1

Introduction[1]

Nathalie Joly and Federico D'Onofrio

In the wake of the cultural approach to the Industrial Revolution,[2] historians have investigated the intellectual and social origins of the sustained growth of European agriculture in early modern and modern Europe. In particular, they have stressed the significance of 'useful knowledge' in underpinning technological progress. Did an 'Agricultural Enlightenment' of the eighteenth century metamorphose into an 'Agricultural Revolution'?[3] What were the effects of the 'agromania' that swept through Europe after the Peace of Aachen and reached even Europe's remote peripheries?[4] Dissemination and emulation issues, along with discussions of competing institutional frameworks facilitating innovation and technological adoption, have become central themes in

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2 Deirdre McCloskey, *The bourgeois virtues: Ethics for an age of commerce* (2006); Joel Mokyr, 'The intellectual origins of modern economic growth', *Journal of Economic History* 65 (2005) pp. 285–351; David S. Landes, 'Culture makes almost all the difference', in Lawrence E. Harrison and Samuel P. Huntington (eds), *Culture matters: How values shape human progress* (2000), pp. 1–13.

3 Peter M. Jones, *Agricultural enlightenment: Knowledge, technology, and nature, 1750–1840* (2016), pp. 31–2.

4 Istvan Hont, 'Correcting Europe's political economy: The virtuous eclecticism of Georg Ludwig Schmid', *History of European Ideas* 33 (2007), pp. 390–410; Koen Stapelbroek and Jani Marjanen, 'Political economy, patriotism and the rise of societies', in Stapelbroek and Marjanen (eds), *The rise of economic societies in the eighteenth century: Patriotic reform in Europe and North America* (2012), pp. 1–25.

the historiography.[5] Historians have investigated the impact of scientific knowledge on farming practices. Modernising elites and experts engaged in spreading innovation – both by setting an example to be emulated and actively advocating new techniques through propaganda, education, and even coercion. Calculative practices were an integral part of the effort of the innovators, especially when, in the second half of the eighteenth century, as Keith Tribe has argued, 'a new discursive formation came into being, one whose structure is constituted by a specific conjunction of concepts of capital, profit, exchange, production and distribution'.[6] Once the farm came to be seen as a unit of production comparable with other economic units, arguments concerning rational management became central. Accounting could thus serve as a means to gather essential farm-related information. From the eighteenth century and well into the twentieth, European elites adopted an ideal model of an accounting farmer meticulously recording economic transactions, seeing tidy book-keeping[7] as being the basis of sound management and the adoption of new techniques.

By investigating the invention of the accounting farmer as an emblem of modern agriculture, this book draws together two poorly connected areas of historical research in the social sciences: on the one hand, a body of scattered investigations devoted to agricultural accounting in different countries and, on the other, the more substantial body of work on the process of agricultural modernisation in Europe between the eighteenth and twentieth centuries. What exactly is there to connect? First, we have the materials, observations, and analyses which are already available and which span the three centuries we consider. Since knowledge is held in silos, period by period, country by country, researchers are often unaware of each other and hardly ever discuss and compare their findings. We believe that the juxtaposition of different periods, historiographies, and objects of agricultural accounting studies can produce unexpected results and prompt the study of hitherto neglected subjects. Second, it is necessary to make better connections between our knowledge of accounting, whose development is seemingly associated with modernity and capitalist rationality, and the analysis of the economic and cultural mechanisms of

5 Jones, *Agricultural enlightenment*, ch. 4; Frank Uekötter, *Die Wahrheit ist auf dem Feld: Eine Wissensgeschichte der deutschen Landwirtschaft, Umwelt und Gesellschaft* (2010); Jonathan Harwood, *Europe's Green Revolution and others since* (2016).

6 Keith Tribe, *Land, labour, and economic discourse* (1978), p. 5.

7 We have used the form 'book-keeping' in preference to other possible variants throughout the book.

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the transformation of European agriculture which progressed in fits and starts from the late seventeenth century onwards.[8]

Following Latour, we may contend that accounting reports became key 'representations' to produce economic and managerial knowledge.[9] To paraphrase the French sociologist, no new man suddenly emerged who thought differently from the inhabitants of the pre-industrial agricultural world.[10] This volume puts forward a more mundane explanation of change in economic practice, by considering accounting as a means of 'Drawing Things Together' in a particular calculative manner. It thus strives to trace how the actors who were concerned, whether directly or 'at a distance'[11] – be they estate owners, their bailiffs and stewards, scholars in the field of agronomy and political economy, financial investors, professional organisations, or state agencies – developed representations of rational, profit-orientated agriculture. As varied as the works gathered here are in their analytic framework, they share the idea that accounting could be performative for decision-making and management.[12] The aim is, then, to determine in what ways and to what extent accounts and accounting might have influenced the development of agriculture, as it has industry and commerce.

This volume originated in a panel organised at the fifth biennial conference of the European Rural History Organisation (EURHO), Rural

8 A good definition of agricultural modernisation in terms of technological, social, managerial, and ecological change can be found in Margot Lyautey, Léna Humbert, and Christophe Bonneuil, 'Introduction', in Lyautey, Humbert, and Bonneuil (eds), *Histoire des modernisations agricoles au XXe siècle* (2021), pp. 5–6.

9 In his seminal reflection on the role of inscriptions as ways of representing things and to know them, both for scientific thought and everyday life thought as well, Bruno Latour, 'Visualization and cognition', *Knowledge and Society* 6 (1986), pp. 1–40.

10 This sentence paraphrases Latour speaking of modern scientific culture: 'No "new man" suddenly emerged sometime in the sixteenth century, and there are no mutants with larger brains working inside modern laboratories who can think differently from the rest of us. The idea that a more rational mind or a more constraining scientific method emerged from darkness and chaos is too complicated a hypothesis.' Latour, 'Visualization and cognition', p. 1.

11 For a theoretical focus on quantification and action at a distance, see Keith Robson, 'Accounting numbers as "inscription": Action at a distance and the development of accounting', *Accounting, Organizations and Society* 17 (1992), pp. 685–708.

12 Inspired by the seminal works of Michel Callon. Michael Callon (ed.), *The laws of the markets* (1998); Donald MacKenzie, *An engine, not a camera: How financial models shape markets* (2006). The literature on the performativity of accounting is now too large to be discussed here.

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History 2021 in Uppsala.[13] The papers presented in these sessions stimulated a discussion concerning the spread of agricultural accounting during three centuries of European history. At the heart of our exchanges was a questioning of the reasons that led rural elites and scholars to invest in the adoption of agricultural accounting.[14] We also looked at the growing role played by the state through incentives and educational policies, in tandem with the professional organisations that sprang up across Europe in the second half of the nineteenth and early twentieth centuries. We hope that this volume marks an important step in the understanding of how accounting became constitutive of new calculative reasonings and managerial practices in agriculture. Chiapello and Gilbert have reminded us that management techniques 'prescribe action formats, building a unity of action within a work collective'.[15] But this role expands far beyond organisations. Management techniques are also influential in the making, on a day-to-day basis, of the economic system and market mechanisms. By studying accounting in both its institutional genesis and its embodiment in the social figure of the accounting farmer, we can make a new contribution to the analysis of the integration of agriculture into the industrialising societies of Europe. This book sets out to do just that.

In this introduction, we begin by reviewing the historiography of agricultural accounting. We stress the importance of considering accounting as a social practice. Here we make reference to the research of the school of 'new accounting history'.[16] Then we present the main achievements of earlier work on agricultural accounting. We look at accounting successively through textbooks and practices, a perspective which reflects, we think, the two dominant analytical orientations taken by researchers. Our review makes no pretension to being exhaustive. The literature on farm accounting, while still relatively limited, spans too many disciplines and countries for us to be able to encompass it all. We aim instead to elicit the major approaches to farm accounting and the debates which the chapters collected here respond to and complement. Following this overview, we will outline the chapters of the book. To conclude, after we have asked ourselves 'who has written and who is

13 Entitled 'Farmers that count: Standardisation and stewardship in farm accounting, eighteenth to twentieth century'.

14 The composition of rural elites, and their role in the spread of accounting, vary according to the political and economic contexts of the countries studied here. For a more general view of the role of elites in agricultural progress, see Nadine Vivier (ed.), *Élites et progrès agricole: XVIe–XXe siècle* (2009).

15 Ève Chiapello and Patrick Gilbert, *Sociologie des outils de gestion* (2020), pp. 29–30.

16 Peter Miller, Trevor Hopper, and Richard Laughlin, 'The new accounting history: An introduction', *Accounting, Organizations and Society* 16 (1991), pp. 395–403.

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writing'[17] the history of agricultural accounting, we pave the way for future developments.

I

The term 'accounting' did not have a stable meaning in the period considered in this volume. The chapters therefore reflect changes in meaning and usage over time, with nuances depending on the country. Accounting historians have highlighted the gradual shift from the term 'book-keeping' to 'accounting'. Parker pointed out that the first term appeared in English-language book titles at the end of the seventeenth century, and became a widespread expression in the eighteenth, evoking the probable Dutch origin ('*boekhouden*') of the term. The German expressions '*buchhalten*' and '*Buchhaltung*' appeared much earlier, in the sixteenth century.[18] In France, the term '*tenue des livres*' became part of the vocabulary of treatises published in the nineteenth century. Without going into the details of semantic evolutions, we may adopt Labardin and Nikitin's view that in both England and France the term 'book-keeping' has been gradually relegated to a subordinate status (the 'practical' part of accounting) which can be undertaken with little or no training. It is the act of recording individual transactions. Its demotion is closely linked to the appearance of formal accountancy training and the demand by accountants for recognition of their professional status in the second half of the nineteenth century. Accounting came to be defined as a 'science' responsible for the rational creation and coordination of accounts relating to an activity and the analysis of changes in capital.[19] In fact, the actual meaning and significance of accounting and book-keeping appear to have been actively negotiated in the historical cases discussed in this book.

II

What do accounts offer historians that justifies their reading of austere registers and ledgers? To answer this question, it is convenient to draw a fairly clear, yet simplistic, distinction between the two ways farm accounts have been used in the historiography. The most common approach is to

17 Questions precisely raised in Yannick Lemarchand and Robert Parker (eds), *Accounting in France: Historical essays/Etudes historiques* (1996).

18 R. H. Parker, 'Finding English words to talk about accounting concepts', *Accounting, Auditing and Accountability Journal* 7 (1994), pp. 70–85; idem, 'Reckoning, merchants' accounts, book-keeping, accounting or accountancy? The evidence of the long titles of books on accounting in English, 1543–1914', in B. Carsber and S. Dev (eds), *External financial reporting* (1984), pp. 109–22.

19 Pierre Labardin and Marc Nikitin, 'Accounting and the words to tell it: An historical perspective', *Accounting, Business and Financial History* 19 (2009), pp. 149–66.

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consider them as a source. Historians (and other researchers) usually read a farm's accounts to learn about its situation in the local or global economy and to look at its productivity and financial performance.[20] The accounting archive that the historian treasures can also shed light on the 'ways of doing things', either the daily or seasonal pattern of work (and so employment), the sale of crops, investment or the long-term strategies employed by the farmer.[21] Records are rarely solely confined to the management of income and expenditure. They give the valuation of assets and calculations of the profitability of the crop or livestock speculations.[22] They can help to capture the decisions of landowners and farmers and their attitude towards innovations. They also provide otherwise scarce information on the social relationships forged in the setting of farming activity. Using farm accounts, historians handle 'the little numbers',[23] count, interpret, and deepen their knowledge of the farm operations by making careful cross-checks. It is also possible to take advantage of

20 Bethanie Afton, 'Investigating agricultural production and land productivity: Methodology and opportunities using English farm records', *Histoire & Mesure*, 15 (2000), pp. 233–45.

21 Michel de Certeau distinguishes two degrees of agency in these ways of doing things: 'strategies are capable of producing, squaring and imposing types of operations, whereas tactics can only use, manipulate and divert them'. Michel de Certeau, 'L'invention du quotidien: 1. Arts de faire', *Gallimard* (1990), p. 51.

22 In the modern era, farm registers vary widely in content. Very often, they mix everyday information with accounts and, sometimes, private memoranda. For a recent analysis of these heterogeneous writings, see Fulgence Delleaux (ed.), *La plume et la terre: Écrire sur son exploitation agricole en Europe occidentale (1650–1850)* (2021) and in particular the following chapters: Reiner Prass, 'Les écrits personnels de paysans et l'histoire économique: Pour un tour d'horizon dans l'historiographie de l'Allemagne préindustrielle', pp. 7–46; Jean-Marc Moriceau, 'A travers les comptes des grands fermiers du bassin parisien (1689–1884): Modèle de gestion ou mémorial familial?', pp. 99–124; Rosa Congost and Enric Sauger, 'Mémoires humbles: Les écrits des travailleurs agricoles comme témoignages du changement social (région de Gerone, Catalogne, XVIIIe siècle)', pp. 143–65. These literacy and numeracy practices were extended in the nineteenth and twentieth centuries through the keeping of diaries, specially designed to encourage farmers to write a daily account of their activities and their expenses and receipts. See here Nathalie Joly, 'Écritures du travail et savoirs paysans: Aperçu historique et lecture de pratiques: Les agendas des agriculteurs' (PhD Thesis, Université de Paris X: Nanterre, 1997); Philippe Madeline and Jean-Marc Moriceau, *Un paysan et son univers de la guerre au marché commun: À travers les agendas de Pierre Lebugle, cultivateur en Pays d'Auge* (2010).

23 To take up Annie Antoine's phrase in her reflection on the use of eighteenth-century accounts kept by small tenant farmers, Annie Antoine, 'Entre macro et micro: Les comptabilités agricoles du XVIIIe siècle', *Histoire & Mesure* 15 (2000), pp. 247–70.

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non-accounting information, such as that relating to the hiring of labour,[24] in order to analyse labour relations and the place of bargaining in the relationship between farmer and labourer.[25] This down-to-earth approach using simple accounts has proved its worth, with research demonstrating how micro-economic descriptions can bring nuance to,[26] and even correct, some of the certainties established by long statistical series.[27]

A second way of studying accounts is to consider them as an object of investigation in themselves. The representativeness of the surviving accounts, though, may be extremely problematic.[28] Those who decide to address these questions – and they are few and far between – must have a taste for interdisciplinary dialogue. Since accounting is framed within social, organisational, and political contexts, they may find it necessary to invest in an array of concepts from different disciplines and new conceptual thinking. This is the case, for example, with the use of the core concept of 'practice', which tends to be deployed in a taken-for-granted manner while conceptual clarification is useful for analysing

24 Joyce Burnette, 'Seasonal patterns of agricultural day-labour at eight English farms, 1835–1844', in John Hatcher and Judy Stephenson (eds), *Seven centuries of unreal wages: The unreliable data, sources and methods that have been used for measuring standards of living in the past* (2018), pp. 195–225.

25 Rachel Pintus, 'La main d'œuvre d'une ferme du pays d'Ath: Le livre de comptes des Martin-Scaillez (fin XVIIIe–XIXe siècle)', in Delleaux (ed.), *La plume et la terre*, pp. 167–81.

26 Among others, M. E. Turner, J. V. Beckett, and Bethanie Afton, *Agricultural rent in England, 1690–1914* (2004); Jean-Marc Moriceau and Gilles Postel-Vinay, *Ferme, entreprise, famille: Grande exploitation et changements agricoles: Les Chartier, XVIIe–XIXe siècles* (1992).

27 Notably to counter the unreliability of statistical data at a national or provincial level and to revise established ideas about the backwardness of agriculture in a given place: Ramon Garrabou, Enric Saguer Hom, and Pere Sala López, 'Formas de gestión y evolución de la renta a partir del análisis de contabilidades agrarias: Los patrimonios del Marqués de Sentmenat en el Vallés y Urgell (1820–1917)', *Noticiario de historia agraria: Boletín informativo del Seminario de Historia Agraria* 5 (1993), pp. 97–125; María Teresa Pérez Picazo, 'Riqueza territorial y cambio agrícola en la Murcia del siglo XIX: Aproximación al estudio de una contabilidad privada (circa 1800–1902)', *Agricultura y sociedad* 61 (1991), pp. 39–96.

28 'The historian is constantly aware that transmission cannot be complete. What he is less aware of, however, because it is a barely perceptible fact, is the inequality of these losses. The consequence of this is not only that the quantity of our knowledge is reduced, but also that the proportions of our knowledge are distorted. We like to assume that a little of everything has reached us, as if it were impossible for whole, coherent parts, whole continents, to have sunk.' Arnold Esch, 'Chance et hasard de transmission', in Jean-Claude Schmitt and Otto Gerhard Oexle (eds), *Le problème de la représentativité et de la déformation de la transmission historique: Les tendances actuelles de l'histoire du Moyen Âge en France et en Allemagne. Actes des colloques de Sèvres* (1997), p. 15.

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the relationship between social norms and the rule-structured practice of the individuals. The study of accounting reports may also call on highly specific methodologies such as codicology[29] or the ethnography of writing.[30] In short, the history of accounting, either agricultural, commercial, or industrial, is basically a way of *establishing dialogues* between different social sciences and, for those who take interdisciplinarity a step further, a chance to practise the art of comparison.[31]

The 'Foucauldian' or 'Critical' School of accounting history (also called 'New Accounting History') illustrates this multi-disciplinary fruitfulness. Building upon Michel Foucault's work on disciplines of the self and technologies of governmentality, a body of work from a number of researchers has re-examined the process through which accounting has assumed its modern forms.[32] Many aspects of the social functioning of accounting have been analysed through the lens of the influence of socio-political contexts on practices and techniques (and the other way round), and by studying the organisations that regulate and standardise accounting. Research on agricultural accounting is informed in various ways by these directions of analysis. As stressed by Massimo Sargiacomo *et al.*, the governmentality perspective can be applied to agriculture, 'thus echoing the prior Foucauldian interest in Physiocratic perspective'.[33] We therefore propose to take stock of agricultural accounting research at the junction of farming objectives and organisations and policy issues.

29 Claire Bustarret, 'Usages des supports d'écriture au XVIIIe siècle: Une esquisse codicologique', *Genesis. Manuscrits – Recherche – Invention*, 34 (2012), pp. 37–65.

30 From the seminal work of Jack Goody to the approaches of the 'New Literacy Studies', there is a well-established tradition of research in Britain, North America, and France, see David Barton and Uta Papen (eds), *The anthropology of writing: Understanding textually mediated worlds* (2010). See also, in the same volume, on the 'Writing farm' and accountability, Nathalie Joly, 'Tracing cows: Practical and administrative logics in tension', pp. 90–105.

31 Instead of juxtaposing investigations between history and anthropology, the historian Marcel Detienne proposes to conduct them jointly to develop an experimental and constructive comparativism. Marcel Detienne, 'L'art de construire des comparables: Entre historiens et anthropologues', *Critiques internationales* 1 (2002), pp. 68–78.

32 Sverre Raffnsøe *et al.*, 'The Foucault effect in Organization Studies', *Organization Studies*, 40 (2019), pp. 155–82. For a recent discussion of the contributions of this academic school, see Stephen P. Walker, 'Revisiting the roles of accounting in society', *Accounting, Organizations and Society* 49 (2016), pp. 41–50.

33 Massimo Sargiacomo *et al.*, 'Accounting and the government of the agricultural economy: Arrigo Serpieri and the reclamation consortia', *Accounting History Review* 26 (2016), pp. 307–31.

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III

Accounting literature in the sense of practice manuals and textbooks is a key source for a range of researchers including historians, sociologists, and scholars of management. They can examine the writers' viewpoints and prescriptions for accounting systems as they co-evolve with farming practices and rural societies. They can also see how approaches to costing and valuation or the techniques of record-keeping have varied over time as much as the management of the workforce. Treatises, manuals, and textbooks of the early modern and modern era may be considered both as instruments and symptoms of the role that accounting was gradually acquiring in the functioning of the farm and in its relations with a set of external entities, amongst them state agencies and academia. Historians have noted the development of accounting literature in the first half of the nineteenth century without being able to assess it precisely.[34] The quantification of this literature is made more difficult by the fact that the titles of accounting handbooks do not systematically mention when they contain instructions and recording models specifically intended for agriculture. Economic and agronomic treatises can contain extensive explanations of accounting methods, followed by examples of completed accounts as part of comprehensive surveys of farming practice. In addition, the writings directed at a popular readership have barely been studied, but Joly has demonstrated the potential of studying popular manuals and agrarian catechisms, which offered technical knowledge, instructions as to how to keep accounts, and moral exhortations to practise regular book-keeping.[35] Although much more remains to be done, the historiography has established a number of reliable benchmarks concerning the importance of accountancy literature in different European countries.[36]

It is not surprising that a considerable diversity of accounting systems was recommended over time. Even if we restrict our analysis to the books

34 We have a much better view of the literature dealing with agriculture in general, as rural historians have systematised the study of these sources as a means of learning about innovations.

35 Nathalie Joly, 'Educating in economic calculus: The invention of the enlightened peasant via manuals of agriculture, 1830–1870', *Accounting History Review* 26 (2016), pp. 131–60.

36 For France, see the bibliographic reference database 'French bookkeeping and accounting treatises and manuals from 1657 to 1950' at http://www.msh.univ-nantes.fr/documentation/comptabilite/comptabiliteprivee/; for Italy, see the typology of accountancy literature from 1771 to 1922 proposed by Marie-Lucie Rossi, 'Une comptabilité industrielle: L'entreprise agricole du Pô à l'Arno (1826–1922)', in *Twelfth accounting and management history conference* (2007), pp. 29–30. For Britain, see Parker's inventory of English language treatises on double-entry accounting before 1850, mainly generalist and from the pens of teachers, Robert H. Parker, 'Roger North: Gentleman, accountant and lexicographer', *Accounting History* 2 (1997), pp. 31–51.

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that discuss the accounts of estate owners, the purpose and the content of the records which landlords were advised to keep differed according to whether the owners leased out their land or farmed it in hand, a point which has been well illustrated in Edwards' detailed study of English accounting treatises from the seventeenth and eighteenth centuries.[37] In the early modern era, some writers, taking mercantile practice as their reference,[38] were convinced that estate accounting should be based squarely on the principles of Double-Entry Book-keeping (DEB) while others defended Charge and Discharge Accounting (CDA) saying it not only served as a check on stewards, but also generated cash flow information and the assessment of the current financial position of an estate.

The technique of Charge and Discharge Accounting, used since the Middle Ages for manorial administration, gradually fell into disfavour during the period of the so-called 'Agricultural Enlightenment'.[39] We will see in the next section that if CDA ceased to be recommended in the literature, it remained popular in practice. Its persistence in both estate and farm accounting has long puzzled historians. Putting aside the tricky interpretation of the durability of a method considered by many experts to be less suited to the calculation of financial performance, we can note the disagreements among accounting historians over the interpretation to be placed on the decline of the CDA in the accounting literature. There are two opposing views on this point: some consider the evolution of accounting techniques in terms of continuous progress – a teleological thought – and proceeding by 'natural selection', while others emphasise the social component of techniques, incorporating collective and individual issues.[40] For the former, CDA was no longer promoted as soon as DEB was available while, according to the latter, CDA continued to be employed because of a series of intertwined factors, amongst them a lack of economic competition and therefore of incentive to adopt a more complex technology, path dependency, and a possible prejudice against a mercantile method.[41]

37 J. R. Edwards, 'Accounting on English landed estates during the Agricultural Revolution: A textbook perspective', *Accounting Historians Journal* 38 (2011), pp. 1–45.

38 This is the case of the English treatises on double-entry book-keeping, which treat landed estates separately.

39 One must be cautious not to generalise since there are many nuances from one region to another.

40 On this controversial point, see Edwards, 'Accounting on English landed estates' and Yves Levant and Henri Zimnovitch, 'Overview of cost accounting practices in France from the early nineteenth century to the 1880s', *Accounting History* 27 (2022), pp. 576–606.

41 For instance, Lemarchand revealed a prejudice against techniques of mercantile accounting within governmental circles in late eighteenth-century France. This might be also the case in agriculture. Yannick Lemarchand,

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Following the studies of Christian Licoppe,[42] Depecker and Joly investigated the evolution of regimes of knowledge in agricultural sciences in the eighteenth and nineteenth centuries. They stressed how the rise of quantification in agronomic science at the dawn of the nineteenth century has affected representations of farming processes.[43] The two sociologists related the development of agronomic accounting to the global evolution of science and dissemination of scientific thought and to the experimentation initiated in the first half of the sixteenth century which gained ground in agriculture during the nineteenth century. Researchers have also looked more directly at the role of accounting in managerial thought and action.[44] Indeed, in the late eighteenth and the first part of the nineteenth centuries, most agricultural writers were scientists attempting to convince large landowners of the superiority of the new agronomic techniques. They were also developing management techniques, since many of these authors managed at the same time model farms, and, for some of them, such as Thaer in Northern Germany and Mathieu de Dombasle in France, were the directors of agronomic training institutions. The search for optimal profitability required the setting up of experiments – on tillage, crop rotation, livestock feeding and so on – and simultaneously, the designing of sophisticated accounting systems.[45]

A well-known hypothesis, traditionally associated with prominent sociologists such as Werner Sombart and Max Weber and with the economist Marx, connects the use of DEB with the birth of 'capitalist spirit'.[46] Historians of farm accounting have also linked the advocacy of new accounting practices by the likes of Arthur Young with the rise

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'Double entry versus charge and discharge accounting in eighteenth-century France', *Accounting, Business and Financial History* 4 (1994), pp. 119–45.

42 For a landmark work on the history of science experiments, see Christian Licoppe, *La formation de la pratique scientifique: Le discours de l'expérience en France et en Angleterre (1630–1820)* (2013).

43 Thomas Depecker and Nathalie Joly, 'Agronomists and accounting: The beginnings of capitalist rationalisation on the farm (1800–1850)', *Historia Agraria* (2015), pp. 75–94.

44 Nathalie Joly, René Bourrigaud, and Fabien Knittel, 'Administrer une ferme-modèle au xix^{e} siècle: Deux expériences d'agronomes entrepreneurs ruraux, Mathieu de Dombasle et Rieffel', *Entreprises et histoire* 3 (2017), pp. 21–36.

45 Thomas Depecker and François Vatin, 'Taking stock to yield a return: Agricultural accounting, agronomometry and chemical statics in the early-nineteenth century', *Accounting History Review* 26 (2016), pp. 107–29; Markus Lampe and Paul Sharp, 'A quest for useful knowledge: The early development of agricultural accounting in Denmark and northern Germany', *Accounting History Review* 27 (2017), pp. 73–99; Thomas Depecker and Nathalie Joly, 'La terre et ses manufacturiers: L'introduction d'une raison gestionnaire dans les domaines agricoles (1800–1850)', *Entreprises et histoire* 79 (2015), pp. 12–23.

46 For more on Sombart, Weber and Marx's views on the birth of capitalism and the invention of double-entry bookkeeping, see Eve Chiapello, 'Accounting

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of capitalist farming.[47] In fact, if DEB does not seem so obviously and intrinsically connected to a business-like attitude, it nevertheless enables the rationalisation of both the technical means of production and the social relations in farming, as Depecker and Joly have stressed. Hence Carruthers and Espeland consider the advocacy for DEB essentially as powerful rhetoric: it gave legitimacy to capitalist farming and by doing so, might have profoundly altered the way actors interpreted and understood their economic operations and results.[48]

At any rate, it seems that agricultural accounting historians have given disproportionate importance to double-entry book-keeping, although some of them have pointed out the existence of widespread doubts on the practicality and effectiveness of this technique.[49] This penchant has created a degree of bias in the literature.[50] Textbooks that advocate single-entry book-keeping have received very little attention, especially those originating from non-academic writers. In her study of the popular manuals that received prizes from the French Ministry of Agriculture during the July Monarchy, Joly has shown the existence of a body of 'enlightened landowners' presenting their views on accounting systems adapted to medium-sized and small properties. These were sometimes only simple income and expenditure accounts supplemented by a few

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and the birth of the notion of capitalism', *Critical perspectives on accounting* 18 (2007), pp. 263–96.

47 For Marx, the 'capitalist mentality' pursues the rate of return on capital employed in production by extracting surplus value from the sale of commodities or services produced by wage labour. Taking this definition as a key to analysing the English revolution, Bryer has argued that Marx's prediction came true, as evidenced by English farmers' accounts from the seventeenth to the nineteenth century. Rob A. Bryer, 'The genesis of the capitalist farmer: Towards a Marxist accounting history of the origins of the English agricultural revolution', *Critical Perspectives on Accounting* 17 (2006), pp. 367–97.

48 Rhetoric is defined as 'techniques that are used to make a convincing or persuasive argument'. Bruce G. Carruthers and Wendy Nelson Espeland, 'Accounting for rationality: Double-entry bookkeeping and the rhetoric of economic rationality', *American Journal of Sociology* 97 (1991), pp. 31–69.

49 For an English example, Michael Turner, J. V. Beckett, and Bethanie Afton, *Farm production in England 1700–1914* (2001), p. 49.

50 The English language accounting history literature is relatively abundant in general as is the agricultural history of accounting, which may also contribute to this bias, as DEB had been adopted at an early date by merchants and then transferred to the large estates of England and Scotland. Edwards corrected this view by showing that during the nineteenth century, French writers considerably advanced the study of cost accounting in relation to agriculture, Ronald S. Edwards, 'A survey of French contributions to the study of cost accounting during the nineteenth century', repr. in Yannick Lemarchand and Robert Parker (eds), *Accounting in France: Historical essays/études historiques* (1996), pp. 155–90.

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auxiliary books for tracking production, but the methods were apparently being put into practice on their own lands.[51]

Critiques of the DEB technique began to increase in the second half of the nineteenth century. The French controversy surrounding Mathieu de Dombasle's accounting model was a striking example: it gave rise to over forty-five articles in the professional press and bitterly divided some fifteen authors (scholars and landowners) over a seven-year period starting in the early 1870s.[52] A similar controversy took place in Switzerland.[53] Debates on the appropriate kind of accounting to be taught to farmers continued into the early twentieth century, with the emphasis on systems of simplified accounting for the use of smallholders apparently growing, especially in the German-speaking countries.[54] While farm accounting theory of the late nineteenth and twentieth centuries has been discussed mostly as part of the broader literature on agricultural economics, itself not very abundant, two topics have nevertheless been highlighted by the historiography of farm accounting: costing, especially in relation to the intricacies of mixed farming, and land valuation.[55] Retrospectively introducing the German debate to his readers in the US, Karl Brandt singled out these two topics as the main battlefield of agricultural economists.[56] Costing, which appeared as a problem in agricultural accounting as early as the eighteenth century, developed from the late nineteenth century and had an obvious impact on decisions about crops and technologies.[57] The importance of the debates on land valuation, a large part of the farm's capital, was stressed by Walter Achilles and more recently by D'Onofrio,

51 Joly, 'Educating in economic calculus'.

52 Yannick Lemarchand, Yves Levant, and Henri Zimnovitch, '"Schisme à Grignon": Autour de la comptabilité agricole, durant les années 1870', *Entreprises et histoire* 88 (2017), p. 37.

53 Juri Auderset and Peter Moser, *Die Agrarfrage in der Industriegesellschaft: Wissenskulturen, Machtverhältnisse und natürliche Ressourcen in der agrarisch-industriellen Wissensgesellschaft (1850–1950)* (2018), p. 61.

54 See, for instance in the classic texts: Sigmund von Frauendorfer, *Ideengeschichte der Agrarwirtschaft und Agrarpolitik im deutschen Sprachgebiet: Von den Anfängen bis zum ersten Weltkrieg* (1957) and Joosep Nõu, *The development of agricultural economics in Europe* (1967).

55 Roger Juchau and Paul Hill, 'Agricultural cost accounting development in Britain: The contributions of three men from Wye: A review note', *Accounting, Business and Financial History* 8 (1998), pp. 165–74.

56 Karl Brandt, 'Land valuation in Germany', *Journal of Farm Economics* 19 (1937), pp. 173–87.

57 According to Lemarchand, Levant, and Zimnovitch, agricultural accounting books published at the beginning of the nineteenth century in France had 'a level of reflection and a degree of sophistication exceeding what we then encounter in industrial accounting manuals', Lemarchand, Levant, and Zimnovitch, '"Schisme à Grignon"', p. 38.

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who showed how valuation theory underpinned the political position of German landowners and Italian fascists.[58]

This dynamism in accounting thought may seem, however, to be in contrast with actual practices. The question of whether accounting books were read outside the limited circle of agronomists, large landowners, and professional accountants is difficult to answer, but James Fisher's analysis of agricultural books can be applied more generally to the literature of accounting of the early modern and modern period.[59] In both cases, the aim was to reform rural practices, that is to impose the views of an intellectual elite on the mass of practitioners. Such a project was obviously bound to cause misunderstandings and even rejection. There is also an epistemological question that relates to 'the technical difficulties in the development and use of written knowledge, requiring the translation from practice to text, then back into practice; both the codification of a practical art and the decoding of written instructions'.[60] It may be argued that accounting techniques, unlike knowledge about crops and nutrients, avoid the problem of adapting generic knowledge to a specific local environment, which is a major difficulty for agronomic knowledge. But the question nevertheless arises of the gap between the logic of design, which aims for an ideal of formal rigour, and the logic of use, by nature idiosyncratic and depending on practical contingencies. The work in the following section provides an insight into the heterogeneous rationales of accounting practice.

IV

A distinction appears in the historiography between the accounting of estate holders and that of yeomen, farmers, or sharecroppers, the former often highly formalised while the latter was more narrative in form.[61]

58 Walter Achilles, 'Betriebswirtschaftliche Leitbilder in der ostdeutschen Gutswirtschaft seit dem Ende des 19. Jahrhunderts', in Heinz Reif (ed.), *Ostelbische agrargesellschaft im Kaiserreich und in der weimarer Republik: Agrarkrise – junkerliche Interessenpolitik – Modernisierungstrategien* (1994), pp. 190–212. For a similar argument: Federico D'Onofrio, 'The microfoundations of Italian agrarianism: Italian agricultural economists and fascism', *Agricultural History* 91 (2017), p. 369. On land valuation, see also the discussion of Ernesto Marenghi, in Alberto Gabba (ed.), *Aspetti evolutivi della scienza estimativa: Seminario in onore di Ernesto Marenghi* (1995).

59 James D. Fisher, *The enclosure of knowledge: Books, power and agrarian capitalism in Britain, 1660–1800* (2022).

60 Ibid., pp. 15–16.

61 The difference between yeomen, farmers, and sharecroppers relates to their different land tenure. Yeomen are farmers who work on their own land, farmers in this restricted sense are renting the land by paying a monetary rent, while sharecroppers shared harvest with their landlords.

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As Turner, Beckett, and Afton claimed in the case of England in the early modern period (but similar observations can be found elsewhere), farmers produced not only fewer records, but also different records. The authors stressed the correlation between the type of holding and the characteristics of farm records: farm records were 'individualistic' or even 'idiosyncratic' when farmers were autonomously running their farm, but became increasingly formalised with the need for accountability, whenever farmers or farm bailiffs were reporting to an owner or an estate administration.[62]

Accounting historians have therefore often focused on the relatively sophisticated accounting systems of complex, market-oriented estates. They have insisted that the new calculative mentalities and practices were inscribed in the general transformation of European agriculture that began, arguably, in the late seventeenth century.

Large aristocratic estates of this period were often managed from a distance and thus developed a variety of forms of record keeping and control mechanisms.[63] Scholars have examined the accounting practices associated with the evolution of the manorial system and of the relationships between the landlord, the bailiff, or the tenant at the turn of the agricultural revolution. Performance measurement was twofold: it focused on the estate's production and on the agent's behaviour, as the latter was accountable for his decisions.[64] Thus the study of accounts and their associated correspondence provides information on the ways in which supervision was exercised (and how the agent tried to protect himself from supervision), as much as on the productivity of the land, the amount of the rents, the surplus, and a variety of daily concerns. The study of sharecroppers' accounts held by landowners in western France during the eighteenth century confirms the relationship between surviving records and reporting. Annie Antoine found it was landowners who kept accounts and naturally they focused on the owner's share. Accounts therefore appear as part of the informative infrastructure of

62 Turner, Beckett, and Afton, *Farm production in England, 1700–1914*, p. 51. A similar connection between accountability and the abundance of records due to tenancy systems was detected in early modern and modern Tuscany by Reginaldo Cianferoni, 'Gli antichi libri contabili delle fattorie quali fonti della storia dell'agricoltura e dell'economia toscana: Metodi e problemi della loro utilizzazione', *Storia dell'agricoltura* 13 (1973), pp. 47–76.

63 David Oldroyd, *Estates, enterprise and investment at the dawn of the industrial revolution: Estate management and accounting in the north-east of England, c. 1700–1780* (2017); Valerio Antonelli *et al.*, 'The roles of accounting in agro-pastoral settings: The case of the landed estates of Prince Sambiase in the mid-eighteenth century', *Accounting Historians Journal* 46 (2019), pp. 1–18.

64 P. D. A. Harvey, 'Manorial accounts', in R. H. Parker and B. S. Yamey (eds), *Accounting history: Some British contributions* (1994), pp. 91–115.

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tenancy.[65] In Italy and Spain, sharecropping contracts created the conditions for the production and survival of the complex accounts of the large estates of the nineteenth and twentieth centuries.[66]

While some of these estates adopted double-entry book-keeping, a majority of the farm businesses which have been studied kept single-entry registers. In England, for instance, charge and discharge accounting remained usual and dominates the surviving accounts.[67] In nineteenth- and twentieth-century Spain and Tuscany, in the context of large commercially oriented estates, single-entry books prevailed amongst the sources. In the case of Tuscany, as well as Catalonia, whilst the accounts could be analysed in order to reveal the profitability of farms and crops, their main role seems to have been to track the relations between the different actors of production: landlords, administrators, farmers, in line with the person-focused accounting systems of the period. Even where double-entry book-keeping was adopted, it was part of a broader system of record-keeping. Antonelli *et al.*, for instance, highlight the use of tallies on the southern Italian domains of the Prince of Sambiase, whose administration employed both very advanced and very primitive tools for record-keeping.[68]

The questions posed by the accounting records of farmers who did not report to a landlord are distinctive. The idiosyncratic nature of their book-keeping may well have hindered their study by economic historians. The absence of basic information, deemed unnecessary to be recorded by the farmer (such as hectares owned, number of workers under his roof) makes it impossible to calculate farm productivity and performance. The muddled arrangement of the records frequently makes them difficult to understand and use. Where farm accountants were both scholars and scrupulous managers, as much as they were writers and fervent prescribers, accounting practice loses some of its obscurity, making it possible for the historian to employ exceptional sets of records such as those of the model farms of Moëglin, Roville, Hofwyl, Sampford Hall,

65 Antoine, 'Entre macro et micro'.

66 Jordi Planas and Enric Saguer, 'Accounting records of large rural estates and the dynamics of agriculture in Catalonia (Spain), 1850–1950', *Accounting, Business & Financial History* 15 (2005), pp. 171–85; Riccardo Mussari and Michela Magliacani, 'Agricultural accounting in the nineteenth and early twentieth centuries: The case of the noble Rucellai family farm in Campi', *Accounting, Business and Financial History* 17 (2007), pp. 87–103; Marie-Lucie Rossi, 'Une entreprise agricole à la recherche du profit optimum: La Casa Spalletti en Italie au XIXe siècle', *Comptabilités: Revue d'histoire des comptabilités* https://journals.openedition.org/comptabilites/1349; idem, 'Les archives agricoles de la Casa Spalletti en Italie (1821–1922): Conserver pour entreprendre', *Gazette des archives* 213 (2009), pp. 103–17.

67 Harvey, 'Manorial accounts'.

68 Antonelli *et al.*, 'The roles of accounting in agro-pastoral settings'.

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and so on.[69] The accounting records of the ordinary farmer, by contrast, remain difficult to get to grips with, and somewhat bewildering.[70] Turner, Beckett, and Afton have also questioned the farmers' commitment to financial accounting:

> Evidence of a pragmatic attitude of farmers to their records can be found in the printed account books. While these provided space for all aspects of agricultural production, many farmers felt no obligation to fill in the columns and pages. Thus, even these printed volumes demonstrate the fact that farm records are highly individualistic documents.[71]

The accounts (1697–1745) of an English yeoman farmer discussed by Lee and Osborne are representative of these overly complex sources.[72] The jumbling of debit and credit entries in a ledger kept over two generations disturbed the two historians. Noting the chasm that separates this day-by-day account entry from the standard bilateral recording form, they see it as a form of 'primitive accounting', whose main interest lies at a socio-historical level rather than an economic one.

In fact, this does not mean that independent farmers were necessarily less profit-oriented than estate-holders but they gave additional functions to their records, for instance recording goods and services paid for by barter,[73] deferred payment agreements with partners, discounts

69 Respectively by Albrecht Thaer, Matthieu de Dombasle, Philipp Emanuel von Fellenberg, and Arthur Young.

70 Unlike the historian, the ethnographer can benefit from the commentary of living authors to decipher the inscriptions of ordinary records and to penetrate the cognitive reasoning based on them. For example, Joly has shown how farmers build up a routine calendar by noting their work activities and the weather, through discussions of the contents of diaries (kept around the mid-twentieth century) with their owners, Nathalie Joly, 'Écrire l'événement: Le travail agricole mis en mémoire', *Sociologie du travail* 46 (2004), pp. 511–27.

71 Turner, Beckett, and Afton, *Farm production in England, 1700–1914*, p. 62. Similar remarks, underlining the informal, idiosyncratic, unsystematic character of surviving accounts of independent farmers (and the importance of *Anschreibebuecher*) can be found in Walter Achilles, 'Landwirtschaft in der frühen Neuzeit', in *Landwirtschaft in der frühen Neuzeit* (2010), pp. 76–7; Thijs Lambrecht, 'Reciprocal exchange, credit and cash: Agricultural labour markets and local economies in the southern Low Countries during the eighteenth century', *Continuity and Change* 18 (2003), pp. 237–61.

72 Geoffrey A. Lee and Richard H. Osborne, 'The account book of a Derbyshire farm of the eighteenth century', *Accounting, Business and Financial History* 4 (1994), pp. 147–62.

73 For Densmore, given the prevalence of barter in the rural economy in early nineteenth-century America, 'it is hard to imagine how any farmer or artisan could have functioned without a bookkeeping system'. Christopher Densmore, 'Understanding and using early nineteenth-century account books', *The Midwestern Archivist* 5 (1980), p. 5.

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granted, work done or to be done, and so on.[74] For example, the ledger of a moderately wealthy French farmer, François Jacques Maret, who was running a wide range of activities (farming, vineyards, fish, services) in the eighteenth century, reveals an entrepreneur well aware of his profits and losses. He wanted to know exactly how much he was able to borrow (and repay) from various creditors to support his speculations in sheep farming.[75]

Indeed, it is other branches of history (rural history and cultural history) and related disciplines (rural sociology and ethnology) which have extensively studied farm accounts in all their diverse forms and functions. Today, we have solid evidence of practices that spread throughout agriculture as literacy levels rose, with accounts kept in narrative form first by intermediate social groups (ploughmen) during the eighteenth century, then by the broadest strata of the peasantry from the second half of the nineteenth century. Scholars have scrutinised the contents of the *livres de raison* (France),[76] the *Anschreibebücher* (Germany),[77] the *ricordi* and *ricordanze* (Italy),[78] and the the day-books or diaries (America and other countries)[79] kept by farmers. Mouysset reminds us that these genres of

74 For a stimulating reflection on the possible uses of the ordering of words and things into farm registers, see Sylvie Mouysset, 'Penser/classer: La passion de la liste dans quelques livres de raison du Midi de la France à l'époque moderne', in Michel Cassan, Jean-Pierre Bardet, and François-Joseph Ruggiu (eds), *Les écrits du for privé: Objets matériels, objets édités: actes du colloque de Limoges, 17 et 18 novembre 2005* (2007), pp. 151–66.

75 Bernard Bodinier, 'Un journal paysan du XVIIIe siècle: Le livre de recettes et dépenses de François Jacques Maret, laboureur et vigneron à Bueil (Eure), de 1730 à 1761. 1ère partie', *Histoire & Sociétés Rurales* 40 (2013), pp. 97–154.

76 In France, the syntheses available do not specifically focus on the landowners' *livres de raison*. However, historians have offered monographic studies of examples of these documents found in public or private archives. For a review of these works, see Nathalie Joly, Thomas Depecker, and Julie Labatut, 'L'entreprise agricole et sa gestion: Ethos, structures et instruments (XIXe–XXe siècle)', *Entreprises et Histoire* 88 (2017), pp. 6–20.

77 Hopf-Droste proposed this term of 'Anschreibebuch' to describe a mode of writing usually adopted by peasant farmers, as much as in the merchants' profession since the fifteenth century with the keeping of the 'Memorial', that is a document which recorded transactions chronologically, without any thematic ordering. Marie-Luise Hopf-Droste, 'Vorbilder, Formen und Funktionen ländlicher Anschreibebücher', in Helmut Ottenjann and Günter Wiegelmann (eds), *Alte Tagebücher und Anschreibebücher: Quellen zum Alltag der ländlichen Bevölkerung in Nordwesteuropa* (1982), pp. 61–84.

78 Raul Mordenti, *I libri di famiglia in Italia,* II, *Geografia e Storia* (2001) and idem, 'Les livres de famille en Italie', *Annales, Histoire, Sciences Sociales* 59 (2004), pp. 785–804.

79 For America (southern Minnesota in the years 1856–76), see Rodney C. Loehr, 'Farmers' diaries: Their interest and value as historical sources', *Agricultural History* 12 (1938), pp. 313–25; Everett E. Edwards, 'Agricultural records; Their

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writing obey 'a set of writing rules established in the fifteenth century and maintained until the nineteenth century, from Pacioli to Napoleon, permanently shaping the writing of accounts'.[80] In fact, the *livre de raison* was organised in a similar way to the *brouillard.*

> In the *brouillard* or *memorial*, also called main-courante from the end of the eighteenth century (*memoriale* or *squartafolio* in Italy, *memorial* or *borrador* in Spain, *waste book* in Great Britain), all transactions are recorded in chronological order and in narrative form, without necessarily worrying about the accounts concerned and how they will be moved.[81]

By examining eighteenth-century trade dictionaries, Joly demonstrated that

> … the use of the compound words '*agenda-mémorial*' or '*agenda-brouillard*' reflected traders' habit of recording their transactions in a pocket-sized document, the *agenda*, and this use made its way into agriculture, with treatises on rural accounting of the nineteenth century recommending to keep a waste book.[82]

The historiography on peasant diaries is relatively extensive throughout Europe.[83] It sparked a discussion concerning the specific nature of 'daily accounts', which has been more recently revived by studies of 'moral accounting' as a tool for improving character and regulating behaviour based on objective calculations.[84] To encourage this daily writing habit,

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nature and value for research', *Agricultural History* 13 (1939), pp. 1–12. See B. H. Slicher van Bath, 'Accounts and diaries of farmers before 1800', *Afdeling Agrarische Geschiedenis Bijdragen* 8 (1962), pp. 5–33.

80 Sylvie Mouysset, *Papiers de famille: Introduction à l'étude des livres de raison (France, XVe–XIXe s.)* (2007), p. 37.

81 Yannick Lemarchand, 'Journal-livre journal (XVIIIs.)', in Didier Bensadon, Nicolas Praquin, and Béatrice Touchelay (eds), *Dictionnaire historique de comptabilité des entreprises* (2016), pp. 389–90.

82 Nathalie Joly, 'L'organisation comptable dans les grandes exploitations françaises (XVIIe s.-milieu XIXe s.)', in Bensadon *et al.* (eds), *Dictionnaire historique de comptabilité des entreprises*, pp. 438–41. For an account of French agricultural treatises recommending the use of the 'livre de raison' from the end of the fifteenth to the eighteenth centuries and their role in the private economy and in regulating the conduct of daily life, see Jean-Marie Barbier, *Le quotidien et son économie* (1981), pp. 19–54.

83 German works have been well considered in Klaus-Joachim Lorenzen-Schmidt and Bjørn Poulsen (eds), *Bäuerliche Anschreibebücher als Quellen zur Wirtschaftsgeschichte* (1992). For a more recent overview, see Prass, 'Les écrits personnels de paysans et l'histoire économique', in Delleaux (ed.), *La plume et la terre*, pp. 27–46.

84 Harro Maas, '*Lett*s calculate: Moral accounting in the Victorian period', *History of Political Economy* 48, suppl. 1 (2016), pp. 16–43; idem, 'Monitoring

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almanacks and pocket diaries were made widely available. Agriculture was not left behind. As early as the end of the nineteenth century, publishers and agricultural unions began distributing inexpensive books in these formats specifically designed for farmers and their wives.[85] Their success continued unabated throughout Europe during the twentieth century.[86] Although the dissemination of these tools is part of a desire to discipline economic behaviour, it is not limited to it (a point elaborated in chapter seven in this volume on 'Women that Count'). The 'chronicles' that the use of an agenda or almanack encouraged on the farm gradually became 'a way for learning about and reflecting on farm work'.[87]

We would like to insist on the distinction between practices and models. As Hoggart established with regard to the working class and its reception of instructions from the mass media,[88] landowners and farmers paid only 'oblique attention' to the models of accounts proposed to them. Their conduct revealed a casual adherence to prescriptions, with some of the recommended techniques being readily adopted while others were kept at arm's length or even rejected outright. Moreover, the uses that rural elites and scholars saw for book-keeping were not the same as those that motivated landowners to keep accounts. Christopher Napier suggested that for aristocratic landowners accounting was subservient to the maintenance of patterns of conspicuous consumption, rather than a means for the assessment of profit.[89] Certainly maintaining accounts did not prevent aristocrats from overspending and in some cases going bankrupt. For middling and small farms, with little room for manoeuvre, and more subject to fluctuations in harvests, labour costs, and crop prices, their accounts could well be seen as a safeguard against dishonesty in commercial transactions, as payments were rarely made immediately in cash but at the end of periods of credit. And for

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the self: François-Marc-Louis Naville and his moral tables', *History of Science* 58 (2020), pp. 117–41.

85 To take a French example, 'the nascent and soon powerful *Union du Sud-est des syndicats agricoles* (1892) took over the publishing of an almanack, whose circulation reached 20,000 the following year and which sold at 10 centimes'. The number of copies produced annually soared to several hundred thousand. Nathalie Joly, 'Shaping records on the farm: Agricultural record keeping in France from the nineteenth century to the Liberation', *Agricultural History Review* 59 (2011), p. 71.

86 In Italy, see Manuel Vaquero Piñeiro, 'Readings for farmers: Agrarian almanacs in Italy from the eighteenth to the twentieth century', *Agricultural History Review* 63 (2015), pp. 243–64.

87 Nathalie Joly, 'Vaches et blés sur le papier: Socialisations à l'écrit du monde agricole', *Communication & Langages* 1 (2009), pp. 77–90.

88 Richard Hoggart, *The uses of literacy: Aspects of working-class life* (1967).

89 Christopher J. Napier, 'Aristocratic accounting: The Bute Estate in Glamorgan, 1814–1880', *Accounting and Business Research* 21 (1991), p. 164.

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those who wanted to round out their assets, consolidate or improve their income, and then invest, accounting was certainly one of the surest ways to success. Plus, the social respect conferred by well-kept accounts may also have motivated those with entrepreneurial ambitions, as in the case of François Jacques Maret, the ploughman mentioned earlier. Ultimately, accounting norms seemed to be fully integrated into the pattern of lives and social experience.

Efforts to spread formal accounting through the educational system at all levels gained momentum throughout the nineteenth century (particularly in its second half) and into the early twentieth century.[90] The historiography of the modernisation of agriculture tracks these efforts, stressing the role of farmers' associations and extension services.[91] Scholars tend to postulate the adoption of these new practices as an element in the productivity increase that characterised the 'first European green revolution' from the late nineteenth century onwards.[92] Nevertheless, this reasoning has been reversed by Daan Hendrikx and Oscar Gelderblom, who questioned the actual contribution provided by formalised accounting practices (DEB in particular) to the growth of agricultural productivity and claimed that smallholders, unlike estate owners, 'kept track of operations through mental accounting, as often as not supported by simple recordings in private notebooks or the accounts kept by local shopkeepers, artisans, and other suppliers'.[93] If the utility of accounting for the management of small farms can be questioned, how do we explain its importance in the thinking of experts and farmers' leaders?

Accounting historians have underlined the growing role of organisations and institutions outside the farm or the estate. Studies of nineteenth-century estates in Italy have shown the importance of legally mandatory prescriptions (*libretto colonico*), but the role of the government seems to have generally grown, not only in Europe and not only through direct regulations. As part of the general effort to 'govern the rural',[94]

90 On the Tuscan Colle Meleto, Rossano Pazzagli, 'Scuole d'agricoltura e poderi sperimentali: Agronomia, istruzione e progresso tecnico nella prima meta dell'800' (Thesis Fiesole, European University Institute, 1989).

91 Harm Zwarts, 'Knowledge, networks and niches: Dutch agricultural innovation in an international perspective, *c.* 1880–1970' (Thesis, Wageningen University, 2021), p. 109, who also defends the usefulness of accounting for farmers, relying on the work of Peter Jones on Scotland, Paul Sharp and Markus Lampe on Denmark, and Merijn Knibe and Marijn Molema on Frisland.

92 Lampe and Sharp, 'Quest for Useful Knowledge', p. 74.

93 Daan Hendrikx and Oscar Gelderblom, 'Accounting for agricultural development? The case of the Netherlands, 1840–1940', *Agricultural History Review* 70 (2022), pp. 23–48.

94 Liesbeth van de Grift and Amalia Ribi Forclaz (eds), *Governing the rural in interwar Europe* (2017).

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policies increasingly required farmers to keep accounts in order to receive subsidies and participate in the broader processes of economic centralisation. Stephen Walker thus highlighted the importance of farm accounting in supporting the policies of the New Deal,[95] while Hendrikx and Gelderblom stressed the importance of government pressure, rather than the internal managerial needs of the farm, as a driver for the adoption of financial accounting practices amongst the middle strata of Dutch farmers. According to them, it was the introduction of an income tax that generalised the use of tools to calculate profit. More radically, Martha Lampland, looking at socialist Hungary, has argued that recording practices may be useful even when the numbers returned are false, because of their significance within the system of planning.[96]

There are thus contrasting analyses of the links between the development of accounting and the modernisation process, and dissenting interpretations of the roles of social actors. This volume covers the whole range of different approaches.

V

The chapters collected in this book are grouped in three sections. Together they track changes in the literature about accounting and the spread of new practices between the eighteenth and the twentieth centuries. They cover a period marked by great transformations in agricultural practice: the social and technical innovations of the seventeenth and eighteenth centuries, with the adoption of new farming systems on the large estates of western Europe, and 'the first green revolution', characterised by the 'marked rise of the small family farm' and the spread of artificial fertilisers between 1870 and 1914.[97] These two so-called revolutions are but the most evident episodes of broader modernisation processes that moulded European agriculture. This edited volume tries to shed light on the role of accounting in these processes, and stresses the emergence of the accounting farmer as the ideal agent of agricultural change.

The first part of the book shows the remarkable complexity of the models proposed to farmers by advocates and practitioners of accounting since the eighteenth century. In the wake of pioneering works on the capitalist rationalisation of the farm published at the dawn of the

95 Stephen P. Walker, 'Accounting and rural rehabilitation in New Deal America', *Accounting, Organizations and Society* 39 (2014), pp. 208–35.

96 Martha Lampland, 'False numbers as formalizing practices', *Social Studies of Science* 40 (2010), pp. 377–404.

97 Jan Luiten van Zanden, 'The first Green Revolution: The growth of production and productivity in European agriculture, 1870–1914', *Economic History Review* 44 (1991), pp. 215–39.

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nineteenth century,[98] the chapters track the process of rationalisation initiated at varying speeds across Europe from the late eighteenth century onwards, with a focus on accounting. Fisher evokes the classic principal–agent problem, by showing how accounting, in the work of Arthur Young and William Marshall, was meant to enable a closer control of the workforce and of the bailiffs, and locates such practices in the context of the capitalist transformation of English agriculture in the eighteenth century. In his Marxist perspective, capitalism corresponds to a particular configuration of labour relations. Improved accounting represented a key technique for labour management. The quest for an improved efficiency of farming, though, did not only affect the relationships between owners, managers, and workers but extended to the relations between managers and labourers.

Indeed, the accountability of farm or estate managers to the landlord, whether the English gentleman or the German aristocrat, emerges as a main driver not just of accounting theory, as in Young and Marshall, but also of the actual practice. Scholten-Buschhoff puts the *Rentmeister* at the core of her analysis of the rationalisation and formalisation of the management of manorial estates in Germany. Through the examination of the records of five aristocratic estates in Westphalia and Rhineland between 1650 and 1850, Scholten-Buschhoff tracks the managerial innovations which led to greater transparency and uniformity in the administration of the estate. In particular, she stresses how rationalisation and formalisation accelerated from the eighteenth century, with the establishment of double-entry book-keeping and commercial accounting. She restates the importance of interpreting accounts within a broader constellation of sources, especially correspondence, by showing how the reporting of manager to landowner intensified and landlords tried to exert a stricter control over their properties.

In Hoyle's chapter we see instead another aspect of the rationalisation of farming, namely the experiments conducted by Young. As a study by Roger Juchau demonstrates, cost accounting was crucial to assess the profitability of different farming systems and the various innovations that Young and other protagonists of the 'agricultural enlightenment' advocated.[99] Hoyle continues by discussing aspects of the advocacy and use of farm accounts in late eighteenth- and early nineteenth-century England, stressing the gulf in practice between common farmers and farms run by bailiffs who accounted to their employers.

The topics of the second part of this book extend well into the nineteenth century and demonstrate that the relationship between modernisation,

98 Depecker and Joly, 'Agronomists and accounting'; Joly, 'Educating in economic calculus'.

99 Juchau, 'Early cost accounting ideas in agriculture: The contributions of Arthur Young', *Accounting, Business & Financial History* 12,3 (2002), 369–86'.

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rationalisation, and accounting practices was far from univocal, with multiple needs, amongst them improved farm management, converging in the adoption of sophisticated accounting techniques. Fulgence Delleaux describes the exceptional complexity of the accounting system adopted by the landholding families around Geneva in the early eighteenth century. While he deals with the accounts of some of the major personalities of the city during the Enlightenment, Delleaux explains the extraordinarily intricate and very comprehensive record systems of the patricians in terms of religious needs rather than managerial necessity.

It would be a mistake though to imagine that the *stricto sensu* agricultural business can be insulated from the increasingly industrial society that surrounded it. As Laurent Herment shows in his chapter, farm accounting may reveal the integration of the farm into broader production processes. Its results can therefore only be interpreted in the light of the other interests of their owners. Herment's meticulous examination of the records of two farms owned by Adolphe Dailly over the 1860s enables him to demonstrate that the accounting principles adopted on the farms only made sense when the farms are considered as being integrated into the other parts of Dailly's business empire, including his interests in Parisian public transport.

Nathalie Joly's chapter serves as a link between the first two parts of the book and the third. She shows how the political imperatives of modernising the middling peasantry became pre-eminent in the first half of the nineteenth century in France. The chapter examines the educational literature being circulated, especially that directed to women and girls in farming families from the second half of the eighteenth century to the second half of the nineteenth. It describes how, especially in the 1820s and 1830s, an increasing number of books (authored by both men and women) on the topic of the contribution of women to the economy of the farm provided models of simple accounting techniques in an attempt, Joly argues, to familiarise women with the idea of profit and in turn to adapt and integrate family farms into a modern economy. Such literature, which is overall essentially prescriptive, is, however, not uniform: some writers underpinned the agency of women where others tried to use women to buttress the masculine order of nineteenth-century society.

These publications are therefore to be considered within the framework of a general effort to improve the conditions of the peasantry and transform farming through the moral and technical education of the masses. Unlike the treatises by the great agronomists of the eighteenth and nineteenth centuries, this literature did not target estate holders and administrators, but was aimed at common farmers (including farming women). In this context, handbooks tended to consider double-entry book-keeping to be too complicated and cumbersome for the farmer, whether male or female. It was therefore either discarded altogether or presented as the final, most

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advanced, step in the progression of the farmer's accounting skills. While this literature proliferated and sold massively, especially in the second half of the century, it remains difficult, as Joly stresses, to ascertain how far its lessons were absorbed and the practices it recommended adopted.

The effort the European ruling classes put into compelling peasants to keep accounts is the thread running through the remaining chapters. In the third part, the chapters by D'Onofrio (on Switzerland and the Netherlands), Moser (on Switzerland) and by Lampe and Sharp (on Denmark) show the growing role of governments and farmers' organisations in efforts to make farming transparent and governable. In all three chapters, we see the active spread of models of accounting through the organisation of courses and the supervision of farmers. Farmers were encouraged to separate book-keeping – the everyday recording of facts – from accounting – as the technique for extracting management information from their records. This division enabled accounting-related tasks to be taken out of the farm and placed in the hands of specialised accounting offices, often created by government.

These chapters respond in part to the questions raised by Hendrikx and Gelderblom on the usefulness of farm accounting for middle farmers and smallholders.[100] Calculative practices appear as part of the organisational requirements of rural life, an element of what Anton Schuurman, in his analysis of Dutch agriculture in the nineteenth and twentieth centuries, called the 'institutional matrix'.[101] Issues of farmers' education, of the diffusion, and adoption of practices by individual agriculturalists are considered to be less significant than the imposition of standard procedures. The structure of incentives and the balancing of the interests of various social groups and actors (governments, unions, experts, farmers) come to the fore.

In the three chapters dedicated to the twentieth century, we see accounting in a broader social role as the convergence point of different interests.[102] What seems to characterise the late nineteenth and the early twentieth centuries is a much more interventionist role for governments and for those farmers' organisations that were established or radically renewed at the end of the nineteenth century. For them, accounting was a tool of direct control and part of the policy-making process, but for the farmers themselves it was a tool of empowerment. It enabled them to

100 Daan Hendrikx and Oscar Gelderblom, 'Accounting for agricultural development?'

101 Anton Schuurman, 'Agricultural policy and the Dutch agricultural institutional matrix during the transition from organized to disorganized capitalism', in Peter Moser and Peter Varey (eds), *Integration through subordination: The politics of agricultural modernisation in industrial Europe* (2013), pp. 65–84.

102 Stuart Burchell *et al.*, 'The role of accounting in organizations and society', *Accounting, Organizations and Society* 5 (1980), pp. 5–27.

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regulate their relations with their kin (the division of estates on inheritance features prominently in the Swiss case discussed by Moser). It helped them with tax issues (as stressed by D'Onofrio) and allowed them to be part of complex production systems (Lampe and Sharp). Finally, through their collective organisations, information drawn from farm accounts was turned into statistical data that provided farmers with a voice in public affairs (D'Onofrio).

VI

The chapters collected in this volume do not exhaust the topic of farm accounting. On the contrary, they are intended to open the way for further research. We have identified at least three areas that require deeper exploration. First, there is a need for a reassessment of the role of double-entry book-keeping in prescriptive writings and in practice. Various forms of simplified accounting seem to have dominated accounting practices during the early modern and modern era and well into the twentieth century. In terms of sources, this reassessment requires us to pay renewed attention to the accounting literature aimed at farmers and smallholders, rather than the rarefied treatises of the great agronomists.

Second, besides moving the focus away from DEB, current research shows the promise of adopting comprehensive definitions of accounting, capable of encompassing different calculative practices and forms of inscription that are not necessarily familiar or recognisable to professional accountants. The relationship to the commercial accounting of the same period remains unclear, while the tailoring of accounting systems to suit the needs of the farming business, especially within the framework of educational initiatives, emerges as a crucial topic in this book. Research is therefore required on the different genres of accounting literature and their different publics: educators, professional accountants, farmers.

Third, the relationship between practices and prescriptions also deserves further analysis. Too little is known about the transmission of practices and where models were taught and learned. This points to the need to explore new and often neglected sources for the history of accounting in the early modern and modern era: professional journals with widespread readership, the submissions and jury reports of prizes, the discussions among members of rural societies and academies, and especially in the eighteenth and nineteenth centuries, the records of farmers' associations.

In this way it will be possible to track how the gap between norms and the actual activity of farmers was negotiated and became redefined in different historical contingencies, but we may also be able to see the structure of incentives offered to farmers: improved management,

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increased control, clearer relations with siblings and extended family members, to mention a few.

VII

Martin Giraudeau saw weaknesses in the history of agricultural accounting, which he explained by the idea of 'a scholarship enclosure', that is a general historiographical bias in the study of agriculture: 'whatever happened in the rural areas was generally understood as a side effect of changes, or even of "revolutions", initiated elsewhere'.[103] This volume has nuanced this viewpoint, by showing that agriculturalists were very active in preparing for their own revolutions. The role of agricultural elites in promoting accounting practices among a vast rural population, in spreading a calculative mentality not only among agricultural businesses but also within agricultural families, is a remarkable achievement. It was made possible by the structure of incentives and obligations that farmers experienced when they pondered the decision to keep more or less formalised accounts: the intersection between farm and family, the special managerial needs that derived from animals, plants, and soil. At the same time, it is important not to forget that agriculture cannot be considered in isolation. Banking regulations, tax laws, business models, and economic policies cut across all economic sectors creating similar constraints and shared practices.

Overall, the following nine chapters describe multiple trajectories and transformations of farm accounting. In the different European countries discussed in the contributions, the accounting farmer, and behind the scenes the accounting woman farmer, as regulatory ideals and a social reality, appear, therefore, as crucial elements of the economic modernisation of agriculture and of its role within capitalist societies.

[103] Martin Giraudeau, 'The farm as an accounting laboratory: An essay on the history of accounting and agriculture', *Accounting History Review* 27 (2017), p. 201.

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