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ACCOUNTING ON ENGLISH LANDED ESTATES DURING THE AGRICULTURAL REVOLUTION – A TEXTBOOK PERSPECTIVE

Abstract: The agricultural revolution has been portrayed as the time when landowners began to display a capitalist mentality. This paper seeks to add to our knowledge of the use of accounting for managerial purposes during this period by exploring the content of treatises advocating different ways of accounting on landed estates. Two research questions are addressed. The first is the degree of inter-relationship between accounting methods – charge-and-discharge accounting (CDA) and double-entry bookkeeping – that have been presented in the literature as distinct in terms of their objectives and operation. The second objective is to assess the extent to which CDA could be used by management and landowners for performance assessment purposes and, following on from that, to reflect on whether the demise of CDA was an inevitable consequence of demands for more useful management information.

INTRODUCTION

The British Agricultural Revolution had its beginnings in the 16th century and had run its course by the middle of the 19th century [Overton, 1996]. It was a period which saw the rise of the “capitalist farmer” [Tawney, 1967, p. 403; Bryer, 2006] and a transformation in agricultural practices which massively increased productivity and output. Radical farming innovations included the enclosure of land, increased mechanization, new systems of crop rotation, and selective breeding.¹ It was also a period which saw landowners exploit the mineral content of their terrain. Bettye [1993, p. 83] summarizes some of the outcomes as follows:

¹ For a review of the dating, nature, causes, and structure of the agricultural revolution, see Bryer [2006].

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Eighteenth-century agriculture in England became the most productive in the world, rents rose accordingly, and with additional income derived from military or naval service, political office, coal mines, rapidly increasing trade with all parts of the world, colonial plantations or investment in industry, the large landowners had wealth to lavish upon their estates and houses as never before.

The job of estate accounting officers was to provide landowners and themselves with the information required to manage landed estates through this period of change. The principal focus of British historiographical studies devoted to accounting for management dates from the commencement of the industrial revolution [Boyns and Edwards, 2007]. Far less attention has been given to agricultural, mercantile, and, indeed, industrial accounting during the preceding centuries. This paper addresses part of that lacuna through an examination of the system of accounting recommended for adoption on landed estates where forms of charge-and-discharge accounting (CDA) remained *in situ* for centuries before being superseded by double-entry bookkeeping (DEB). In doing so, we address two research questions. First, we explore the degree of inter-relationship between CDA and DEB, which have been principally presented in the literature as distinct systems in terms of their objective and operation. Second, we assess the extent to which CDA might be used for purposes of performance assessment by landowners and their managers and, following on from that, speculate whether its demise was inevitable. As with the treatises studied, this paper principally focuses upon “the highest level of the estate’s financial administration” [Harvey, 1994, p. 111] – the statement of charge and discharge. But this was often at the apex of an extensive system of record keeping which comprised numerous “subsidiary records of account” that would be used to micro-manage the estate [see also Lee, 1991]. The broader system of estate record keeping also encompassed surveys of possessions and revenues which: (i) identified the resources, e.g., rental income, that the lord of the manor could expect to receive, and (ii) could be used to help fix a price when estates came up for sale, e.g., the disposal of church lands by Henry VIII based on so many years purchase of the rental value (see below).

The objectives of this paper are pursued through a review of the available secondary sources both within and outside accounting’s historiography and through the study of relevant didactic texts written and published during a period (1660-1788)

when estates continued to dominate wealth production, when merchants were extending British trade and influence worldwide, and, by the end of which, the country was undergoing social and economic transformation wrought by industrial revolution. It is not contended that the accounting literature of this, as with any other period, can be equated to accounting practice. The books examined have a strong normative flavor but, in numerous respects, they also claim to portray systems in practical operation. Given the background of some of the authors (see below), it is possible to speculate that the texts might provide a guide to actual practice, but further research is needed to discover whether procedures outlined in treatises can be considered a tolerable surrogate for the “real thing.” Whereas Harvey [1994, p. 93] draws attention to the role of treatises and formularies in achieving “extraordinary uniformity” in early manorial accounting, Fleischman and Tyson [2004] have shown that Thomas Affleck’s “how to do” book on accounting at slave plantations was never put into practice in either the manner or to the extent Affleck advocated. The remainder of the introduction to this paper draws attention to the durability of CDA and the importance of land as a source of income and wealth to the nobility and the gentry of England during the late middle ages and early modern period.

Not Exclusively an Historical Phenomenon: In ancient times [Carmona *et al.*, 2008], and much later, systems of accounting did not engage with the written word. A “visual and oral system” of exchequer accounting [Chatfield, 1977, p. 23] originated in 12th century England [Stone, 1993; Jones, 2008, p. 355] wherein the sheriff accounted for collection of the king’s revenues based on procedures that became known as CDA. It was initially made operational through the use of tallies, the checkerboard, counters, and the spoken word; arrangements which had particular attraction in a less literate society [Baxter, 1980, 1983, 1989]. A written system of CDA was also in use for exchequer accounting purposes in the 12th century [Stone, 1993, pp. 5-8] and was widely adopted by the priories and monasteries of England from the 13th century onwards [Noke, 1981].² The CDA was initially presented as a continuous narrative³ which over time was replaced by the columnar format (Figure 1). CDA domi-

² Jones [2008, p. 355] examines the spread of CDA between the 12th and 15th centuries.

³ For examples, see Stone [1993, pp. 6-7, 16]. Stone also traces the development of the columnar format, with cash amounts reported in “linear money columns” and the transition in language from Latin to English.

nated accounting on landed estates to such an extent that it is now commonly referred to as "manorial accounting" [e.g., Noke, 1981, 1991; Stone, 1993; Harvey, 1994; Dobie, 2008, p. 142]. Therein, agents, stewards, reeves, and bailiffs demonstrated the discharge of financial responsibilities through a statement which was the subject of audit and, for entities with diverse operations, consolidated to produce an account covering the entire estate. It was also in use by the 14th century to help administer self-governing boroughs [R. Jones, 1985, p. 202], and it achieved widespread application within local as well as central government [Colquhoun, 2009].

FIGURE 1 Charge and Discharge Statement

Abstract of the Accompts of John Morewood, Receiver of the Rents and Profits of the Mannor of Grub-Street; and Stock thereupon: *Viz.*

CHARGE		<i>l. s. d</i>
1682. Sept. 29.	To Arrears then due, as by Particulars in the First Column, Page 23.	42: 0: 0
1683. Sept. 29.	To the Years Rent-Roll of that Estate, as by the Second Column, Page 23.	592: 0: 0
Casual Profits.	To Sale of Wood, as by a Bill of Particulars given to my Lord.	87: 17: 0
	Received by Amercements,	1: 4: 11
	Received by Copy-hold Fines,	14: 7: 6

The Accompt of Stock thereupon is as followeth

Given in Charge		Sold for	
		<i>l. s. d</i>	
14 Oxes cost,	49: 0: 0	14 Sold	76: 15: 0
12 Cows,	36: 0: 0	5	22: 7: 6
6 Bullocks,	15: 0: 0	6	21: 16: 8
20 Weathers,	9: 0: 0	20	14: 17: 0
56 Ewes,	28: 0: 0	56	50: 4: 0
1 Colt,	1: 15: 0	1	3: 5: 0
10 Pigs,	6: 0: 0	10	12: 15: 0
1 Bull,	3: 15: 0	8 Calves sold	7: 18: 0
1 Ram,	1: 10: 0	Wool sold	7: 10: 0
	150: 0: 0	Butter and Cheese sold	22: 13: 10
			240: 2: 0
Valuation of Stock	Rest unsold 7 Cows valued		21: 0: 0
unsold	1 Bull		3: 0: 0
	1 Ram		1: 5: 0
	Increas'd 10 Lambs, besides 30 sold		2: 10: 0
	2 Calves, besides 8 sold		1: 10: 0
			29: 5: 0
		Total Charge	1.1006: 16: 5

DISCHARGE

		<i>l. s. d</i>	<i>l. s. d</i>
Yearly Payments	Salary to my self,	20: 0: 0	
	Salary to the herdsman,	8: 0: 0	
	A Years Quit-Rent,	13: 6: 8	
	The Stewards Fee,	2: 0: 0	
	The Poor Rate, 52 Weeks at 8d.	1: 14: 8	
		45: 1: 4	

Edwards, *Accounting during the English Agricultural Revolution*

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Uncertain	A levy for the Church,	1: 6: 8	
Payments	Two C'nstables Levies,	1: 13: 4	
	Charges of keeping Courts,	1: 5: 0	
	Twelve Mon. Tax on the Rents 59 <i>l.</i> at 9 <i>d.</i> per pound,	22: 4: 0	
	Paid a Bill for Hedging and Ditching,	8: 11: 0	
	Paid a Bill for Repairs,	12: 2: 4	
	Paid another for Carpenters Bill,	5: 16: 0	
			52: 18: 4
Cattle	Paid for three Loads of Hay,	2: 10: 0	
	Paid for 100 Sheep at 8 <i>s.</i> each,	40: 0: 0	
	Paid for 19 Bulls at 3 <i>l.</i> each,	57: 0: 0	
	Charges of driving,	1: 15: 0	
			101: 5: 0
Ready Money to my Lord, and by his Order	23 December 1682.	50: 0: 0	
	1 March,	50: 0: 0	
	28 Ditto 1683.	100: 0: 0	
	26 April,	50: 0: 0	
	23 May,	43: 0: 0	
	3 June,	15: 0: 0	
	24 Ditto,	50: 0: 0	
	16 August,	20: 0: 0	
	10 November,	34: 19: 4	
			412: 19: 4
	Thus for the Costs		612: 4: 0
Lost	Lost by Barth. Cutler's Death, part of 5 th Column,		11: 1: 0
Land in hand	As by the 6 th Column, Page 23.		184: 0: 0
Arrears to be charged on next Account	Of Rent, as by the 5 th Column,	106: 0: 0	
	Of Wood, 87 <i>l.</i> 17 <i>s.</i> : Of which receiv'd 23 <i>l.</i> 10 <i>s.</i> 7 <i>d.</i>		
	Rest due,	64: 6: 5	
	Of Cattle unsold, as in the Charge, besides the New Stock aforesaid,	29: 5: 0	
			199: 11: 5
	Which evens the Charge		1.1006: 16: 5

Source: Montague [1683, pp. 24-25]

Despite CDA's widespread replacement by DEB, even today it is not only of historical significance. Baxter [1980, p. 70], born in the first decade of the 20th century, was trained in CDA during his apprenticeship in Edinburgh: "Scots law and accounting continued obstinately to prefer it, rather than double-entry, for various kinds of semi-legal reckoning such as testamentary trusts, 'judicial factories,' charities, etc." He further reported that CDA continued to be used in Scotland in 1980, albeit "by a dwindling number" of solicitors. U.S. writers, including the practitioner and educationalist Charles Sprague, emphasized the use of CDA by executors during the first decade of the 20th century, and the practice remained popular into the 1950s [Hay, 1956, p. 632; Todd, 1966].

By the middle of the 20th century, by no means all authors and institutions shared an appreciation of the continued application of CDA, even in the restricted locale of executorship accounting [Hay, 1956; Todd, 1966]. An initiative which militated against the survival of CDA in England and Wales occurred with the publication in August 1949 of Recommendation on Account-

ing Principles XIV entitled “The form and contents of accounts of estates of deceased persons and similar trusts” [reproduced in Zeff, 2009]. In this, the Institute of Chartered Accountants in England and Wales drew attention to the fact that executorship accounts were kept either on the cash basis or on the accruals basis using DEB. Recommendation on Accounting Principles XIV was unequivocal on this issue. “The only satisfactory way” of providing all the information required for the proper administration of an estate, including the preparation of a balance sheet, “is to keep the books on ordinary double-entry principles” [reproduced in Zeff, 2009, p. 78].⁴

CDA nevertheless continues to have a role in estate accounting and financial reporting in some countries. In Scotland, for example, curators (usually solicitors) are appointed by the court to act as the legal representative of persons (e.g. children) lacking the mental capacity to make decisions for themselves. *Notes for the Guidance of Curators* [2000] continues the longstanding requirement [Erskine, 1769, pp. 87-88] to demonstrate accountability through an “Account of Charge and Discharge.” In the U.S., Ratcliffe’s [1999] review of “Estate Accounting and Financial Reporting” points to the absence of regulations guiding estate accounting in that country and identifies the charge/discharge statement as a viable option. The illustrative statement demonstrating disposition of the “Estate of E.H. Sherman” is an accruals-based version of CDA that contains all the standard nomenclature of a classic charge/discharge statement presented in vertical format.⁵

Exploiting Landed Estates: The development of a “capitalist mentality” involving a focus on profit and invested capital and the reallocation of resources to achieve highest returns is often associated with the commercial revolution [Bryer, 2000a, b]. This is understandable given the fixed nature of the landowners’ capital and legal restrictions on their ability to sell property

⁴Even today there are no regulations guiding the preparation of trust and executorship accounts in Britain. Russell *et al.* [2005, p. 292] acknowledge variation which includes “receipts and payments accounts.” Illustrative sets of accounts contained in appendices 9, 11, and 12 treat the trusts and estates as entities accounted for in accordance with DEB procedures, including a balance sheet and income-and-expenditure account.

⁵See also *PPC’s Accounting and Reporting for Estates and Trusts* which contains advice on CDA statement presentations <http://ria.thomsonreuters.com/estore/detail.aspx?ID=AETQ&productinfo=Table%20of%20Contents&SITE=prof>. Grant Thornton [1996] contains the CDA statement as part of the 1995 Compilation Report prepared for the William P. Lear family trust.

[Napier, 1991, p. 164].⁶ Despite limitations on their ability to transfer capital to an alternative use, however, there is evidence of landlords demonstrating a concern to employ resources in the most effective manner. Some historians believe it possible to detect a capitalist spirit among landowners and, indeed, consider the pursuit of profit to be a driving force in the agricultural revolution. Bryer [2006, p. 370] strongly supports this view based on an analysis of the “limited evidence we have of farmers’ accounts from the seventeenth to the late nineteenth century.”

The way in which English landowners sought to exploit the income-producing potential of their land varied between the broad alternatives of farming the properties or renting them out. Up to the 13th century, “the bulk of [estate] income was received in the form of fixed rents” [Oldroyd and Dobie, 2009, pp. 101-102]. Then, for about 100 years (c.1270-1380), landowners reclaimed “the demesne and [undertook] its direct management” (p. 102). The position again reversed during the late middle ages (the 14th and 15th centuries) as “many estates, both lay and ecclesiastical, abandoned the direct farming of their own lands, leasing farms or even whole manors to tenants and commuting labour services for payments in money or kind” [Betty, 1993, p. 29].⁷ In the 17th and 18th centuries, the gentry and aristocracy “normally let the greater part of their estate to tenant farmers,” but many of them also had, sometimes very large “home farms run predominantly for the needs of the household” [Habakkuk, 1953, p. 93]. In choosing between the different ways in which land might be employed, there is little doubt that the desire to increase income and wealth played its part.

During the later Middle Ages, “profits from monastic estates and the income derived from pilgrims went to fund the building of even larger churches and cloisters, complete with elaborate decorations and rich furnishings” [Betty, 1993, p. 38]. Moving forward to 17th century manorial estates, Betty [1993, pp. 76-77; see also Tawney, 1941; Bryer, 2006] comments:

Although some landowners regarded their estates merely as a source of social status and political power, and others could lavish upon their property the wealth which they had acquired elsewhere, many depended

⁶However, Habakkuk [1953, p. 98] contends that there were fewer institutional impediments to buying and selling land in England than in Continental Europe because strict settlements could be set aside by acts of Parliament and estates certainly did come up for sale.

⁷Harvey [1994] studies the implications of these organizational changes for the form and content of CDAs.

on the income of their estates for their livelihood and were eager to exploit sources of profit which their lands could provide.

Sir John Oglander of Nunwell in the Isle of Wight emphasized in the mid-17th century the need for a country landowner to have other sources of income from industry, trade, or a profession. Otherwise "it is impossible for a mere country gentleman ever to grow rich or raise his house....By only following the plough he may keep his word and be upright, but he will never increase his fortune" [quoted in Bettey, 1993, p. 79]. It was during the 17th century that landowners increasingly sought to enhance their wealth by exploiting the industrial and mineral potential of their estates. "Sussex gentry families such as the Smiths, Fullers and Evelyngs encouraged the iron industry of the Weald in Kent." Those who greatly augmented their wealth through coal mining included the Dudleys and Foleys in the Black Country, the Willoughbys of Wollaton, and the Lowthers in Cumberland. Landowners who also made money by diversifying into port development included Lowther at Whitehaven in the 1680s, the Curwens in Workington in the 18th century, and the Butes in south Wales in the 19th century.

The remainder of this paper is structured as follows. First, the existing literature is reviewed to reveal our present understanding of the role and potential of CDA, its persistence over time, and the eventual transition to DEB. Contemporary treatises are then examined to see how they might throw further light on these issues and contribute to our understanding of the relative contribution of the two systems to the management of landed estates. This is followed by a discussion of the evidence and some concluding remarks.

ROLE AND POTENTIAL OF CDA⁸

Historians have been too much inclined to categorize CDA in terms of a narrow stewardship role, even though it must be acknowledged that the bulk of charge/discharge accounts may have been entirely cash-based and intended to serve only that purpose. The early accounting history literature placed particular stress on the personal accountability aspects of CDA: "The lord's incentive for keeping accounts arose from his need to check on the integrity and reliability of these stewards, to

⁸ For a review of CDA outside England and for more on the relevant literature relating to its history in that country, see Oldroyd and Dobie [2009].

prevent loss and theft” [Chatfield, 1977, p. 25; see also Forrester, 1978, p. 54]. Littleton [1933, p. 260], the well-known early accounting historian, is not alone in dismissing CDA as having as its sole purpose verification of the honesty of “persons charged with fiscal rather than managerial responsibility.”

As is the case elsewhere in accounting historiography, more recent research (including a growing awareness of relevant work by economic and social historians) has caused earlier characterizations of CDA to come under challenge. Studies have shown that manorial and monastic accounting sometimes went beyond concerns with personal accountability, although this might occur outside (even if drawing upon) the CDA framework [Kirk, 1892; Stone, 1962; Dobie 2008, 2011].⁹ For example, it has been shown how in the 13th century the monks of Norwich Cathedral Priory took steps to inform themselves of profit or loss [Stone, 1962], while a concern to discover the financial results of husbandry might involve inspection of “the docket of the particular official who managed the demesne” [Finberg, quoted in Jack, 1966, p. 155]. Smith [quoted in Jack, 1966, p. 156] reveals that clerics at Canterbury Cathedral Priory went “further than the Norwich accounts by supplying the yearly value of agricultural produce as a basis for calculating all receipts in hand.” If a valuation of an estate was required, inventories were made [Jack, 1966, pp. 155-156; Chatfield, 1977, p. 25] while “sometimes an account narrative was interrupted to make room for estimates of what might have been earned if a different course of action had been taken” [Chatfield, 1977, p. 25].

It therefore seems reasonable to conclude that, even though there were limitations in the managerial potential of CDA as operated on many (perhaps most) manors and monastic estates, it could include information which could enable principals to monitor and manage their affairs.¹⁰ These, and his own findings, caused Dobie [2008, p. 142] to conclude that research into CDA has focused excessively on agency relationships between

⁹Jack [1966, p. 155] informs us: “Some of the very early surviving accounts, like some later valors, have notes on the bottom of the roll giving an estimate of the value which bears little relation to the money account, and it is quite likely that more had estimates of this sort before they were clipped or rubbed away.”

¹⁰Jack [1966, p.154] also reminds us that a concern with efficiency and even profitability does not need to be evidenced by accounting calculations. Here, the audit was important in evaluating and thereby helping to ensure “the success of the lord’s exploitation of his estates.” The auditor would “examine the fields to see how much was sown and whether it had been well done; examine the stock and the increase and investigate deaths and barrenness; inventory the grange; examine the equipment.”

the lord of the manor and stewards responsible for managing agricultural properties and to argue the need for “a broader focus considering the medieval accounting records of monastic houses as one of a variety of elements of financial management and control.”

A role beyond narrow definitions of stewardship is also demonstrated by the application of CDA to early industrial ventures [Oldroyd and Dobie, 2009, pp. 108-110]. As the landed class began to exploit the industrial potential of the properties they occupied, CDA was employed by, for example, the Willoughbys of Wollaton, Nottinghamshire in their 15th and 16th century colliery accounts [Lee, 1991], by the Midlands-based Foley family who turned charcoal ironmakers in the 17th century [King, 2010], and on the industrial estates of northeast England in the 18th century [Oldroyd, 2007]. At Wollaton, for example, evidence of the use of data for performance assessment includes four weekly comparisons of cash-based inflows and outflows to reveal the profit (*proficuis*) and, in Lee’s estimation, to enable judgments to be reached about whether “mining was worth continuing” [Lee, 1991, pp. 61, 64, 72].

The system of charge/discharge in operation at Magdalen College, Oxford in 1812 (and which continued in place till 1882) was designed to enable identification of the agricultural surplus that determined the annual dividend payable to fellows [Jones, 1991, p. 144]. Magdalen’s accounting structure also incorporated features often presented as comparative advantages of DEB, namely an interlocking mechanism that ensured the arithmetic accuracy of the record and involved in some cases the “double” entry of accounting transactions:

For instance total gross income from the Corn Book would be entered in the Indentura Magna. When received, individual items were cleared by an X in the bursar’s copy (the working copy), unpaid amounts being listed as year end debtors in the Transmissio. Each sub-system had similar control elements. At the year end the whole system was reconciled back to cash in hand and at bank (p. 154).

Napier [1991, p. 173] concludes that the system of CDA used to account for the Marquis of Bute’s territories in the 19th century, with its focus on rental entitlements and cash flow, “would have provided a clear and accessible overview of the current financial position of the estate” and therefore did not detract from its usefulness for managerial purposes. Further,

the “owner’s capital investment in the land was regarded as fixed and permanent, and cash flows provided a good measure of return” (p. 174). It is nevertheless hard to fully accept the dismissal of one of the key outputs of DEB:

Statements of assets and liabilities were of little meaning to a life tenant, as the principal asset – the land – would in all probability have been inherited or come into the family through marriage, and thus not have a meaningful cost, while it would be effectively inalienable by the life tenant, and thus not have a meaningful market value (p. 173).¹¹

Although statements of net cash position provided by CDA are undoubtedly invaluable in assessing liquidity, for someone who is seen to be under “social and family pressure” to “improve and expand the estate” (p. 164), it is difficult to see that a balance sheet would be anything other than helpful. However, it is only in relation to “more directly commercial activities,” for example, the investment in Cardiff Docks, that Napier acknowledges the absence of a check on capital investments as possibility detrimental to decision making (p. 174).

Persistence of CDA: DEB was not available in England when religious and secular institutions began to account for their affairs based on charge/discharge. When it did become available, the move from CDA to DEB did not occur quickly. It is known that some English merchants began to use DEB in the 16th century [e.g., Vanes, 1974], and there were certainly sufficient books published from then onwards encouraging merchants to do so [Edwards, 2011]. There were also early industrial companies employing DEB in the 17th century [e.g., Edwards and Boyns, 1992; King, 2010] and, by the late 18th century, many large industrial organizations were accounting for their affairs in that manner. In local and central government, it was the 19th century that saw a transition from CDA to DEB [Coombs and Edwards, 1996; Edwards and Greener, 2003]. Bryer [2006, p. 388] reports *An Encyclopaedia of Agriculture* contemporary reference to 19th century gentlemen farmers often using DEB, but CDA certainly continued in use on at least a few large English estates into the 20th century [Parker, 1975, p. 6].

Jack [1966] is convinced that those responsible for installing and operating accounting systems should not necessarily be

¹¹ Also, as noted above, estates did come up for sale with a market valuation based on rental value [see also Clerke, c. 1712, p. 2; Jack, 1966, pp. 155, 177; Oldroyd, 2007, pp.133-134].

criticized for ignoring the “modern [system of] bookkeeping” [Hayes, 1739, title page], disseminated from Italy in the centuries following the publication of Pacioli’s *Summa* in 1494. Why not? The following is one possible reason:

If they were unlikely to move towards DEB, it may be partly because the idea of capital had little meaning: their land was their capital, it was fixed, *immovable*, and the only way they could calculate its value was by working *from* the return, by rating total value at so many times the annual net produce [Jack, 1966, pp. 155,157].

The persistence of CDA cannot, of course, be seen as irrefutable evidence of its utility compared with DEB. Inertia or, perhaps, path dependency might help to explain the absence of change, while lack of competition might mean that failure to employ a better accounting technology had no significant impact on the ability of an entity to survive or even prosper, although it might do less well than would otherwise have been the case. It is also likely that, with the steward often starting working life as a clerk on an estate, the scope for cross-fertilization of ideas and practices from industry to estates would have been limited. A further explanation for lack of change might draw on cultural factors. Here, there is a possibility that the gentleman-landowner might consider an accounting system closely associated with “trade” as inappropriate for recording the financial affairs of the aristocracy, even though English landowners are thought to have been more commercially orientated than their Continental counterparts [Habakkuk, 1953, p. 98]. Lemarchand [1994] reveals a prejudice against mercantile accounting within governmental circles in late 18th century France with the following comment attributed to the politician and financier Count Mollien (1758-1850), born Nicolas François, son of a trader:

Determined...to introduce a small portion of what is known as double entry bookkeeping into the public affairs that I am to manage, I was wise enough not to brag about this innovation....People would have jumped at this, saying that it was beneath the dignity of a public administration to borrow methods from trade [quoted in Lemarchand, 1994, pp. 137-138].

However, “after a long period of competition between the two systems, DEB gained the upper hand [in France] and was increasingly adopted by most large industrial concerns from around 1810-30” [Lemarchand, 1994, p. 120]. Lemarchand attri-

butes the eventual success of DEB to the fact it could do all that CDA offered and more. It provided measures of performance, profit, and financial position.

Explaining the Transition from CDA to DEB: How best to explain the transition from CDA to DEB has been the subject of disagreement between proponents of traditional and “new” ways of writing accounting’s history. Napier [1998, p. 691] takes Keenan to task for presenting the changeover as an example of “natural selection” in accounting, with “evolution” occurring because the new system proved more fit for purpose. This characterization of accounting change resonates with the teleological approach to historical inquiry which equates change with progress. Napier’s further concern is that, in the evolutionary approach, “rationales and motivations become secondary to a documentation of the practices themselves.” This has probably sometimes been the case and, where it occurs, will result in stories which “tend to underexplain, that is, leave key questions unanswered.”

Keenan [1998, p. 657] presents the history of CDA as “an example of both the continuing success and the eventual failure with which a system may adapt, or be adapted, to changing circumstances of its use.” The demise of CDA occurred during the 19th century in Keenan’s estimation because:

- DEB is better suited to recording large volumes of transactions.
- CDA is “ill adapted to reporting summarily on complexes of widely dispersed and stratified relationships” associated with the advent of the large-scale corporation [Keenan, 1998, p. 660]. Napier [1998] interprets this as referring to the absence of a P&L account and balance sheet.
- DEB is more “mysterious” and, therefore, better served the professionalization objectives of newly created accounting organizations [Keenan, 1998, pp. 658-662; see also Napier, 1998, p. 692].

Research findings to date relating to the first two identified factors (the third explanation is based on events outside the timeframe of this paper) are inconclusive. The number of transactions undertaken by an entity certainly has implications for the degree of complexity required from its record-keeping system. This issue featured in discussions concerning the possible replacement of CDA by DEB at Glasgow University in the 1770s. Investigators reached the following conclusion: “The complex,

laborious and expensive mode of keeping accounts which may be necessary in complicated mercantile business is not necessary nor proper nor useful in accounts as plain and simple as the college ones indisputably are" [quoted in Forrester, 1978, p. 57].

Although hardly a ringing endorsement for DEB, the inference must be that the case for its adoption increases with organizational complexity. Consistent with this, Jones [1992, pp. 59, 67] attributes the transition from CDA to DEB in English local government to the fact that "the [previous] charge/discharge account increasingly demanded subsidiary books of account [which included rent books, day books, books of loan transactions as well as cash books] to the point where these needed to be linked in a structured way." The need to record the transactions contained in subsidiary books would not disappear under DEB, but Jones' conclusion is that they could be more effectively incorporated within a self-balancing system of DEB. In contrast, Stone [1993, p. 15] reports that a "well structured [CDA based] accounting organization and system," comprising a range of books, had been developed by the Seventh Earl of Northumberland by 1564. Jones [1991] reports an interlocking system of CDA at Magdalen College, Oxford, in the early 19th century, while Napier's [1998, pp. 692-693] study of the Bute archive covering that era caused him to conclude: "Double-entry in itself has no comparative advantage in handling large numbers of transactions," although he does concede that the DEB framework "could be regarded as integrating into a systematic whole."

Turning to Keenan's second explanation, the comparative reporting potential of the two systems, R. Jones [1985, p. 208; see also Coombs and Edwards, 1994, p. 176] found that DEB superseded CDA in English local government because it was able to generate additional measures of performance and financial position. Coombs and Edwards [1994] found that the preparation of a P&L account and balance sheet by local authorities gained pace as they created the kinds of trading undertakings (supplying transport, water, gas, and electricity) for which counterparts existed in the private sector. For these, profit needed to be measured to discover whether the following policy objectives were being achieved: "that the trading department should break even; contribute to the relief of the general rate; or benefit from a certain level of subsidy" [Coombs and Edwards, 1994, p. 172]. Therefore, one would imagine that the owners of landed estates in earlier times would wish to exploit the reporting potential of DEB as that system became available to them.

As noted above, it is not possible to sustain the argument that the aristocracy was uninterested in DEB because for them profit was unimportant.¹² While landowners might delegate management to an army of stewards, bailiffs, reeves, and agents, they remained reliant on the income from land to finance the conspicuous consumption and lifestyle which marked them out as people of substance and to provide them with “the foundation of [their] social and political influence” [Napier, 1991, p. 164; see also Stone, 1965, chapter 10]. So although the term profit maximizers might not apply to them to the extent that it did to the merchants of the commercial revolution and the capitalists of the industrial revolution, it was still important for them to make best use of their resources, within the constraints placed upon them by law, custom, and the nature of their investment, in order to maximize their prestige [Beckett, 1986, p. 320; Napier, 1991, p. 164].

But was there necessarily absent from CDA the ability to provide landowners and their agents with information relevant to assessments of performance and financial position? The next section interrogates the contemporary literature on estate accounting to help answer this question.

CONTEMPORARY LITERATURE

The contemporary literature on estate accounting studied in this paper (Table 1) is not intended to cover all relevant treatises although it does include all non-DEB texts that have come to the attention of this author to date. Other DEB texts that include coverage of estate accounting as well as merchant accounting [e.g., Peele, 1569; Hayes, 1739; Clare, 1740; Dodson, 1750; Mair, 1773] do not engage with significant issues uncovered by those included in this study.

The 14 treatises examined were penned by 13 authors whose decision to write about accounting on landed estates might signal an involvement with such institutions. Among the five teacher-authors, a connection is quite likely in the case of Donn whose career also encompassed work as a mathematician and surveyor [Baigent, 2004]. Hamilton had direct experience of business through involvement in the management of his father’s paper

¹²Napier [1991] points out that, despite industrialization, estates remained massive ventures by contemporary standards in the 19th century. They would have dominated wealth production even more so in preceding centuries when “society continued to be rooted in the soil and rich and poor alike were equally dependent on the profits and produce of agricultural estates” [Betsey, 1993, p. 15].

mill [Bywater and Yamey, 1982]. Snell practiced as an accountant which might have brought him into contact with the landed class. Little is known about Lazonby, while Stevenson [1762, preface] engagingly admits: "I am at a Loss upon that Subject, as I never had an Estate of my own to manage, nor ever had the Management of one for another, and I could not meet with any Gentleman who kept his Acco^{ts}. in the Manner I proposed."

One might imagine an association with the land in the case of Abraham Liset who styled himself "gentleman," while the six remaining authors certainly had direct knowledge of estate accounting and/or management. Stephen Monteage, who wrote separate books demonstrating the use of CDA and DEB on landed estates, was initially a merchant, but after the Restoration of the monarchy in 1660, he became a steward in the service of the second duke of Buckingham [Melton, 2004; see also Bywater and Yamey, 1982, pp. 127-130]. His first book, at the time circulating in manuscript form, "caught the eye of the scrivener bankers Robert Clayton and his partner John Morris, who brought Monteage into their mortgage banking operations and estate management" [Melton, 2004]. After "many years of close involvement in all aspects of the scriveners' elaborate hierarchy of financial operations, Monteage published the fruits of his experience in 1683 as *Instructions for Rent-Gatherers' Accompts*."¹³ North [1714, p. 10] is known to have "lived the life of a country gentleman" [Parker, 1997, p. 33] and addressed his peers as follows: "I write not to Artists,¹⁴ but only to Persons of considerable Degree and Fortune." His book [North, 1714, p. 75] claims to describe "the several Methods of Accompt, which I have observed in use, from the meanest to the greatest Estates and Dealing." George Clerke describes himself as a "Steward to a person of quality" (Table 1); Edward Laurence and Thomas Lovett were land surveyors; Corbyn Morris interested himself in accounting matters "upon becoming possessed of a small patrimonial landed estate" [Morris, 1759, p. i].

We can therefore conclude that a good number of the authors whose works are studied here were describing systems that they had seen in operation or, from their knowledge of how estates operated, believed to be the best way of doing accounting in that locale.¹⁵

¹³The treatise was dedicated to Sir Robert Clayton.

¹⁴"a worker in a skilled trade, a craftsperson," *Oxford English Dictionary*, online

¹⁵The absence of any clear association between authors' occupational background and the favored method of accounting for landed estates is acknowledged.

TABLE 1
Authors and Occupations

Author	Title and place of publication	Year	Occupation*
Abraham Liset	<i>Amphithalami, or, the accomptants closet being an abridgment of merchants-accounts kept by debtors and creditors.</i> London	1660	Gent.
Stephen Monteage	<i>Debtor and creditor made easie.</i> London	1675	Merchant
Stephen Monteage	<i>Instructions for rent-gatherers accompts.</i> London	1683	Merchant [Monteage 1675]
Thomas Richards	<i>The gentlemans auditor: or a new and easie method for keeping accompts of gentlemens estates.</i> London	1707	Unknown
Charles Snell	<i>Accompts for landed-men: or; a plain and easy form which they may observe, in keeping accompts of their estates.</i> London	c.1711	Teacher
George Clerke	<i>The landed-man's assistant: or. The steward's vade mecum. Containing the newest, most plain method of keeping the accompts of estates.</i> London	c.1712	Steward to a person of quality
Roger North	<i>The gentleman accomptant: or, an essay to unfold the mystery of accompts. By way of debtor and creditor, commonly called merchants accompts.</i> London	1714	A person of honour
Edward Laurence	<i>The duty of a steward to his Lord, represented under several plain and distinct articles.</i> London	1727	Land surveyor
Thomas Lazonby	<i>Merchants accounts: or, the Italian method of book-keeping.</i> York	1757	Schoolmaster
Corbyn Morris	<i>A plan for arranging and balancing the accounts of landed estates.</i> London	1759	Customs administrator and economist [Murdoch, 2004]
William Stevenson	<i>Book-keeping by double entry.</i> Edinburgh	1762	Teacher
Thomas Lovett	<i>Treatise on estate management.</i> Unpublished	c.1770	Surveyor [Lovett, c.1770: 16]
Benjamin Donn	<i>The young shopkeeper's, steward's, and factor's, companion: containing ... A new and expeditious method of keeping a set of books, in a retail trade, by double entry,</i> 2 nd edition. London	1773	Teacher [Donn, 1765]
Robert Hamilton	<i>An introduction to merchandise [containing] book-keeping in various forms.</i> 2 nd edition. London	1788	Professor of philosophy

* title page of book except where otherwise stated

The 14 texts display considerable diversity concerning recommended accounting practices. This is unsurprising as among the inter-related factors affecting the appropriate content of the accounting records are their intended purpose, the nature of the activities being recorded and reported upon, and the status of the individual maintaining the accounting record. The idea that an accounting system for landed estates helps to keep track of resources belonging to landowners is uncontroversial.¹⁶ The requirement that accounting information should also prove useful for the purpose of performance assessment imposes additional demands and, as stated above, it is the purpose of this paper to discover whether the systems recommended in the literature were considered capable of fulfilling that role. Concerning the nature of the activities undertaken, we have seen that there were time-cycles when landowners mainly rented their properties and others when direct farming played a large role. One might expect that, given a concern with performance assessment,¹⁷ the landowner/farmer would require a more elaborate accounting system than the rentier. Direct farming entailed decisions about what livestock to keep, what crops to plant, and whether to exploit woodlands and minerals underground; whereas the amounts of rent receivable would be known in advance although subject to periodic adjustment as the result of rent reviews.

The texts now interrogated sometimes fail to state, explicitly, the purpose of their accounting system, the activities undertaken (though these can be inferred from the content of numerical illustrations), or precisely who is making the record. These limitations on our ability to interpret, successfully, the significance of their content are acknowledged.

CDA: An early text explaining the operation of *CDA* to account for landed estates (see Table 1) was published by Stephen Monteaige in 1683. Because it deals with many of the salient features of *CDA* and because Monteaige is known to have been fully

¹⁶Richards [1707, introduction] claimed to have “erected this Scheme for auditing and keeping Accompts” because the possession of estates by gentlemen “make them Prey to all about them.” Laurence’s text was designed to help noblemen and gentlemen counter “Ignorance and Slothfulness of some [tenants and stewards], and the Knavery and Wickedness of others” [Laurence, 1727, preface; see also Lovett, c. 1770, pp. 1-2].

¹⁷It is not suggested that *CDA* or even *DEB* were the only, or even the principal, sources of data available to landowners for performance assessment purposes. Lovett [c.1770; see also Laurence, 1727] contains advice on how farming should be undertaken, rates of pay for all kinds of workers, expected yields from farming, how long individual tasks should take, how much they should cost, what the profit might be, and which use of the land was expected to prove most profitable.

familiar with the practice of estate accounting, its content is first discussed. Further noteworthy features of CDA-based estate accounting revealed in other treatises are then considered, followed by a review of two texts which might be classified as CDA except that the illustrations indicate that the records are kept by the lord of the manor. Demonstration of personal accountability from an agent to a principal is therefore absent from these two texts.

Instructions for Rent-Gatherers' Accompts: Monteage [1683, p. 5] describes CDA, as "more Proper for the Persons for whose Use it is designed (viz., Receivers and Bayliffs of a middle Capacity)" than his book on DEB published eight years earlier (see below). The 1683 text addresses the reporting requirements of "Persons, who either manage or rent a Farm of 100*l.* a year, or upwards" and commends it to them for its "Plainness and Brevity." He also provides an insight to the changing role of estate managers on a late 17th century estate and how this affects the nature of their accountability when adding: "My Purpose is here to present you a mixt Accompt of a Rent-Gatherer; who also manages a Stock of Cattle, Sheep, &c. upon Lands in hand: *A thing which happens upon most Estates, since the Fall of Land in every County*" (p. 10, emphasis added).

In texts on landed estates, accounts are typically made up to Lady Day. This is "because Tenants most usually enter upon Farms at that Season of the Year; And Gentlemen of the greatest landed Estates who are called by parliamentary or other Business to London in the Winter, generally return between Lady-Day and Midsummer to the Country" [Morris, 1759, p. 18].¹⁸ This logic is not followed by Monteage whose illustration covers the year to Michaelmas 1683. It commences with a bilaterally arranged cash book, headed "Cash Debtor" and "Cash Creditor" [Monteage, 1683, pp. 14-21], kept by the "Receiver of the Rents and Profits of the Manor," John Morewood (p. 26). Monteage (p. 22) makes clear his conviction that adequate accountability needs to go beyond cash accounting:

¹⁸In Britain, the Feast of Annunciation of the Virgin Mary, Lady Day (March 25), was one of four quarter days that coincided with religious festivals. The others were Midsummer Day (June 24), Michaelmas (September 29), and Christmas (December 25). Lady Day was New Year's Day up to 1752 when, following the move from the Julian to the Gregorian calendar, it was replaced by January 1. As a quarter day which did not fall within or between the seasons for ploughing and harvesting, it was, traditionally, the day on which year-long contracts between landowners and tenant farmers would begin and end.

But though this Accompt thus stated, may be fairly copied, and given to your Lord; yet this is not the Accompt he ought to be satisfied with, especially to the Charge: For what cares he to see how and in what Parcels each Tenant paid his Rent? That which will better satisfie him, is to see at one view each Tenant's Accompts, charged and discharged; and what remains due by any of them.

To address these needs, the scheme advocated by Monteage (p. 11) embodies accruals accounting in a number of significant ways. A central accounting record is the annual rent roll which for the Manor of Grub-Street totaled £592. For reporting purposes, these rental entitlements are set out in a tabular format which contains exactly the same information as would appear in double-entry-based ledger accounts – the opening balance owing, amount due for the year, amount received, closing balance owing, and “Lands in hand.” The last item (totaling £184) reveals the opportunity cost to the landowner of five “unlet” properties which he farmed himself [Monteage, 1683, p. 23; see also Clerke, c.1712, p. 48; Morris, 1759, p. 25; Lovett, 1770, p. 22].

Turning to the record of Morewood's farming activities, the opening “Stock upon the Ground of Lean Cattle, &c.” [Monteage, 1683, p. 12] is valued at £150, with some items stated at cost and others at a valuation. The recommended record also provides details of proceeds during the year from the sale of “each Part of the Stock” (p. 24): Oxen; Cows; Bullocks; Weathers; Ewes and Lambs; Pigs; Butter and Cheese; Calves; Wool; and Colt¹⁹ (p. 25).

Having “particularized” details of the rent, animals etc., Morewood draws upon them to provide “a final Demonstration and Ballance of the whole Years Transaction” (p. 25). The CDA is presented in vertical format and titled: “Abstract of the Accompts of John Morewood, Receiver of the Rents and Profits of the Mannor of Grub-Street; and Stock thereupon: *Viz.*” (Figure 1). The charge consists of:

- arrears of rent at the beginning of the year;
- total rent due for the year;
- casual profits from sale of wood, from ameracements (penalties) and copy-hold fines;

¹⁹ Monteage [1683, p. 25] adds: “I might have brought into this Accompt some Examples of Plow's Lands, and Stock of Corn; but it would have swelled this Paper: An ingenious Person will from This know how to methodize That.”

- the “stock” of animals, with sales proceeds reported for animals sold (cost shown inset) and those unsold reported at the figures brought forward. Valuations are placed on the “Increas’d” stock, i.e. lambs and calves born during the year that remain unsold.

The discharge consists of: “yearly payments” (e.g., salary of Morewood and the poor rate); “uncertain payments” (e.g., cost of keeping Courts, hedging and ditching, and a carpenter’s bill); cattle (payments for hay and for purchasing 100 sheep and 19 bullocks); “ready money” (paid over to the lord of the manor); and the closing balances (consisting of: loss of rent due to death of one of the tenants; land in hand; rent arrears; owing for wood sold; and the unsold livestock appearing under the “charge”).

Monteage (p. 28) discusses the content of the accruals-based charge/discharge statement and explains the advantage of this form of presentation: “Let the Bayliff be fully charged not only by what he hath received, but by all else given him in charge; and there is no fear, but he will hammer out his Discharge.” The CDA clearly serves as a statement of stewardship, and it is one encompassing the agent’s obligations based on full financial accountability unconfined to cash transactions. It also provides much more. The principal is able to discern information relevant for performance assessment. Indeed, in numerous respects, he has all the usual benefits of being able to review income and expenditure rather than only receipts and payments. Moreover, he can compare these figures with those for previous years and is advised of the manor’s worth to the extent it consists of the value of livestock and amounts receivable. There is no explicit statement of profit or loss in the charge/discharge statement, but Monteage (p. 32), in an additional report, sets out accruals-based income and expenditure relating to “Stock” (livestock) and “Lands in hand” (the cost the unlet land). The outcome is a deficit of £67. 3s. which “wants to make up the Charge, which is clearly lost” by choosing to farm five of his properties (p. 32). Monteage appears relaxed about the level of the deficit: “And ‘tis well the Loss is no greater than 67*l*. I have seen otherguess [different] losing Accompts in keeping Lands in the Lord’s Hands.”

Other Authors: Laurence [1727;²⁰ see also Lovett, c.1770, pp. 17-21] demonstrates the operation of a strict cash-based CDA, but his book is of particular interest because it illustrates the

²⁰ Estate accounting comprises 46 of 212 pages of text.

important exercise he would have undertaken periodically as a surveyor to determine rental charges. A “survey” of all the farms in the manor states the various pieces of land comprising the farm and for each piece of land, the number of acres occupied and whether it is arable enclosed, common arable, pasture, or meadow. Then, based on a value per acre which differs according to the type of land surveyed, the yearly value of each piece of land and the farm as a whole is computed. New values differ from the old because of “improvement” as the result of initiatives mounted by the steward [Laurence, 1727, p. 95]. The stated aim is to produce a figure for rent which is fair to both landlord and tenant. The consequential increase in rents provided English landlords with an incentive to improve their properties and again distinguished them from their continental counterparts [Habakkuk, 1953]. A practical example is provided by Oldroyd [2007, pp. 10, 23] who reveals that the anticipated increase in future cash flow provided a sufficient incentive for William Cotesworth of Gateshead, who “rose from the ranks of tallow chandler to landed gentleman in around ten years” to enhance his estate.

The other noteworthy feature of Laurence’s system is that the CDA is presented as an “Accompt-Current” in bilateral format headed debtor and creditor. But it is identical to a charge/discharge statement in the sense that it sets out transactions relevant to the financial relationship between two individuals. Laurence does not explain why he summarizes the estate’s transactions in what is captioned: “An Abstract; or, an Accompt-Current stated by way of Debtor and Creditor from all the foregoing Particulars, in order to shew the exact Balance” [Laurence, 1727, pp. 154-155]. However, it is a good example of an intermingling of CDA and DEB terminology and practice which abounds within the treatises examined.

As with Monteage [1683], Corbyn Morris [1759, p. 10] presents the initial record of transactions in cash-book format. Also consistent with Monteage is Morris’ dissatisfaction with cash-book-based accounting because when transactions “are all blended together without Assortment ... the Total Amount of the gross Receipts or Disbursements from any Branch is not obvious to the Landlord.” A much fuller record appears in an “Entry Book” which shows, separately, the transactions for each of the various “Branches of the Estate,” with inflows on the left-hand page and outflows on the right. Here, income is shown “gross” (Figure 2), not only in the case of rentals (i.e., the total receivable for the period) but also from exploiting the produce of the

land at a lead mine on Antry Moor, a coal works on Lee Heath, and from Langley Woods (i.e., for each of them the sales value of produce extracted during the year is presented). This enables the fictitious landowner, Henry Seymour, to review “the Branches both of *fixed Rent* and *casual Produce*, which would otherwise fall into separate Cases,...ascertained in the same uniform Manner” (p. 19).²¹ Transactions are finally summarized in “An Abstract” which “exhibits a succinct State of all the Branches in the Period given” (p. 26). It does this by taking the information from the Entry Book and presenting it as a tabular charge/discharge statement. The presentation of rentals in this manner has been discussed above, so the focus here is on an example (income from the coal works on Lee Heath) of “casual produce” to demonstrate the range of information made available in the entry book when read in conjunction with the charge/discharge statement. For ease of presentation, the information provided for the coal works on Lee Heath is set out in vertical format (Figure 2) rather than the tabular presentation employed by Morris to facilitate comparisons to be made with the various other “branches” of activity.

FIGURE 2*
**Coal Works on Lee Heath in Entry Book and Abstract,
Year to Lady-Day 1759**

ENTRY BOOK: GROSS RECEIPT			
Branch of the Estate	Gross Income in this Period		
COAL-WORKS on LEE-HEATH			
<u>John Humphries, Agent for Henry Seymour Esq.</u>	£. s. d		£. s. d
Coal raised in the Period, viz. 2200 Tons: Whereof sold			
1800 Tons, at 7s per Ton	630 0 0	}	770 0 0
Unsold 400 Tons estimated at the End of this Period, at 7s per Ton	140 0 0		
Gross Receipt and Steward's last Balance			Gross Receipt in this Period
Arrear of Stock being 250 Tons of Coals, left under the Care of John Humphries at the Commencement of this Period, then estimated at 6s. 8d. per Ton	83 6 8		£. s. d
Then [25 March 1759], and before received of John Humphries for Coals sold during this Period, viz.			
250 Tons old Stock	}	At 7s. per Ton, as per his Monthly Accounts,	717 10 0
1800 Tons this Year's Stock			
2050 Tons			

²¹Morris (p.20) draws readers' attention to the fact that the system demonstrated might omit details, with “The numerous Particulars being supposed to be delivered at large in proper separate Accounts.”

ENTRY BOOK: DISBURSMENTS		£. s. d
Repaid to John Humphries one Half Year's Land-Tax by him paid, due at Lady-Day 1758 as per Receipt	4 0 0	} 90 0 0
Repaid to John Humphries one Half Year's Land-Tax by him paid, due at Michaelmas 1758 as per Receipt	4 0 0	
Then [25 March], and before repaid to John Humphries one Year's Poor's Rate by him paid, due at Michaelmas 1758 as per Receipt	2 0 0	
Then [25 March], and before repaid to John Humphries for Tools, Engines, Repairs, &c. by him paid during this Period, as per Receipts	80 0 0	
<hr/>		
ABSTRACT. Charge upon each Branch during the period		£. s. d
Arrears at the Commencement of this Period		
John Humphries. Agent for Henry Seymour Esq.	83 6 8	
Increase of commencing Arrears during this Period	4 3 4	
Gross income in this period	770 0 0	
TOTAL	857 10 0	
<hr/>		
ABSTRACT. Discharge of each Branch during the period		
Taxes charged to the Landlord	10 0 0	
Repairs and other Burdens	80 0 0	
Net receipts from the productive Branches	627 10 0	
Arrears at the end of this Period	140 0 0	

Source: Morris [1759, pp. 14-15, 25]

*most dates omitted

The following information can be gleaned from Figure 2 relevant to performance assessment as well as personal accountability.

- coal in the hands of the agent at the beginning of the period stated at an estimated value which appears to be last year's selling price
- quantity of coal raised during the year classified into that sold and the balance remaining in stock at the end of the period
- "gross income [created] in this period" as the result of valuing coal raised during the year at selling price
- "gross receipts" from sales, with quantities of opening stock sold and coal extracted during the year sold separately identified
- proceeds from the opening stock of coal sold, distinguishing between the opening carrying value and the extra revenue arising from the rise in selling price during the year.
- disbursements

- an accruals-based net-profit figure for the period, reported under the heading “net receipts from the productive branches”

This article has already indicated the difficulty of neatly classifying accounting systems recommended for use on landed estates as either CDA or DEB. Part of the reason for this is because accounting systems had not yet quite metamorphosed into the distinctive categories that we understand today. Indeed, even a stated focus on DEB might prove misleading. For example, Lazonby's book on *Merchants Accounts: or, The Italian Method of Book-keeping* incorporates a substantial section on “Gentleman's Accounts” [Lazonby, 1757, title page]. The illustration provided by Lazonby contains much of the form of DEB – e.g., the term “journal” is used to describe the collection together of entries that are posted to a cash book presented in accordance with debit/credit terminology – but little of the expected substance. The system, which is fundamentally CDA, comprises a detailed rent roll and the following records kept in bilateral format: ledger accounts detailing (accruals basis) rental transactions with each tenant; a cash book (showing running balances in an extra column on the credit side of the account); and a “balance-book” which contains (i) a summary of rental transactions for each of the four manors and for the estate as a whole and (ii) an “Account current” which reports cash transactions entered into by Mr. Honestman (the steward) on behalf of Sir A.B. Baronet. Lazonby's claim that the system “shews the Gentleman what his estate is worth yearly neat money” (p. 85) refers only to the provision of a record of the total rents receivable. His further claim that the two accounts in the balance book prove the accuracy of the underlying records for rentals and cash is correct, but the system falls short of the interlocking characteristics required to justify the description DEB.

Cash-Book Accounting: In *Accompts for Landed-men*, the prominent writing master and accountant, Charles Snell [1711], presents a system consisting of a rent roll and a cash book. It was common practice for rents to be wholly or partly paid “in kind,” and this arrangement was the subject of formal rental arrangements in Snell's illustration. The opening “Survey” of the lord of the manor's estate includes the following examples: “Two Quarters of Oats and my own small Tithes” allowed as £2 part payment of the £82 payable by John Dunkin for the Parsonage of Nottingham; a boar valued at £2 in addition to £120 payable in cash by Andrew Reynolds for a manor house and 160 acres of

land (p. 4). Snell (p. 3) also shows how, during the year, allowable costs (e.g. repairs and taxes) incurred by a tenant would be offset against gross rent due. The cash book illustration concludes with a summary of monthly receipts and payments to reveal “how much the Gentleman’s Estate Produces Yearly more than he Expend.”

The professed motivation for the treatise written by George Clerke [c.1712, preface], who describes himself as “Steward to a person of quality,” is that he “had perused and canvas’d the Variety of Methods after the Italian Model of Debtor and Creditor, &c. and found’em intricate and meandrous, foreign to the Scheme of a Country Gentleman’s Affairs.” The system he describes is also cash book-oriented but contains a broader coverage than that of Snell. Given its title, *The Landed-man’s Assistant: or. The Steward’s Vade Mecum* is clearly intended to describe an accounting system which might be operated by either the landowner or his steward although, in the illustration provided, the cash book is kept by the lord of the manor. It is clear that there are subsidiary records which may have been maintained on a charge/discharge basis, since each list of monthly cash outflows contains details of payments “as per Book of Household Expences”, “as per Book of Workfolk’s Wages,” and “as per Petty-Cash-book” (p. 22).

Clerke’s system is distinctive in commencing with an inventory of the lord’s estate. Such surveys were an important source of information in managing estates and, as noted above, in fixing a sale price because, as Scorgie [1996, p. 240] points out, “since time immemorial, the generally agreed value of land has been based on its yield.” Indeed, Scorgie provides numerous 15th and 16th century examples from both legislation and practice to show that 20-years’ purchase was a common multiple. Clerke’s [c.1712, p. 2]²² illustration is consistent with this practice – tenanted properties in each of three manors and a parish are valued at “20 Years Purchase.” The grand total is described as “the Value of my Estates and Lands” (p. 12), to which is added “ready Cash,” stocks of animals and grain, arrears of rent and loans, and from which is subtracted borrowings. Such an inventory is, of course, the first step in operating a system of

²²Monteage [1675, n.p.] also uses 20-years’ purchase. The substantial property purchases made by the merchant John Smythe between 1543-1554 occurred at the peak for monastic land sales “for a price equal to about twenty years’ annual income” [Vanes, 1974, p. 25; see also Bettey, 1993, p. 54]. The use of a 20-year multiplier probably reflects the fact that 5% was for a long while the maximum legal rate of interest [Oldroyd, 2007, p. 133].

DEB, but it plays no further part in Clerke's cash-based accounting system.²³

A further interesting feature of Clerke's (pp. 46-47) text is the effective use of the tabular format which is employed to present the main components of monthly cash inflows and outflows. Rental data equivalent to that which would appear in accruals-based ledger accounts are also presented as a tabulation, and Clerke (p. 48) rounds things off by explaining the relationship between the nine columns in the form of a "Proof" of the figures. Clerke (p. 49) demonstrates an awareness of the value added by accruals-based data when observing: "I might add an Accompt Sales of each Part of the Stock, Cattle, Corn, & what Sold, Encreas'd, and what Remains, but being easie to be drawn, I leave it to your Discretion." The content of texts which demonstrate the use of DEB to account for landed estates is next examined.

DEB: Publications promoting the application of DEB to rural activities are more numerous than those advocating the use of CDA. The best known book principally devoted to a study of the contribution DEB might make to the administration of a landed estate, the treatise published for Roger North in 1714, is first examined.

The Gentleman Accountant: The system described by North [1714, pp. 106-109] is based squarely on DEB, although he acknowledges that inputs to that system may be provided by charge/discharge statements or other records prepared by the steward. North argues that DEB "will be as profitable to a Man of Estate, as to one of a gainful Profession" (p. 10), but its contribution is different in the important respect that for the trader it helps "in *getting*" an estate whereas for the landed gentleman it helps "in *preserving* an Estate" (p. 10, emphasis added). Implicit in this statement is the assumption that the merchant is starting from an inferior financial position whose occupational *raison d'être* must therefore be to make money.

The reason why "Persons of Quality and Fortune" are encouraged to adopt DEB is because they "have as many Branches in their accomptable Business, as most Traders have" (p. 87). A "Cash-Accompt will not serve the turn," whereas DEB enables a gentleman to

²³The 1303 accounts of the Benedictine House of Jarrow include a report on inventories followed by a cash-based CDA [Stone, 1993, p. 8].

willingly know at all Times, what every Tenant owes; what the Discompts are upon his Farms, and the net Payments of Rent; how Interest goes; whether he receives, or pays more; and what is due either way; how his Steward's or Bailiff's Accompt stands; *what his Managery of Corn, Grazing, Dairy, and Sheep yields him*; and in general, at one, two, or three, &c. Years end, whether his Estate advances, or is Retrograde, and by how much (p. 87, emphasis added).

North's conviction that estate accounting should be based squarely on the principles of DEB may possibly be traced to his brother Dudley who was an extremely successful Levant merchant [Grassby, 2004; Parker, 1997, pp. 46-47].

Like many authors advocating a new way of doing accounting, North [1714, p. 251] denigrates the system that he seeks to supplant. His critique of the use by gentlemen of CDA is by no means convincing. While agreeing that an overall statement of charge/discharge provides "as true and just an Accompt, as can be with any Art framed." North criticizes it as deficient "because it answers no Question, but upon the *Summa Totalis*, not the How? What? And where?" However, he concedes that the *Summa Totalis* is merely a compilation of "Species and Subdivisions" which can be inspected to discover the various components of the charge and discharge (pp. 252-253). And although he insists that "The Accompt by Dr. and Cr. Gives all that a Check Accompt can express, and more" (p. 253), his focus seems to be on structure rather than content. In the main, North appears to favor DEB because it is written up on a regular basis rather than being "done at Leisure," (p. 254) and because it provides information based on a better accounting framework and a more convenient format (p. 253ff).

North's flawed attack on CDA extends to the tabular formats which were used to present rental income and to enable comparisons to be made over time and between different sources of revenue [e.g., Clerk, c.1712, pp. 46-49; Morris, 1759, p. 26]. While rejecting their utility for presenting financial information, North [1714, p. 259] nevertheless agrees that "Tabular Arithmetick...serves to bring a world of Accompts into a little room." Indeed, he recommends the "Tabular Method of keeping a Check upon" what laborers are doing each day on a weekly basis (p. 261). Its potential for the effective control of labor is explained in full (p. 263):

The Knowledge that such an Accompt as this is kept, is sufficient to keep Men to true Reckoning, lest they loose

their Credit and their Work; but it helps very much also in other Respects; for if it be duly distinguish'd, as to the Taken or Day Work, it gives a true Accompt, what the Men can do; and Bargains may be made with them by Lump, or Measure accordingly; the doing which reasonably and well, is the greatest Difficulty in Country Business; the Men that work, know exactly; but those that employ them, cannot know any thing of new Work, nor commonly put out, but by some such Means as this; so the Advantages of Workmen is very great; and as they find the Master Ignorant, they will propose outrageously, which nothing corrects, but a Demonstration, that they and their Work are understood.

Other Authors: An early published demonstration of accounting for landed estate by DEB is Abraham Liset's *Amphithalami* [1660].²⁴ Liset's illustrative accounting system focuses on the affairs of Sir John Ireland who was a merchant as well as a landowner. Liset employs only a ledger to record Ireland's financial affairs and, in the absence of subsidiary records, would not be capable of handling large numbers of transactions easily. Liset distinguishes carefully between capital and revenue. For example, there is removed from the "Several ships at sea" account, a loss of £5,700 (initial carrying value plus cost of fitting out the ship for its voyage) that resulted from "the Fortune, [being] taken in her Voyage to the Levant by the Spaniards." This enabled the operating profit generated by the remaining two ships to be identified²⁵ and transferred to the "Gain and loss" account. Lee [1981, p. 544] speculates that Francis Willughby's accounts (1672-1682) may have been based on the model outlined by Liset given certain similarities and the fact that it was "the only known English book available" which applied DEB to account for an estate.

Some authors of treatises on DEB indicate that the system they describe is also applicable to landed estates. For example, Webster [1719, p. 1] describes the "Italian manner of Debtor and Creditor" as "not only practis'd by the Merchant, whose business is most extensive, and comprehends the greatest variety, but is also allow'd the best method for the Steward and Publick Accomptant." Monteaige [1675] demonstrates a "one system fits

²⁴Personal accounts for the stewards of the household and of the manors, which serve as accounts of charge and discharge, are incorporated within the system of DEB which, therefore, provides an audit trail for transactions entered into by stewards in the absence of a waste book or journal.

²⁵Accounts are opened for each category of property with all related income and expenditure initially posted to that account.

all” philosophy through the ingenious device of combining the affairs of all identified users into a single DEB-based illustration. In targeting the country gentleman as a possible client for the “best [bookkeeping] method used by merchants” (title page), Montage (preface) acknowledges that he might be entering uncharted territory: “Yet the Subject is not so limited, but that greater Achievements may be built thereupon, not unworthy of Gentlemen, Noblemen and Princes, who in foreign Countries have not distained to manage Transactions in this Method.” The implication is that the English aristocracy might shy away from an accounting technology that suffered the taint of trade, and Stone [1965, p. 355] acknowledges that “Elizabethan and Early Stuart peers would have been astonished and disgusted to find themselves described as men of business.” But the landed gentleman and the merchant did not occupy entirely separate spheres. “If a peer restricted himself to a director’s role rather than a manager’s, demesne farming, the opening-up of mineral resources, the starting of metallurgical industries, the development of urban property, participation in privateering, trading, and colonizing companies were all entirely respectable activities” [Stone, 1965, p. 336].

Also, it might be imagined that the successful merchant who gained social as well as economic upward trajectory would have remained loyal to the accounting system that helped him acquire the paraphernalia that now marked him out as a country gentleman. Some treatises on DEB, although principally directed at merchants, accord landed estates separate treatment. Stevenson [1762] devotes the latter part of *Book-keeping by Double Entry* to a system for landowners comprising two sets of books, one focusing on the estate “Greenside” (belonging to Sir James) as a separate entity and the other on the accountability of “A.B. Factor” to Sir James. The entity-based records are in classical form, consisting of a memorial or waste book, a journal, and a ledger. The starting point is an inventory of Laird’s personal estate which includes household items (furniture, jewelry, and plate) as well as animals, crops, loans, debtors, rents outstanding, and amounts owing. It does not include property valuations. Notable features of the treatment of transactions undertaken during the year include charging cattle and sheep consumed to a “Family expences” account (ledger fo. 2), together with all other costs of running the household. Total family expenses are transferred to a P&L account, which collects a number of other small items, such as the opening valuation of a horse that died during the year. The balance of the P&L account, captioned “this

Year's Expence in living," is transferred to the "Personal Estate of Greenside" ledger account, with the title emphasizing the entity rather than personal status of these records. Credited to the capital account are sales proceeds from crops and animals supplied by tenants in partial satisfaction of their rental obligations. Quantity columns are used to track movements of individual crops (e.g., corn) but, as values are listed in a single column, only an overall profit figure is reported. Closing balances of animals are measured using beginning of the year figures.

Stevenson's treatment of rentals does not fully comply with the accruals concept. The opening inventory includes a statement of rentals due for the forthcoming year in cash and in kind, with the cash element treated as an asset. Payments subsequently received are, therefore, not recognized as income for the year. The rental element payable-in-kind is not fully satisfied and, as no values are attached to balances of crops reported as outstanding in the closing "Balance" account (ledger, fo. 7), the expectation that a DEB framework would provide an accruals-based measure of profit is further compromised.

A separate ledger (no waste book or journal), also kept on a double-entry basis, records the accountability of A.B. Factor to Sir James. It is cash-based and, therefore, reveals a more restricted view of transactions undertaken during the year.

Donn's [1773, pp. 18-33] "essay on book-keeping, as applied to the business of a steward" starts by making the valid point that, where a steward is required to "conduct his Books without an Account of Stock," he is being "considered a Kind of Factor;" and "the Lord will lose the Satisfaction of feeling the real Value of his Estates" (p. 18). Donn therefore recommends that the steward should be required to account as a merchant's clerk. That is, the steward should maintain entity-based accounts conforming to "the true Italian Principles." That the system was also intended to serve as a record of personal accountability is evident from the following comment: "we may begin the Waste-Book, by taking an Inventory of all the real and personal Estate of the Lord, which is committed to the Care of the Steward" (p. 18). To make the recommended system of DEB operational, an opening valuation is placed on the properties as well as on animals and crops. Donn demonstrates an element of process costing with unthreshed corn valued, when threshed, for transfer to the granary.²⁶ The ledger accounts for farm produce contain

²⁶The valuation of transfers at a figure above cost results in an understatement of closing stock given that it is treated here as a balancing item.

columns for quantities. The P&L account is charged at cost with the value of wheat and oats taken by the family from the granary. The intention that the accounts should be capable of providing measures of entity performance and position as well as a record of the steward's personal accountability is carried through to the "Balance" account which contains entries for: "To Cash, remaining in the Hands of J. Trusty, Steward," "By Stock, the neat Estate of J. Rich, Esq. under the Care of John Trusty, Steward."

Hamilton [1788, pp. 488-491] devotes (without illustration) four pages of a text stretching to 576 pages to a discussion of a "Land-stewards accompts." Hamilton acknowledges the need for a degree of flexibility in the form the books should take, possibly reflecting recognition of existing custom. For example, he proposes that "The ledger should be kept on the principles of double entry, tho' the form need not be rigidly observed" (p. 488), and we have seen that to be the case in a number of the texts examined. It is recommended that accounts should be arranged to show profits from activities. For example, the account for the farm should show opening and closing values of "the stock of cattle, &c" together with relevant expenses and "the quantity and value of its produce" so as to reveal "gain or loss" (p. 489). Revenues should be recognized not only when produce is sold, but also as the result of valuations placed on items "sent to the granary and transferred to accompt of corn, or delivered for the use of the family."

Concerning the treatment of what would today be called capital expenditure, support for accruals accounting takes a further dimension: "If a sum of money, suppose £500 be expended to improve the farm, which the proprietor does not expect to draw back in less than 10 years," then £50 should be written off each year "till it [the balance] be exhausted" (p. 490). Hamilton (p. 491) emphasizes the importance of matching costs with related revenues: "If no returns be expected for several years, the allowance is not diminished till the time when benefit was expected." The amount then charged each year, however, should take no account of the new venture's level of profitability: "This [accounting], however, should be regulated by the hopes entertained when the money was expended, and not by the success of the improvements; and then the balance of the farm-accompt, in successive years, will show how far the improvements have exceeded or fallen short of expectations" (p. 490).

Combined CDA/DEB: Richards' [1707, title page] scheme

“for keeping [the] Accompts of Gentlemens Estates” is designed to enable data generated under a system of charge/discharge to serve as journal entries to a “Ledger [which] is kept after the *Italian* manner, by double Entries.” The accounting detail therefore appears in a portfolio of charge/discharge statements with the ledger reporting information in summary form. Although employing DEB, the system does not demonstrate the operation of accruals accounting. It is assumed that all amounts due to the lord are actually received and no inventory is made of closing assets or liabilities. Therefore, the “Balance” account reports a cash-based increase in value during the year (illustration fo. 3), with the cash-orientation of *The Gentlemens Auditor* signaled by the title page which announces a system “whereby may at any time be seen what they [the gentlemen] save or spend, get or lose to a Farthing.”

DISCUSSION AND CONCLUDING REMARKS

Historically, CDA and DEB have often been portrayed as alternative systems for users to choose between. For example, as Baxter [1980, p. 69] put it: “The account charge/discharge system was a competitor of the double-entry accounting system.” This idea is based on the notion that CDA and DEB are fundamentally different from one another. Cash-based CDA culminates in a statement of cash flows demonstrating personal accountability; accruals-based DEB generates accounting reports consisting of a P&L account and balance sheet that might be used for performance assessment and decision making. Even if CDA was always cash-based, it should not, of course, be dismissed as a primitive system that was naturally set aside as accounting “evolved” towards its present enhanced state [cf. Keenan, 1998; Napier, 1998]. The case for cash-flow accounting is powerful [Lee, 1984, 1993; Lawson, 1992], and it is unnecessary, therefore, to rehearse the virtues of a cash-based CDA. Until the 1970s in Britain, corporate published financial reports were squarely based on two financial statements – the P&L account and the balance sheet. Among the plethora of accounting statements which have been added to and discarded from the corporate report in recent decades, the cash-flow statement has been the most enduring and for many the most important innovation.

It is also known that CDA was not always strictly cash-based, and a prior literature drawing attention to the potential of CDA has been discussed. This paper has also studied texts written between 1660-1788 that advocate approaches to ac-

counting for landed estates employing CDA, DEB, or features of both systems. This has enabled us to examine in a systematic manner the similarities and differences between the ways in which those accounting systems might assist property management. In reviewing the evidence presented in this paper, it is not the intention to judge whether one system was superior to the other. The aim is to better understand what one system could do that the other could not.

Asset Valuation and Profit Measurement: In evaluating the evidence presented in this paper, it is useful to engage with comment from Bryer on the significance of accounting for economic development. He [2006, p. 370; see also Bryer, 1994] observes that “In Marx’s theory, England’s agricultural revolution was [in] the vanguard in its transition from feudalism to capitalism.” Marx believed that the revolution “took hold” from around 1670 and was carried through to its conclusion from about 1750 [Bryer, 2006, p. 368], and this timeframe fits in well with the dating of textbook publications studied here. Whereas, in Bryer’s estimation, the “feudal mentality pursued the direct appropriation of surplus labour,” 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” and, for this purpose, requires the preparation of balance sheets and P&L accounts (p. 370). The texts studied in this paper, those advocating the use of CDA as well as treatises promoting DEB, reveal some evidence of a capitalist mentality.

Most, but not all, of the texts promoting DEB show how to compile the kind of information relevant to performance measurement that would be expected from it today. A calculation of profit is a natural outcome from a system of DEB and, in the texts examined, there are usually separate ledger accounts recording profits arising from different activities. This typically required the bookkeeper to attach valuations (cost or estimated) to one or more of properties, livestock, and crops. There are also examples of values placed on goods taken for personal consumption and threshed corn transferred from the barn to the granary, while Hamilton [1788] reveals the essence of a capitalist mentality [Bryer, 2006, p. 382] when recommending that landlords write off the cost of improvements to properties over the period of expected benefit. In the “balance” account that rounds off this entity-oriented accounting system, assets and liabilities are valued to enable identification of the landowners “neat Estate” [Donn, 1773, p. 33]. But this paper has also

revealed that recommended systems of DEB did not always apply the accruals concept to any significant extent [esp. Richards, 1707], and did not necessarily do so very well [Stevenson, 1762].

Authors of DEB texts proclaimed their system's superiority. Donn [1773, p. 18] believed DEB to be better because it provided the landlord with "the Satisfaction of feeling the real Value of his Estates." North advocated DEB because it provided a wide range of information relevant to performance assessment and decision making. However, it was noted that his criticisms of CDA were not utterly convincing. His critique focuses largely on cash accounting which, as we have seen, is not the inevitable foundation of charge/discharge accounting. Also, he acknowledged the availability among subsidiary records – the "Species and Subdivisions" of the system [North, 1714, p. 251] – of information equivalent to that found in DEB.

So what can be learned from the treatises examined in this paper about the potential of CDA beyond its concern with narrow personal accountability? Concerning the nature of the operations undertaken by landowners, all text-book illustrations deal with the collection of rents, and most also recognize the need to measure the farming transactions of the landlord which, according to Monteaige [1683, p. 10], is "A thing which happens upon most Estates, since the Fall of Land in every County." Four publications [Monteaige, 1675, 1683; North, 1714; Morris, 1759], two illustrating CDA and two DEB, contain detailed treatment of the financial implications of direct farming.

An important feature of DEB is the use of ledger accounts to report results from different activities. North [1714, p. 87] advocates use of DEB on the grounds that landowners "have as many Branches in their accomptable Business, as most Traders have." However, authors of texts on CDA showed that results by activity could be comfortably incorporated within the basic accounting structure [Morris, 1759] or in the form of memorandum records [Monteaige, 1783].

Concerning the choice between cash and accruals accounting, three non-DEB texts (Snell and Clerke's cash-book system and Laurence's CDA, see Table 2²⁷) were entirely cash-oriented, but the remainder apply at least some elements of accruals accounting. Monteaige [1683, p. 22] insists that landowners should not "be satisfied with" cash-based accounting and, under his and other charge/discharge systems, landowners are provided with data that enable them to review income and expenditure as well

²⁷Table 2 does not include Hamilton [1788] which contains no numerical illustrations.

TABLE 2
Content of Texts

	<i>Lisier</i> 1660	<i>Montague</i> 1675	<i>Montague</i> 1683	<i>Richard</i> 1707	<i>Snell</i> 1711	<i>Clerke</i> c.1712	<i>North</i> 1714	<i>Laurence</i> 1727	<i>Lazouby</i> 1757	<i>Morris</i> 1759	<i>Stevenson</i> 1762	<i>Lovett</i> c.1770	<i>Dunn</i> 1773
<i>Accounting system</i>	DEB	DEB	CDA	CDA/DEB	Cash book	Cash book	DEB	CDA	CDA	CDA	DEB	CDA	DEB
CDA presentation			vertical	vertical			bilateral	bilateral	bilateral	bilateral		bilateral	
DEB											yes		no
Waste book	no	yes	no	no	no	yes	yes				yes		yes[1]
Journal	no	no	no	no	no	yes	yes				yes		yes
Ledger	yes	yes	yes	yes	yes	yes	yes				yes		yes
Profit and loss account	yes	yes	yes	yes	yes	yes	yes				yes		yes
Balance sheet	yes	yes	yes	yes	yes	yes	no	yes	yes	yes	no	yes	yes
Rent roll or equivalent	no	no	yes	yes	yes	yes	no	yes	yes	yes	no	yes	yes
<i>Presentation features</i>													
Tabular in part	no	no	yes	no[2]	no	yes	no	yes	no	yes	no	yes	no
Bilateral cash book	yes	yes	yes	yes	yes	yes	yes	no[3]	yes	yes	yes	yes	yes
Cash book headings	debtor/ creditor	debtor/ creditor	debtor/ creditor	dir/ cr	receipts/ payments	debtor/ creditor	dir/ cr	n/a	dir/ cr	receipts/ disbursements	dir/ cr	dir/ cr	debtor/ creditor
Operating flows analyzed by type	yes	yes	yes	yes[4]	no	yes	yes	yes	no	yes	no	no	yes
<i>Asset recognition and accruals within accounting system</i>													
Properties	yes	yes	no	no	no	no	no	no	no	no	yes	no	yes
Personal belongings	no	no	no	no	no	no	yes	no	no	no	yes	no	no
Ships	yes	yes	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	no	n/a
Stock of animals/crops	no	yes	yes	no	no	no	yes	no	no	n/a	yes	n/a	yes
Stock of minerals and timber	no	n/a	n/a	no	n/a	n/a	n/a	n/a	n/a	yes	n/a	no	n/a
Rent	no	no	yes	no[5]	no	no	yes	no	no	yes	yes	yes	no
Gain or loss reported	yes	yes	no[6]	yes	no	no	yes	no	no	no	yes	no	yes

[1] Described as a waste book, it is in typical journal format.

[2] Final page of book separately demonstrates "a Shorter way for a Gentleman" to keep his rent receipts in tabular form.

[3] Contains individual lists of receipts and disbursements analyzed by type.

[4] Analysis appears in build-up of journal entry detailing the credit to capital account.

[5] Accruals remain the responsibility of the steward.

[6] A separate calculation is made based on the information contained within the accounting system.

as receipts and payments. For this purpose, texts on CDA also advocate the use of tabular formats to present the kind of information that would appear in an accruals-based ledger account for rents receivable [Monteage, 1683, p. 23; Clerke, c.1712, p. 48] or to enable comparisons to be made between different activities [Morris, 1759, pp. 12-17, p. 25] and accounting periods [Snell, 1711, p. 3; Clerke, c.1712, pp. 46-47].

The application of accruals accounting results in asset valuations being reported in financial statements, and Table 2 reveals that such valuations feature more prominently within systems of DEB. But they are by no means entirely absent from CDA. Monteage [1683], for example, values livestock for inclusion in an accruals-based CDA, while Clerke [c.1712] makes an inventory of the lord's estate by valuing properties at 20 times the annual rental. Admittedly, the latter figures are not incorporated within Clerke's cash-book-based system, but its purpose is the same as inventories that are the first step in the implementation of a system of DEB, namely to supply the owner with a figure for "The total Value of my Estate" (p. 14).

Evidence of a capitalist mentality is further evidenced by the fact that employment of CDA did not entirely rule out an interest in profit calculation. Monteage [1683, p. 32] contains a calculation of the profit or loss on direct farming based on the information contained within the system of CDA, although not integrated within it. Particularly noteworthy is Morris [1759] whose "entry book" and "abstract" of charge/discharge contain a plethora of data relevant for performance assessment, including quantities and values of inventories, separate values for goods produced and sold, gains arising from increases in the value of opening stock sold during the year, and net profit from each of the "Branches of the Estate."

Composite and Combined Accounting Systems: It is known that the classification of an accounting system as CDA or DEB is often not a straightforward matter. There is no shortage of examples revealing the presence of individual features of DEB within systems of CDA. They include cash accounts presented in bilateral format, use of the terms debit and credit to head up columns of entries, and the terms "to" and "by" employed to annotate entries in the accounts [H. Jones, 1985, pp. 41-42, 52-63; Napier, 1991, 1998; Coombs and Edwards, 1994, p. 165]. The existence of such practices has misled historians less expert in the arcane features of accounting technologies. For example, Hoskin and Macve [1994] discovered that Chandler [1977, p.

74] wrongly categorized the early 19th century records of the Springfield Armory as “a sophisticated system based on ‘double-entry.’” Instead, it was “a charge/discharge system, albeit one utilizing a debit/credit terminology” [Hoskin and Macve, 1994, p. 18].²⁸

H. Jones’ [1985, p. 41] exhaustive study of the accounting records of estates and industrial entities in Wales between 1700-1830 produced the following conclusion: “It is around the mid-eighteenth century that we are seeing the transition from the charge and discharge basis to double entry accounts integrated the one with the other.” He adds: it was “a time of great change” when “knowledge and understanding of double-entry book-keeping was spreading and it was being adopted, in a fashion, on a broadening basis.” This paper reveals that similar comments might be applied to the content of contemporary treatises.

The non-DEB structures studied made heavy use of terminology and methods of presentation characteristic of DEB. For example, cash books are typically headed debtor/dr and creditor/cr (Table 2), and this practice extended to other elements of the accounting system [esp. Lazonby, 1757]. The bilateral format is used in illustrative cash-book layouts and by Laurence, Lazonby, and Morris for the purpose of presenting the statement of charge/discharge. Indeed, Laurence [1727, pp. 154-155; see also Lazonby, 1757, p. 85] labels the CDA statement an “Accompt current,” which was the term typically used for a statement of personal indebtedness extracted from a system of DEB. We have also seen that some authors were keen to forge links between the two systems that went beyond layout and terminology. North [1714, pp. 106-109; see also Richards, 1707; Clerke, 1712, p. 22] saw scope for charge/discharge statements providing inputs to a scheme of DEB. Stevenson [1762] shows how two systems of DEB, one focusing on the estate as a separate entity and the other recording the personal accountability of the steward, might run in parallel.

The transfer of terminology also saw CDA borrowing from DEB. When discussing “The Fundamental Notion on which the whole Practice [of DEB] depends.” North [1714, p. 12] starts with the following assertion: “The Art of Regular Accompting depends wholly upon this Supposition, *viz.* that every thing negociated comes out of Something and goes into Something.” As-

²⁸Napier [1998, p. 692] gives a number of other examples of economic historians wrongly interpreting CDA as DEB.

suming a gentleman's natural familiarity with contemporary scientific progress,²⁹ he continues: "having (as they say of Motion) its *terminus a quo & ad quem*" (p. 8). Thus, "however spaciouly the Books are branched out, there is conserved a perpetual Par, or Ballance of the Whole" (p. 12). The following description of the operation of DEB clearly signals a conceptual connection with CDA:

for that Person or Thing which takes, is made *Dr.* that is, stands *charged*; and that Person or Thing which delivers, or parts from, is the *Cr.* or *discharged*...and since every Person or Thing may at Times be both *Dr.* and *Cr.* they are made all Titles of Accompts in the Books, and under them are wrote the Debts or Charges, on the left Hand Page; and the Credits or Discharges, on the right Hand Page of the Book (pp. 12-13).

Further:

In fine, it is to be always observed, that the same Charge which is writ on the Debt-side of one Accompt, is also wrote on the Credit-side of some other Accompt, which is twice writing the same thing; whereby every Accompt by both Sides of it, Charge and Discharge, hangs to certain other Accompts, by every Line of it (p. 16).³⁰

It is therefore possible to discern the kind of deep-seated connection between CDA and DEB that has caused accounting historians to speculate that the latter emerged out of the former [Littleton, 1933, pp. 38-39; Lee, 1975, pp. 7-8].

Finally: It has been suggested that CDA was superseded by DEB because the latter had the potential for routinely providing decision-useful information in the form of the income statement and balance sheet and because it was better suited to recording large volumes of transactions. Although these factors are part of the story, this study raises the question of whether the demise of CDA was the inevitable outcome. This paper has shown that, despite the absence of a P&L account, *per se*, from CDA, this by no means ruled out the possibility of providing (both outside and within the system of CDA) information relevant to performance assessment based on calculations of capital, asset values,

²⁹Sir Isaac Newton's *Philosophiæ Naturalis Principia Mathematica* [1687] describes universal gravitation and the three laws of motion.

³⁰Corresponding comments can be found in the literature directed at merchants [e.g., Malcolm, 1718, p. 120].

sources of revenue, and, indeed, profit. Turning to an accounting system's record-keeping potential, the prior literature reveals examples of CDA which contain the self-balancing features designed to ensure the kind of accuracy achieved by an interlocking system of DEB. Accuracy was also a prominent concern of the authors studied here with Clerke [c.1712, p. 48; see also Monteage, 1683, p. 24] demonstrating a "Proof" of the figures. Whether CDA could achieve the degree of sophistication and reliability of DEB in this respect is uncertain, but we do know that the charge/discharge statement was, like the income statement and the balance sheet, based on subsidiary records, the extent and sophistication of which have been little explored in accounting historiography.

With a few exceptions, the course of history has seen the replacement of CDA by DEB. Whether this has been an inevitable outcome of historical processes remains unproven. Perhaps CDA should not have survived as long as it did and merely did so because of institutional resistance within the landowning class to a system associated principally with traders [see Monteage, 1675, preface; Lemarchand, 1994]. It may be the case that the transfer from CDA to DEB awaited a fuller transition on the part of landowners from rentier to capitalistic farmer and industrialist [Napier, 1998, pp. 695-696]. On the other hand, it could be that the sheer momentum which built up in favor of DEB proved unstoppable irrespective of the genuine merits of CDA. Where did such momentum come from? Candidates include: an increasingly DEB-dominated accounting literature; the role which DEB was believed, or at least claimed, to possess in achieving cheaper and more efficient ways of doing things; and the perceived contribution to the professional process, mounted by public accountants, of a more "mysterious" method of accounting. Reflecting on the provisional nature of accounting change, Stone [1993, p. 18] commented: "The early practice, later discontinued, of beginning the annual statement with an inventory of such assets [as belonged to an entity] could have been developed to make the charge and discharge system an accounting for all assets for which the steward was responsible." The writings reviewed in this paper show that this, and more, was within the potential of CDA.

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