Kurt J. Gron, Lasse Sørensen and Peter Rowley-Conwy, eds. Farmers at the frontier. A Pan-European Perspective on Neolithisation (Oxford & Philadelphia: Oxbow Books, 2020, xiii and 447p. hbk, ISBN 978-1-78925-140-1)

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There is no denying that the introduction of plant and animal domesticates in Europe is one of the most debated processes in the history of archaeology, covered at is in countless papers, chapters and books. In this perspective, it is perfectly legitimate to ask whether or not there is a need for yet another edited volume on the subject, i.e. whether or not the quality of the individual contributions and/or of the overall product justifies the investment in acquiring and reading them. If, like me, you can only be bothered to read the first and last paragraphs of a book review, here is the answer: parts of the contents on offer here are of high academic calibre, but, if you are looking for an overarching – let alone innovative – narrative, you will need to look elsewhere.

This volume brings together 20 individual chapters, plus a small introduction and conclusion, which, as the subtitle suggests, aim at providing a pan-European perspective. Although the geographical coverage is arguably comprehensive, if not devoid of extensive overlap (more on that latter), with contributions on the Balkans, the Mediterranean, Poland, Scandinavia, Britain and Ireland, there are however also glaring gaps (i.e. most of central and western Europe). From a structural point of view, the chapters include both site reports and topically specific contributions, as well as numerous extensively referenced synthetic chapters, a fundamental type of academic exercise whose natural academic habitat seems increasingly to be such edited volume. In methodological terms, all chapters include and/or echo results from scientific methods, especially stable isotopes and, in few instances, explicitly advocate multi-proxy approaches (e.g. chapters 2 by de Becdelièvre and colleagues, and 10 by Marciniak). This positive state of affairs shows how much archaeology as a discipline has moved on since the so-called "science wars" of the late 1990s /early 2000s, and in particular how much studies on early farming have often been a laboratory in the development and generalisation of such approaches. As for most edited volumes, illustrations exhibit much stylistic variation, but are very often of good quality. This being said, one has to report with great regret that three chapters still use pie charts, despite extensive calls across many fields to ban them because of poor performance in conveying accurately quantitative information.

The editors' introduction sets a firm tone, stressing the centrality of farming and domesticates *per se* within this volume, a welcome empirical focus echoed by all chapters indeed. Parallel to this datadriven approach, the common overarching theme, clearly set in the introduction as well, lies on the duration of the process, and an insistence upon describing and explaining a "zone of variability" during which farming is introduced under different regimes across Europe. The editors then set up a roadmap to study this "zone of variability", with a joint focus on how farming impacts upon landscape, monumentalisation, and fluctuations in the importance of foraging strategies. Whilst the first and last items figure prominently in many chapters, it is noteworthy that the second item is only addressed in a limited way. Chapter 2, by Ivanova, for instance offers a truly pan-European synthetic account of the possible environmental and climatic constraints involved in the translocation of crops and animals from their original Near Eastern ecological niche into the variety of European landscapes. Using extensive stable isotope data amongst others, she shows how much these constraints affect the reproductive cycle of the new plants and animals, and ultimately explain some, but far from all, of the variability documented by the local archaeological records. By contrast, chapter 2 by de Becdelièvre and colleagues offers an in-depth assessment of a microregional case-study, namely the Danube Iron Gates. Taking advantage of extensive multi-proxy datasets on human remains (dietary and mobility isotopes, aDNA), they document loose correlation between diet, human mobility, and genetic ancestry, ultimately pointing to the complexity of processes at play during the "zone of variability" associated with the onset of farming. Halstead and Isaakidou, in the third chapter, test the different hypotheses found in the historiography regarding the types of farming practised by the first Neolithic Greek communities, eventually suggesting that we are dealing here with a close integration of crop and animal husbandry. Interestingly, a similar conclusion is reached for other regions (see below), a result whose implications will surely shape much of future research. Chapters 4 to 8 form a diverse section dedicated to the central and western Mediterranean. In chapter 4, Tecce and Albarella revisit older work on the status of pigs in the Italian Neolithic to re-instate the importance of extensive interbreeding between imported domestic and local wild animals as part of loose management strategies. This result is shared, in chapter 5, by Rowley-Conwy and colleagues' analysis of the older and new excavations from Arene Candide, and by Binder and colleagues in chapter 6, for the nearby site of Pendimoun. Both chapters are more traditional site reports and thus present high-quality local data. Chapter 7, by Saña and collaborators, synthesise both archaeobotanical and zooarchaeological data for the Iberian peninsula. Whilst thorough, their work remains hampered by relatively limited quantitative analysis and, in this sense, it is perhaps no surprise that their conclusion points to both diversity and similarity at play in Neolithic practices across the Iberian peninsula. This Mediterranean section ends with chapter 8 by Davis and Simões, another site-based zooarchaeological case-study.

The next four chapters present a range of data for Poland, ranging from Bogucki's opening synthesis to largely site-based chapters by Płaza and Papiernik (chapter 11, on the site of Kruszyn) and Pyzel and collaborators (chapter 12), and Marciniak's elegant multi-proxy description of the homogeneity of cattle husbandry regimes (chapter 10). Bogucki's chapter 9 especially offers a detailed account of the changing nature of farming across the Polish lowlands over more than a millennium, an argument very much in line with the volume's focus on "zone of variability". Chapter 13, by Çakılar and colleagues, revisits the zooarchaeological assemblages of a couple of key sites to address the question of the existence of domesticates in the Dutch lowlands early in the 5th millennium cal BC, which would imply a long "zone of variability". On the contrary, their results, combining biometrics, isotopic studies and new 14C dating, clearly point to the start of animal husbandry in the area towards the very end of the 5th mill. cal BC, a process which included, as seen for Italy for instance (see above), extensive introgression between wild and domestic pigs.

The following five chapters form another geographically-coherent section, this time dedicated to southern Scandinavia. Although, on the one hand, these multiple chapters address slightly different areas and datasets, on the other hand, they thematically overlap in many ways. Unfortunately, it is hard to see if this is a laudable editorial effort to promote multi-vocality in the field, or, on the contrary, poor editorial direction. Chapter 14 by Sørensen discusses the empirical evidence behind a putative very long "zone of variability" and convincingly concludes that, despite undeniable occurrences of contacts between farmers and foragers during the 5th mill cal BC, these are only structured in the timespan between 4300 and 4000 cal BC, that is before the shift to agriculture as such which, in Sørensen's view, was ultimately triggered by a migration event. Gron's chapter 15 provides an example of the worrying overlap mentioned above as, in many respects, it mirrors Sørensen's argument though in a different, and less robust in my opinion, way. Likewise, Bergsvik and colleagues' chapter 16, Glørstad and collaborators' chapter 17 and Prescott's chapter 18 all discuss various geographical and regional facets of the Norwegian sequence. All individual chapters stress that Norway provides a clear example of a long and complex "zone of variability", with farming only assuming a central role across the entire area the end of the 3rd millennium cal BC. All three chapters also insist upon the role of incomers in this process, if only as necessary vectors of the skills required to practice agriculture successfully (Bergsvik and colleagues). The scale of this migration also likely varied over time, with limited movement, perhaps as part of marital exchange networks, earlier on (Bergsvik and colleagues), and larger migration later on (Prescott), Glørstad and colleagues also reminding the importance of existing maritime communication routes in structuring these processes.

The last two chapters deal with Britain and Ireland respectively. Chapter 19 by Rowley-Conwy and colleagues claims to offer a new synthesis of early farming in Britain. After a solid assessment of the archaeobotanical and zooarchaeological evidence, they point to the existence of intensive dairying and agriculture, also suggesting that this system was well-integrated. Regarding the

synthetic nature of the paper, it is noticeable that, despite the compulsory brief discussion of the foragers-farmers trope, they entirely avoid any mention of the other dimensions of this demographic process, a most damageable oversight. Smyth and colleagues, in chapter 20, offer another robust account, this time for Ireland, but without any real conclusion as to the diversity or homogeneity of farming practices. As with several other chapters in this volume, the authors' personal preference, rather than any quantitative analysis, seems to veer the interpretation towards a given direction rather than the other. Finally, the editors' conclusion reinforces the need to focus on the tempo of the "zone of variability", and eventually put forward a "model", which appears to be more an abstract general description than a set of mechanisms articulated together in an explicit way. On that note, the editors also rightly insist upon the role of demography, although somewhat paradoxical given how very unevenly the preceding individual chapters discuss this key process.

All in all, the shared focus on the "zone of variability" allows this volume to reach overall coherence, though perhaps not the pan-European perspective advocated in the subtitle. Veering away from many theoretical debates also ensures the consistency – but not the quality – of the chapters, but at the expense of any controversial or groundbreaking considerations.