

are applied in a more positive way to show the diversity of religious life rather than discounting the experience of women religious. It is also welcomed that this study is ‘deliberately less concerned with the [monastic] order’ of the community and evaluates the evidence as a ‘diverse group’ (p. 104), reinforcing and adding to other studies of women religious (cf, eg, Burton and Stöber 2015).

Some of the conclusions that this study has brought will impact the study of medieval archaeology and settlement in Ireland and influence the way monastic studies are viewed in wider landscapes of the past and present. Women’s religious communities in Ireland were not isolated as previously thought, and they were different in purpose and identities; therefore, they ‘fit into a wider European phenomenon with regional distinctiveness and distribution of setting’ (p. 161). The exploration of St Catherine’s (Co. Limerick) and its relationship with the surrounding settlement is a compelling case study: the deliberate location of a secluded place, its physical invisibility and the mental awareness of this place within the landscape. This is important as it emphasises its significant connections to surrounding settlements and benefactors. Collins suggests that seclusion and segregation of these communities was positive and the idea of negative connotations around this cannot be sustained (p. 408). Other conclusions are indications that enclosure and claustral arrangements for women religious are open for interpretation as not all houses had the same layout, or in fact had a cloister (Chapter 5). The evidence analysed for case studies, especially that of St Catherine’s, illustrate this flexibility of the use of space and layout of buildings. This is *significant* and will reshape the way we think about women’s monastic communities and their ritualised spaces for years to come. For Ireland in particular, the communities of women religious show some similarities with other monastic houses in medieval Europe but had some differences that set them apart from the rest; these differences are vital to understanding the fluidity, diversity, and variety of women religious communities in medieval Christendom in the later medieval period.

Burton, J and Stöber, K 2015. *Women in the Medieval Monastic World*, Brepols, Turnhout
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New Perspectives on the Medieval ‘Agricultural Revolution’: crop, stock and furrow. Edited by MARK MCKERRACHER and HELENA HAMEROW. 230mm. Pp xvii +264, 55 b/w figs, 20 col pls, 10 tabs. Liverpool University Press, Liverpool, 2022. ISBN 9781802077230. £34.99 (pbk).

While the ‘agricultural revolution’ of the eighteenth century is well known, both archaeologists and historians agree that this was not the first dramatic transformation of British agriculture seen in the post-Roman period. Around a thousand years earlier – starting in what has been called the ‘long eighth century’ – there is increasing evidence for marked changes in agricultural regimes, and it has been suggested that this was the context of one of the most important developments in the history of the English countryside: the creation of villages and open fields. While the origins and development of these highly distinctive ways of structuring the countryside have been much debated by both archaeologists and historians, there has been little agreement as to what caused this change, when it happened or why it was largely restricted to England’s ‘central zone’. We desperately need new data and new insights, and that is what this fascinating and diverse collection of papers provides. The volume is the proceedings of an online conference in December 2020 that both presented the results of a major European Research Council funded project titled ‘Feeding Anglo-Saxon England: the bio-archaeology of an agricultural revolution (FeedSax)’, led by Helena Hamerow at the University of Oxford, and brought together a series of other scholars who have been working on this period. The volume is strongly interdisciplinary – gathering the results of scientific analyses (of plant and animal remains), experimental approaches and excavations at important sites – and, while the focus is on England, there are important continental perspectives too.

The first five papers outline the initial (and provisional) results of the FeedSax project. Helena Hamerow introduces the team’s aims and objectives, and the important concept of a ‘mouldboard package’ that characterised this first agricultural revolution: systematic crop rotation; low-input ‘extensive’ cultivation regimes; and the widespread use of a ‘mouldboard plough’ (that turned the sod, reduced weed infestation within fields and permitted the cultivation of heavier

soils). Amy Bogaard and her colleagues explore what arable weeds tell us about past farming practices using an approach known as ‘functional ecology’ that allows ancient and modern weed floras to be compared in both ‘low-input’ and ‘high-input’ agricultural systems. Analyses included one of the few extant open field systems (at Laxton in Nottinghamshire) and an organic farm (Highgrove’s Duchy Home Farm in Gloucestershire), as well as several archaeological assemblages that reflect increasing cereal production and high levels of weed control. Elizabeth Stroud then explores how the analysis of stable carbon and nitrogen isotopes within cereal grains and animal remains is also providing new information on growing conditions, including soil moisture levels and nutrient enrichment. The results suggest that some crops were grown on different soils (something that is well-attested in later centuries through documentary sources), but that systematic crop rotation was not occurring on the sites and periods for which there is isotopic data. The isotopic analysis of the faunal remains focused on trying to determine whether livestock grazed on post-harvest stubble, which may have been the case. Emily Forster and Michael Charles explore the use of pollen analysis using the results from previously published sites across southern England. Their innovative new analysis confirms that there was no widespread abandonment of agricultural land in the fifth century, followed by an increase in agricultural activity around the sixth century and then major changes around the eighth century with some woodland clearance and a marked shift towards arable with large areas being cultivated albeit less intensively. The tenth and eleventh centuries see another decline in woodland, and an increase in both arable and pasture. Finally in this section on the initial results from FeedSax, Matilda Holmes explores changes in cattle husbandry that could indicate their use as draught animals, such as increases in older male animals along with bone deformations in their feet. Some evidence for this is found in the fifth to eighth centuries, although there is a marked increase around the ninth century.

The remaining seven papers explore the wider context of these significant changes in agriculture revealed through FeedSax’s scientific analyses. Claus Kropp reports on experimental archaeology carried out at Lauresham in Germany (a reconstruction of an early medieval settlement complete with houses, open arable fields and meadow). A three-field crop rotation has been subject to long-term monitoring, revealing for example how a mould-board plough required around twice the draught power

of an ard. Mark McKerracher explores early medieval agriculture through the concept of ‘syntironomy’ that places an emphasis on how phenomena will naturally tend to persist over time as ‘nature abhors an ending’ (p 127). This is presented as an alternative to what he argues have in the past been ‘teleological’ approaches towards the study of early medieval farming, which have focused on the quest for origins. Lisa Lodwick then takes us back to the Roman period, using data from another major research programme: the ‘Rural settlement of Roman Britain’ project. Lodwick skilfully shows how various elements of the early medieval ‘agricultural revolution’ – such as improvements to tillage technology, the possibility of crop rotation and extensification (decreasing input in the form of human labour and manure per unit area) – were evident in the Roman period, but did not come together in the same transformative way. Neil Faulkner explores a key eighth century settlement – Sedgeford in Norfolk – that has shed important light on how early medieval archaeology was transformed through settlement nucleation, the centralised control of labour, the use of the heavy plough in open fields and the large-scale processing of the resulting grain, including through water-powered milling and a specialised malthouse. Hannah Caroe describes the evidence for malting from the same site, in the context of a wider discussion of the importance of brewing and beer in early medieval society. Nicholas Schroeder’s paper is the first of two that provide a wider context, in exploring ‘cerealization’ in continental north-west Europe, where a similar agricultural revolution to that seen in central England occurred between *c* 800 and *c* 1200. Tom Williamson then rounds off the volume with a stimulating discussion of ‘agriculture, lords and landscape in medieval England’ that includes a consideration of regional variation in landscape character (an important topic as the ‘open field revolution’ did not occur in the same way in all areas).

Overall, this is an excellent set of papers, that both present the initial results of the FeedSax project and seek to understand them within the wider context of early medieval landscape and society. There is an exciting mix of innovative science, humanities perspectives and thought-provoking theoretical discussions, all supported by a wide range of illustrations and tabulated data. This should, therefore, be essential reading for anyone interested in this formative period in our history.

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