The transition from foraging to farming is a globally significant topic that occupies the mind and energy of many scholars in archaeology, history, linguistics and palaeogenetics. In this special issue of Quaternary International are published a series of papers resulting from a joint symposium at Brisbane in 2014 sponsored by The University of Queensland, The Harvard-Australia Chair and UCL Institute of Archaeology in which the attendees were challenged to address the question Do foragers adopt agriculture? The symposium aimed to bring together scholars working on the archaeology of Sahul – the supercontinent incorporating modern Australia and New Guinea – and East Asia with those from other regions to contrast how forager transitions were being explored and conceptualized. The papers presented here represent a sub-set of those presented at the symposium, with several others having been published in other venues (e.g. Baird et al., 2018; Betts, 2014; Dighton et al. 2017; Tuechler et al., 2014), and the symposium itself generating a number of new collaborations that are in the process of coming to press.

At the heart of the symposium was investigation of the proposal by OBY, and one that has been strongly supported by a number of scholars (e.g. Bellwood, 2005; Rowley-Conway and Layton, 2011), that the spread of farming did not, or at best rarely and only for a short period of time, involve forager adoption of crops and herd animals, but, rather, saw foragers inventing farming or being replaced by migrating farming populations who brought it with them into new territories. While discussing the record from China while on fieldwork in Turkey at the time of this discussion AF profoundly disagreed with this position on both a priori and empirical grounds, as did Douglas Baird who was central to the discussions. As is often the case, the discussion drew on archaeological and ethnographic studies from a number of regions by each side of the debate. Of such discussions are symposia made and following a successful funding proposal to the Harvard Australia Chair and the UQ Vice Chancellor’s Strategic Funding Initiative, we invited participant studying a range of regions to discuss OBY’s proposition in the context of the emerging record from East Asia and Sahul.

At the symposium itself, of particular interest was how food production and subsistence practices were being conceptualized in Australia’s past. Australia has generally been considered the ‘poster child’ of global forager practice and has routinely been styled as the ‘continent of hunter-gatherers’, providing a major source for ethnographically based analogues of forager practice used in the reconstruction of ancient subsistence practices in other regions of the world. The eschewing of farming in Australia stands in strong contrast to its role as a key economic staple across the Arafura Sea and Torres Strait in New Guinea, once joined as part of the same landmass, and explaining it has occupied a significant amount of scholarly writing (e.g. White 1971; Denham et al. 2009a, 2009b; White, 2011). Contributions at the symposium questioned the continuing utility of a strictly dichotomous view for understanding this issue.

While the role of ‘firestick farming’ (Jones, 1969) and broader landscape management (Gammage, 2011) is well discussed in global literature, ethnography and historical research, especially early written accounts of early Europeans in Australia, have demonstrated quite clearly that Indigenous Australian’s intensively exploited food plants in many regions, with clear examples of cultivation practice, including tending and planting, recorded in both the north and south of the continent. That research has been synthesised most recently, and perhaps most bitingly, in Bruce Pascoe’s Dark Emu (2014), where the lack of recognition of food production in Australia is viewed in part as a legacy of racist colonial narratives which sought to selectively represent the activities of Australia’s first peoples and, by simplifying their behavior, fit unilinear cultural evolutionary categories to legitimate their territorial dispossession (see McNiven and Russell, 2005 for a wider discussion of this phenomenon). Paterson (2018) provides an original contribution to this debate by discussing the role of Indigenous Australians in the agricultural colonization of the continent and its agricultural transition after 1788. Drawing on a wide swathe of evidence the paper demonstrates the flexibility of Indigenous people as participants in agriculture and identifies that their exclusion in many cases was not one of choice, but the result of decisions made by colonial authorities. By discussing the actual behavior of Indigenous Australians in a documented agricultural transition Paterson’s work provides a corrective to the view of Australia’s first peoples as inherently foragers in both mind and action, and thus fundamentally questions the assumption that they would resist farming. As well as demonstrating the ability, willingness and interest of Indigenous people to participate in farming, the paper also identifies the complex influence of social structures and cultural tradition on how people participate in and choose subsistence practices.

That topic is extended across the tropics from Sahul to Sunda – ancient Southeast Asia – by Denham and Barton (2018) who explore the nuance and complexity of the social and economic relationships between plants, people and vegeculture. Taking in a wide range of crops, from tubers to bananas and palms, their ethnographically drawn account provides an innovative and challenging theoretical construct that emphasizes the potentially central role of vegeculture in social production, however those societies are economically classified. The highly specific social value of vegeculture crops is also discussed in relation to the seed plants that have dominated discussions of domestication and farming around the world.

A continuing problem for archaeologists understanding the development of subsistence practices in Sahul, especially the tropical regions, is our basic methodology (see Denham et al. 2009a, 2009b). How do we gain and interpret data to allow us an independent view of past plant use? Several sections of the symposium discussed this in detail. A novel
approach is presented by Veth et al. (2018) who investigate the remarkable record of plant-people associations represented in the rockart of the Kimberley in Australia’s northwest, which preserves numerous plant motifs – comprising up to 25% in some rockart styles. Discussed alongside the emerging archaeobotanical and artefact record of plant exploitation from the region – extending back tens of thousands of years – the authors demonstrate a sustained close symbolic and cultural relationship between people and plants extending back to the earliest millennia of a human presence on the continent. The long-term history of plant exploitation in northern Sahul is also explored by Florin and Carah (2018), who use archaeological and palaeoecological data to re-evaluate Peter White’s ‘Neolithic problem’, namely the proposition that farming developed in New Guinea and then spread across the region yet stopped at Australia’s northern shore. Review of recent data using niche construction theory leads the authors to conclude that the apparent dichotomy between forager Australia and farming New Guinea is not as clear cut as first thought and that a dynamic, diverse range of plant-people relationships transcending the Torres Strait better fits the evidence across northern Sahul.

The archaeological preservation and past exploitation of seed and non-seed crops, including the role of wild and domestic plants in southeast Asia is explored through plant macrofossil and microfossil analysis in the papers by, respectively, Castillo et al. (2018) and Weisskopf (2018). Archaeobotanical analysis by Castillo et al. of Late Neolithic Rach Nui in Vietnam demonstrates the ongoing value of systematically collected plant macrofossil remains for understanding the complexities of ancient plant use, in this case establishing the forager basis of the settlement’s plant economy, complemented by imported crops. Weisskopf’s account focuses on the complementary evidence drawn from phytolith analysis, using ethnoarchaeology to provide empirically grounded analysis of the representation of phytoliths, applying that knowledge to Late Neolithic Rach Nui and a later rice farming settlement at Non Ban Jak. These results put paid to the factoid that archaeobotany is unlikely to provide reliable or comprehensible results concerning plant use in the tropics, yet they also emphasise the need for systematic recovery, use of integrated plant macrofossil and microfossil analysis and contextual analysis of multiple plant proxies to get that information. Furthermore, they demonstrate the ongoing value of primary methodological research in both identification techniques and formation processes, especially via ethnoarchaeology.

A key theme linking many of the symposium contributions was the flexibility of subsistence systems in utilising different plant resources and procurement methods, be that cultivation or foraging. Moving geographical focus to highland Asia, d’Alpoim Guedes (2018) challenges Peter Bellwood’s proposition that farmers had demographic advantage over foragers except where environments prevented the development of crops. In this case study, communities on the Tibetan Plateau were able to flexibly take up or drop cultivation as it suited their needs and it is clear that foragers and foraging maintained a competitive advantage over cultivation. Dynamism also characterizes the investigation by Crowther et al. (2018) into forager-farmer adaptations in East Africa, where archaeobotanical results challenge the hypothesis that Bantu speakers spread farming as they migrated across the continent. A complex history is reconstructed in which a mosaic of subsistence adaptations come and go over time, lacking an easily identifiable connection to the Bantu expansion. As with previous papers, the study relies on expert analysis of carefully sampled and chronologically controlled archaeological plant and animal assemblages and challenges once dominant explanations citing single causal factors as the drivers of large-scale economic and social change. Understanding that complexity is the key focus of the final paper by Smith (2018), who reconsiders the transition to farming in China through a review of ethnographic evidence for the interaction of farming and foraging communities in South, Central and East Africa. Smith’s paper critically reviews the insights we can gain from ethnographic knowledge identifying, as in earlier papers, the complexity and contingency of factors influencing subsistence choices. A major conclusion is that acceptance of agricultural production required a major change in ideology and symbolic expression to facilitate the shift in social relations required for that transformation.

While the papers published here are diverse, like the broader range of papers presented at the symposium, they all in different ways inform our understanding of forager-farming transition and how archaeologists can methodologically and conceptually approach this issue, including through larger-scale comparative prehistory and ethnography. In addressing an apparently simple question about forager behaviour, the papers demonstrate both the complexity of the problem of forager transitions and how it can only be addressed through high quality technical archaeological work – from systematic excavation to multi-disciplinary post-exavation research and inter-disciplinary analysis including archaeobotanical research – combined with detailed ethnographical and ethnoarchaeological research asking the right questions. The studies, especially those based on ethnographic work, demonstrate the need for contextualized, detailed understanding of subsistence practices within their social, cultural and symbolic context and break down the fiction that forager transitions can be understood in isolation within a domain of science-based archaeology or environmental archaeology loosely attached to the broader understanding of past human experience. Furthermore, they highlight the great strides being made beyond the traditional seed-focused heartlands of early farming research and demonstrate what is possible in the tropics using contemporary approaches.

In response to the question posed at the start of our symposium, studies in this volume demonstrate that foragers have adopted agriculture in a range of ethnographic and archaeological contexts, including East Asia, Sahul and beyond. Consequently, the corollary of that question, namely that foragers do not adopt farming, cannot be supported as a categorical and definitive statement. That does not mean that such behaviour never existed - the past is a big place - but the examples explored here reject an exclusive forager-farmer dichotomy as a core, universal principle. As such, the papers build on a significant body of scholarship that emphasises the complexity, dynamism and diversity of past subsistence practices and questions the utility both of larger scale, universalising models for understanding the origins of agriculture, and rigid oppositional definitions of analytical categories such as forager and farmer in their investigation. As noted by David Harris several decades ago (Harris 1989), foragers and farmers cannot be simply and easily separated in terms of what they do and how they live, and rather a we can see a continuum of practice that ranges from the gathering of food from purely wild stands to intensive industrial farming of monocultures and everything in between. David died several months before our symposium but the continuing utility of his proposition is clear evidence of the significant contribution he made to our understanding of agriculture’s history in the broad. Several papers presented here demonstrate clearly that the lengthy quest to empirically test and develop David’s conceptual ideas continues apace and is increasingly able to identify and accumulate the archaeological and modern analogical studies to do so. As with the symposium, we offer these papers in memory of David’s work and his continuing influence on research into ancient subsistence practices and the resources exploited by them.

But what of Sahul and the Neolithic Problem?, a topic in which David Harris maintained a deep interest throughout his career? Research has long overturned the fiction of Indigenous Australians belonging to an unchanging culture, a fact that must question the utility of ethnographic accounts for giving us anything except a recent glimpse of the continent’s pasts (see Hiscock 2007). As noted by Florin and Carah (2018), ethnographic and emerging archaeological evidence suggests a long and complex history of plant-people interactions in Australia and must question the proposition that Australia’s north coast marks a theoretical ‘end of the line’ for agriculture. But where is the
detailed archaeological evidence to take us further and evaluate the
detail of those practices at specific points in the past, as well as the
longevity and extent of the largely ethnographically evidenced ex-
amples of intensive gathering, tending and cultivation? While we can
embrace the theoretical proposition that Australia’s first nations could
well have long depended on, taken up, developed and abandoned
agriculture in their 65,000 year old history, we still lack the chron-
ologically bounded evidence to evaluate that proposition beyond the
historical lens of ethnography. In conclusion, we must look forward to
the considerable technical challenge of accumulating more empirical
archaeological data to test and extend these revised understandings of
Sahul’s past as well as to continue challenging and revising the theo-
retical propositions that got us to this point in the first place.

As a final comment, we record with sorrow the passing in 2017 of
one of our authors Dr Alison Weisskopf. Alison was a much liked and
highly respected colleague and made an energetic, positive and much
appreciated contribution to our symposium, taking full advantage of
her time in Brisbane both to engage with her colleagues and see
Australia. She is greatly missed by her colleagues at UCL and around the
world. The paper presented here speaks volumes for the quality and
importance of her work and it is an honour to include it in this special
issue of QI.

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Further reading


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