, Philip's supervisor in the 1970s at SPRU, wrote:

Philip was among my best students in those pioneering years at Sussex—one of about thirty who helped begin the discipline of the social studies of science. Our sense then,

as now, is that the ‘past is in the present’, and a neglect of the lessons and legacies of past experience ... is foolish and dangerous. Philip took the point and used his work in the history of science to inform present public policy. Like others, he took professional risks, and made the most of opportunities that came his way—and those he made for himself. He took on board all we said about the uses of expertise and the contradictions of planning, in thinking through the ways of politics and the machinery of government.⁵

Specific outputs of Relu included 20 high profile conferences and workshops, the production of six prestigious cross-programme journal special issues, orchestration of 21 cross-programme policy submissions and consultation responses, sponsorship of five cross-programme edited books, supporting 24 cross-programme workshops and special sessions, 16 briefing articles linking evidence from different waves of projects, 41 policy and practice notes drawing out implications of the research for targeted audiences, 159 datasets and 1308 project outputs (journal articles, etc.) and over 700 items of media coverage.

By the early 1990s, Philip had become a prominent figure in rural and environmental social science (Newby, 1991). He had arrived at the rural economy from an environmental, sociological and political analytical perspective rather than from an economic one, and this gave him a distinctive perspective on ‘rural economy’. He might have studied natural sciences at Oxford, but he was essentially operating as a social scientist working in, and in between, sociology, political science and science studies.

He won accolades. In 2003 he was awarded an Order of the British Empire (OBE) for services to the rural economy, and in 2013, he was awarded the prestigious Swedish Royal Academy for Agriculture and Forestry’s Bertebos Prize by the King of Sweden for his contribution to sustainable rural development and land use. Newcastle University also received the Queen’s Anniversary Prize in 2013 in acknowledgement of CRE’s work and influence in the field of rural development.

We circulated a draft of this article to colleagues who had worked with Philip and invited comments. Two common themes came back strongly in their responses. *First* was his exceptional generosity in his support and mentoring of others, in fostering the careers of countless scholars and especially in guiding and promoting young researchers. Their careers are part of his legacy. *Second* was his commitment and effectiveness in making a difference in policy debates through his research. ‘His ability to bridge the academic and policy contexts was second to none’ and ‘I cannot think of anyone else who both transformed the nature of ... rural studies and simultaneously had an equally transformative impact on public policy’ were just two comments. One colleague from the policy world explained, ‘Philip was very influential, often challenging us and frequently bringing in new perspectives and ideas that enabled us to think creatively and more connectedly’. They went on, ‘[His] expertise and challenge were much valued, especially in questioning sloppy thinking from civil servants and officials as they tried to square impossible circles’.

After retirement, Philip’s thinking continued to be programmatic and forward-looking. He had long intended to revisit the models of rural development (Lowe et al., 1995; see also Gkartzios & Lowe, 2019) and their underpinning framings of knowledge generation. His final article returned to this theme to reveal a changing relationship between scientific, professional, non-professional and socially distributed sources of expertise. It identified *vernacular expertise*—the expertise people have about the places in which they live and work—as the essential expertise underpinning neo-endogenous development. He wanted the piece to use rural development as a case

but to speak to a broader audience. Perhaps fittingly, it was published in *World Development* rather than a specifically rural journal (Lowe et al., 2019). Here, Philip's final call to science and development was to work with and help mobilise vernacular expertise. Such an approach, he argued:

'will require the identification of new ways to draw upon, recognise and help strengthen expertise in place (i.e. vernacular expertise). In the case of research, development and evaluation approaches this implies building on and building up the expertise of local actors through the joint-production of knowledge, the creation of networks for expertise exchange, and helping equip local actors with methods and tools they can use to develop and apply their own expertise. For us all to become effective experts, we must learn to deal with other experts. This involves becoming deft at managing and mutually constructing our dual roles as both experts and nonexperts ... The key point is that, to work, the expert/non-expert interface must be mutually constructed — demand must be informed by trust; authority underpinned by service. Knowledge and information must flow in both directions. Thus, as a democratising force, expertise introduces the prospect of an equivalence around which there can be mutual exchange and learning' (p. 36).

Following his graduate work on the evolution of 19th century provincial science, Philip's early work had focused on the politics of rural conservation and preservation and he shed light on the complex power play between agricultural interests and those pressing to change agriculture's ways. This view of rural policy and planning as a realm in which individuals and organisations strive to build networks, alliances and influence also pervaded his approach to rural economy as a complex and contested economic form, with social relations underpinning economic practice and environmental resources often integral to economic development.

His Relu work took him full circle to engage with knowledge practices in the social and natural sciences around rural economy and land use. Relu was the grandest of stages for observing and leading an experiment in new ways of interdisciplinary working. Its work will be a valuable source to scholars in science policy, the sociology of science and from across the social and natural sciences (Meagher et al., 2016). The insights Philip produced out of his Relu experience are profound, although the scale and breadth of their impact, and realisation of their longer-term significance, now rests in the strengthened interdisciplinary orientation of institutions, research teams and the many hundreds of scientists and researchers influenced by the programme.

ORCID

Neil Ward B.Sc., Ph.D.  <https://orcid.org/0000-0002-0732-2278>

ENDNOTES

- ¹ Letter from Nick Brown, former UK Minister of Agriculture (7.8.13), to support a CRE impact case study for the Higher Education Funding Council for England's Research Excellence Framework.
- ² Relu impact case study for the Higher Education Funding Council for England's Research Excellence Framework 2014, <https://impact.ref.ac.uk/casestudies/CaseStudy.aspx?Id=21453>
- ³ See Whatmore (2013) for a discussion of the difficulties in administering interdisciplinary research funding decisions.
- ⁴ Specific outputs of Relu included 20 high profile conferences and workshops, the production of six prestigious cross-programme journal special issues, orchestration of 21 cross-programme policy submissions and consultation responses, sponsorship of five cross-programme edited books, supporting 24 cross-programme workshops

and special sessions, 16 briefing articles linking evidence from different waves of projects, 41 policy and practice notes drawing out implications of the research for targeted audiences, 159 datasets and 1308 project outputs (journal articles, etc.) and over 700 items of media coverage.

⁵ Personal correspondence with Neil Ward, 12 October 2020.

CONFLICT OF INTEREST

There are no commercial or financial relationships that could be construed as a conflict of interest in the production of this article.

ACKNOWLEDGEMENTS

We would like to thank Christopher Brown at UEA Library for his help in tracing source material and Annette Moore and Jane Harvell at the University of Sussex Library for their help in digitising and making available Philip's MPhil thesis. Comments informing the article, which we warmly acknowledge, were provided by: David Baldock, David Brown, Henry Buller, Tony Burton, Terry Carroll, Janet Dwyer, Carmen Hubbard, Anne Liddon, Veronica Lowe, Roy MacLeod, Terry Marsden, Richard Munton, Howard Newby, Tokumi Odagiri, Susan Owens, Amy Proctor, Fiona Reynolds, Christopher Ritson, Sally Shortall, Michael Winter and Barbara Young.

DATA AVAILABILITY STATEMENT

Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

REFERENCES

- Adams, J. (1974). and how much for your grandmother? *Environment and Planning A*, 6(6), 619–26.
- Allanson, P. & Whitby, M. (1996) *The rural economy and the British countryside*. London: Earthscan.
- Allanson, P., Murdoch, J., Garrod, G. & Lowe, P. (1994) *The rural economy: An evolutionary perspective*. CRE Working Paper Series No 1. Newcastle University.
- Allanson, P., Murdoch, J., Garrod, G. & Lowe, P. (1995) Sustainability and the rural economy: an evolutionary perspective. *Environment and Planning A*, 27(11), 1797–1814.
- Ando, M. (2012) (ed.) *New frontiers in studies of rural Britain: The trajectories of research, policy and practice of the Centre For Rural Economy*. Tokyo: University of Tokyo.
- Baldock, D., Cox, G., Lowe, P. & Winter, D. (1990) Environmentally sensitive areas: incrementalism or reform. *Journal of Rural Studies*, 6(2), 143–62.
- Bennett, K & Phillipson, J. (2004) A plague upon their houses: Revelations of the foot and mouth disease epidemic for business households. *Sociologia Ruralis*, 44(3), 261–284.
- Bennett, K., Phillipson, J., Lowe, P. & Ward, N. Cattermole, A., Donaldson, A., Elliott, C., Midgley, J. & Thompson, N. (2001) *The impact of the foot and mouth crisis on rural firms* (CRE Research Report). Newcastle upon Tyne: Newcastle University.
- Bennett, K., Carroll, T., Lowe, P. & Phillipson, J. (2002) Coping with crisis in Cumbria: the Consequences of Foot and Mouth Disease (. CRE Research Report). Newcastle upon Tyne: Centre for Rural Economy, Newcastle University.
- Body, R. (1982) *Agriculture: The triumph and the shame*. London: Temple Smith.
- Body, R. (1984) *Farming in the clouds*. London: Temple Smith.
- Bowers, J. & Cheshire, P. (1983) *Agriculture, the countryside and land use*. London: Methuen.
- Bradley, T. & Lowe, P. (1984) *Locality and rurality: Economy and society in rural regions*. Norwich: GeoBooks.
- Buller, H. & Wright, S. (1990) *Rural development: Problems and practices*. Aldershot: Avebury.
- Burgess, J., Harrison, C. & Limb, M. (1988) People, parks and the urban green: a study of popular meanings and values for open spaces in the city. *Urban Studies*, 25(6), 455–473.

- Callon, M. (1986) Some elements of a sociology of translation: Domestication of the scallops and the fishermen of St Brieuc Bay. In: Law, J. (Ed.) *Power, action and belief: A new sociology of knowledge?*. London: Routledge and Kegan Paul, pp. 196–233.
- Carson, R. (1962) *Silent spring*. Boston: Houghton Mifflin.
- Clark, J. & Lowe, P. (1992) Cleaning up agriculture: environment, technology and social science. *Sociologia Ruralis*, 32(1), 11–29.
- Clayton, E. (1993) Obituary: Professor Gerald Wibberley. *The Independent*. Available at: <https://www.independent.co.uk/news/people/obituary-professor-gerald-wibberley-1505254.html>
- Cooke, P. (1989) *Localities*. London: Unwin Hyman.
- Cox, G., Lowe, P. & Winter, M. (1985a) Land use conflict after the Wildlife and Countryside Act 1981: the role of the Farming and Wildlife Advisory Group. *Journal of Rural Studies*, 1(2), 173–183.
- Cox, G., Lowe, P. & Winter, M. (1985b) Changing directions in agricultural policy: corporatist arrangements in production and conservation policies. *Sociologia Ruralis*, 25(2), 130–154.
- Cox, G., Lowe, P. & Winter, M. (1986a) *Agriculture: People and policies*. London: George Allen & Unwin.
- Cox, G., Lowe, P. & Winter, M. (1986b) From state direction to self-regulation: the historical development of corporatism in British agriculture. *Policy and Politics*, 14, 475–490.
- Cox, G., Lowe, P. & Winter, M. (1987) Farmers and the state: a crisis for corporatism. *Political Quarterly*, 58, 73–81.
- Cox, G., Lowe, P. & Winter, M. (1988) Private rights and public responsibilities: the prospects for agricultural and environmental controls. *Journal of Rural Studies*, 4, 323–337.
- Cox, G., Lowe, P. & Winter, M. (1989) The farm crisis in Britain. In: Goodman, D. & Redclift, M. (Eds.) *The international farm crisis*. London: Macmillan, pp. 113–34.
- Cox, G., Lowe, P. & Winter, M. (1990a) The political management of the dairy sector in England and Wales. In: Marsden, T. & Little, J. (Eds.) *Political, social and economic perspectives on the international food system*. Aldershot: Avebury pp. 82–111.
- Cox, G., Lowe, P. & Winter, M. (1990b) *The voluntary principle in conservation*. Chichester: Packard.
- Defra Science Advisory Council (2007) *Social research in Defra*. Social Science SubGroup (SAC-SOC). Paper SAC (07) 33. London: Defra.
- Derounian, J. (2018) Why do people become academics? *Journal of Pedagogical Development*, 8(2) 55–66. <https://uobrep.openrepository.com/handle/10547/622826>
- Donaldson, A., Lowe, P. & Ward, N. (2002) Virus-crisis-institutional change: the Foot and Mouth actor network and the governance of rural affairs in the UK. *Sociologia Ruralis*, 42(3), 201–214.
- Flynn, A. & Pratt, A. (1993) Costing the Countryside. Special Issue. *Journal of Environmental Planning and Management*, 36, 3–14.
- Gkartzios, M. & Lowe, P. (2019) Revisiting neo-endogenous rural development. In: Scott, M., Gallent, N. & Gkartzios, M. (Eds.) *The Routledge companion to rural planning*. London: Routledge, pp. 159–69.
- Kuhn, T. (1962) *The structure of scientific revolutions*. Chicago: University of Chicago Press.
- Latour, B. (1987) *Science in action: How to follow scientists and engineers through society*. Milton Keynes: Open University Press.
- Lear, L. (1997) *Rachel Carson: The life of the author of silent spring*. London: Penguin.
- Liefferink, D., Lowe, P. & Mol, A. (1993) *European integration and environmental policy*. London: Belhaven.
- Lowe, P. (1975a) Science and government: the case of pollution. *Public Administration*, 54, 287–298.
- Lowe, P. (1975b) The royal commission on environmental pollution. *Political Quarterly*, 46, 87–94.
- Lowe, P. (1992) Industrial agriculture and environmental regulation: a new agenda for rural sociology. *Sociologia Ruralis*, 32(1), 4–10.
- Lowe, P. (1996) Blueprint for a rural economy. In: Allanson, P. & Whitby, M. (Eds) *The rural economy and the British countryside*. London: Earthscan, pp. 187–202.
- Lowe, P. (2009) *Unlocking potential: A Report on veterinary expertise in food animal production*. Report to the Vets and Veterinary Services Steering Group. London: Defra.
- Lowe, P. (2010) Enacting rural sociology: Or what are the creativity claims of the engaged sciences? *Sociologia Ruralis*, 50, 311–330.
- Lowe, P. (2012) The agency of rural research in comparative context. In: Shucksmith, M., Brown, D., Shortall, S., Vergunst, J. & Warner, M. (Eds.) *Rural transformations and rural policies in the US and UK*. New York: Routledge. pp. 18–35.

- Lowe, P. & Bodiguel, M. (1990) *Rural studies in Britain and France*. London: Belhaven.
- Lowe, P. & Goyder, J. (1983) *Environmental groups in politics*. London: George Allen & Unwin.
- Lowe, P. & Phillipson, J. (2006) Reflexive interdisciplinary research: the making of a research programme on the rural economy and land use. *Journal of Agricultural Economics*, 57(2), 165–184.
- Lowe, P. & Phillipson, J. (2009) Barriers to research collaboration across disciplines: scientific paradigms and institutional practices. *Environment and Planning A*, 41, 1171–1184.
- Lowe, P. & Rüdiger, W. (1986) Political ecology and the social sciences. *British Journal of Political Science*, 16, 513–550.
- Lowe, P. & Ward, N. (1998a) *Regional policy, CAP reform and rural development in Britain: The challenge for new labour*. CRE Working Paper Series No. 32, Newcastle University
- Lowe, P. & Ward, N. (1998b) *A second pillar for the CAP? The European rural development regulation and its implications for the UK*. CRE Working Paper Series No. 36, Newcastle University.
- Lowe, P. & Ward, N. (2007) British rural geography: a disciplinary enterprise in changing times. In: Clout, H. (Ed.) *Contemporary rural geographies—land property and resources in Britain*. London: Routledge. pp. 1–20.
- Lowe, P. & Ward, S. (1998) *British environmental policy and Europe: Politics and policy in transition*. London: Routledge.
- Lowe, P. & Worboys, M. (1976) The ecology of ecology. *Nature*, 262, 432–433.
- Lowe, P. & Worboys, M. (1978) Ecology and the end of ideology. *Antipode*, 10(2), 12–21.
- Lowe, P.D., Cox, G., MacEwen, M., O’Riordan, T. & Winter, P. (1986a) *Countryside conflicts: The politics of farming, forestry and conservation*. Aldershot: Gower.
- Lowe, P., Bradley, T. & Wright, S. (1986b) *Deprivation and welfare in rural areas*. Norwich: GeoBooks.
- Lowe, P., Marsden, T. & Whatmore, S. (1990) *Technological change and the rural environment*. London: David Fulton.
- Lowe, P., Whatmore, S. & Marsden, T. (1991) *Rural enterprise*. London: David Fulton.
- Lowe, P., Murdoch, J., Marsden, T., Munton, R. & Flynn, A. (1993a) Regulating the new rural spaces: the uneven development of land. *Journal of Rural Studies*, 9, 205–222.
- Lowe, P., Marsden, T., Munton, R., Harvey, D., Whitby, M. & Willis, K. G. (1993b) *Countryside change: A synopsis. The ESRC countryside change initiative (1989-1993)*. Newcastle upon Tyne: Centre for Rural Economy Research Report, University of Newcastle.
- Lowe, P., Clark, J. & Cox, G. (1993c) Reasonable creatures: rights and rationalities in valuing the countryside. *Journal of Environmental Planning and Management*, 36(1), 101–115.
- Lowe, P., Murdoch, J. & Ward, N. (1995) Networks in rural development: beyond exogenous and endogenous models. In: van der Ploeg, J.D. & van Dijk, G. (Eds.) *Beyond modernisation*. Assen: Van Gorcum, pp. 87–105.
- Lowe, P., Clark, J., Seymour, S. & Ward, N. (1997) *Moralising the environment: Countryside change, farming and pollution*. London: Routledge.
- Lowe, P., Falconer, K., Hodge, I., Moxey, A., Ward, N. & Whitby, M. (1999) *Integrating the environment into CAP reform* (CRE Research Report). Newcastle upon Tyne: Newcastle University.
- Lowe, P., Buller, H. & Ward, N. (2002) Setting the next agenda? British and French approaches to the second pillar of the Common Agricultural Policy. *Journal of Rural Studies*, 18, 1–17.
- Lowe, P., Phillipson, J. & Lee, R.P. (2008) Socio-technical innovation for sustainable food chains: roles for social science. *Trends in Food Science and Technology*, 19, 226–233.
- Lowe, P., Whitman, G. & Phillipson, J. (2009) Ecology and the social sciences. *Journal of Applied Ecology*, 46, 297–305.
- Lowe, P., Phillipson, J. & Wilkinson, K. (2013a) Why social scientists should engage with natural scientists. *Contemporary Social Science*, 8, 207–222.
- Lowe, P., Phillipson, J. & Liddon, A. (2013b) *Director’s end of award report—Rural economy and land use programme*. Swindon: Economic and Social Research Council.
- Lowe, P., Phillipson, J., Proctor, A. & Gkartzios, M. (2019) Expertise in rural development: A conceptual and empirical analysis. *World Development*, 116, 26–37.
- Lynch, M. (2011) Still emerging after all these years—Editorial. *Social Studies of Science*, 41, 3–4.
- Marsden, T. & Little, J. (1990) *Political, social and economic perspectives on the international food system*. Aldershot: Avebury.

- Marsden, T., Lowe, P. & Whatmore, S. (1990) *Rural restructuring: Global processes and their responses*. London: David Fulton.
- Marsden, T., Lowe, P. & Whatmore, S. (1992) *Labour and locality: Uneven development and the rural labour process*. London: David Fulton.
- Marsden, T., Murdoch, J., Lowe, P., Munton, R. & Flynn, A. (1993) *Constructing the countryside*. London: UCL Press.
- Meadows, D., Meadows, D., Randers, J. & Behrens, W. (1972) *The limits to growth. A report for the club of Rome's project on the predicament of mankind*. London: Pan Books.
- Meagher, L. (2012) Rural Economy and Land Use Programme (Relu): Societal and economic impact evaluation. (Ref: PS110020). Swindon: Natural Environment Research Council. Available at: <https://nerc.ukri.org/research/funded/programmes/relu/relu-final-report/>
- Meagher, L., Kettle, A., Llyall, C. & Weritty, A. (2016) *Evaluating the Rural Economy and Land Use Programme*. Swindon: Economic and Social Research Council. Available at: <https://escr.ukri.org/research/research-and-impact-evaluation/evaluation-of-large-initiatives/>
- Murdoch, J., Ward, N. & Lowe, P. (1994) Sustainable agriculture and endogenous rural development. In: van der Ploeg, J.D. & Long, A. (Eds.) *Born from within: Practice and perspectives of endogenous rural development*. Assen, the Netherlands: Van Gorcum, pp. 262–279.
- Murdoch, J., Lowe, P., Ward, N. & Marsden, T. (2003) *The differentiated countryside*. London: Routledge.
- Newby, H. (1991) One world, two cultures: sociology and the environment—Lecture to the British Sociological Association. *Network*, 50, 1–8.
- O'Riordan, T. 1981. *Environmentalism*. London: Pion
- Pearce, D., Markandya, A. & Barbier, E. (1989) *Blueprint for a green economy*. London: Earthscan.
- Phillipson, J., Lowe, P., Carroll, T. (2002a) *Confronting the rural shutdown: Foot and Mouth Disease and the North East rural economy (CRE Research Report)*. Newcastle upon Tyne: Newcastle University.
- Phillipson, J., Bennett, K., Carroll, T. & Lowe, P. (2002b) Coping with crisis in Cumbria: the consequences of Foot and Mouth Disease. *Town and Country Planning*, 72, 78–81.
- Phillipson, J., Bennett, K., Lowe, P. & Raley, M. (2004) Adaptive responses and asset strategies: the experience of rural micro-firms and Foot and Mouth Disease. *Journal of Rural Studies*, 20(2), 227–243.
- Phillipson, J., Lowe, P. & Bullock, J. (2009) Navigating the social sciences: interdisciplinarity and ecology. *Journal of Applied Ecology*, 46, 261–4.
- Phillipson, J., Proctor, A., Emery, S. & Lowe, P. (2016) Performing inter-professional expertise in rural advisory networks. *Land Use Policy*, 54, 321–330.
- van der Ploeg, J. D. & van Dijk, G. (1995) *Beyond modernisation*. Assen: Van Gorcum.
- van der P. & Long, A. (1994) *Born from within: Practice and perspectives of endogenous rural development*. Assen: Van Gorcum.
- Proctor, A., Donaldson, A., Phillipson, J. & Lowe, P. (2012) Field expertise in rural land management. *Environment and Planning A*, 44, 1696–1711.
- Raley, M. & Moxey, A. (2000) Rural microbusinesses in North East England: Final survey results (. CRE Research Report). Newcastle upon Tyne: Newcastle University.
- Ray, C. (1999) Towards a meta-framework of endogenous development: Repertoires, paths, democracy and rights. *Sociologia Ruralis*, 39, 522–537.
- Ray, C. (2000) Endogenous socio-economic development in the European union—issues of evaluation. *Journal of Rural Studies*, 16, 447–458.
- Ray, C. (2006) Neo-endogenous rural development in the EU. In: Cloke, P., Marsden, T. & Mooney, P. (Eds.) *Handbook of rural studies*. London: SAGE Publications, pp.278–291.
- Rüdig, W. & Lowe, P. (1986) The withered 'greening' of British politics: a study of the Ecology Party. *Political Studies*, 34, 262–284.
- Self, P. & Storing, H. (1962) *The state and the farmer*. London: George Allen & Unwin.
- Shoard, M. (1980) *The theft of the countryside*. London: Temple Smith.
- Shucksmith, M., Brown, D., Shortall, S., Vergunst, J. & Warner, M. (2012) *Rural transformations and rural policies in the US and UK*. London: Routledge.
- UK Government (1994) Sustainable development: The UK strategy.. London: HMSO.
- Ward, N. & Lowe, P. (2007) Blairite modernisation and countryside policy, *The Political Quarterly*, 78, 412–421.

- Ward, N., Buller, H. & Lowe, P. (1995) Implementing European environmental policy at the local level: The UK experience with water quality (. CRE Research Report). Newcastle upon Tyne: Newcastle University.
- Ward, N., Buller, H. & Lowe, P. (1996) The Europeanisation of local environmental politics: bathing water pollution in South-west England, *Local Environment*, 1, 21–31.
- Ward, N., Buller, H. & Lowe, P. (1997) Implementing European water quality directives: Lessons for sustainable development. In: Baker, S., Kousis, M., Richardson, D. & Young, S. (Eds.) *The politics of sustainable development: Theory, policy and practice in the European Union*. London: Routledge, pp. 198–216.
- Ward, N., Clark, J., Lowe, P. & Seymour, S. (1998) Keeping matter in its place: pollution regulation and the reconfiguring of farmers and farming. *Environment and Planning A*, 30, 1165–1178.
- Ward, N., Donaldson, A. & Lowe, P. (2004) Policy framing and learning the lessons from the UK's Foot and Mouth Disease crisis. *Environment and Planning C: Government and Policy*, 22, 291–306.
- Ward, S. & Lowe, P. (1998) National environmental groups and Europeanisation: a survey of the British environmental lobby. *Environmental Politics*, 7(4), 155–165.
- Whatmore, S. (2013) Where natural and social science meet? Reflections on an experiment in geographical practice. In: Barry, A. & Born, G. (Eds.) *Interdisciplinarity: Reconfigurations of the social and natural sciences*. London: Routledge, pp. 161–177.
- Whatmore, S., Marsden, T. & Lowe, P. (1994) *Gender and rurality*. London: David Fulton.
- Whitby, M. & Ward, N. (1994) *The UK strategy for sustainable agriculture: A critical analysis*. CRE Report, University of Newcastle.
- Wilkinson, K., Grant, W.P., Green, L.E., Hunter, S., Jeger, M.J., Lowe, P., Medley, G.F., Mills, P., Phillipson, J., Poppy, G.M & Waage, J. (2011) Infectious diseases of animals and plants: an interdisciplinary approach. *Philosophical Transactions of the Royal Society B*, 366(1573), 1933–1942.
- Winter, M. (1985) Rural Economy and Society Study Group UK Annual Conference. *Sociologia Ruralis*, 25, 115–116.

How to cite this article: Ward, N. & Phillipson, J. (2021). Blueprints for rural economy: Philip Lowe's work in rural and environmental social science. *Sociologia Ruralis*, 1–20.
<https://doi.org/10.1111/soru.12349>