

Conceptualising agriculture: a critique of post-productivism as the new orthodoxy

Nick Evans¹

Carol Morris²

Michael Winter²

1 Department of Geography, University College Worcester.

2 Countryside & Community Research Unit, Cheltenham & Gloucester College of Higher Education.

Submission to *Progress in Human Geography*

Resubmitted June 2001

Conceptualising agriculture: a critique of post-productivism as the new orthodoxy

Abstract

It has become fashionable to conceptualise recent shifts in agrarian priorities as a ‘post-productivist’ transition from a previously ‘productivist’ agriculture. This notion has become more popular throughout the 1990s as a way to capture in one convenient package the complex changes experienced by both the agricultural sector specifically and rural areas more generally. However, the widespread and uncritical use of such an all-encompassing term is rather surprising given debates elsewhere in human geography on the rejection of dualistic thinking. Yet, in agricultural and rural studies, the active creation and reinforcement of a productivist / post-productivist dualism has emerged as a means of explaining the uneven development of rural areas. This paper develops a critique of post-productivism to demonstrate its invalidity, presenting empirical evidence to refute five supposed characteristics relating to quality food, pluriactivity; sustainability, production dispersion and regulation. It is argued that future progress in agricultural research will only be made if post-productivism is abandoned. Effort should be refocused upon understanding deeper processes underpinning agricultural change using existing theoretical perspectives developed in human geography but which lack application in the agricultural context. Ecological modernisation is provided as a brief exemplar of how such progress may be achieved.

I The dualism of agrarian change

In recent years agriculture in Britain, and in the rest of Europe, has often been described as post-productivist. It is a term that neatly captures a sense of fundamental change in post-war agriculture covering the political culture within which agriculture operates, the policy and market conditions under which farming takes place and the experiences of farmers themselves. It has also been successfully deployed within discourses on wider rural change which recognise the declining significance of agriculture in the social and economic fabric of rural space. Post-productivism implies that agricultural policies have moved beyond a principal emphasis upon sustaining and increasing levels of production and that farmers can no longer expect either to be handsomely paid for all the food they produce or permitted maximum freedom in the use of rural space for commodity production irrespective of other demands. Thus the term appears to have appeal to academics because it encompasses both micro and macro changes and pulls together a wide range of rural issues. It captures within a single catch phrase, problems of land use planning, rural development and both on-farm and off-farm social and economic change.

Moreover, with the advent of the farm crisis of the late 1990s¹ - arguably a delayed response to policy shifts of the 1980s and the 1992 Common Agricultural Policy (CAP) reform (Winter *et al.*, 1998a) - characterised by declining farm incomes, business closures and restructuring, some might argue that the post-productivist descriptor is increasingly matched by empirical reality. However, the emergence and widespread uncritical use of such an all-encompassing term is rather curious given debates elsewhere in human geography. Considerable effort has been expended on the rejection of dualistic thinking (Haraway, 1991; Sayer, 1991; Massey, 1996; Murdoch, 1997a), as reported recently in *Progress in Human Geography* (Gerber, 1997; Murdoch, 1997b). Yet, in agricultural and rural studies, the active creation and reinforcement of a productivist / post-productivist dualism has emerged as a means of explaining the uneven development of rural areas.

¹ The UK Prime Minister, Rt. Hon. Tony Blair, began his 2000 address to the National Farmers Union by stating that 'I know that there is a serious, deep and painful **crisis** in our agriculture industry. And that it is biting hard.'

In this paper, we will argue that whilst post-productivism, deployed specifically in an agricultural context, has had real heuristic value as a descriptor of the changing political culture of agriculture it is misleading if applied uncritically to agriculture as an economic activity. The paper develops a critique through an examination of the term post-productivism which has been used as both a descriptor and theorisation of recent agrarian change. Empirical evidence is used to question the existence of characteristics identified as representing post-productivism and simultaneously to challenge the legitimacy of the processes that supposedly underpin conceptualisations of the term.

II Post-productivism as the new orthodoxy

There appears to be a remarkable degree of consensus over the applicability of the term post-productivism which has brought together academics of different traditions in a remarkable display of unity. Political economists, rural geographers, sociologists and economists from differing theoretical viewpoints have all embraced the notion of post-productivism. A sure mark of a term's ascendancy is its emblematic use in papers where it is not defined and adds little of the value of the discussion. It is perhaps unfair to isolate one such usage, but the following example is indicative of a laxity associated with the use of the term. Wilson and Wilson (1997) discuss the role of common land in the post-productivist countryside, identifying the multiple use of commons as a feature of post-productivism. Given that the debate and discussion of the multiple use of commons stretches back over many decades, it seems a strange example to choose to illustrate recent changes. Subsequently, Short and Winter (1999) have suggested that 'constrained productivism' might be a better description of commons. Further, Wilson and Wilson's analysis focuses on upland commons, where the issue of over-grazing continues to dominate policy discussion, yet some lowland commons might more legitimately be termed post-productivist in that their agricultural use has been abandoned. The paper is a helpful empirical account of agri-environmental policy developments in the Cambrian mountains, but the uncritical use of the term post-productivism adds little to the discussion.

The term post-productivism seems to have originated within a considerable body of work produced in the early 1990s on aspects of agricultural adjustment and restructuring, particularly by family farm households. The very first use that we have uncovered is located within this context in a conference paper by Munton (1990) on options for change amongst upland family farm businesses:

The ‘post-productionist’ [sic] period that agricultural policy, farmers and the food industry are now entering will mean that the margins of profitability will become tighter and the overall logic of the agricultural treadmill (involving increasing stocking levels, scale and level of subsumption) will be increasingly questioned’ (Munton, 1990, p,10).

Thus, ‘post-productionism’ emerged as a term that could retrospectively summarise the adjustment strategies documented, while reflecting what seemed to be a new set of circumstances facing farmers, particularly with respect to demands for greater environmental regulation. After finding brief currency in how agricultural change was reshaping gender roles in family forms of farming businesses (Symes, 1991) and in the questioning of the social sustainability of commodity relations (Marsden *et al.*, 1992), post-productionism became seamlessly translated into post-productivism for reasons that are far from transparent (Symes, 1992; Lowe *et al.*, 1993; Ward, 1993). Such analyses sought to capture a sense that the state was no longer committed to a single model of agricultural expansion through increased food production and that movement away from this position was helping to create differentiated or ‘new rural spaces’. Nevertheless, it is rarely acknowledged that these early studies were careful to hold this perception of change firmly against the backdrop that ‘the productivist rationale or ethos remains prevalent among agricultural interests’ (Ward, 1993, p.359). The common aim of such studies was to account for the persistence of family farms in capitalist agriculture from a political economy perspective (for reviews, see Marsden *et al.*, 1996, Short, 1996). In an important development at this time, Shucksmith (1993) analysed farm household behaviour in what he defines as a transition to post-productivism, a term earlier used by

Symes (1992) to summarize general changes in the agrarian sector at the European scale². In this, we see the emergence and association of a temporal dimension with the term. It becomes expressed explicitly through the identification of a point in time where the transition to a post-productivist agriculture began. The use of the term seemed to gain some orthodoxy, but there has been disagreement over when this transition started. Thus, Halfacree (1997) claims that post-productivism can be traced back to the 1970s, whilst for G. Clark *et al.* (1997) the post-productivist era in UK agriculture was heralded by the 1992 reforms to the CAP and the conclusion of the Uruguay Round of the GATT³ talks. Recently, Wilson (2001) has developed the temporal dimension still further by suggesting that the endpoint of the post-productivist transition is a multifunctional agricultural regime.

A more recent development has been work attempting to persuade researchers to examine post-productivism as a spatial phenomenon, whereby some rural (and agricultural) spaces are becoming relatively more post-productive than others. Thus, for Marsden (1998a, p.28):

‘Under the post-productivist conditions now prevailing, and moreover, likely to continue, it is particularly relevant to consider how social, political, and economic relations and outcomes become spatialised’.

Such claims seem rather premature given the looseness of the conceptualisation of post-productivism. In fact, the convenience of the term seems to have militated against rigorous assessment of the empirical and theoretical justification for its use.

² Symes' (1992) deployment of the term post-productivism is particularly interesting. His synthesis is designed to reveal pan-European similarities in trends of agrarian change between west and east. Agricultural restructuring in the west is characterised by policy reform whilst that in the east is provoked by the collapse of a regional food system. A shift away from productivism seems to offer a convenient way of defining common ground between east and west in agricultural restructuring events cast from their very different moulds. In eastern Europe, the predicted demise of collectivism, growth of decentralization and spreading of a process of devolution could be taken to represent a context in which the assignment of the term 'post-productivism' makes sense. However, we would argue here that the term is not easily translated from this to the western situation. Symes' conclusion is telling when he states that what is in progress is 'a dramatic *break* with the recent past in central and eastern Europe and a logical *extension* of the prevailing capitalist modes of development in western Europe' [our emphases] (p. 205-206).

IV Questioning the empirical basis of post-productivism

Having achieved a degree of currency, attempts have been made to describe the characteristics of post-productivism. According to Ilbery and Kneafsey (1997), these encompass: a shift in emphasis away from quantity to quality in food production; the growth of alternative farm enterprises, conceptualised as 'pluriactivity'; state efforts to encourage the development of more traditional, sustainable farming systems through agri-environmental policy; the growing environmental regulation of agriculture; and the progressive restructuring of government support for agriculture.

Although such characteristics are undoubtedly discernible, they are highly variable in scope. Some are clearly quantifiable, such as the extent of types of on-farm diversification activities. Others, such as agricultural sustainability, are simply societal wishes that as yet can only begin to be approached through a rather preliminary and incremental set of agri-environmental policy measures. It is difficult to accept that farmers in developed market economies outside the UK, or even within the UK, would identify with some of the characteristics apparently defining post-productivism, especially in terms of significant impact on their lives and businesses. In Europe, it is too easy to assume that because all member states contend with the vagaries of the CAP, similar post-productivist outcomes will be expected to occur within their farm sectors. This denies the very differentiation of rural space that is being created⁴, and is certainly a long way from being sensitive to fundamental variations in cultural interpretation and constructions of prevailing conditions, both between nations and localities within those nations (Morris and Evans, 1999). Political emphasis on the need for farmers to be able to compete in a liberalised global market seems to place greater emphasis worldwide on the continuation of productivist principles (Le Heron, 1993; Moran *et al.*, 1993). The 1984 deregulation of New Zealand agriculture promoted a development trajectory that has greater alignment with a reformulation of productivism than the assertion of a 'post-productivist' ethic (Cloke, 1989; Sandrey and Reynolds, 1990).

³ General Agreement on Tariffs and Trade

⁴ From this perspective, it is possible to see the reasoning behind Marsden's (1998a) call to examine the spatialisation of post-productivism.

An alternative, but to some degree over-lapping, characterisation to Ilbery and Kneafsey's is offered by Ilbery and Bowler (1998) in an attempt to produce a process-oriented theorisation of post-productivism. Their analysis interprets post-productivism as a progressive turn round of trends that dominated the 'productivist' era. The latter were previously summarized by Bowler (1985) as intensification, concentration and specialization and have received widespread acceptance. The productivist processes have their origins in pre-war agrarian change, where some trends, such as the movement of labour out of agriculture encouraging the amalgamation of holdings (concentration), have proved irresistible. Ilbery and Bowler's theorization of post-productivism is proposed as a straightforward reversal of intensification, concentration and specialisation into trends of extensification, dispersal and diversification respectively. Coherence in agricultural policy and practice and a long period on which to reflect undoubtedly contributed to the identification and general acceptance of the three processes of productivism. An immediate epistemological question is whether any pronouncement of trend reversal is necessarily dependent upon derivation from a similar period of reflection. A declared post-productivist period of 10 to 15 years could well be viewed as insufficient to proclaim boldly that a new set of opposite trends has been installed. Placing such doubts aside and accepting that *extensification*, *dispersion* and *diversification* could exist as processes of post-productivist agricultural change, it is necessary to examine the extent to which such theorisation can be either sustained conceptually or supported by empirical evidence.

Given the similarities between the characteristics identified in the descriptive approach of Ilbery and Kneafsey (1997) and the more process-orientated approach of Ilbery and Bowler (1998), it is possible to amalgamate them into five convenient categories. . This facilitates the empirical basis of all the descriptors raised in these two papers to be subjected to coherent critical scrutiny. Each will reveal how a single term cannot hope to highlight the spatial dimensions and complexities of contemporary agricultural restructuring. The five categories are:

- The shift from quantity to quality in food production;
- The growth of on-farm diversification and off-farm employment (pluriactivity);
- Extensification and the promotion of sustainable farming through agri-environmental policy;
- Dispersion of production patterns;
- Environmental regulation and restructuring of government support for agriculture.

1 The shift from quantity to quality in food production

For proponents of post-productivism, one key piece of evidence supporting transition from productivism is the dramatic recent growth of interest in the notion of ‘quality’ food. Such a trend is undoubtedly discernible and can be attributed to five main inter-related factors. First, there has been a rise in consumer concerns about the impact of productivist agriculture on the environment, food safety, farm animal welfare and rural economies. As a result has been an increased demand for food products whose ‘quality’ is determined by evidence that these issues have been addressed, commonly labelled as welfare and environmentally friendly foods. Second, the purchase of quality foods has provided particular groups of consumers with enhanced opportunity to differentiate themselves so that quality foods become a mark of cultural capital (Bell and Valentine, 1997). Third, the production of quality foods has emerged as a marketing opportunity for producers and other food system actors, through supply chain differentiation and adding value. Fourth, the movement towards quality within the major food retailers reflects a general growth in the use of ‘quality assurance’ within larger businesses across many economic sectors within advanced capitalist economies (Morris and Young, 2000). It is tied up with new approaches to supply chain management on the part of retailers attempting to ensure market share and a competitive edge. Fifth, in the light of a series of food scares, supply chain management with quality as a focus has become a crucial insurance policy for the major food retailers.

Although we do not dispute the growing significance of quality in agro-food networks, it is the tendency to assume uncritically a relationship between quality and post-

productivism to which objection can be raised . The reason why this is problematic is readily highlighted by consideration of the meaning of quality. From the list of five quality food drivers, it is apparent that quality can assume many forms. Indeed, as Ilbery and Kneafsey (2000, p.217, emphasis added) argue:

‘quality is a complex notion, the meaning of which may vary for specific products and between individuals, regions and countries. It is *socially constructed* through the interplay of different actors who may seek, for various reasons, to interpret, represent and regulate quality in particular ways’.

Thus, while producers may regard quality as a marketing opportunity, consumers may relate quality to concerns over food safety or emphasise ‘subjective’ indicators of quality such as taste, flavour and appearance. Regulatory institutions may be concerned with so-called ‘objective’ indicators of quality, such as the application of hygiene requirements, although, as Ilbery and Kneafsey (2000a, p.218) go on to argue:

‘the very objectivity of these indicators is socially constructed and will vary according to political and economic pressures, scientific understandings and cultural contexts’.

This complexity in the definition of quality is further illustrated by the development and application of quality within two very different spheres of agro-food production: niche and mass food markets. For some commentators quality is, by necessity, associated with ‘alternative’ food supply chains which are geographically ‘embedded’ and developed in deliberate opposition to the supply chains associated with mass food markets that are frequently global in their reach (Marsden, 1998; Murdoch *et al*, 2000). For the originators of these alternative and locally oriented supply chains, quality is the antithesis of quantity. Moran (1993), for example, has demonstrated in the context of French and Californian wine production, that the quality designation ‘appellation controllee’ is, in part, contingent upon a wine being produced in limited quantities. Similarly, other ‘quality’ food products are frequently distinguished from mass-produced foods in terms of both their place and quantity of production (Marsden, 1998 ; Ilbery *et al*, 1999). An example of this is the EU’s ‘certificates of special character’: PDOs (Protected

Designation of Origin); PGIs (Protected Geographical Indication); and TSG (Traditional Speciality Guarantee) (Ilbery *et al.*, 2000)⁵.

However, quality is not solely a feature of these specialist food markets, as suggested in the list of five quality food drivers. Notions of quality are being introduced into the mass food market through quality assurance procedures (Marsden *et al.*, 1997). Notable are thenationally and internationally recognised quality management or assurance systems, such as the Hazard Analysis and Critical Control Point System, and multiple retailers establishing new supply chains based on particular quality assurance schemes (Morris, 2000; Morris and Young, 1999). Although in these contexts quality may well be ‘rendered into a set of narrow efficiency and cost concerns’ (Murdoch and Miele, 1999, p.470), it is nonetheless apparent that quality exists within productivist food systems and does not necessarily represent a substitution of them. The result is a co-existence of quality and quantity. This brief discussion highlights how notions of quality can be appropriated in various and competing ways by different actors within the food supply chain. It also demonstrates that it is largely meaningless to associate unproblematically quality with ‘post-productivism’. This conceptualisation is clearly unable to capture adequately the complexity of quality concerns within contemporary food networks.

2 *The growth of pluriactivity*

A substantial literature investigating on-farm diversification and pluriactivity has emerged since the mid-1980s (Evans and Ilbery, 1993). There are two key reasons why caution must be exercised in the use of diversification as a descriptor and theorisation of post-productivism. First, there is the assertion that farmers are moving away from farming systems ‘where a large proportion of total output is accounted for by a particular product’ (Ilbery and Bowler, 1998, p.71). There seems little ground for such a claim as farmers continue to be locked into quota systems (on milk and sheep) and the arable area

⁵ Although there is an interesting paradox here in that large food processing companies can apply for PDO and PGI status, as illustrated by Dairy Crest for ... and Newcastle Breweries (part of the Scottish and Newcastle group) for brown ale.

payments scheme (AAPS) of CAP which harden structural rigidity in farming (Winter *et al.*, 1998a). For example, the Agenda 2000 negotiations considered a proposal (tabled by the UK) to abandon milk quotas, but it was rejected. Beyond the direct influence of policy decisions, events in the agricultural sector suggest little movement towards a decrease in specialization. The BSE crisis has led to the removal of beef herds, which are typically subsidiary enterprises in dairy, sheep and arable systems. In the uplands, this has left hill farmers more specialized than before, sheep becoming their sole large-scale commercial farming enterprise (Winter *et al.*, 1998b; Evans, 2000).

Second, diversification can be defined as the movement to developing new sources of on-farm income generation from non-agricultural and novel agricultural enterprises (Ilbery, 1991; Evans and Ilbery, 1993). Arguably, this is the strongest candidate as a process of change towards post-productivism. Since the mid-1980s, much evidence has emerged to demonstrate the types of activity farmers have diversified into, their significance to the business and the motivations behind the decision to diversify (Slee, 1986; Marsden *et al.*, 1987; Evans, 1990; Ilbery, 1991; Bateman and Ray, 1994; Edmond and Crabtree, 1994). One reservation that can be expressed about diversification as a force of post-productivism is that llama farming or growing evening primrose are clearly ‘productivist’ activities. A more serious reservation concerns whether farm diversification is, in fact, gathering the momentum necessary for it to counter specialization and meet the ‘progressive reversal’ test central to Ilbery and Bowler’s (1998) theorization. Evidence indicates that although the commercial scale of some ventures has increased, rationalization has occurred. The establishment of farm diversification enterprises appears to have reached a peak in the early 1990s and growth of new ventures has been subdued since this time (Chaplin, 2000). Indeed, MAFF axed the Farm Diversification Grant Scheme that offered feasibility, financial and marketing support for diversification in 1991. The Rural Enterprise Scheme, launched as part of MAFF’s England Rural Development Plan, has reintroduced support for diversification, but with a far greater number of conditions attached (relating to sustainability, animal welfare, and community benefit) than hitherto. If farm diversification represents a central process of post-productivist agriculture, both its actual decline and more discernment in the nature of

state support for this activity in the agricultural sector would imply that we have moved into a phase somewhere beyond post-productivism.

3 *Extensification and the promotion of sustainable farming through agri-environmental policy*

Evidence for *extensification* comes mainly from changes to agricultural policy made since the 1980s. In the European context, measures were introduced under the CAP to encourage extensification, as EC Regulation 1760/87 overtly demonstrated (Jenkins and Bell, 1987). Three actions have been apparent: measures to decrease stocking densities of farm animals; an attempt to limit cereal production through the voluntary and then conditional introduction of set-aside on arable land; and offers of ‘agri-environmental’ incentives to slow the rate of intensification. At first sight, this seems an impressive collection of developments that could represent a ‘process’ by virtue of their commonality of purpose to reduce both the usage of farm and non-farm inputs and food output. Closer examination reveals that these measures are not concerned with delivering real changes away from intensive towards extensive agriculture. ‘On the ground’, they cannot be described as promoting green behaviour amongst farmers (Morris and Potter, 1995). Instead, they are primarily methods to reduce the budgetary demands of agrarian policy whilst conveniently paying lip service to extensification goals. Three lines of critique can be developed.

First, in the grass-based livestock sector, extensification payments have been available to a majority of farmers without making significant adjustments to stocking levels. Winter *et al.* (1998a) interviewed 153 English farmers with beef enterprises in 1995/6 and found that most coped easily within new rules so that stocking levels were little affected. Winter *et al.* (1998b) demonstrate unequivocally that stocking densities are purely a CAP accounting measure. Farmers have been able to ‘extensify’ by claiming state payments for fewer animals than in the previous year. Together with animals that are ineligible for the purpose of claims, actual stocking densities have remained high and have had much

scope to increase in real terms. Neither the imposition of stocking rate rules nor the incidence of payments can be taken as evidence of an extensification trend. Only when CAP payments are linked to area rather than headage will extensification cease to be a disguise for saving money from the agricultural budget and manifest itself as a real reduction in the number of animals kept. The slow and contested progress towards this under the Agenda 2000 reforms to the CAP testifies to the tenacity of productivist thinking in the agricultural policy community⁶.

Second, in the arable sector, set-aside is interpreted as delivering extensification through an overall lowering of output from individual farms. Notwithstanding the conceptual difficulties of equating extensification, which inherently implies a continuation of agricultural use in a less intensive way, with field scale land retirement, problems of slippage and selectivity are well known (Ilbery and Bowler (1998) themselves discuss these points). Percentage reductions in output do not match the percentage of land set aside due to the combined effects of farmers intensifying production on the remainder of their land and retiring the least productive land first. Further, the most common form of set-aside is 'rotational'; the impact of leaving a field fallow for one season is commonly a recovery of soil fertility over and above that which could be expected if cultivated in successive seasons (Crabb *et al.*, 1998). The evidence from set-aside is therefore contradictory, one of generalised reduction in farm output against localised intensification. What is clearer is that notions of progressive reversal of intensification in favour of extensification cannot be upheld using the example of set-aside. Indeed, some commentators predict that set-aside in the EU will eventually disappear altogether following the USA experience of limited effectiveness (Potter, 1998). After all, political

⁶ MAFF admit that the Hill Livestock Compensatory Allowances led to environmental damage, distorted agricultural markets and were disliked by non-EU trading blocs. A move towards an area-based system became apparent with the introduction of the Hill Farm Allowance (HFA) Scheme in England from March 2001 under the agenda 200 reforms. It is notable that a minimum grazing intensity has been specified for claimants to be eligible (0.15 Livestock Units per hectare), but that no maximum stocking rate has been imposed. Instead, overgrazing is to be avoided as part of 'good farming practice', although a bonus payment of 20% is available to those farmers 'extensifying' by stocking at less than 1.00LU / ha. Further, a 'safety net' operates for three years to ensure that farm businesses retain compensation through HFA to within 90%, 80% and then 50% of the value of their HLCA payment, thereby giving farm businesses time to adjust from headage to area based payments. A full assessment of farmers' actions in relation to extensification will not be possible until this new methodology is fully operational.

concern lies with realigning the arable sector with the world market and not with extensification *per se*.

Third, agri-environmental policy represents a diverse collection of measures that have the ability to encourage extensification whilst bound to notions of ‘stewardship’. The UK government’s flagship schemes of Environmentally Sensitive Areas (ESAs) and the Countryside Stewardship Scheme (CSS) both involve elements of extensification, primarily through gaining farmers’ agreement on limiting the amount and timing of fertilizer applications and stocking densities. This version of extensification is an incremental step towards sustainability, but entails a simple reactive response from farmers. Moreover, it is well known that the emphasis on agri-environmental policy in research and political rhetoric has far outweighed its significance on the ground, having recently commanded a mere 4% of CAP expenditure in the UK (Potter and Goodwin, 1998). For the majority of farmers themselves, participation in an agri-environmental scheme does little or nothing to challenge the nature of conventional (productivist) food production practices (Morris and Potter, 1995). Typically, emphasis within these schemes is placed upon the production of environmental goods through the management and re-creation of habitats and landscape features, literally at the margins of food production. Food production continues in a conventional vein, allowing the two activities to co-exist, legitimising productivism and even providing a source of finance for investment in its principles (Winter *et al.*, 1998a). In this way, the environment is separated from or made external to food production. Agri-environment schemes cannot, therefore, be said to represent any substitution of productivism.

Furthermore, equating the resolution of environmental problems caused by agriculture solely with a sector that is conceptualised as having moved beyond production denies the possibility of developing environmentally sensitive farming through the extension of productivist principles. Recent trends strongly suggest that various forms of what might be termed ‘neo-productivism’⁷ might make important contributions to the development of

⁷ The term neo-productivism is used as a convenient way of summarising the extension of productivist principles in agriculture and in no way implies that agriculture has shifted from productivism to neo-productivism in a dualistic sense.

sustainable agricultural systems. Both Integrated Farming Systems (IFS) (Morris and Winter, 1999) and organic agriculture are distinct from the 'environmental conservationism' of agri-environment schemes in that they are both committed to sustainable *food production* and as such

‘are dedicated to productionism not conservationism, to working on natural resources in order to create out of them something which is useful and necessary to human beings’(Tovey, 1997, pp.23-24).

In contrast to the view of the environment within the context of agri-environmental schemes, IFS and organic agriculture positions it internally to farming itself, “prioritising the issues of quality and the sustainability of food which farmers produce”(Tovey, 1997, p.24). Although IFS and organic farming cannot be understood as post-productive, neither can they be viewed as productivist in the conventional sense where output is at least partially prioritised at the expense of the environment. However, both are productivist in that the emphasis within these systems is very much on food production (hence 'neo-productivism'). Significantly, these new forms of neo-productivism do not represent a tweaking of conventional, productivist systems. This more accurately describes agri-environmental policy, as evidenced by J. Clark *et al.*'s (1997) discourse analysis of agricultural policy formation. Rather, they are a much more radical break with conventional systems at all levels, from the changes in thinking and practice demanded of the individual farmer, to the policy and market structures required to support their development (Morris and Winter, 1999).

The ‘productivist’ features of agriculture are regarded as well known and so it is perhaps understandable that the seemingly new trends have captured the imaginations of researchers (for example, agri-environmental policies) in preference to continuing research into more fundamental productivist practices and issues (such as fertilizer use). Even so, examinations of the extensification of livestock, set-aside and agri-environmental policy all tend to base analysis around alterations to the use of purchased inputs, yet this is only one primary process-response of intensification identified by Bowler (1985). Hence, ‘mechanisation and automation of production processes’ and the ‘application of developments in biotechnology’ are equally important dimensions. If they

were slowing down, there would be little urgency in the debate about the globalisation of food systems or use of genetically modified crops in agriculture, when clearly this is not the case (Goodman and Watts, 1998). Extensification is undeniably a new and interesting ingredient in agricultural policy, but one that in reality is yet to exert itself with a significance, coherence and cumulative effect that can justify its theorization as a process, particularly as one that reverses all aspects of intensification.

4 *Dispersion of production patterns*

The process of *dispersion* is, as Ilbery and Bowler (1998, p.70) admit, ‘the least likely dimension of change to occur’ and that ‘there is little current evidence of this’. It is, of course possible to theorise about a trend towards a greater number of smaller farming units, a wider variety of crops and livestock produced in more regions and countries, and of a decline in contract farming. As with extensification, there may well be elements that can be demonstrated empirically, albeit weakly. For example, as a demand for quality food based on regional or local identity grows, some productive activities may become re-established or experience growth away from their concentrated centres of production (Ilbery and Kneafsey, 1998). However, even this assertion is difficult to accept when the conferment of PDO and PGI status on localities which can demonstrate the ‘special character’ of their food product, is likely to have the opposite effect of concentrating production of that food within tightly defined areas. As PDO / PGI ‘protections’ offer the potential of maintaining competitive advantage in the market place, they act as a resistance to the dispersion of production beyond its boundaries. Further, such status applies to just one specific type of food product (cheese, for example) which does little to expand the range of products produced within a region. Clearly, these mechanisms cannot counter concentration unless numerous and overlapping PDOs and PGIs are established throughout the UK (Ilbery and Kneafsey (2000b) indicate that there were only 34 in 1998 ()). This remains highly unlikely because such action would undermine the *raison d’être* for their existence.

There is direct evidence to show that concentration of production is, in fact, continuing unabated. Research on large-scale farms in South East England by Walford and Burton (2000) concludes that a greater proportion of milk and cereals output in 1998 was accounted for by large-sized holdings than in 1978. This is not to deny the increase in the smallest sized farming units associated with a growing interest in ‘hobby’ farming, a trend that is long established and one that has been researched under the umbrella of ‘part-time farming’ (Gasson, 1988). It is pertinent to recall that such analyses are comfortable with a view of hobby farming as a product of productivism. Hobby farming is not envisaged as a challenge to productivism which the theorization of a dispersion component through post-productivism might imply. Further, there is little in the Agenda 2000 proposals to suggest that enlargement of farm holdings will be discouraged, especially in those EU nations that continue to implement structural reorganisation and early retirement schemes in the interests of improving agricultural efficiency⁸. Dispersion as a process therefore seems to have little to recommend it as a diagnostic of a post-productivist condition.

5 Environmental regulation and restructuring of government support for agriculture

The agricultural policy that emerged in the 1940s was based on corporatist policy arrangements which gave privileged access within the policy-making process to the National Farmers Union in England and Wales (Winter, 1996). Productivism, reflected in production subsidies and grants, was the cornerstone of the policy framework (Cox *et al.*, 1986). As environmental concerns grew in the 1960s and 1970s, the partners in this agricultural corporatism responded first with resistance and subsequently by strongly asserting the voluntarist principle (Cox *et al.*, 1986). Consequently, evidence for the emergence of post-productivism might be reasonably anticipated to include a strong shift in agricultural policy away from production support towards restraints on productivism

⁸ It is relevant to note that, in a recent television interview, former UK Agriculture Minister Nick Brown expressed the view that farms would continue to follow a long-established trend towards enlargement under the influence of the recently negotiated Agenda 2000 reforms to the EU’s CAP.

and the encouragement of alternative statutory compliance models of rural development and environmental protection, including tough baseline environmental regulations.

The 1992 CAP reforms did signal a significant shift away from unrestrained production supports represented by intervention buying, export refunds and levies towards the greater transparency of direct payments to farmers. Ironically, most of these payments, whilst no longer tied to the commodity, remain tied to production units (Winter *et al.*, 1998a). Even though more financial support flows to farmers on the basis of the area of cultivated arable land rather than the crop output and that payments are for ewes rather than lambs, for beef cows rather than beef on the hook (although there are still payments on male beef cattle), it would be hard to characterise either the 1992 reforms or the Agenda 2000 reforms as anything other than a means of limiting CAP-induced surpluses. It does not represent a shift to a new-look agriculture (Winter *et al.*, 1998b). Indeed, much of the rhetoric surrounding these changes has been concerned with making agriculture more competitive, able to respond to the challenges and opportunities of the world market. In this context, it is not surprising that support for agri-environmental measures, whilst growing significantly under Agenda 2000's Rural Development Regulation, will still account for less than 10% of the CAP budget in the medium-term.

Few would argue against the notion that environmental regulations in agriculture have increased in the last two decades, especially with regard to farm pollution controls (Ward *et al.*, 1995; Lowe *et al.*, 1997), and more formally established (but not necessarily effective) protection of wildlife sites (Adams, 1986; Winter, 1996; Evans, 2000). Even here, progress is far from even. Paradoxically, one of the government's responses to the agricultural income crisis of the period since 1997 – which some might characterise as post-productivism writ large in the farming industry – has been a significant slowing in the implementation of regulatory policy shifts. The long anticipated toughening of controls on agriculture through environmental impact assessment of large agricultural projects has been put on hold (Selman, 1999). As demonstrated earlier, the shift from headage payments to area payments in the livestock sector, championed by environmental groups since the mid-1990s, has made only faltering progress. Rather than

develop a comprehensive regulatory framework, a government (MAFF) task force consisting of three working parties (covering the meat industry, MAFF schemes / inspections and intervention) was established to seek ways of reducing the regulatory burden on farmers.

Overall, some commentators declare that post-productive conditions now prevail and that these will influence the dynamics along which rural space is to become differentiated (Marsden, 1998b). If these conditions are founded on the theorization that productivist processes are being progressively reversed, then current evidence shows them to be untenable. There is little to support the assumption that agriculture has passed from one state of coherence to another set of bounded circumstances. Indeed, it is political, economic and social instability and uncertainty that lie at the heart of the contemporary agricultural sector in the UK.

Beyond post-productivism: reinterpreting agrarian change

Reflection on the preceding discussion reveals that post-productivism is essentially a concept that has been proposed as a way of understanding agricultural change. Wilson (2001) has recently attempted a critical refinement of the concept. Although he seeks with some success to correct some of the exaggerated empirical claims for the thesis, he retains its broad characterisation. Indeed, in some respects, he adds new dualistic dimensions, for example by suggesting that the post-productivist transition entails the weaker integration of agriculture into capitalist markets from a previously highly integrated position under productivism and the creation of more horizontally integrated rural communities that were vertically (dis)integrated during the productivist agricultural regime (Wilson, 2001, p.89).

Although attempts to conceptualise are necessary and helpful, there are clear difficulties with the notion of post-productivism. Post-productivism seems to meet all the criteria which have recently been criticised as particularly problematic in geographical research, being generalistic, dualistic and a distraction from theorising. As Morris and Evans

(1999) have suggested, given the discussion in rural geography on the use of dualistic notions of Fordism and post-Fordism, it is rather surprising that a similar debate and critique has not been forthcoming in relation to the notion of a shift from ‘productivism’ to ‘post-productivism’. The commonality of the term’s usage is matched conversely by minimal theoretical contouring. Further, arguments against using dualistic concepts such as this are well rehearsed in the rural literature. For example, in Cloke and Goodwin’s (1992, p.324) account of rural change, it is possible to substitute respectively the words rural and post-Fordism with agriculture and post-productivism and maintain the applicability and meaning of the critique:

‘in an eagerness to join in with these new developments [‘new times’, ‘post-Fordism, ‘post-modernism’] rural [cf. agricultural] research may come to borrow inappropriate ideas and begin to use somewhat overarching concepts in a rather cavalier fashion...Thus, what appears to be a sea-change to a new epoch may well be the latest in a long line of ‘constant revolutions’, and hence any search for an extensive shift in rural society from Fordism [i.e. productivism] to its successor [cf. post-productivism] would seem to us to be somewhat premature’.

It is therefore hard to disagree with these authors’ claim that there is a:

‘need to theorise the complexity of empirical change in a more satisfactory manner than that allowed by the rather abstract and over-arching notions of Fordism [productivism] and post-Fordism [post-productivism]’.

Hence, in the context of post-productivism, it is possible to apply the same observation that Cloke and Goodwin make for post-Fordism, namely, that we are:

‘not denying that key changes have recently taken place, merely warning of the dangers of attempting to fit these into a rather forced categorisation where the actual processes and components of the supposed shift all too often remain unspecified’.

Fundamentally, the concept of post-productivism appears to be a distraction from developing theoretically informed perspectives on agriculture. This is particularly

pertinent given the recent efforts within rural geography to theorise rural change more generally. To attempt to theorise post-productivism as discussed in the preceding section elevates it beyond its conceptual status. This type of theorisation is internal to the concept itself and makes no attempt to discuss its value in a wider theoretical sense. In the light of these comments, it would be unwise to suggest an alternative to post-productivism that merely replicates the dualistic tendencies conceptualised as a shift from one broad set of conditions to another. Instead, agrarian change needs to be interpreted using existing theoretical perspectives developed in human geography. These have been neglected in agricultural research in favour of the diversionary notion and theoretical shortcomings of post-productivism.

Evidence of this theoretical cul-de-sac is further substantiated drawing upon the earlier discussion of the empirical basis of post-productivism. Even if the empirical characteristics can be substantiated as representing a shift towards post-productivism, there seems little direction in which to take research other than to argue that a shift has occurred. As this paper has already demonstrated, a main point of debate has been over the timing of this shift rather than about its validity in reality. The idea of transition has become a key element for many proponents of post-productivism (see for example Shucksmith, 1993), where its appeal is evident as a convenient tool to defend post-productivism through retreat to various positions of 'incomplete change'. However, this cannot disguise the fact that the deeper processes underpinning such a proposed transition will inevitably remain difficult to identify and substantiate in the absence of a theoretical framework.

More progress in agricultural (and rural) geography could be achieved by abandoning post-productivism. It is not the primary purpose of this paper to elaborate fully a new theoretical position. Rather we are seeking to remove the debris of post-productivism so as to facilitate new theoretical developments. Nonetheless it would be remiss not to offer some guidance for agricultural and rural geographers on possible future ways to structure research. Clearly, regulation theory, actor network theory, culturally informed approaches to agriculture and ecological modernisation, have all emerged in agricultural research in

recent years and we would advocate a continuing use of these ideas to develop new perspectives (Morris and Evans, 1999). Each of these bodies of theory offers a potential corrective to the dualism of post-productivism. Of greater significance is the way in which these developments deal with specific issues that have been neglected within the post-productivist paradigm.

Regulation theory, for example, prompts attention to the governance mechanisms, economic forces and social relations which lie at the heart of uneven (both spatial and temporal) development of the agro-food sector. As Dunford (1990) explains, regulation theory seeks answers to ‘why growth and crises assume different intensities and characteristics in different nations and regions’ (p.303) Such unevenness is recognised in accounts of post-productivism but its advocates rarely examine social relations of production or changing governance structures as a means to explain changes within agriculture. We would argue that both need greater attention if we are to adequately theorise current and recent agrarian changes.

Actor network theory (ANT) and ecological modernisation, in radically different ways, both point to the need to incorporate nature into theoretical accounts of agricultural change. As Goodman (2001, p.191) asserts, ‘reflexive consideration of nature as an active, relational entity is long overdue’. ANT is seen as one of the ways in which this project might be taken forward. Inherent in the ANT approach is not only a rejection of dualism but an insistence on ‘relational materialism’ (Law 1992). Goodman (2001, p.193) argues that ‘the conceptual language and ontology of ANT’ provides one way of entering discussions on ‘nature-culture hybrids and ‘implosions’ engineered in agricultural technoscience’ (see also Murdoch, 1997a).

Unlike the other approaches outlined here, ‘culturally informed’ perspectives on agricultural change do not represent one coherent theory, but instead are a disparate collection of works ‘characterised by a heightened reflexivity toward the role of language, meaning and representations in the constitution of reality and knowledge of reality’ (Barnett, 1998,

p.380), that can be situated within human geography's 'cultural turn' (Philo, 2000). Although culturally informed studies of agriculture have not had the same impact to date as elsewhere in rural studies (Evans and Morris, 1999), the following areas of work are illustrative of those that stand to benefit from cultural applications: the representation of agriculture and food in texts and images; the social construction of agri-environments; ethnographies of agri-cultures; the exploration of human-animal relationships and the enculturing of the agri-food economy. From this, culturally informed perspectives are perhaps as significant for *what* they examine (i.e. the 'data') as they are for *how* they attempt to arrive at new understandings of agricultural change (i.e. their conceptual frameworks).

As a further example, observed trends in agriculture could be viewed as part of a move towards ecological modernisation. This we elaborate more fully, not because we consider it to be any more useful than the other approaches we have mentioned but because its empirical focus is so close to many of the concerns of advocates of post-productivism. Yet ecological modernization retains the centrality of production whilst recognising the fluidity of production relations and changes in the nature of markets. Ecological modernization recognises that economic activity continually causes environmental harm and presents solutions involving: sustainable development in place of growth; a preference for anticipation rather than cure (the precautionary principle); equating pollution with inefficiency; treating environmental regulation and economic growth as mutually beneficial; and exerting the rights of future generations over market forces (Hajer, 1995; Giddens, 1998). This would immediately provide a sounder theoretical basis than post-productivism for understanding what is actually happening in at least some sectors of agriculture.

Ecological modernisation has been developed in diverse ways in recent years as an alternative social theory and/or as a means of characterising a new politics (Hajer, 1995; Mol, 1997). However, our aims here are more modest. As Buttel (2000, p.59) has pointed out, ecological modernization has also often been used as 'a synonym for strategic environmental management, industrial ecology, eco-restructuring'. A small number of

writers have begun to take this up in analysis of agricultural change; for example Frouws and Mol (1997) in the Netherlands, Jokinen (2000) in Finland and Tovey (2000) in Ireland. Tovey (2000, p. 115) argues that the widespread adoption of the Rural Environment Protection Scheme, a CAP-funded agri-environmental scheme, by Irish farmers allows a new understanding of agricultural development which is 'nonproductivist but is not anti-production'. However, she is critical of the development suggesting 'eco-modernist discourse provides farmers and agriculturalists with a way of reconciling agriculture and environment in terms which support continued agricultural production' (p.123). In other words, ecological modernization is to do with mobilizing policy coalitions whilst its fundamental tenets are unproven. Following this line of reasoning through, businesses and corporate capitals within the agrarian sector can justify and maintain levels of financial privilege afforded to them by state and profit from the appropriation of 'environmentally-friendly' technologies. Whilst such a critique may be politically cogent, this does not detract from the utility of the term to describe what is going on in agriculture. Many of the trends with regard to food quality and safety and environmental management fit well into the ecological modernization framework, much more so than into post-productivism. Farming continues to be dominated by production and rural space remains primarily devoted to agricultural production. However, the market and the policy context have changed dramatically. Contemporary agricultural discourse in farming publications, policy papers, and so forth focus not on 'non' or 'after' production issues, but on how to re-orientate production to the new demands and constraints posed by public health, environmental concerns and farm animal welfare. In the latter case, we find it curious that Tovey (2000) cites animal welfare as an issue lying somehow outside the ecological modernization paradigm when it is manifestly so central to developments in countries such as Britain and the Netherlands and a key aspect of the 'level playing field' so often requested by these nations' farmers. We would argue that post-productivism takes scholars down a blind alley, ending in exaggerated claims of 'surplus' land in agriculture and a 'post-agricultural' future for the countryside (Halfacree, 1997). Ecological modernization, by contrast, retains the centrality of production but points to new modes of development and delivery of agricultural outputs. This brief exemplar of ecological modernisation demonstrates how one more satisfactory avenue of

scholarly activity can be followed to achieve progress in geographical research by virtue of bringing greater analytical power to agricultural issues than can ever be delivered through post-productivism.

References

- Adams, W. (1986) *Nature's Place: Conservation Sites and Countryside Change*. Allen and Unwin.
- Barnett, C. (1998) The cultural worm turns: fashion or progress in human geography? *Antipode*, 30, pp.379-94.
- Bateman, D. and Ray, C. (1994) Farm pluriactivity and rural policy: some evidence from Wales. *Journal of Rural Studies* 10, 1-13.
- Bell, D. and Valentine, G. (1997) *Consuming Geographies*. Routledge, London.
- Bowler, I. (1985) Some consequences of the industrialization of agriculture in the European Community. In Healey, M. and Ilbery, B. (eds) *The Industrialization of the Countryside*. GeoBooks, Norwich, pp.75-98.
- Buttel, F. (2000) Ecological modernization as social theory. *Geoforum* 31, 57-65.
- Chaplin, S. (2000) Farm-based recreation in England and Wales. Unpublished PhD thesis, Geography Department, University College Worcester.
- Clark, G., Bowler, I., Shaw, A., Crockett, A. and Ilbery, B. (1997) Institutions, alternative farming systems and local re-regulation. *Environment and Planning A* 29, 731-745.
- Clark, J., Jones, A., Potter, C. and Loble, M. (1997) Conceptualising the evolution of the European Union's agri-environment policy: a discourse approach. *Environment and Planning A* 29, 1869-1885.
- Cloke, P. (1989) State deregulation and New Zealand's agricultural sector. *Sociologia Ruralis* 29, 34-48.
- Cloke, P. and Goodwin, M. (1992) Conceptualising countryside change: from Post-Fordism to rural structured coherence. *Transactions of the Institute of British Geographers* 17, 321-336.

Cox, G., Lowe, P. and Winter, M. (1986) *Agriculture: People and Policies*. Allen and Unwin, London.

Crabb, J., Firbank, L., Winter, M. Parham, C. and Dauven, A. (1998) Set-aside landscapes: farmer perceptions and practices in England. *Landscape Research* 23, 237-254.

Dunford, M. (1990) Theories of regulation. *Environment and Planning D: Society and Space* 8, 297-321.

Edmond, H. and Crabtree, R. (1994) Regional variation in Scottish pluriactivity: the socio-economic context for different types of non-farming activity. *Scottish Geographical Magazine* 110, 76-84.

Evans, D. (1997) *A History of Nature Conservation in Britain* (2nd Edition). Routledge, London.

Evans, N. (1990) *Farm Based Accommodation and the Restructuring of Agriculture in England and Wales*. Unpublished Ph.D. thesis, Geography Department, Coventry University.

Evans, N. (2000) The impact of BSE in beef cattle on high nature value conservation sites in England. In Millward, H., Beesley, K., Ilbery, B. and Harrington, L. (eds.) *Agricultural and Environmental Sustainability in the New Countryside*. Saint Mary's University and Nova Scotia Agricultural College, Canada.

Evans, N. and Ilbery, B. (1993) The pluriactivity, part-time farming and farm diversification debate. *Environment and Planning A* 25, 945-959.

Frouws, J. and Mol, A. (1997) Ecological modernization theory and agricultural reform, In de Haan, H. and Long, N. (eds.) *Images and Realities of Rural Life*, pp.220-239. Van Gorcum, Assen.

Gasson, R. (1988) *The Economics of Part-time Farming*. Longman, London.

Gerber, J. (1997) Beyond dualism - the social construction of nature and the natural *and* social construction of human beings. *Progress in Human Geography* 21, 1-17.

Giddens, A. (1998) *The Third Way*. Polity Press, Cambridge.

Goodman, D. (2001) The relational materiality of nature and agro-food studies. *Sociologia Ruralis* 41, 182-200.

Goodman, D. and Watts, M. (1997) *Globalising Food: Agrarian Questions and Global Restructuring*. Routledge, London.

Hajer, M. (1995) *The Politics of Environmental Discourse: Ecological Modernization and the Policy Process*. Clarendon Press, Oxford.

Halfacree, K. (1997) Contrasting roles for the post-productivist countryside. In Cloke, P. and Little, J. (eds.) *Contested Countryside Cultures*. Routledge, London, pp.70-93.

Haraway, D. (1991) *Simians, Cyborgs and Women - the Reinvention of Nature*. Free Association Books, London.

Ilbery, B. (1991) Farm diversification as an adjustment strategy on the urban fringe of the West Midlands. *Journal of Rural Studies* 7, 207-218.

Ilbery, B. and Bowler, I. (1998) From agricultural productivism to post-productivism. In Ilbery, B. (ed.) *The Geography of Rural Change*. Longman, London, pp.57-84.

Ilbery, B. and Kneafsey, M. (1997) Regional images and the promotion of quality products and services in the lagging regions of the European Union. Paper presented to the Third Anglo-French Rural Geography Symposium, Université de Nantes, 11th to 14th September.

Ilbery, B. and Kneafsey, M. (1998) Product and place: promoting quality products and services in the lagging regions of the European Union. *European Urban and Regional Studies* 5, 329-341.

Ilbery, B. and Kneafsey, M. (2000a) Producer constructions of quality in regional speciality food production: a case study from south west England. *Journal of Rural Studies*, 16, 217-230.

Ilbery, B. and Kneafsey, M. (2000b) Registering regional speciality food and drink products in the United Kingdom. *Area*, 32, 317-326.

Ilbery, B.W., Kneafsey, M and Bamford, M. (2000) Protecting and promoting regional speciality food and drink products in the European Union. *Outlook in Agriculture*, 29, 31-37.

Jenkins, A. and Bell, M. (eds.) (1987) The implications of extensification regulation 1760/87. *Merlewood Research and Development Paper*, No.112.

Law, J. (1992) Notes on the theory of actor-network: ordering, strategy and heterogeneity. *Systems Practice* 5, 379-393.

Le Heron, R. (1993) *Globalized Agriculture*. Pergamon Press, Oxford.

Lowe, P., Murdoch, J., Marsden, T., Munton, R. and Flynn, A. (1993) Regulating the new rural spaces: the uneven development of land. *Journal of Rural Studies* 9, 205-222.

Lowe, P., Clark, J, Seymour, S. and Ward, N. (1997) *Moralizing the Environment*. Routledge, London.

Marsden, T. (1998a) Economic perspectives. In Ilbery, B. (ed.) *The Geography of Rural Change*. Longman, London, pp.13-30.

Marsden, T. (1998b) New rural territories: regulating the differentiated rural spaces. *Journal of Rural Studies* 14, 107-117.

Marsden, T., Flynn, A. and Harrison, M. (1997) Creating competitive space: exploring the social and political maintenance of retail power. *Environment and Planning A* 30, 481-498.

Marsden, T., Whatmore, S. and Munton, R. (1987) Uneven development and the restructuring process in British agriculture: a preliminary exploration. *Journal of Rural Studies* 3, 297-308.

Marsden, T., Munton, R., Ward, N. and Whatmore, S. (1996) Agricultural geography and the political economy approach: a review. *Economic Geography* 72, 361-375.

Marsden, T., Murdoch, J. and Williams, S. (1992) Regulating agricultures in deregulating economies: emerging trends in the uneven development of agriculture. *Geoforum* 23, 333-345.

Massey, D. (1996) Masculinity, dualisms and high technology. In Duncan, N. (ed.) *Body Space*. Routledge, London, pp109-126.

Mol, A. (1997) Ecological modernization: industrial transformation and environmental

reform. In Redclift, M. and Woodgate, G. (eds.) *The International Handbook of Environmental Sociology*, Edward Elgar, London, pp.138-149.

Moran, W. (1993) The wine appellation as territory in France and California. *Annals of the Association of American Geographers* 83, 694-717.

Moran, W., Blunden, G. and Greenwood, J. (1993) The role of family farming in agrarian change. *Progress in Human Geography* 17, 22-42.

Morris, C. (2000) Quality assurance schemes: a new way of delivering environmental benefits in food production? *Journal of Environmental Planning and Management* 43, 433-448.

Morris, C. and Evans, N. (1999) Research on the geography of agricultural change: redundant or revitalized? *Area* 31, 349-358.

Morris, C. and Potter, C. (1995) Recruiting the new conservationists: adoption of agri-environmental schemes in the UK. *Journal of Rural Studies* 11, 51-63.

Morris, C. and Winter, M. (1999) Integrated farming systems: the third way for European Agriculture? *Land Use Policy* 16, 193-205.

Morris, C. and Young, C. (2000) 'Seed to shelf', 'teat to table', barley to beer' and 'womb to tomb': discourses of food quality and quality assurance schemes in the UK. *Journal of Rural Studies* 16, 103-116.

Munton, R. (1990) Farming families in upland Britain: options, strategies and futures. Paper presented to the Association of American Geographers, Toronto, April.

Murdoch, J. (1997a) Inhuman/non-human/human: actor network theory and the prospects for a non-dualistic and symmetrical perspective on nature and society. *Environment and Planning D* 15, 731-756.

Murdoch, J. (1997b) Towards a geography of heterogeneous associations. *Progress in Human Geography* 21, 321-337.

Murdoch, J., Marsden, T. and Banks, J. (2000) Quality, nature and embeddedness, some theoretical considerations in the context of the food sector. *Economic Geography* 76 , 107-125.

Murdoch, J. and Miele, M. (1999) 'Back to nature': changing worlds of production in the food sector. *Sociologia Ruralis* 29, 465-483.

Philo, C. (2000) More words, more worlds: reflections on the 'cultural turn' in human geography. In Cook, I., Crouch, D., Naylor, S. and Ryan, J. (eds.) *Cultural Turns / Geographical Turns*. Pearson Education, Harlow, pp.26-53.

Potter, C. (1998) *Against the Grain: Agri-environmental Policy Reform in the US and EU*. CAB International, Wallingford.

Potter, C. and Goodwin, P. (1998) Agricultural liberalization in the European Union: an analysis of the implications for nature conservation. *Journal of Rural Studies* 14, 287-298.

Sandrey, R. and Reynolds, R. (eds.) (1990) *Farming without Subsidies: New Zealand's Recent Experience*. GP Books, Wellington, New Zealand.

Sayer, A. (1991) Beyond the locality debate: deconstructing geography's dualisms. *Environment and Planning A* 23, 283-308.

- Selman, P. (1999) *Environmental Planning* (2nd Edition). Sage, London.
- Short, C. and Winter, M. (1999) The problem of common land: towards stakeholder governance, *Journal of Environmental Planning & Management* 42, 613-630.
- Short, D. (1996) Subsuming the family farm: from land use study to political economy in rural geography. *Scottish Geographical Magazine* 112, 51-3.
- Shucksmith, M. (1993) Farm household behaviour and the transition to post-productivism. *Journal of Agricultural Economics* 44, 466-478.
- Slee, B. (1986) *Alternative Farm Enterprises*. Farming Press, Ipswich.
- Symes, D. (1992) Agriculture, the state and rural society in Europe: trends and issues. *Sociologia Ruralis*, 32, 193-208.
- Symes, D. (1991) Changing gender roles in productionist and post-productionist capitalist agriculture. *Journal of Rural Studies* 7, 85-90.
- Tovey, H. (1997) Food, environmentalism and rural sociology: on the organic farming movement in Ireland. *Sociologia Ruralis* 37, 21-37.
- Tovey, H. (2000) Agricultural development and environmental regulation in Ireland. In Buller, H. and Hoggart, B. (eds.) *Agricultural Transformation, Food and the Environment*. Ashgate, Basingstoke, pp.109-129.
- Walford, N. and Burton, R. (2000) *The development of large-scale commercial farming in South-East England*. School of Earth Sciences and Geography, Kingston University.

Ward, N. (1993) The agricultural treadmill and the rural environment in the post-productivist era. *Sociologia Ruralis* 23, 348-364.

Ward, N., Lowe, P., Seymour, S. and Clark, J. (1995) Rural restructuring and the regulation of farm pollution. *Environment and Planning A* 27, 1193-1211.

Wilson, G.A. (2001) From productivism to post-productivism ... and back again? Exploring the (un)changed natural and mental landscapes of European agriculture. *Transaction of the Institute of British Geographers* 26, 77-102.

Wilson, O. and Wilson, G. (1997) Common cause of common concern? The role of common lands in the post-productivist countryside. *Area* 29, 45-58.

Winter, M. (1996) *Rural Politics: Policies for Agriculture, Forestry and the Environment*. Routledge, London.

Winter, M. and Gaskell, P. with Gasson, R. and Short, C. (1998a) *The Effects of the 1992 Reform of the Common Agricultural Policy on the Countryside of Great Britain*. 3 volumes, Countryside and Community Press and Countryside Commission, Cheltenham.

Winter, M., Gaskell, P. and Short, C. (1998b) Upland landscapes in Britain and the 1992 CAP reforms. *Landscape Research* 23, 273-288.