A World with Agriculture, 12,000 BCE–500 CE. On CWH volume II

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> *The world with agriculture has secured for the human species its primacy and dominance over the natural world, with all the uncertainties that the industrialized exploitation of selected plants and animals and associated population expansion represent for the sustainable health of the planet. With the development of a world with agriculture, world history became a human story* (p. 8).

The editors' introduction to CWH Vol II leaves no doubt; the invention of agriculture was one of the most important, some say the most important, game changer in the human race's journey (pp. 1–25). This second of the nine-volume thick Cambridge World History focuses exclusively on the expansion of the human world *with* agriculture, and rightly so. The volume forges a wide perspective, both in space and time, "to capture the expansive timeframe of the origins and diffusions of agriculture worldwide" (p. 1). Further quoting the editors, this world-historical approach allows for "an understanding that is simultaneously both global and local. […] Critical to any broader study of agricultural origins is not only the mapping of expansive regional patterns, but also the interpretation of local ecologies that has framed the understanding of prehistoric behaviour. What continues to confound researchers is the answer to the seemingly simple question of why the advantages of agriculture apparently became obvious to many prehistoric populations in vastly different parts of the world" (p. 2).

A world-historical ambition integrates narratives about differences and similarities with a quest for causes and impact. How is this challenge handled in this volume consisting of 23 chapters? What choices have been made by editors and authors? In the first part of this short essay, I will focus on the construction of the world in scales of space and time.

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In the second part, I will deal with the historical narrative concerning the story of the birth and dispersion of agricultural societies.

1. The World: Scales of Space and Time

Every world-historical narrative strives to capture the big picture. But how big is this picture? And how big is this world? A world is not a constant; it is bound by human activity. It refers to social change that can only be understood in specific contexts of space and time. For that reason, no single delineation can be absolute. On the contrary, choosing a space and time perspective (where? when?) is linked to an intrinsic thematic choice (which social change?). Consequently, world history does not apply exclusive frameworks of space and time; it does not draw fixed boundaries. In general, it uses the discursive technique of overlapping scales. They do not exclude each other; they create spaces of contact and interaction, of fusion and of friction. The volume covers the period of diffusion and adoption of agriculture until the first millennium of the Common Era (marked as 500 CE). Although this periodization makes sense in this volume, its logic is much less clear in the book series setup. In her general preface, editor-in-chief Merry E. Wiesner-Hanks states that the choice for overlapping chronologies in the book series reflects "the complex periodization of truly global history" (p. XXVIII). However true this may be, without a rationale behind this chronological patchwork, it remains unclear how the different volumes will correlate to each other. The primacy of agriculture in human history only decreases in the nineteenth century, but no other volume continues the story carved out in this book on "early agricultures". This lack of synergy is a flaw in a world-historical book series.

Agricultural change is covered in depth in the chapters dealing with major world regions. This regional, bottom-up approach allows for a series of extremely rich overviews. As the editors of this volume claim: "The more nuanced interpretations of the evidence call into question the respective roles of trans-regional connections and interactions, on the one hand, and bottom-up local processes of experimentation, on the other" (p. 17). Differences should not to be seen as deviations from a norm, or as contradictions, but as a diversity that can teach us about the rich complexity of human adaptation (p. 20). Although an exhaustive comparative analysis is missing (limited to pp. 14–25), the introductory chapter convincingly shows the promises and possibilities of a comparative and transregional approach. As we illustrate below, it presents a range of exciting questions, debates, and claims. As a whole, the volume questions spatial definitions and chronological demarcations, rethinks regional sequences, and demonstrates how transregional connections were crucial in the expansion of agriculture. For example, the singularity of "Europe" as a world region is questioned by pointing to internal varieties and external connections (p. 23). Out of immense divergence and differences, new metanarratives can be forged: "A world with agriculture was the result of countless individual decisions and intensive experimentation by communities, who committed their energy

and labours to the transmission of agricultural knowledge and practices across generations. […] Despite the bewildering variety of adaptations to agriculture archeologically visible across world regions, the accumulation of evidence brings the global picture into meaningful focus" (p. 24). This global picture departs from older models that concentrated on economic drivers that are familiar to modern men (p. 25). They divided the world of the first farmers into a domestic sphere to be understood in economic models, and the "irrational beliefs" outside the production sphere. New insights also reveal that environmental change "cannot have been a simple forcing agent, because social formations reveal that decision-making strategies, risk management, communal resource use, and technological innovation played key roles in facilitating the movement towards food production" (p. 22). Much more attention is given to families and communities as actors, to new inequalities based on age and/or gender, to food strategies, and to patterns of mobility and migration of both men and agriculture.

2. The History: A World with Agriculture

Peasantries have been the single most important social group in world history since the birth of agriculture. All successful cultures and civilizations, excluding a few nomadic empires, were based on extensive peasant economies comprised of ninety per cent of the population or more.[1] The minimum social conditions for farming consisted of access to land, labour, tools, and seeds. Historically, the principal social units through which the means of farming were secured have been the rural household system and the village household system. Both have varied greatly in size, composition and social relations over time. Surplus production from the land was a precondition for societal change. Societal change was required to group agricultural producers into peasantries. Agricultural-based economic systems facilitated vaster communal units and extended village networks. This stimulated extensive changes in the structure of social relations, population growth, and village and supra-village institutions. The spread of agricultural village societies as the main food system took millennia. Much of the world's population lived off farming by 5000 BCE; the first agricultural-based empires emerged by 3000 BCE. By that time, peasant economies had become sufficiently advanced and, in some regions, they supported more complex, urban-based societies and more complex and differentiated trade networks.

Agrarian change refers to historical and interrelated processes of the dispersion of agricultural societies, to the absorption of agrarian-rural worlds within wider geographies and non-agricultural sectors, and to the acts of negotiation, adaptation, and resistance of agrarian-rural peoples. The incorporation of rural zones and the creation of peasantries have been central to the expansion of village societies, early states, agrarian (tributary)

1 P. Brassley/R. Soffe, Agriculture. A Very Short Introduction, Oxford 2016; M. Mazoyer/L. Roudart, A History of World Agriculture. From the Neolithic Age to the Current Crisis, London 2006.

empires, and global capitalism.[2] In most societal settings, these zones were integrated as loci of appropriation of the produce of land and labour and as peripheral spaces of production, exploitation, and recreation. Agrarian change has often been framed in dichotomous and predominantly ahistorical models: market versus non-market relations, economic versus cultural forms of exchange, modern versus traditional societal arrangements – a long tradition of rural sociology is grafted upon these dichotomies. Concepts such as traditional, survival, subsistence, or informal economies have not been very helpful in understanding social change in a world-historical context. They freeze peasant history in dualistic frames and fail to grasp the dynamics and changes within peasant societies. When survival and subsistence refer to supporting oneself at not much more than a bare-bones level with little or no surpluses, peasant economies do not fit these typologies. On the contrary, they were rooted in a wide variety of reciprocal exchanges: redistributions that integrated different spaces in networks of mutual obligations, regional and extra-regional market transactions, and public retributions.

Peasant history is the history of the struggle over the fruits of their labour. Social relations in agricultural societies were built on the returns of the land to support and reproduce institutions and norms that defined new rules of ownership, inheritance, transmission, and control.[3] Peasants gained a substantial part of their income from direct access to products resulting from input of their labour on the land; any loss implied a notable decline in their living standards. Peasantries not only fed civilizations, empires, states, and economies, they also supported their ecological and social resilience and fuelled their expansion. Farming societies developed a new, more intrusive and aggressive attitude to the resources of nature, land, and labour.[4] The expansion of plant and animal husbandry presumed a more radical exploitation of diverse ecosystems and the development of new tools, new modes of clearing and renewing fertility, and new modes of cultivation and animal breeding. These had an increasing impact on labour-nature relations and resulted in massive worldwide deforestation. Like every social formation, peasantries developed as sets of social relationships. The households were basic economic units and the gateway to the wider world. They pursued an agricultural livelihood by combining subsistence and commodity production through direct access to nature, land, labour, and commodities. Together with extended families, kinship, and village societies, they were the vital nodes of production, consumption, reproduction, socialization, welfare, credit, and risk spreading. The economic roles that different household and community members took on were neither fixed nor permanent. They signified a transient social relationship, one that could be replaced rather quickly by other sources of labour and income.

2 E. Vanhaute, Agriculture, in: K. Hofmeester and M. van der Linden (eds.), Handbook The Global History of Work, Berlin 2018, pp. 217–235.

3 P. Bellwood, First Farmers, Oxford 2005; C. Renfrew and P. Bahn (eds.), The Cambridge World Prehistory, 3 vols, Cambridge 2014; M. E. Smith (ed.), The Comparative Archeology of Complex Societies, Cambridge 2011; G. Barker, The Agricultural Revolution in Prehistory: Why did Foragers become Farmers?, Oxford 2006.

4 E. B. Barbier, Scarcity and Frontiers: How Economies Have Developed through Natural Resource Exploitation, Cambridge 2011.

How have the editors Graeme Barker and Candice Goucher and their (30 plus) co-authors dealt with agrarian change? The central goal of the volume is to trace "common developments in the more complex social structures and cultural forms that agriculture enabled" (p. XXVIII). By tracing the origins of agriculture and the character of early agricultural communities across the world and surveying the development of more complex social structures and cultural forms that agriculture enabled, this volume adds a new, comprehensive overview to the extensive literature on these topics. It is a strong volume on its own, a real added value to existing literature for multiple reasons. First, the volume presents state-of-the-art research on all world regions written by an impressive team of skilled, experienced authors. Second, it is a genuinely interdisciplinary collection that underlines the essential contribution of archaeological sciences to the study of the agricultural origins of the human world. Third, it shows the striking divergence in agricultural regimes/systems, "a bewildering variety […] provided the foundations for the spread of humans and their achievements to nearly every continent" (p. 24).

The volume's composition is well thought out. The first part, chapters 1 to 7, deals with overarching themes and research methods related to the first agricultural systems. This includes consequences of "sedentism" on food (chapter 4), on community building (chapter 5), and on the growth of spatial and economic inequalities (herding, urbanism; chapters 6 and 7). For a non-specialist, the huge steps taken by integrating massive new data from archaeological fieldwork, including new methodologies such as archeogenetics (chapter 2), historical linguistics (chapter 3), and bioarcheology (chapter 4), are revealing. Chapter 2 illustrates the impact of the collaboration between archaeology and genetics on the spatial and chronological mapping of specific lineages within species. Chapter 4 highlights the contribution of scientific techniques to examine the impact of agriculture on diet, health, and the human lifespan, using techniques such as DNA analysis, imaging, stable isotopic studies, etc. This set of thematic and methodological chapters lists a number of pressing debates on the causes and consequences of the introduction of agriculture. Most central is the observation that "it is not surprising that the development of a commitment to sedentary agriculture was usually not as straightforward as many archaeologists have tended to assume" (p. 12). In addition, "sedentary village life based on early forms of agriculture could and did take many forms: the emergence of households, compounds, and commonly shared spaces differed greatly across Eurasia and the Americas" (pp. 12–13). This relates to the difficult transition to a more sedentary life, resulting in a substantial loss of plant diversity in diets centred on cereals, and related nutrient deficiencies: "Diets did not improve with the transition to agriculture. The pathways to agriculture were littered with problems too numerous to overlook: refuse disposal, vermin, contamination of water supplies, poor hygiene and sanitation levels, poor harvests, and soil exhaustion frequently resulted in a decline in the variety, quantity, and the quality of foodstuffs available" (pp. 11–12). Time and again, the authors try to integrate the diversity of human choices into more general tendencies in the transformation towards agricultural societies. The chapter on "the bioarchaeology of health and diet" shows that "overall, health declines over time and with the transition to agriculture, as does the

quality of the diet, but it is important to note that this interpretation can be very variable" (p. 122). This variability should be part of the analysis: "While synthetic studies are becoming more common in bioarchaeology, these studies do highlight that individuals and populations can be variable in their responses to subsistence changes, and there are many potential variables throughout the world over time that will ultimately affect the data interpretation" (p. 122). Science needs models to make sense of widely divergent processes. As Amy Bogaard argues in her excellent chapter on "Communities": "In many ways early agricultural societies are extremely diverse, but underlying this range of cultural forms are striking similarities suggesting that agriculture tended to constrain and direct social behaviour along certain lines" (p. 124). Chapter 6 on "Pastoralism" identifies "some key differences between mixed farmers and those who lived principally from grazing livestock" (p. 164) (e.g. nomadic pastoralists versus transhumant pastoralists), and chapter 7 on "Agriculture and Urbanism" illustrates the distinctive styles of pre-industrial urbanism, and their divergent role within rural settings (p. 186). It looks for a working definition of the city as a new mode of settlement, and of the city-state as a new political entity (p. 192). But still "there are complex histories of villages, towns, and cities moving or being moved by political centres, further complicating the process of identifying the 'urban core'" (p. 195).

The second set of chapters, 8 to 23, discusses the current understanding of the beginning of agriculture and the character of early agricultural societies on a region-by-region basis. It covers eight world regions: Southwest Asia, South Asia, China, Japan, Southeast Asia and Pacific, sub-Saharan Africa, the Americas, and Europe. The regional overviews offer comprehensive, state-of-the-art insights based on regional and local knowledge. They are illustrated with a case study, describing a particular early agricultural site. Time and again these chapters show the immense diversity of choices made by our ancestors. At the same time, they offer an excellent starting point for a more general, comparative synthesis, integrating diversity with some general tendencies.

As stated above, a discussion with other volumes in the series is missing and so is a more time-transcending view of the role of agriculture in societal change. This is expressed in the lack of an explicit analytical frame, or of some guiding concepts. Agricultural regimes (p. 22) and agricultural systems (p. 24) are mentioned but not discussed. This is strange because agrarian or farming systems have been an influential ordering tool in agricultural and rural history for a long time. The concept of systems or regimes emphasizes the organization, functioning, and outcomes of subsequent organizational forms of agriculture, with a strong focus on ecology, technology, and farming practices. This helps gain insight into models of transformation, classification, and differentiation of agrarian systems in a given region or within the world.[5] That is why technical farming systems have to be supplemented with social-ecological agrosystems that describe rural production networks

5 See, for example, Mazoyer / Roudart, History of World Agriculture, pp. 21–23; G. M. Robinson, Geographies of Agriculture: Globalisation, Restructuring and Sustainability, Harlow 2004, pp. 1–29; M. B. Tauger, Agriculture in World History, London 2010, pp. 2–3.

as sets of region-specific social power relations shaping the economic reproduction of a given geographical area. They are the theoretical expression of historically constituted and geographically localized types of agriculture and ecological and social reproduction/production systems. It is true that these typologies, in a global-comparative context, are frequently based on Eurocentric models and understood in priori historical sequences. This can result in the creation of new myths underpinning existing power relations and legitimizing discourses both in academic knowledge and in applied fields such as development work.[6] Bottom-up research shows that agrarian systems cannot be predicted from environmental, demographic, or evolutionary contexts. To make sense of social change in a broad time/space span, we can use the concept of a genealogy of evolving and changing regimes.[7] Regimes thus become a tool to contextualize and understand how peasantries in a certain time/space are organized (internally) and embedded (externally). Each regime embodies an institutionalization of economic, social, political, cultural, and ecological forces that structure internal and external peasant relations. They organize forms and relations of production, reproduction, exchange, and extraction. They define how these relations are ordered and represented (or legitimized) via structures of power and forms of hegemony. Regimes are social space/time fixes: methodological tools to specify changing relations between "world ordering" and peasantries. A genealogy of societal regimes can provide a genuine, global comparative-historical lens to view the social, economic, political, and ecological relations of agrarian societies and empires. It aims at a non-hierarchical, non-evolutionary, and non-deterministic interpretation of global social change.

After having digested so many regionally diverse insights, we are left wondering what global knowledge this volume advances. After all, in its promotional language, the series promises that "it is the most comprehensive account yet of the human past". For sure, the volume reflects "increasing awareness that world history can be examined through many different approaches and at varying geographic and chronological scales", and that it "represents the newest thinking in world history" (p. XXVIII). As Wiesner-Hanks argues, the series aims to view key developments from multiple perspectives, comprehensive but not exhaustive (p. XXIX). This endeavour generates a set of useful overviews of the state of knowledge and volume II is an excellent example. The volume's synergetic strength is in normalizing the complexity of societal change behind the generalizing and often teleological label of the "Neolithic Revolution". Transformation can take very different paths and can have very different outcomes. There is not one model for change, let alone one trajectory of progress. The authors frequently remind us that one of the most fascinating stories from our collective past has been misrepresented in many ways. It only can be understood by considering "complex mixes of historically contingent decision-

6 M. Widgren, Four Myths in Global Agrarian History, in: A. Jarrick/J. Myrdal/M. Wallenberg Bondesson (eds.), Methods in World History: A Critical Approach, Lund 2016, pp. 85–105.

7 E. Vanhaute/H. Cottyn, Into their Land and Labours: A Comparative and Global Analysis of Trajectories of Peasant Transformation, ICAS Review Paper Series 8 (2017), pp. 1–21. See also P. McMichael, Food Regimes and Agrarian Questions, Halifax 2013, pp. 1–12.

making […] Perhaps the dominant message from this book is that the global pathways to food production were many and varied […] complex and often contradictory" (pp. 7–8). In addition, this collection of essays is proof of the strength of interdisciplinary, integrated research that combines methods and techniques from very different fields.
Accumulation of data and insights changes knowledge. But tallying up regional and thematic knowledge does not make a global narrative. Giving meaning to widely divergent processes within a major turn in the human race's history requires integrative concepts and frameworks, which can enable interpretative connections within wider spaces and time frames, bringing together yesterday, today, and tomorrow.