

Books to be practiced: Memory, the power of the visual, and the success of accounting

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Abstract

The aim of this paper is to explore the conditions which allow the emergence of accounting as a performable technique that can spread successfully across economies and societies. Drawing on insights offered by studies on the art of memory, Actor-Network Theory, and that broader branch of history known as the history of the book, it is argued that the emergence and spread of accounting can be understood by studying the relationships among four interrelated aspects: the nature of accounting as a method of classification for the organisation of thinking and knowledge; its reliance on images and its visual impact; its ‘orthopraxis’ nature, which offers a workable space and time; and the relationships between accounting and the medium through in which it materialises. The combination of these four features explains how it is that accounting is a practice which is homogeneous enough to be recognised as autonomous and heterogeneous enough to attract diversity and create difference. I was motivated to study these issues after examining two early accounting treatises: the *Indirizzo degli Economi*, by the Benedictine, *Pietra (1586)* [Pietra, A. (1586). *Indirizzo degli economi o sia ordinatissima istruzione da regolamento formare qualunque scrittura in un libro doppio. Aggiuntovi l'esemplare di un Libro nobile co 'l suo Giornale ad uso della Congregazione Cassinese dell'Ordine in San Benedetto*. Mantova: Francesco Osanna]; and the *Trattato del libro doppio domestico col suo esemplare*, by the Jesuit, *Flori (1636)*, [Flori, L. (1636). *Trattato del modo di tenere il libro doppio domestico col suo esemplare composto dal P. Lodovico Flori della Compagnia di Gesù per uso delle case e dei collegi della medesima Compagnia nel Regno di Sicilia, in Palermo*, per Decio Cirillo]. Along with studies examining the emergence of modern management as a result of an economic need for rationalisation, the paper offers material for reflecting on a concomitant rationale which views innovations in the method of organisation, visual presentation, medium of communication, and praxis, as the mayor forces in the diffusion of accounting in both historical and contemporary settings.

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Introduction

The theoretical concerns of this paper

In response to Hopwood's call to study the behavioural and social aspects of accounting

(1978), a considerable number of works has been swiftly brought to bear to investigate accounting in action. These works have been concerned with

how accounting systems do and do not function, with the factors that shape the form that they take and the influence which they have, with the circumstances which promote or constrain the effectiveness of the accounting function, and even with the bases for designing

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alternative forms of accounting (Hopwood, 1978, p. 93).

Since this call, our understanding of the nature and roles of accounting in organisations and society has moved from economic-driven explanations that view accounting as a tool for administering resources efficiently (Chandler & Daems, 1979) and an aid to rational decision making (Boyns & Edwards, 1996, 1997), towards, for example, interpretations which theorise about accounting as a disciplinary practice (Hoskin & Macve, 1986, 1988, 2000) or an instrument for enacting various forms of governmentality (e.g. Miller & O’Leary, 1987) and implementing political economies (Suzuki, 2003). Analogously, the diffusion of accounting has been explained as the result of various and sometimes opposing pressures such as those exerted by changes in the production environment (e.g. Johnson & Kaplan, 1987) or in the institutional setting related to state affairs (Carmona, Ezzamel, & Gutiérrez, 1997, 1998). The literature has also highlighted the rhetorical and persuasive power of accounting (see Arrington & Schweiker, 1992; Nahapiet, 1988) and how this has a major role in the success and diffusion of contemporary accounting practices (e.g. Nørreklit, 2003; Young, 2003). The range of available interpretations is now so vast and variegated that as early as 1993, Miller and Napier rightly affirmed: “there is no essence to accounting, and no invariant object to which the name ‘accounting’ can be attached” (1993, p. 631).

The very name of accounting, being simultaneously a substantive and a verb in the progressive form, captures the multiple and performative nature of this centenary practice perfectly; and this attribute seems to be the very reason for the pervasiveness of accounting in organisations and society (see, for instance, the Jesuit case in Quattrone, 2004). These features resemble and are in line with a characteristic of auditing (Power, 1997), global management practices (Czarniawska & Sevón, 2005), rankings and systems of extra legal governance (Djelic & Sahlin-Andersen, 2006; Wedlin & Hedmo, 2008), and information technologies (Quattrone & Hopper, 2006), for example. Accounting is characterised by the multiple natures and purposes which it fulfills, along with a sameness which makes one perceive it as having a specific nature and specific purposes. Theorising about the interplay between these two characteristics poses a great challenge to accounting academics and other social sci-

entists (see Thrift, 2004).¹ The proliferation of interpretations which have followed Hopwood’s 1978 appeal calls for a theoretical reconciliation between the presence of certain features which make accounting appear to have a specific nature and the absence of any features which Miller and Napier’s pertinent statement implies.

Whereas it is clear that all global ideas are malleable (Czarniawska & Sevón, 2005) and have the ability to intersect different social worlds (e.g. Star & Griesemer, 1989), it is less clear how some of these ideas are able to do so and be ‘practiced’, yet others are not.² The question then concerns how it is that these techniques become performable, i.e. move from the abstract and absent status of an idea to the concrete presence of a widely spread managerial practice. These are the theoretical issues that are tackled in this paper.

Some of the research on accounting in action has addressed such matters by looking at accounting as a “calculative practice” (Miller, 2001), which relies upon various types of written records (see Hoskin & Macve, 1986, 1988; Miller & O’Leary, 1990, respectively).³ Recent years have seen the proliferation of studies presenting this two-fold focus on the practical nature of accounting (e.g. Miller & O’Leary, 1990) and on its reliance upon various forms of inscriptions (e.g. Latour, 1987, 2005; Preston, 2006; Robson, 1992). On the one hand, the “practice turn” (Schatzki, Knorr Cetina, & von Savigny, 2001) in accounting studies has been recently revitalised, thanks to the works of Ahrens and Chapman (2007) and Ahrens and Mollona (2007). This perspective augments our understanding of the interplay between the micro-organisational

¹ See, for instance, the difficulties experienced by Law (2000), and Ahrens and Mollona (2007), de Laet and Mol (2002) and Mol (1999), in theorising “strange objects” such as diseases and water pumps (a review of the literature in relation to these definitional problems is offered in Dugdale, 1999; Jones & Dugdale, 2002; Law & Singleton, 2005). It has also been noted in relation to certain information technologies, that these objects can be labelled ‘heterogeneous’ (Quattrone & Hopper, 2006), for they are characterised by an homogeneity acquired through the attraction of the heterogeneity of the other actors, which therefore contributes to defining the fluid nature and purpose of these globally spread information technologies.

² I am grateful to one of the referees for making me reflect upon this point.

³ In this sense, the semiotic force of accounting is increasingly becoming a matter of concern in the literature. See also the recent call for papers in *Accounting Auditing and Accountability Journal* (2007).

level, constituted by local accounting practices; and the macro-trends which characterise society as a whole (Lounsbury, 2007). It reinforces the message that an understanding of what accounting is and does cannot be detached from the practices which generate it (Hopwood, 1983). On the other hand, the interest in inscriptions has brought to the fore the role played by various types of signs in constructing boundaries among organisations, the environment, and the economies (Hines, 1988; Llewellyn, 1994; Suzuki, 2003), enacting and defining the spatio-temporal distance between centres and peripheries of large and dispersed organisations (Quattrone, 2004; Quattrone & Hopper, 2005), and making abstract strategies and slogans concrete (Hansen & Mouritsen, 1999). Both perspectives show how accounting is never merely ‘local’ or merely ‘global’ but intertwined with various codes and detailed procedures which link everyday life in organisations to shared rules of conduct defining a community and a society in ways still to be explored (see Bolzoni, 1995; De Certeau, 1984). This paper is inserted within these streams of studies on practices and inscriptions.

With respect to the notion of *practice*, despite the fact that accounting comprises records, the etymology of this word (from the Latin *recordor*, i.e. to remember) has not directed scholarly attention towards the study of the art of memory: a specific set of practices which, like accounting, has a very long history. As Carruthers (1990, 1998) noted, the art of memory concerns not only mnemonic techniques aimed at storing and retrieving old reminiscences. It has evolved from antiquity to early modernity through medieval cultures as a complex set of practices for the organisation of our thinking. It is composed of a series of precise, albeit varied, procedures which help to identify the ways in which knowledge is defined, classified, organised, and then eventually translated into knowledge artefacts such as manuscripts and books (Bolzoni, 1995; Carruthers, 1998) – some of the same books of which accounting makes great use. The art of memory comprises a set of techniques (and even ‘machines’: Bolzoni, 1995) in which the “imitation of the old is a stage in the production of something new” (*ibidem*, p. xvi): a new understanding, not limited to the simple reproduction of past mental images, but entailing their construction in the present through a web of techniques, practices, and artefacts (Bolzoni, 2002). Like accounting (see Hines, 1988), the art of memory is not a neutral technique which stores and represents facts;

it allows the interplay between sameness and diversity (the very problem this paper addresses), through the performative acts of which it is made (see, for instance, Carruthers, 1998; on the relationship between memory, meditation, and liturgy). The reference to the art of memory also helps us to focus on other neglected, albeit important issues useful in the understanding of the emergence and spread of accounting practices. As this paper argues, these issues refer to the role played in the organising of our thinking by analytical methods, images, graphical, and visual representations (produced either in the mind or through writing in manuscripts and printed books). *How* accounting *recording* is intertwined with *remembering* seems to be a fruitful, although not yet charted territory of exploration.

It is equally surprising that with a few notable exceptions (Gallhofer & Haslam, 1996; Hoskin & Macve, 1986; Tebeaux, 2000; Thomson, 1991, 1998), little attention has been granted to the *medium* through which accounting information is produced, constructed, stored, retrieved and performed (using various terminologies, depending on the epistemological stand chosen). Accounting is practiced in material books, and increasingly in virtual books, and accounting is apprehended through various types of textbooks and treatises; thus the role of the medium of communication in the spread of accounting across organisations and society is another matter deserving of further investigation. Recent studies in ‘book history’ (see Finkelstein & McCleery, 2002, 2005 for a review) can be useful in understanding such issues. With the irruption of the “sociology of the text” (McKenzie, 1984) in bibliographical studies, greater attention has been paid to those external and contextual conditions that permitted the physical production of the book. From this perspective, meanings are not inherent in the text “but are constructed by successive interpretative acts by those who write, design, and print books, and by those who buy and read them” (McKenzie, 1986, p. 268 quoted in Finkelstein & McCleery, 2005, p. 10). What these studies have kept of the original concerns of bibliography is

the very recognition that a book is a result of a collaborative, albeit for bibliographers a corrupting, process; and a detailed system for describing books on the basis of their production attributes [...], drawing attention to the material object rather than its content (Finkelstein & McCleery, 2002, p. 2).

This shift may appear trivial, but it is of paramount importance for the aims of this paper, for, as noted by Johns, a “reappraisal of the print in the making can contribute to our historical understanding of the conditions of knowledge itself” (1998, p. 6). Studying the fabrication of the book and the way in which signs are organised or ‘imagined’ (created as visual pictures on the plane page of a manuscript, of a printed book, and/or in our minds) is a step towards understanding the fabrication of knowledge and the organisation of society, therefore (Latour, 1999, 2005).

The structure of the paper and the material inspiring the theorising in this paper

I was prompted to explore these theoretical issues by the features of two early accounting treatises: the *Indirizzo degli Economi*, by the Benedictine Angelo Pietra (1586), and the *Trattato del libro doppio domestico col suo essemplare*, by the Jesuit Lodovico Flori (1636). These two treatises were not chosen by chance; the rationale for their choice in relation to this work’s theoretical concern is what underpins the structure of this paper.

First, as is argued in the Section ‘Making accounting practical: memory, rhetoric, and the relevance of method beyond science’, the choice of Pietra’s and Flori’s books is linked to the vast debate on issues of *method* which occurred around the 16th century (see, for instance, Grafton & Jardine, 1986; Oldrini, 1997; Ong, 1958; Vasoli, 1968). This period immediately follows the convergence of ‘medieval’ concerns with memory and ‘modern’ issues of method, which become inextricably linked. As noted by Bolzoni:

In the mid-1500s method becomes one of the new aspects of the art of memory. Great faith is placed in the possibility of formulating a method that will rigorously regulate both knowledge and the ways of communicating and recalling it (1995, p. xix).

Whether or not this faith was rewarded is not an issue for this paper. What is important is the diffusion of analytical thinking through dichotomies that occurred in the 16th and 17th centuries. The diffusion of Ramism exemplifies this phenomenon (see Oldrini, 1997; Ong, 1958, 1961a, 1961b), and is a key point in a process which had begun much earlier and continues to display its effects even today (Bolzoni, 1995; Grafton & Jardine, 1986; Murray, 1978).

In a broader sense, the *Cinquecento* and *Seicento* were the centuries which witnessed the flourishing of treatises seeking to discipline the reader of books in the most diverse matters. The result is greater attention to pedagogical matters (see Ong, 1958), which generated the pervasion of analytical thinking not only in the classrooms of universities, but also in the emerging realms of scientific practices and the professions (see also Eisenstein, 1983a, 1983b, with reference to Law; Oldrini, 1997, for a more general treatment). Books on a *metodo*, *modo* or *maniera* to deal with the most disparate matters, from military manuals to cookery books, tried to satisfy that broader pragmatic humanism which theorised the possibility of and the pleasure generated by ‘getting things done’ (Gilbert, 1960). The case of accounting is at the heart of this movement, and may represent the most fascinating case of all for the understanding of the history of rational administration practices which still permeate the current social, political and economic milieu.⁴

Second, as argued in the Section ‘Accounting images and the fabrication of practical knowledge: The importance of the *visual* and re-presentation’, the selection of these treatises is inspired by the importance and power of the visual, not only in relation to written records, manuscripts and printed texts (see Eisenstein, 2005; Latour, 1986), but also in relation to the organisation and communication of our thinking (Carruthers, 1998). As McKenzie noted (1990), modes of expression which come with orality, literacy and printing (see, for instance, Fox & Woolf, 2002; Goody, 1987; Ong, 1982), rather than being seen as mutually exclusive, can be perceived as mutually constitutive. Imagination, intended as the act of making images (either in our minds or on a piece of paper), is crucial to the pursuit of pragmatic ends, and this focus on the visual and on imagining is a way of making links between these three forms of expression and communication, which span the demarcations of conventional periods. This paper, drawing upon and expanding earlier works in the accounting literature (notably, Gallhofer & Haslam, 1996; Hoskin & Macve, 1986; Thomson, 1991, 1998) argues that it is thanks to this visual power of (physical and virtual) inscriptions and to their analytical organisation in a virtual space (which, in the case of this

⁴ I am grateful to one of the anonymous referees for having drawn my attention to this crucial issue.

paper, takes the form of early modern accounting books) that accounting can be practiced and thus appropriated by the user. It aims to illustrate how these visual representations offer a possibility for performance beyond the persuasive communication of a given message that these images convey (see for example, Graves, Flesher, & Jordan, 1996, on the rhetorical role of images in financial reports). Rhetorical devices can be seen not only as persuasive practices but also as classificatory and ordering instruments. In this respect, Bolzoni noted that:

The diagrams, the tables, and the large schemes in the forms of *trees* visualise the logical path to be taken, and hence all of the material is presented to the eye reordered and reorganised in a clear, effective fashion that is easy to remember (Bolzoni, 1995, p. xix; emphasis in original).

Given that remembering is never a simple recollection of stored memories (Carruthers, 1990, 1998), the reader of the book always performs an appropriation of the text (Johns, 1998) which, it is argued later in the Section ‘Accounting as a working space/time: the importance of ‘*praxis*’ beyond functionalism and towards knowledge commodification’ implies a modification (or what Latour, 1987, would call a translation) of what seems to remain a stable set of prescriptions into something which is different but still the same. Beyond their persuading power, these inscriptions, these signs, can be viewed as forces, as acts and effects of engagement (Fabbri, 1998), which ignite the process of knowledge fabrication.

Third, as argued in the Section ‘Books as objects and the importance of the *medium*: inscriptions and mobilization beyond a “print logic”’, the choice of these treatises relates to the relationship between accounting and the *medium* through which, in which, or *as* which accounting materialises (see Gallhofer & Haslam, 1996). Studies on the art of memory (e.g. Bolzoni, 1995; Carruthers, 1990, 1998) and on book history (e.g. Darnton, 1990; Eisenstein, 1983a, 1983b; Johns, 1998; McGann, 1991; McKenzie, 1986; see Finkelstein & McCleery, 2002, 2005 for a review) have investigated the relationship between the materiality of the making of the book (both in manuscript and in printed forms) and the definition of what counts as knowledge and science. Accounting books, intended as manuals written with didactic intents, but also as a collection of accounting inscriptions in the form of entries in ledgers and journals, are key but often forgotten

objects. They are often studied for their content and the message they allegedly intend to convey, but not as objects which also have an agency, and affect how others relate to them (see Chartier, 1992). Viewing the book as an object implies that the attention is turned towards inscriptions; their form; their organisation within the space of a book; their manufacturing processes; and, in broader terms, their role as media and mediators – rather than towards their ability to convey some content knowledge (see also Lynch & Woolgar, 1990).

Finally, in the Section ‘Accounting images and the fabrication of practical knowledge: the importance of the visual and re-presentation’, I argue that the combination of these three factors (the importance of accounting as a specific method of practicing; the importance gained by a visual organisation of thinking; and the importance of the medium through which and in which accounting is constructed, communicated and practiced) allows accounting to become a working space and time which favours the user’s appropriation of accounting. Accounting is thus seen as an *orthopraxis*: a type of knowledge which is inextricably linked to the way in which the space between the text and the use is filled with specific forms of practice. It is the development of specific innovations in methods, visual and imagining power, and media which allow accounting to provide a space and a time for it to become objectified and simultaneously appropriated through practicing. A form of performability, engagement, and attraction that operates at a superficial level – a level which is necessarily abstracted in the space of the book and of the imaginary – is simplified and organised in agreement with an analytical method, and reduced to a dichotomical visual representation. This need for accounting to engage the ‘Other’ (be it a human being or another kind of information and cameral technology) in order to exist is seen as part of a process which is, in turn, part of a broader commodification of knowledge; for this knowledge does not exist without a specific use and enactment (see, for example, the arguments in Eisenstein, 1983a; Johns, 1998; Ong, 1982).

The structure of the paper follows a linear path, therefore – one that can be tracked in Fig. 1: from *Method* to *Orthopraxis* passing through the *Medium*, and the *Visual*.

This is due exclusively to the structure required by an academic paper. In fact Fig. 1 is visually organised to ensure that there is no definite starting or ending point (the reader can move the figure

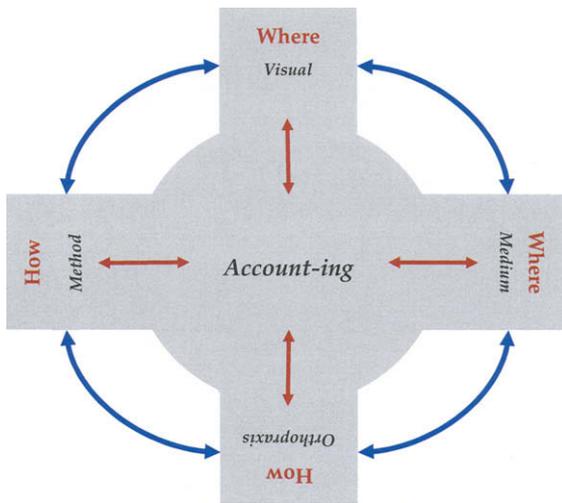


Fig. 1. Why accounting 'succeeds': a rhetoric machine.

around and always have a point of departure). It purposefully resembles Orazio Toscanella's rhetoric wheel, a rhetoric machine in which the organisation of thinking is obtained

by always putting the principal subject in the middle of the piece of paper and then putting around him all the principal things that this man can imagine [...]. With this organisation, you can proceed to an almost infinite degree because each word around [the given subject] you could similarly make a circle by considering the things that fall upon that word [...] and this great recollection is highly useful in increasing the amount of material (1560, pp. 54, 56; quoted in Bolzoni, 1995, p. 68).⁵

I propose that the 'rhetoric wheel' works in all directions but is driven by two of the theoretical directives I have illustrated in this Introduction: *how* (through what methods and practices) and *where* (in what form and medium) accounting 'happens'. This is particularly relevant for the aim of this paper; for a practice to deserve this name it must be practiced – it must happen – for through this enactment, it shares the features of sameness and diversity. In Italian, the verb 'to happen' is '*succedere*',

⁵ This imitation became purposeful only in the process of writing this paper, as I have used this Figure for quite some time without recognising the rhetoric mechanism I was unconsciously operationalising. In fact, the present Fig. 1 is also the expansion of one of the items in a similar figure I have utilised in another paper on the understanding of the diffusion of information technologies (see Quattrone & Hopper, 2001, 2006).

from the Latin '*succedo*', which is the origin of the word '*success*' in English (and '*successo*', in Italian). Thus *to happen* is *to succeed*, and this is the way in which the word '*success*' is to be understood in the title of this paper and throughout the text.

A final caveat: this paper is clearly historical, for it draws upon material and literature on medieval culture, the *Cinquecento* and the *Seicento*. In this sense, it contextualises the 16th and 17th century *Treastises* of Pietra and Flori, and analyses practices which affected their production in that historical period, although they were not necessarily developed by Flori and Pietra. The paper also often refers to the etymology of accounting terminology and other common words, and their use in a specific historical context. As noted by Long, "[w]ords have histories. They derive from other words, develop and change in meaning, come into being and disappear" (2001, p. 5). However, if one looks at issues of memory and signs, some of the distinctions with which this paper deals (the distinctions among oral, written, and printed culture, for instance), become so blurred that my arguments are susceptible to generalisation. The features of visualising and imagination practices, for instance, cut across conventional historical boundaries between pre-modernity, modernity, and post-modernity; and the findings of this paper, as argued in the conclusions, are de-contextualised in order to provide a broader understating of the practice of accounting. This de-contextualisation serves to outline a research programme relating to the four areas identified in Fig. 1.

Making accounting practical: memory, rhetoric, and the relevance of method beyond science

Accounting has always been associated with issues of 'method': historically, in relation to the method of double entry bookkeeping and, more recently, albeit less frequently, in relation to issues of scientific research (e.g. Chua, 1986). It has often been associated with 'rhetoric' as well (notably, Thomson, 1991). Aho argued, for instance, that the purpose of Pacioli's double entry bookkeeping "was largely rhetorical – that is, to justify an activity about which there existed in medieval Christian Europe a considerable suspicion: namely, commerce itself" (1985, p. 22; see also Aho, 2005). Analogously, Carruthers and Espeland viewed accounting as an "attempt to convince someone of something" (1991, p. 39), and gave various examples of this feature, ranging from accounting's role in legitimating the medieval

morality of profit to contemporary attempts to convince various audiences that the conduct of business is just. This emphasis on persuasion has also been illustrated by Arrington and Schweiker (1992) in relation to the research that should count as legitimate academic research and the knowledge that should count as practical knowledge.⁶

The association of accounting with practices of memory has been less frequent, however. This section establishes this connection, and the following passage from Flori's *Trattato* should help to set the scene:

for the mind of the human being is often busy and distracted by many things, it is in great need of memory, which at any time will suggest it what is convenient. And because many have a very weak [memory] unless one needs some thing which helps remembering. Thus as an aid to the memory, and in order for one to conceive of the order and disposition that we address, we will be presenting the accounts and the rubrics which we will need for our goal, by preparing a list, as the one which was prepared by Father Don Angelo Pietra in chapter 35, describing them one by one in the best possible way that our Lord will allow us. *Because this is how one helps memory to suggest to the mind those things which we will need* (Flori, 1636, p. 47, emphasis added).⁷

Flori's reference to *memoria* (memory) would pass unnoticed if it were not accompanied by other words such as *dispositione* (disposition), *ordine* (order), and *mente* (mind). Flori's text, like Pietra's,

⁶ Accounting is clearly involved with persuasion (of all sorts!). However, the focus of this paper is on the way accounting is practiced and thus, through performance, acquires a multifaceted nature and still maintains a certain degree of sameness. If one were required to limit the nature and function of accounting to persuasion, one would grant accounting a given (or socially constructed) specific function.

⁷ “*Má perche la mente dell'huomo stà souente occupata, e distratta in molte cose, hà gran bisogno della memoria, che ad ogni tempo le suggerisca quello, che conuiene; et essendo ancor questa in molti assai debole, e fiacca, se non hà qualche suegliatoio; Perciò per aiuto della memoria, e acciòche meglio si concepisca nella mente l'ordine, e dispositione, della quale trattiamo; andremo rappresentando quali siano i Conti, e Rubriche che ci hanno a servire, e tanto più a nostro proposito, facendone anco vna lista, come quella che fa il detto P.D. Angelo nel cap. 35. dichiarandoli poi ad vu per vno al meglio che N.S. si degnarà concederci. Perche così si aiuta la memoria à suggerire alla mente sempre, che occorrerà quelle cose, che saranno più opportune al nostro bisogno*”. All translations from Italian texts are mine, unless otherwise stated.

is full of terms which recall mnemonic and rhetorical practices in use since antiquity. References to these practices can be noticed in the title of both treatises: Pietra's *Indirizzo* is an *ordinatissima instructio* (a most ordered instruction), recalling the second canon of classical rhetoric: *ordinatio* and *dispositio*. Flori's *Trattato* is about the *modo* (method) of keeping the double entry ledger. Both treatises are followed by an *esemplare* (detailed exemplification), which recalls the *exempla* that Ramus' *Dialectica* posited at the end of a methodical process which organises knowledge in a decrescendo from the most general principle down to the most specific cases, and finally down to specific examples of general cases (see Oldrini, 1997, p. 42). There is too much evidence in the quoted passage and in other parts of the *Trattato* for not searching out some relationships amongst accounting, the arts of memory, rhetoric, and the raising of a discourse of method which culminates with Descartes' *Discours de la Methode* in 1637, passing through Ramus, Sturm, Agricola, and the entire Middle Ages.

Memory and early modern accounting

In their analyses of memory practices extending from early medieval times to early modernity, Carruthers (1990, 1998) and Bolzoni (1995) noted that memory was not concerned solely with the storage and retrieval of reminiscences in some dark space of our minds:

the goal of rhetorical mnemotechnical craft was not to give students a prodigious memory for all the information they might be asked to repeat in the examination, but to give an orator the means of wherewithal to invent his material, both beforehand and – crucially – on the spot. *Memoria* is most usefully thought of as a compositional art. The arts of memory are amongst the arts of thinking, especially involved with fostering the qualities we now revere as “imagination” and “creativity” (1998, p. 9).

The art of memory was a way of organising knowledge according to some detailed practices: it was *The Craft of Thought* (Carruthers, 1998). Regarding the working of these practices, Bolzoni also noted:

These techniques [...] use three essential components: places (*loci*), order, and images (*imagines agentes*). The idea is to establish an ordered route of places in the mind. To each is assigned through

an interplay of associations an image related to the thing to be remembered. Whenever necessary, a practitioner of this art retraces the places of his memory and finds the images that will reactivate the interplay of associations (1995, p. xvi-ii).

What is relevant to the aim of this paper is memory's emphasis on the role of the sign, of a record (be this written, spoken, or printed text) in knowledge fabrication and definition (Latour, 2005). Memory is about "what is no longer present" (Carruthers, 1990), and thus needs to be made present again – needs to be re-presented. These studies on the art of memory teach us that in medieval terms "[r]epresentation' [...] was understood not in an objective or reproductive sense as often as in a temporal one; signs make something present to the mind by acting on memory" (Carruthers, 1990, p. 222). And thus written and printed⁸ signs "are not the world: they only represent it in its absence" (Latour, 1987, p. 247). How practices of memory, rhetoric, and method operate in this re-presentation is the key issue to understanding how knowledge is defined and, in this sense, method is not the means for achieving scientific knowledge: it is the problem to be understood (Woolgar, 1988).

Rhetorical canons: Flori's *inventio*

Flori's *Trattato* heavily relies upon various *loci*, and on a specific notion of order for the organisation of arguments of his text, which is organised following what seems to be a reproduction of three of the classical rhetorical canons: the *inventio* (a process of preparation of the arguments to be dealt with); the *dispositio* (when these arguments are arranged in a coherent form); and the *elocutio* (which concerns the style used in the presentation to an auditorium).⁹

⁸ But the conclusions will also make clear that a focus on rhetoric, memory, and method will urge an investigation into those forms of oral accounting and accountability which are still present in our societies but not studied as much as the written, printed, and currently even the hyperreal and virtual ones. The medium of communication and how it intertwines with accounting is as important as the message it conveys.

⁹ This tripartition has already been associated with accounting in an illustration of its persuasive power in relation to Pacioli's *Summa* (see Aho, 1985), and has been useful for organising the arguments of this section. Of these three canons, only *inventio* and *dispositio* will be investigated in this paper, for they are more pertinent to the arguments; whereas *elocutio* will be left aside for future research.

The following quote offers a few insights on searching for a relationship among memory, rhetoric, and accounting:

The Latin word *inventio* gave rise to two separate words in modern English [and other languages]. One is our word "invention", meaning the "creation of something new". [...] the other [...] is "inventory". This word refers to the storage of many diverse materials, but not a random storage: clothes thrown into the bottom of a closet cannot said to be "inventoried". Inventories must have an order. Inventoried materials are counted and placed in locations within an overall structure which allows any item to be retrieved easily and at once (Carruthers, 1998, p. 11).

Flori's and Pietra's manuals teach us that the first move in setting up an accounting system or in learning how to keep the accounts in double entry book-keeping is to make an inventory of the firms' wealth (see Fig. 10, for Pietra's format of the *Inventario*, which will be discussed at length later in the paper, see the Section 'Why does accounting succeed? The performability, engagement and superficiality of accounting as "orthopraxis"').¹⁰

Being a *Juris Utriusque Doctor* himself (a doctor of both civil and canon law; see ARSI, 1595–1604), Flori was certainly exposed to logic, dialectic, and rhetoric. There are various bodies of evidence that he organised his *Trattato* as well as the accounting system, following the classic rhetoric tripartite distinction of *inventio*, *dispositio*, and *elocutio*.

The first part of the *Trattato* is devoted to the preparation of what is needed for the organisation of an accounting system: from the books to the details of an entry. This happens through the identification of the *loci* – the places where accounting entries could be formed and then organised in the *dispositio*. The manner in which Flori does so is the classification of the *loci*, in which this type of *inventio* could happen, and thus Flori divides the *Libro doppio* into three subcategories: *di Banco* (the ledger to be used for banking businesses), *Mercantile* (the ledger used by merchants), and *Domestico* (the ledger used for the household and the Colleges and Houses of the Jesuit order and other similar businesses). Then he concentrates his analytical focus on the *Domestico*, classifying in a long list

¹⁰ The first week of the Ignatian Spiritual Exercises also requires the exercitant to prepare a moral inventory of life (see the system of 'accounting for sins' described in Quattrone, 2004).

of supporting books needed for the preparation of the ledger and the related Journal (similar classifications are made in Pietra).¹¹

These classifications follow a process of analysis which begins from the most general case to the most specific. Thus in opening the first part of his *Trattato*, for instance, Flori stated that:

and because to achieve a goal one needs the most appropriate means; to achieve our goal of seeing how our affairs go, and to account for them when needed, we cannot have better means than the Balance Sheet. And one cannot prepare it without the help of the ledger, and this cannot be kept without the stable and sound foundation of the Journal, and neither that or this can achieve perfection without forming the entries well and opening the accounts, that is, making the entries in the book (Flori, 1636, p. 5).¹²

In explaining how to prepare the entries, he also followed a classical rhetorical technique of identifying the generators of the argument (see Bolzoni, 1995). According to Flori, to post an entry one needs to look at the *Debitore* (Debtor), the *Creditore* (Creditor), the *Somma* (Amount), the *Causa* (Reason); and then the classical *Tempo* (Time), *Quantità* (Quantity), *Qualità* (the currency), *Prezzo* (Price), and *Ordine* (the order in which the entry needs to be written, i.e. beginning with the debtor and ending with the price) (Flori, 1636, pp. 12–13).¹³ The *Trattato* also classifies the reasons behind an entry, similar to what is discussed in this paper in relation to Pietra (see Figs. 3 and 4).

The emphasis on this topical analysis makes the contents of this (and the remaining two parts of

the *Trattato*) susceptible to being represented schematically (and visually) through *trees* or hierarchical organisations which follow a decreasing level of generality from the general to the particular (see Bolzoni, 1995, 2002). Similar to what characterised the principles organising other Jesuits' manuals and rules, attention was paid to the segmentation of an entity into its smallest constituent parts. Be this entity the self of the Jesuit member (as exemplified in the Ignatian Spiritual Exercises), the entire order divided into a detailed hierarchy (as described in the Jesuit General Constitutions), or the wealth of a Jesuit College (as Flori described and applied in the accounting systems of the Sicilian Province and its Colleges), analysis was a guiding principle in a fashion that Barthes (1971) described as “obsessive”. This entire analysis is preparatory to *dispositio* and to a better visualisation of book and of the results of the accounting system, as described in the following sections.

Rhetorical canons: Flori's dispositio

The second Part of Flori's *Trattato* concerns “how one has to dispose and order the ledger for achieving the intent which one wants, that is one of knowing in every moment the state of our things, and when it were needed, giving a good account of it”.

This topical memory is what brings Flori to propose a highly analytical chart of accounts (see Fig. 2). And in fact, the accounting system proposed by Flori is extremely hierarchical, with the College's wealth classically divided into *assets* and *liabilities*, and the College's income divided into *profits* and *losses*. Assets and liabilities are, in turn, divided into cost (e.g. *Infermeria*: infirmary), revenue (e.g. *Loheri di case*: i.e. rents), and profit centres (e.g. *Masserie*, farms). And a subsequent analysis is then proposed for each of these accounts which contribute to the definition of results for these centres, and then the whole College.¹⁴

The principle of analysis is the precondition for a subsequent matching of revenues and expenses. As Flori stated:

and this diligence, that is used in dividing and separating so minutely the accounts, the rubrics

¹¹ Other examples of analysis concern the classification of accounts which can be used as counterpart of the *Collegio Nostro* account, i.e. the equity account, in a manner much more analytical than Pietra's.

¹² “E perche in tutte le cose per conseguire il fine proposto ci vogliono i mezzi proportionati; noi per conseguire il nostro fine di veder come vadino le nostre faccende, e renderne conto, bisognando, non abbiamo il più proportionato mezo del Bilancio. Questo non si può hauere senza l'aiuto del Libro Doppio, ne questo si può far bene senza lo stabile e sodo fondamento del suo giornale ne questi ò quello può hauere la sua perfettione senza sapere prima formar bene le partite, & aprire i conti, che quello è riferirle à libro”.

¹³ See also Aho, noting with respect to Pacioli's *Summa*, “the business account and the confessional account, the septenary of questions conforms to the classical procedure in rhetoric by which material for discourse was to be generated: *quis* (who), *quid* (what), *quare* (where), *quando* (when), *quantum* (how many), *cum quo* (in whose presence), and *cur* (how) [*sic*]” (1985, p. 26).

¹⁴ The table is not an analytical graphical representation in Ramist fashion, but is susceptible to being represented in that manner, and is inspired by the same analytical principle (see the next section for an example of a Ramist representation).

<i>Parte Seconda. Cap. 4.</i>		49	50	<i>Istruzione per tener i Libri de' conti.</i>	
<i>Lista de' Conti, e Rubriche, che secondo il nostro modo di trattare ci sono posti più à proposito per il maneggio del nostro Libro. Cap. 4.</i>					
<p>I Niroito del presente libro se pure non si cominciase con la Lista de' effetti. Casa, o Collegio nostro.</p> <hr/> <p><i>Conti, e rubriche, che formano l'ENTRATA.</i></p> <p>Maffarie. Possessioni. Territorii. Vigne. Terraggi diuersi. Carnaggi diuersi. Selue, e boschi. Molini. Forti. Giardini. Loheri di Cafe, e botteghe. Mandri. Socide di bestiami. Razza di caualli, &c. Gillnaro. Heredità, e Successioni. Legati, e donazioni. Limosine, e donazioni. Fiducie, & Esentioni. Alienazioni. Ricatti di Rendite. Intercessori di Rendite. Vili diuersi, e beneficii huani. ouero, Vile Seguito. Introiti diuersi.</p> <hr/> <p><i>Conti, che formano la Spesa.</i></p> <p>Spesa Ordinaria. Dispende, &c. ouero in luogo loro, Ventouaglie, e columate q'ito ano. Spese diuersi, o Spesa Siraor.</p>	<p>dinaria. Sartoria. Scarpinaria, o Calzolaria. Forno, o Panetteria. Cenimolo. Bugata. Infermaria, Spetiaria, &c. Libraria. Chiesa, e Sagnittia. Vtenfigli, ouero Fornimenti di Camera. Maffarie. Stalla, o pure, Prouisione d'or- gio, e piglia. Fabrica, &c. Reparazioni. Arneli da Viaggio. Vini. Porto di lettere. Prouisione di Carta. Prouisione di Carne. Prouisione di Legna, e Carbone. Contribuzioni diuersi. Salrij diuersi. Spese de' liti, e scritture. Dati, e Grauezze. Limosine. Acquilli. Ricatti di Rendite. Intercessori di Rendite. Infortuni diuersi, e danni patiti, ouero, Danno leguito. Interessi diuersi.</p> <hr/> <p><i>Conti delle Officine, &c.</i></p> <p>Cattine diuersi in Collegio, e fuori. Granari diuersi in Collegio, e fuori, & altri Magazzeni di Raccolti.</p>				
		E	Par.		
			<p>Debitori, e Creditori.</p> <p>P. Procuratore Generale, &c. P. Procuratore della nostra Prouin- cia. Cafe, e Collegij nostri. Altri Debitori, e Creditori. Spesa, & Entrata generale di que- sto anno. Elito dell'anno presente, o del pre- sente Libro, &c.</p>		

Fig. 2. The Lista de Conti (Chart of Accounts) of Flori's Trattato (1636). Source: Pictures from Gale. *The Making of the Modern World*, 1E. © 2008 Gale, a part of Cengage Learning, Inc. Reproduced by permission. [www.cengage.com/permissions](http://galenet.galegroup.com/servlet/MOME?af=RN&ae=U3600130848&srchp=a&ste=14) <<http://galenet.galegroup.com/servlet/MOME?af=RN&ae=U3600130848&srchp=a&ste=14>>; <<http://galenet.galegroup.com/servlet/MOME?af=RN&ae=U3600130849&srchp=a&ste=14>>.

of the Farms, the Lands and the other fixed assets, assigning its expense to each revenue, is to be followed, as much as possible, in distinguishing all the other accounts [...]. And all of this is done for each year has its expense and its revenue, nor that of one year is confused with the revenue and expense of the other, with little honour of who administers, and the greatest loss of the Houses, and the Colleges (Flori, 1636, pp. 60–61).¹⁵

¹⁵ “Et la sudetta diligenza, che si mette in dividere, e separare così minutamente i conti, e Rubriche delle Masserie, Possessioni, & altri beni Stabili, assegnando le sue spese à ciascuna Entrata [...] si deve anche osservare al modo suo, per quanto si potrà, in distinguere tutti gli altri conti [...]. E tutto questo non si fa altro, se non perché ciascun'anno habbia la sua Spesa, e la sua Entrata, ne' quella d'un anno si confonda con l'Entrata, e Spesa dell'atro, con poco honore di chi amministra, e grandissimo dispendio delle Case, e Collegii”.

Dispositio is what, in Flori's words, allows the matching of expenses to revenues and thus ‘dispose’ – i.e. assign – the entries, income, and wealth of the College to the appropriate calendar year. Unlike the accounting authors who preceded him, Flori presented an analysis that dealt not only with spaces (e.g. profit centres such as Farms, Vineyards, and Churches – for the charity received). It also concerned time, as the relevant income had to be attributed to each calendar (or agrarian) year. Because of Flori's and the Jesuits' obsession with division, he was able to theorise a full distinction between *income* and *wealth*, and to use this distinction spatially and temporally. Thanks to the development of an early notion of accruals, the income and wealth of each individual year are theoretically conceivable now, and are able, therefore, to be practiced.

However, for Flori *disporre et ordinare il libro* consisted not only in opening the accounts in the

ledger. It meant to identify and dispose the accounts in a manner which would serve any of the College's multifaceted activities and diverse accountability issues that might have arisen (as he explained in the third part of his *Trattato*). He stated that the order and disposition of the book consists

“more precisely, in laying out, that is, in preparing those accounts and rubrics, to better achieve our intention, and in the way of closing them. For if that who governs the book will not have first well conceived in his mind, and made his own these accounts and rubrics, which are necessary to him, he will not be able to guide this boat to the harbour. (Flori, 1636, p. 46; emphasis added).¹⁶

Here we have another link to the art of memory and rhetoric. The *intentio*, as Carruther's noted (1990, p. 15), evokes the attitude, the aims, and the inclinations of a person who remembers and decides where to place these memories. Without this *intentio* there is no *inventio*, and thus no inventory and no good accounting. Without mastering each of these accounts in relation to the intent, there is no chance of governing the College well.¹⁷ Flori's *dispositio* is also a precondition for a creative act in which the accounts are aggregated and reshuffled according to the *intentio*, which is always changing, multiple, and formed in networks of religious, political, economic and other matters relating to the governing of the order (see Quattrone, 2004).

Flori's scienzaprattica : the importance of method

Flori knew that his *Trattato* could not cover the entire range of circumstances with which a complex organisation such as the Society of Jesus would have to cope. He summarised this statement beautifully when he wrote:

Because there are so many obstacles which one goes through and encounters in the ocean of this

¹⁶ “più principalmente nell'apparecchio, ò sia preparatione di quei cōti, e rubriche necessarie per più facilmente conseguire il nostro intento, e nel modo di saldarli. Perche se quello che governa il libro non hauerà prima ben conceputo nella mente sua, e fattosi ben padrone di questi conti, e Rubriche, che gli son necessarie, non potrà mai guidare à buon porto questa barca”.

¹⁷ As explained in Section Accounting images and the fabrication of practical knowledge: the importance of the *visual* and representation, this process does not happen solely in the mind or in the text, but in a web of images (Bolzoni, 2002) and actants (Latour, 1987).

concern, that without this chart we would often be in a great danger of getting lost, without knowing where we are (Flori, 1636, p. 46).¹⁸

This is why, in the Preface of his *Trattato*, he highlighted the importance of a ‘good method’ to keep the accounts:

And given that amongst other things, which greatly help every administration of the temporal goods, one of the main [things] is to keep good account of them, and this cannot be done without having some good method” (1636, in *L'Autore a chi legge*).¹⁹

The aim of his work was not to illustrate all possible circumstances which generated an entry in the ledger (although the *Essempiare* was highly detailed). Rather, it was one of teaching a method of coping with and handling a theoretically infinite number of situations.²⁰ What features should this method have? What was a ‘good’ method for Flori?

An excursion into what was considered to be a good memory could help to answer these questions. In this respect Carruthers noted:

The proof of a good memory lies not only in the simple retention even of large amounts of material; rather, it is the ability to move it about instantly, directly, and securely that is admired. To produce this facility, memory must be trained as though it were a kind of calculative ability, manipulating letters, bits of text, and common places in addition to numbers (1998, p. 19).

It should come as no surprise then that the Latin word *calculus* (calculation) is also synonym of ‘account’ and thus *calcolare* is what a *maestro razionale* (an accounting master), should be able to do. A good accountant is someone who is able to make calculations not only with numbers, but also with accounts: with *loci*, places; and, in the end, images.

¹⁸ “Perche sono tanti gl'intoppi, che s'atrauersano, & è tanto spatiose il mare di questo maneggio, che se non haueremo questa carta da navigare, ci troveremo spesso in gran pericolo di perderci, senza sapere doue ci troviamo”.

¹⁹ “Hor essendo che fra le alter cose, che grandemente aiutano ogni Amministrazione de' beni temporali una delle principali è il tenerne buon conto, e questo non si può fare senza hauerne qualche buon modo”.

²⁰ This reference to a ‘method’ should not come as a surprise, for, as noted by Gilbert (1960; see also Oldrini, 1997), this term appeared “with almost unbelievable frequency in the title of 16th-century treatises” (Gilbert, 1960, p. 60, quoted in Eisenstein, 2005, p. 78).

A good accounting method was thought to be analytical, for it provided the practitioner accountant with a *modo*, a manner, for inventing new accounts and relationships between them, and thus creating new *loci*. It was a way to allow the construction and arrangement of our (accounting) knowledge in manners which could serve various purposes (*intentiones*) in relation to the different natures of the college activities and various other agendas. Only if these accounts and these places – these *loci* – were well thought out and organised, would one be able to govern the complex Jesuit Order through a process of continuous ordering.²¹ As much as memory is not about remembering (see Carruthers' quotation in earlier in this paper), Flori's double entry method is not about recording the right entry for the right circumstance.

What has been described in these sections should clarify what Flori meant in the 'advice to the reader' (*L'Autore a chi legge*) opening his *Trattato*, when he defined the nature of accounting as '*scienza pratica*': not a science which aims to establish truth, but a science which aims to be useful in relation to ever-changing *intentiones*, making use of a specific set of practices translated from rhetoric and the art of memory. As Long noted: "*scientia* in Latin means 'knowledge' in a broad sense and has none of the methodological or disciplinary meanings that we today associate with *science* and *scientist*" (2001, p. 2). To make accounting practical meant providing a method which could be flexible enough to be adapted to all types of circumstances, thanks to the infinite combinatory possibilities given by the segmentation and re-composition of accounts. This was part of a search for principles directed at the systemic and methodical organisation of knowledge (Vasoli, 1968), which, for practical purposes, can be seen in various historical ages (see also the Carolingians, e.g. McKitterick, 1994), and of which Flori's *Trattato* was an excellent example.

Accounting images and the fabrication of practical knowledge: the importance of the *visual* and re-presentation

Images play a crucial role in the fabrication of knowledge in general and of scientific and practical

knowledge in particular. In this respect, Myers noted:

If a child were to look into *Nature* and, say, *Sociology* or the *Journal of Linguistics*, the first thing that might strike him or her as important would be that the scientific journal had pictures, while the others just have print. Those of us who study scientific texts have, until recently, ignored these pictures (1990, p. 232; emphasis in original).

And, one might say, accounting scholars have had the tendency to study accounting as numbers (e.g. conventional studies), as texts (e.g. studies on accounting as language and discourse) but have not devoted enough attention to accounting as producers of pictures and images. Anthony Hopwood (*ad vocem*) once asked: "who has ever seen a cost?". Costs, revenues, and other similar accounting categories are not there, ready to be seen. Accounting does not deal exclusively with concrete objects, but with images of them (see Macintosh, Shearer, Thornton, & Welker, 2000).

Recording transactions in early modern times was also a problem related to imagination:

Suppose that someone by the name of Peter owed me some money, on account of which he paid me 10% and I put the money in a cash drawer just as if I gave it the money for safe keeping. I then say that the cash drawer owes me that money, for which reason (just as if it were a human being) I make it debtor, and Peter, of course, becomes creditor because he reduces his debt to me (Stevin, 1604, quoted in Aho, 1985, p. 37–38).

To imagine an expense as being recorded in the cash account, it should be thought of as a drawer which is then associated with a person (it needed the personification of the accounts). This personification testifies "the need of the human being to 'see' their thoughts in their minds as organised schemata of images, or 'pictures', and then to use these for further thinking" (Carruthers, 1998, p. 3). This was a feature of "medieval monastic rhetoric" and seems to characterise modern accounting and even "our own contemporary understanding of the role of images in thinking" (*ibidem*).

Dichotomies and the visual

There are clear relationships among analytical method, visualisation, and imagination (meant as the act of making images), although they have not

²¹ "*Che se haueremo ben concepute, e ben ordinate, e disposte nella mente nostrale suddette rubriche, che sono come tanti instrumenti per governar questa nave, non ci farà difficoltà alcuna, che non si superi con gran facilità, e diletto, giungendo finalmente al desiderato porto*" (Flori, 1636, p. 46; emphasis added).

been explored in accounting. An analysis always implies a division. There is a point that is often overlooked, however: as the etymology of the word suggests (from the Latin *dividere* “to force apart, cleave, distribute”; from *dis-* “apart”; but also *duo* “two” + *-videre* “to separate” but also “to view”), one breaks things down in order to see them better, either in the virtual space of the mind or in the concrete space of a manuscript ledger, journal, or printed textbook. And preferably one should operate this split into two (from *dis* and *duo*).

Analytical schema are relatively common in accounting manuals,²² and can be found by browsing the pages of Pietra’s *Indirizzo*, in which he made extensive use of schematic representations in the form of a *tree*. Fig. 3 illustrates how double entry works by showing how the operations which the Monastery could undertake to generate debit and/or credit entries. These operations are divided into three main categories (from top to bottom: cash in- and out-flows; buying, selling and barter of goods and services; and transfers of rights and liabilities). They then undergo a further division which reflects their effect, whether debit or credit, on the related accounts.

Similarly, Fig. 4 illustrates all possible entries which, according to Pietra, can affect the formation of the *Monastero* account, i.e. the net worth of a Benedictine Monastery during the year and at the year end. This table, as he clearly states, offers a method and an ordered view of all possible reasons for entries to be made in the ‘equity’ account of the Monastery and their possible counterparts.

Whether or not these classification and definitions are valid in contemporary or historical accounting terms is not an issue of interest for the immediate aims of this paper. Of greater relevance are the linearity and simplicity that these charts express and how they were appealing to publishers; editors; and, above all, readers. It is their schematic form and pictorial power which is important for the aim of this paper.

²² See also Jackson (1956), who refers to an earlier treatise by Collins (1653), which also relies heavily on visual and analytical representations to make accounting practical; and to Tebeaux (2000), for her study of the evolution of accounting manuals published in English. Savary, in his famous and successful *Le Parfait Negociant*, also utilises analytical dichotomies extensively to illustrate the way in which inventories are kept and accounted for (1675, pp. 334ff). I am grateful to Christopher Napier for drawing my attention to Tebeaux’s and Jackson’s articles and to Anthony Hopwood for pointing out Savary’s book.

Practical accounting knowledge and the importance of the visual

Representations in the form of a *tree* allow the dissection of specific knowledge in a way that is suitable for making additions to it, to compare and link specific knowledge to other subjects (see Bolzoni, 1995). They allow one to place on the same medium (a book, a piece of paper, or the virtual space of the mind) arguments that may differ among themselves, but which are connected by finding a branch common to various arguments (as in the ‘rhetorical wheel’ described in the introduction of this paper, which is expandable *ad infinitum*). In commenting on the use of these visual representations (see Fig. 4) Pietra stated:

of these 15 cases described above, classified into three main headings, an analytical table [...] has been done, and put at the back of this sheet so that you can remember those needed features of the Debit and Credit better. And, although other ways of buying, selling and bartering through different deals and conditions exists, I do not mention them for anyone will be able to reduce them to these 15 cases (1586, p. 9).²³

For Pietra these visual graphs are schemes through which one could see what is to be done and engage in a reflexive process of reducing the multiple instances giving birth to an entry to one of the ways described in the *Indirizzo* (as in the example of bird watching in Law & Lynch, 1990, cited above). If these dichotomies do not suffice to make this reduction, then a new *inventio*, a new *dispositio*, and new dichotomies can be produced. For Pietra, as much as for Flori, accounting concerns the ability to create various *celle* (cells), in which knowledge can then be disposed (as was noted in the previous sections). It is not surprising, then, that the Benedictine father in charge of the *oeconomia* of the Monastery is called *Padre cellerario*. He is not only the one who knows how to deal with the *dispensa* (i.e. the *cella*, the pantry) but also the one

²³ “De’ quali quindici casi soprascritti, distinti in tre capi principali, si è fatta una Tavola Analitica, o sia risolutoria, & posta nel roverso di questo foglio, accio che meglio ti ricordi le condizioni del Dare, & dell’Hauere molto necessarie. Et se bene si ritrouano altri modi di comprare, uendere, e barattare con diuersi patti, e conditioni; tuttauolta non ne faccio mentione particolare, [...] perche ogn’uno per se stesso gli saprà ridurre a questi quindici principali”.

Tavola Analitica delle sopra scritte quindici partite. Cap. 27.

Tutte le partite s'riducono a queste tre. Operazioni.	1	Imborso	Vendere	Ingrossa Cassa {	Cresce l'entrata {	1	} Adi 1. Settembre.	
			Scodere	Ingrossa Cassa {	Mancano crediti {	2		
			Imprestito	Ingrossa Cassa {	Si fa debito {	3		
	Sborso	2	Comprare	Comprare	Cresce la spesa {	Minuisce la Cassa {		4
				Pagar debito	Mancano i debiti {	Minuisce la Cassa {		5
				Imprestare	Si fa credito {	Minuisce la Cassa {		6
	Cöprare	3	Vendere	A credenza	Cresce la spesa {	Si fa debito {		7
				In pagamento	Cresce la spesa {	Si scode credito {		8
				A credenza	Si fa credito {	Cresce l'entrata. {		9
	Barattare	4	Cessione	In pagamento	Si paga debito {	Cresce l'entrata {		10
				Co'l prezzo	Cresce la spesa {	Cresce l'Entrata {		11
				Senza prezzo	Cresce la spesa {	Cresce l'entrata {		12
	Partita di Banco	5	Sequestro agente	Partita di Banco	Paga debito {	Scode credito {		13
				Sequestro paziente	Rinuova debito. {	14		
				Sequestro agente	Rinuova credito {	15		

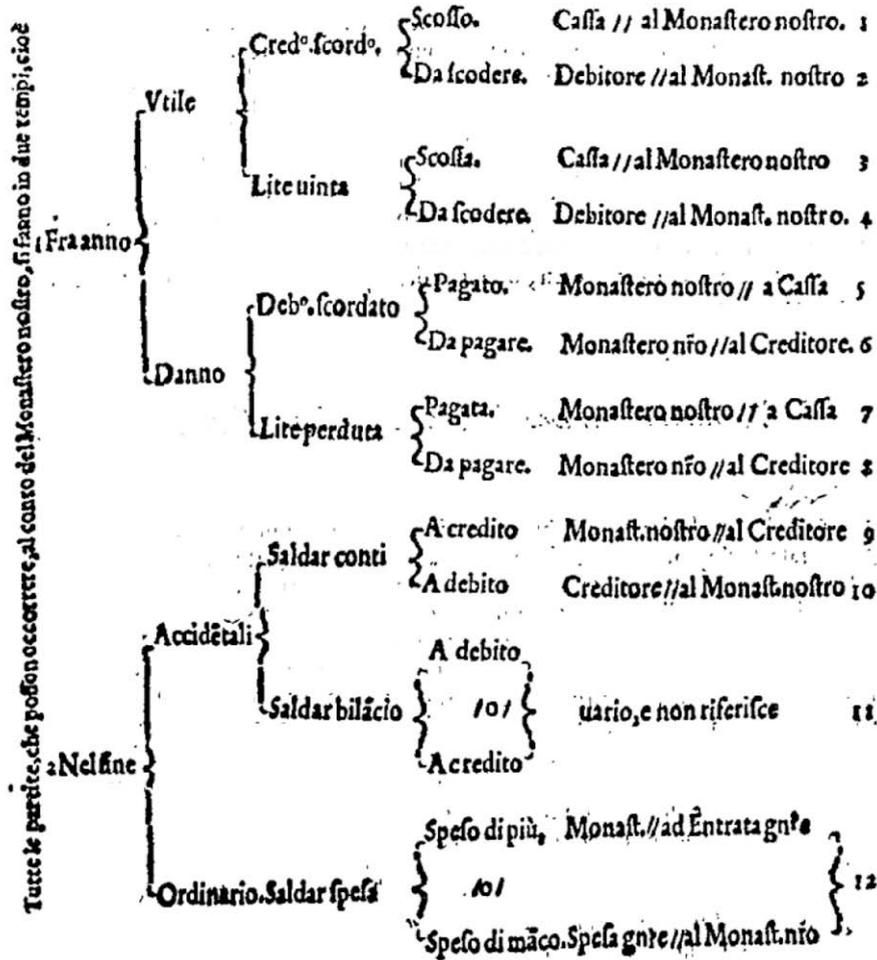
Delle

Fig. 3. Tavola Analitica delle SopraScritte quindici partite. Source: Picture from Gale. *The Making of the Modern World*, 1E. © 2008 Gale, a part of Cengage Learning, Inc. Reproduced by permission. www.cengage.com/permissions <<http://galenet.galegroup.com/servlet/MOME?af=RN&ae=U3600054865&srcthp=a&ste=14>>.

who understands how to create these *celles*, and dispose entries into them in a meaningful manner that is useful to the multifaceted and changing activities of the Monastery.

What these schemata, these images, these *figures* do is more than represent the conventional way of recording a transaction. Analysis allowed the accountant (or the General of the Jesuit Order) to

Tavola methodica delle dette dodici partite. Cap. 33.



Regola

Fig. 4. Tavola Metodica delle dette dodici partite. Source: Picture from Gale. *The Making of the Modern World*, 1E. © 2008 Gale, a part of Cengage Learning, Inc. Reproduced by permission. www.cengage.com/permissions <<http://galenet.galegroup.com/servlet/MOME?af=RN&ae=U3600054869&srcht=a&ste=14>>.

define the space and time of the accountable, and was the precondition for a subsequent synopsis generated by many combinations and aggregations of cost, revenue, and profit centres. It created visibility for those actions which were performed in the most remote areas of the Society and allowed acting at a distance (Latour, 1987; Robson, 1992). When one observes the final and resuming charts provided in *Trattato's Essemplare*, illustrating the *Entrata &*

Spesa Generale (i.e. the income statement; see Fig. 5) of a College, one can feel a sense of control over remote areas – a control which could concern an individual as much as it concerns the order as a whole (see Quattrone, 2004 for the various forms of accountability which the Jesuits developed).

Flori's analytical triumph was directed at *seeing* the state of the House with greater clarity and distinction (*con maggiore chiarezza et distinctione*),

tion system), the literature has accorded relatively little importance to the book as an object and medium of communication.²⁵

Book history has devoted a great deal of attention to this object, however. Initially it concerned itself with “the operations of agents [e.g. proofreaders and editors] in the printing process” (Finkelstein & McCleery, 2005, p. 9), in order to trace their interference on the communication of the author’s intentions. The ‘true’ meaning of the text was in the author’s original manuscript and the printed book; the means of communication, could have modified it.

More recent studies (notably Darnton, 1990; Eisenstein, 1983a, 1983b; Johns, 1998; McGann, 1991; McKenzie, 1986) have departed from this initial descriptive focus. With the emergence of studies on the “sociology of the text” (McKenzie, 1984), for instance, attention was paid to those external and contextual conditions which permitted the physical production of the book. In this sense, meanings are not inherent to the text “but are constructed by successive interpretative acts by those who write, design, and print books, and by those who buy and read them” (McKenzie, 1986, p. 268 quoted in Finkelstein & McCleery, 2005, p. 10). Just like the “technology of writing” (Clanchy, 1979), which necessitates “the use of tools and other equipment [such as] styli, or brushes or pens, carefully prepared surfaces as paper, animal skins, strips of wood, as well as inks or paints, and much more” (Ong, 1982, p. 81), the printing of a book cannot overlook those technological conditions which make its existence possible – an existence which is mediated by a broader nest of relationships in which this object is made (see Darnton’s “communication circuit”, 1990).²⁶

The book thus becomes a “texture” – a nest of relationships, all of which contribute to its definition as object. As McKenzie noted:

We can find in the origin of the word ‘text’ itself some support for extending its meaning from manu-

scripts and print to other forms. It derives from the Latin *texere*, ‘to weave’, and therefore refers not to any specific material as such, but to its woven state, the web or texture of the materials. [. . .] The primary sense is one which defines a process of material construction. It creates an object (1986, quoted in Finkelstein & McCleery, 2002, p. 29).

The current history of the book has attended to this *texere*, to this view of a book as “actor-network” (Latour, 2005) – as an object, the ontology of which is diffused in a nest of relationships.

This *texture* concerns not only human actors (such as publishers and booksellers). It also concerns, in a first instance, the text itself. As Bornstein puts it:

the literary text consists not only of words (its linguistic code) but also of the semantic features of its material instantiations (its bibliographical code). Such bibliographic code might include cover design, page layout, or spacing, among other factors. They might also include the other contents of the book or periodical in which the work appears, as well as prefaces, notes, or dedications that affect the reception and interpretation of the work (2001, p. 6).

Thus the text becomes intertwined with images, for example; and, more generally, with those visual aspects previously discussed in this paper.

In a second instance, this texture also relates to various forms of communication which intersect the conventional divisions of oral, written, and printed culture (notably, Eisenstein, 1983a, 1983b; Fox, 2000; Fox & Woolf, 2001; Goody, 1987; Ong, 1982) and across conventional demarcations of medieval, modern, and post-modern eras, making these distinctions less useful in understanding issues of communication. As Bornstein and Tinkle noted:

These factors affect a surprisingly wide range of materials, from medieval manuscripts with their decorations and often multiple texts through the elaborate printed books of the Renaissance [. . .] to more modern manuscripts like the stunning fascicles of Emily Dickinson, the elaborately rendered philosophy of C.S. Peirce, or the complex drafts of James Joyce (1998, p. 1).

Studies on the art of memory (to which the previous sections referred) and various other works which have examined the differences in these forms of communication (see, for instance, Fox & Woolf, 2001) have moved away from a clear distinction among

²⁵ But see the work of Thomson (1991) on Pacioli and those by Macintosh et al. (2000) and Macintosh (2002) on texts and hyper-reality.

²⁶ The circuit of communication does not make the author the custodian of the true meaning of the text but it inserts it in a broader network of actors who influenced and mediated the whole process. They ranged from authors to booksellers, from noblemen and their patrons to pirates producing and distributing illegal copies of the printed manuscript (Johns, 1998), which were relegated to the margin of the traditional bibliography. They are currently recovering their role in the making of the book, which equates the process of knowledge fabrication.

various forms of communication to illustrate how they coexist not only within the same historical era, but also within the same means of communication (McKenzie, 1990). Analogously, Camille, in deviating from a clear-cut distinction between oral and written culture, noted: “it is that medieval pictures cannot be separated from what is a total experience of communication involving sight, sound, action and physical expression” (1985, p. 43; see also Camille, 1992). In this sense, to understand means of communication,

[w]e are much better off conceiving of overlapping spheres of the oral and the literate, within which many of the culture’s communicative activities occur in different ways depending upon a variety of factors such as time, location, purpose, and the identity and status of the communicators. There is a less orderly and simple model, but it permits us to recognise differences between the forms of communication without losing sight of their similarities, their connections and their historical mutability (Fox & Wolf, 2002).

When one studies (text-)books, one faces the problem of understanding this melted texture which relates to various actors who define what constitutes knowledge (Johns, 1998); the bibliographical code of the text; and how oral, written, and printed forms of communication intertwine.

Accounting books, Ramism and the temptation of a “print-logic”

With reference to the bibliographical code of early modern textbooks, *Ramism* is a fascinating movement to explore.²⁷ Ramism influenced the way in which books were structured and their content visually represented, and thus relates visualisation to issues in the organisation of thinking. With respect to Ramism, Ong noted:

Peter Ramus (1515–1572) produced the paradigm of the textbook genre: textbooks for virtu-

ally all arts subjects (dialectic or logic, rhetoric, grammar, arithmetic, etc.) that proceeded by cold-blooded definitions and divisions leading to still further definitions and more divisions, until every last particle of the subject had been dissected and disposed of. [...] Moreover, the material in each of the Ramist textbook could be presented in printed dichotomised outlines or charts that showed exactly how the material was organised spatially in itself and the mind (Ong, 1982, p. 132).

Thomas Browne’s *The Absolute Accountant* (1673) is such an example. Browne drew upon analytical representations in a Ramist fashion in order to offer an overview of the entire accounting system he exemplified through entries in the cash book, ledger, and journal of a merchant. Figs. 6 and 7 reproduce Browne’s schematic *Analysis*.

Essentially the *Analysis* contained examples of various operations for which an exemplification in double entry was reported in the lengthy exposition of journal and ledger entries, which preceded and followed this schematic representation. There is only one page of written text introducing this *Analysis*, reproduced in Fig. 8; by following simple instructions aided by the visual representation in the *Analysis*, one could begin to keep the accounts of a merchant.

The use of these dichotomised representations was sufficient, in Browne’s mind, to become an *Absolute Accountant*. A text commenting on the images was not even required; the images did it all. They spoke more than one thousand words, if one knew how to listen to them.

This clarity and linearity recalls and expands upon earlier forms of the organisation of text in the space of manuscripts and printed books, which allowed easier access to the contents of the book itself, for consultation or mnemonic purposes (see,

²⁷ See Hoskin and Macve (1986) and Thomson (1991) for some suggestions on how Ramism is linked to the emergence of modern accounting. The link between Ramism and the development of accounting techniques in the context of the Benedictines and the Jesuits is an aspect of this paper which is surely worthy of further historical analysis. Clearly there are similarities between features of Ramism and the method utilised to structure Jesuit treatises of varied nature (see, for instance, the attention to dichotomical thinking in the *Spiritual Exercises* of St. Ignatius Barthes, 1971, which can be theoretically linked to Ramism).

However, the historical evidence of a relationship between Ramism, a movement which is linked to Protestant Reforms on the one hand; and Catholic orders such as the Benedictines and the Jesuits on the other hand, is still to be made for accounting techniques (but see Hinz, 2004 for a more general relationship). The relationships among memory practices, rhetoric and accounting are a step in that direction. Certainly the work of Hinz (2004), who illustrates the Ramist nature of the exercises of rhetoric in use in the Jesuit colleges, is a first evidence of that humanist pragmatism which does not differ among techniques of various origins, as far as they serve the purpose for which they are used. This testifies once more that links among classic, medieval, and modern techniques for the organisation of knowledge and thinking overcome these conventional temporal demarcations.

The ANALYSIS.

FOR TAXES	} If paid for your Personal Estate, Debitor Profit and Loss, Creditor Cash, as N ^o . 6. } If for your own Rent, Debitor Profit and Loss, Creditor your Tenants, as N ^o . 55, 57, and 61. } If discompted by a Tenant } For an Estate Mortgage to you } Debitor the Mortgagee } as N ^o . 64, 65, and 66. } } } Debitor the Tenant } Creditor the Estate of the Defunct } as N ^o . 60. } } } } Creditor the Tenant	
		Open Bond, Bill or Debt } Paid, } Received, Debitor Cash, Creditor the respective Parties of whom received, as N ^o . 2, 5, 6, 19, 30, 39, 44, 51, 56, 60. } } Debitor the Parties to whom paid their respective Sums, Creditor Cash, as N ^o . 20, 31, 45, 58, 80, 87.
		For Insurance } Received } Debitor Cash, Creditor the Party of whom the Money was received, if received upon signing to the Policy, and when the Adventure is safe arrived. } } Debitor the Insurer, and Creditor Profit and Loss. } Paid } Debitor Voyage, Ship, or Goods Insured, Creditor Cash, as N ^o . 37. And if the Adventure miscarry, } } Debitor the Insurer for the Value Insured, Creditor the Voyage, Ship, or Goods Insured, as N ^o . 32.
MONEYS	For Charges on Goods } Outwards, sent to your Factor, Debitor Voyage, Creditor Cash, as N ^o . 14. } Received from your Factor, Debitor those Goods, Creditor Cash, as N ^o . 40 and 45? } Received from or Sent unto } a Friend or Correspondent for his Account proper, Debitor the Goods, Creditor Cash, N ^o . 77.	
		For Legacies } Received out of an Estate to which I am made Executor, Debitor the said Estate, Creditor Profit and Loss, as N ^o . 16. } Received from an Executor, Debitor Cash, Creditor Profit and Loss. } Paid, Debitor the Parties to whom the Legacies were paid (they being before made Creditors for the same) and Creditor Cash, as N ^o . 20.
	By Exchange } Delivered, Debitor Account of Exchange, Creditor Cash. And when the Bill is paid, then } Debitor the Party to whom the Bill was payable? } } Creditor Account of Exchange. } Taken up, Debitor Cash, Creditor Account of Exchange. And when the Bill is paid, then } Creditor the Party on whom the Bill was charged to pay the same. } Remitted to you, Debitor Account of Exchange, Creditor the Party that remitted the same, as N ^o . 18. And when the Money is received } Debitor Cash } as N ^o . 30. } Charged on you, Debitor the Party that charged the Bill on you, Creditor Cash.	
		ABATE- } Made to you, Debitor Profit and Loss, Creditor the Party that made the Abatement, as N ^o . 27. MENS } Made by you, Debitor the Party from whom you abate, Creditor Profit and Loss.

Fig. 6. The ANALYSIS of Browne's *Absolute Accountant* (first Folio) (1673). Source: From Gale. *The Making of the Modern World*, 1E. © 2008 Gale, a part of Cengage Learning, Inc. Reproduced by permission. www.cengage.com/permissions <http://galenet.galegroup.com/servlet/MOME?af=RN&ae=U3600227749&srchtp=a&ste=14>.

WARES or GOODS	} Bought } For Ready Money, Debitor the Wares bought, Creditor Cash. } } For Time, Debitor the Wares bought, Creditor the Party of whom bought. } For part Money part Time, Debitor the Wares bought } Creditor Cash for the Ready Money paid. } In Barter for Wares, Debitor the Wares, } Creditor the Party of whom bought for the Remainder. } } } Creditor the Wares delivered if of equal Value.		
		} Sold } For Ready Money, Debitor Cash, Creditor those Wares sold. N ^o . 37, 43. } } For Time, Debitor the Party to whom sold, Creditor those Wares. N ^o . 1, 21, 37, 59, 76, 82, 83, 87. } For part Ready Money part Time } Debitor Cash for the Ready Money received } Creditor the Wares sold. N ^o . 28, 33, 34, 39, 37, 77, 78, 80. } } } Debitor the Party to whom sold for the Remainder } } } Creditor the Party to whom bought for the Remainder. } For part Money, part Time, part another Bill, } Debitor the Buyer to pay at the time limited, } Creditor those Wares sold. N ^o . 37. } } } Debitor the Party whose Bill is affigned you, } } } Creditor the Party to whom sold.	
			} Sent to your Factor, Debitor Voyage to the Place sent, Creditor the Goods sent. N ^o . 14. } Sold by your Factor, Debitor your Factor with a double Margin, Creditor Voyage. N ^o . 41. } Received from your Factor, Debitor the Goods received, Creditor your Factor with a double Margin. N ^o . 15. } Received (consigned to you) from a Friend or Correspondent, Debitor the Goods for the Account proper of your Friend, Creditor Cash for the Charges. } Sold of your Friends } If for Ready Money, Debitor Cash, } } } If for Wares in Barter, Debitor the Wares received, } Creditor the Account of those Goods. N ^o . 73. } } } If for Time, Debitor the Buyer, } } } Creditor the Party to whom sold. } Sold to Lots for Ready Money } Debitor Cash for what they are sold for, } Creditor Cash for the whole. N ^o . 42. } } } Debitor Profit and Loss for what is lost by Sale, } } } Creditor the Goods sold for the whole.
In Partnership, the Account partable is to be kept intire by it self, and the several Partners to be made Debitor or Creditor for what they respectively receive or disburse upon the said partable Account, and when the said Account is determined, and to be drawn up to a Balance, the Partners are to bear or receive their Parts or Portions of Gain or Loss, according to Contract, as N ^o . 101, 102. <i>File the Account partable in halves with William Good.</i>			

Fig. 7. The Analysis of Browne's *Absolute Accountant* (second Folio) (1673). Source: From Gale. *The Making of the Modern World*, 1E. © 2008 Gale, a part of Cengage Learning, Inc. Reproduced by permission. www.cengage.com/permissions <http://galenet.galegroup.com/servlet/MOME?af=RN&ae=U3600227750&srchtp=a&ste=14>.

for instance, Camille, 1992; Carruthers, 1990). The presence of a table of contents (see those in Pietra's and Flori's texts), marginalia, headings, and various *tituli* for sections and chapters (Crick & Walsham, 2004, p. 21) merge with the medieval attention paid to images and the visual organisation of the manu-

script. They made of the book "an object to be used" (Cavallo & Chartier, 1999, pp. 18–19) – an object which begs to be utilised and 'practiced' for various purposes, from worship (see Camille, 1998 on how reading books involves the five senses) to keeping the accounts.

Inscriptions and visual schematizations like those illustrated by Pietra certainly played a role, for “thoughts of readers are guided by the way the content of the books are arranged and presented. Basic changes in book format might well lead to changes in thought patterns” (Eisenstein, 1983a, 1983b, p. 64). Johns (1998) has argued, however, that one should escape a “print logic” (Kernan, 1987), which would deterministically define the space of the possible, of what the written, the print, the image do and do not do to the reader and the user of accounting (text-)books. One should recognise that “texts, printed or not, cannot compel readers to react in specific ways but they must be interpreted in cultural spaces” (*ibidem*, p. 20), which refers to highly the specific circumstances in which reading happens.

Seeing accounting as another *logic*, which constrains, dominates, and thus forces users to do things *its* way may appear to be an appealing solution to this theoretical conundrum. On this matter, Latour writes: “Although *in principle* any interpretation can be opposed to any text and image, *in practice*, this is far from being the case; the cost of dissenting increases with each new collection, each new labelling, each new redrawing” (1986, p. 13). This statement is certainly true, but so, it seems, is the reverse argument: whereas, in principle, ‘logics’ do not allow differences, i.e. they are supposed to drive and *de-fine* (with the emphasis on the finiteness of the possibilities; see Quattrone & Hopper, 2005; Quattrone & Hopper, 2006), in practice this is never the case, as the designer is never omniscient and thus gaps are always left for the user to colonise. Thanks to the influence of a context, this mobilization which the visual operates never happens *in* the text, *in* the mind of the user, or *out* there. One may argue that happens in between, in the space left between the text and the reader, in the space where practicing happens. Of course this is not a complete and free action, for they are inserted within specific and detailed forms of rhetoric and memory, as argued in the previous sections. However, the power of these practices, how they become practiced and thus keep happening, seem also due to the gaps left for appropriation by the user rather than simply to a supposedly existent underlying logic. It is this gap, this lacuna (Quattrone, 2006), this non-space, which can tell us how it is that accounting seems to remain the same while always being different – not to have any nature while assuming them all.

Thus, the questions become: how does this mobilization happen? how do accounting inscriptions, which are representative of nothing, manage to engage the user and make accounting succeed, i.e. happen?

Accounting inscriptions and mobilization: beyond a “print-logic”

Accounting and accounting books comprise inscriptions – “transformations through which an entity becomes materialised into a sign, an archive, a document, a piece of paper, a trace” (Latour, 1999, p. 306; see, in accounting, Robson, 1992). Latour also argued:

The essential characteristic of inscriptions cannot be defined in terms of visualisation, print, and writing. In other words, it is not *perception* which is at stake in this problem of visualisation and cognition. New inscriptions, and new ways of perceiving them, are the result of something deeper. If you wish to go out *your* way and come back heavily equipped so as to force others to go out *their* ways, the main problem is that of mobilization (1986, p. 7; emphasis in original).

As shown in various accounting studies (see, for instance, Robson, 1992), accounting is powerful because it establishes two-way relationships between centres of calculations (say the Jesuit headquarters in Rome) and the periphery (say a Jesuit College in the Sicilian province; Quattrone, 2004). And it does so thanks to its power to make things homogeneous, and thus comparable and addible (see Latour, 1987), while allowing the emergence of centres of discretion (Munro, 1999) which lead to “minimalist” forms of control and drift (Quattrone & Hopper, 2001, 2005).

How does accounting acquire these features? And more importantly, how is it that *your* way of keeping accounts, your ordering, becomes *theirs* – is appropriated by others? The previous sections have offered some hints on how accounting becomes a technique suitable for being practiced, on how this technique apparently remains the same (*your* way) and becomes different as it is enacted by a variety of users (*their* way).

An Analysis of Accompts:

WITH RULES OF AID.

To be observed for Instructions and Directions for a Methodical Keeping of Merchants-Accompts, by way of Debitor and Creditor, with reference to the Journal Numbers where to find the sundry Examples to the several Heads contained in the said ANALYSIS.

FOR the Foundation of your Accompt, make an Inventory of all the Ready Money, Wares, and Debts, belonging or owing to you, and make them respectively Debtors, or to owe to Stock, and Stock Creditor for the whole Sum, as pag. 1. And what Moneys are owing by you, make Stock Debitor to the several Persons to whom you owe, as pag. 1. Also take Notice, That the several Journal Parcels, after the Inventory, are numbered from Number 1. to Number 112. and that the *Analysis* hath reference to the *Journal* by the said Numbers.

- I. If a Person deceased, by his Will made you Executor to his Estate Real and Personal, you are likewise to take an Inventory of his said Estate, of Ready Money, Plate, Jewels, Rents, Household-Goods, Debts, and Wares, &c. and make the said Money, Plate, Jewels, and the Tenants, and Household-Goods, and Wares or Merchandise, Debitor for their respective Sums; and the Estate of the Person deceased, Creditor for the whole Sum; as N^o. 3. and N^o. 15.
- II. What Annuities or Legacies are bequeathed, or Debts owing by the Defunct, make the Estate Debitor to the several Persons to whom the said Annuities and Legacies are bequeathed, and Debts owing; and the said several Persons respectively, Creditor; as N^o. 4. and N^o. 16.
- III. What Moneys are paid, or Commodities are taken up upon Trust, for the Funeral of the Person deceased, make the Estate of the said Person deceased Debitor; and Cash, and the several Persons of whom the said Commodities are taken, Creditor for their respective Sums; as N^o. 7. and N^o. 17.
- IV. If an Assignment be made to any Person or Persons, who is made a Creditor for any Moneys due or payable to him, her, or them; to receive of any Person from whom Moneys are owing, make the several Persons Debitor to the Persons to whom the said Assignment is made to pay the same; and him or them on whom the Assignment is made, Creditor; as N^o. 8. 11, and 69.
- V. When a Real Estate is Mortgaged for the payment of any Sum borrowed, and the Lender is to receive the Rents and Profits thereof until satisfaction or payment made, make the several Tenants Debitor; and the Borrower, Creditor for their respective Rent; as N^o. 10, 54, 64.
- VI. For all Disbursements for House Expences, Servants Wages, House Rent, or whatever is spent or wasted in the House, make Debitor Profit and Loss; and Creditor, Cash; as N^o. 6, 20, 31, 40, 45, 52, 58, 72, 75, 80, &c.
- VII. For all Goods bought for the Service of the House, make Debitor Household-Goods; Creditor, Cash.
- VIII. All Plate or Jewels bought for your own use, make Debitor Plate and Jewels; Creditor, Cash.
- IX. If any Plate, Pewter, Brass, or other Household-Goods, be Changed Weight for Weight, what you pay for Change thereof make Debitor Profit and Loss; and Creditor, Cash.
- X. If there is any Addition of Weight, Measure, or Value, to the Commodity Exchanged, then the Accompt in which the same was placed before, is to be made Debitor; and Cash, Creditor for so much as the Addition in Value doth exceed.

Fig. 8. Browne's rules of aid. Source: From Gale. *The Making of the Modern World*, 1E. © 2008 Gale, a part of Cengage Learning, Inc. Reproduced by permission. www.cengage.com/permissions <<http://galenet.galegroup.com/servlet/MOME?af=RN&ae=U3600227748-&srchtp=a&ste=14>>.

A hint to answering these questions is given by Pietra, who, when commenting on one of the analyt-

ical representations in his *Indirizzo* (see Fig. 3), stated:

And, with the happiness that one wishes, everything is easily understood by everyone, I have also made a methodical table, i.e. ordered, of the twelve entries [...] as one can see below (1586, p. 11).²⁸

This passage testifies the uncertain boundary which exists between text and image (Camille, 1985, 1992). Pietra (1586), in fact, described numbers as *figure*, i.e. images (*delle figure, che s'usano ne i numeri*, “about the figures that one uses in the numbers”, p. 4, cap. 14) in explaining why his text makes use of Arabic rather than Roman numbers, both perceived as pictures which could generate confusion if not *seen* properly. In line with what was noted by McKenzie, it seems that “words [...] become images” (1981, p. 98) once they are written or printed on paper. And this seems to apply to numbers, as the equivalence between the English words ‘figure’ and ‘number’ still testifies.

This recalls what Camille (see also Carruthers, 1998) noted with respect to how a picture was conceived in medieval times, when he quoted the following dictum by Gregory the Great:

It is one thing to venerate a picture and another to learn the story it depicts which is to be venerated. The picture is for simple men [the ignorant] what writing is for those who can read, for those who cannot read see and learn from the picture the model which they should follow. Thus the picture is, above all, for the instruction of the people (quoted in Camille, 1985, p. 26).

And in fact those who read Flori’s, Pietra’s, and Browne’s treatises were ignorant about accounting terms: they needed to learn, and nothing was more pedagogically effective than making visible to them the accounting classifications which the text described. Images, in this sense, were not believed to convey generally accepted principles or meanings or truths. They allowed an association between text and images.

We are back to that calculative ability which closely relates to the power of the visual in ordering a given subject. And in fact the Latin word *ratio* (‘reason’ but also ‘calculation’, and ‘account’) serves as the root of such words such as *razionale*, which

describes the accountant in early modern Italy; *rationcinij*, the special calculations which Flori presented in his *Trattato* to describe the debit and credit relationships among various Colleges of the Society; and the modern *Ragioneria*. *Ratio* did not mean only ‘reason’; the *Libro della ragione* did not mean only ‘Book of Logic’ but ‘Ledger’ (Murray, 1978, p. 205). In the Augustinian art of memory, for example, the word *ratio* acquired a much more enriched and practical meaning, for the *rationes* “are not reasons of the sort that engage a philosopher but ‘schemes’ or ‘ordering devices’ [...]. Latin *ratio* means ‘computation’ or ‘calculation’ not reason in exactly our sense of the word” (Carruthers, 1998, p. 33). Dealing with *rationes*, with accounts thus implies dealing with schematic representations, with images.²⁹

This is what Pietra, Flori, and Browne asked the reader to do when they combined schematic representations with text and examples of double entry in the *Essempiare* accompanying the main text. They designed an ideal path between texts, images, and numbers, which the reader had to enact by skimming and moving around the book. This made the reader develop a calculative ability, the possibility of making associations to text, images, accounts, and what they stood for (granary or cantine, for instance), in a way that would prove useful; it allowed new *inventio* and *dispositio* with changing *intentiones*.

What we witness in this mechanism of appropriation is almost a form of meditation, which resembles what the exercitant of the Jesuit Spiritual

²⁸ “Et accioche con la felicità, che si desidera il tutto uenga ageuolmente inteso da chi si uoglia; hò anco fatto una tauola methodica, o sia ordinata, delle dette dodici partite [...] come appresso si uede”.

²⁹ Another interesting intertwinement, which goes beyond the scope of this paper, concerns the relationship between ‘writing’ and ‘hearing’ accounting. One of these concerns a practice intrinsically linked to accounting – auditing – which it is claimed to be originally made aurally (Clanchy, 1979), as we are reminded by the forgotten etymology of the word (from the Latin *audire*: to listen, to hear). Indeed, Angelo Pietra describes the practical activity of checking entries in the ledger and journals by marking each of them with a ‘dot’ (*puntare il libro* or literally ‘dotting the book’ – positing a dot close to each entry), to show that it has been revised (i.e. ‘seen again’). Incidentally, he discloses a preference for the ear rather than the eye when he asserts that in order to check the entries properly, it was necessary to have the assistance of a companion who could read them (“*ti farebbe quasi necessario hauere un compagno pratico, che ti porgesse aiuto al Giornale, leggendo e segnando le partite*”, 1586, p. 19). Only recently, and only in some languages, the word has changed to reflect the shift in the attention paid to the visual. So, for instance, the Italian term for auditing is *revision* – seeing it again, or, rather, auditing made by a visual check rather than an ‘audit’ or auditory one.

Exercises was asked to do: to go through a series of detailed steps to make an inventory of his moral life through a form of accounting for sins, a process relying heavily upon imagination in order to achieve salvation (see Barthes, 1971; Quattrone, 2004). Not surprisingly, Jones has recently described Descartes' Geometry as spiritual exercises, in which Descartes called for a modification of the "pedagogic and reading practices associated with the art of memory, common places books, and encyclopaedia" (2001, p. 57–58) in order to make the right connection between geometrical images. By making the right connection, he meant making relationships only between mathematical and geometrical items which were interdependent, just as the wealth of a Jesuit college was dependent on the items comprising the profit or loss of the income statement.

The fact that accounting is made in books is significant for, as noted by Camille, the passage from the roll to the codex allowed much more complex engagements with the text and some calculative associations which would otherwise have been done differently. As Camille puts it:

The spiritual exercise of *meditatio* laid emphasis on the directions, pace and concentration of individual worship in a way only possible with the codex, or book form. As opposed to the roll of earlier times, the codex allowed the reader to recapitulate, skim, check text against picture and refer forwards in ways not possible with the roll, which like speech itself, unfolds in one linear direction (1985, p. 29).

The book, along with the existence of such devices as index, *tituli*, marginalia and the like, combined with a methodical and analytical organisation of the text which could also be visualised in charts and tables, constituted heuristic devices through which the *authors' way* could be appropriated by readers and become *their way*.

In this sense, "the value which the images are given by an author can only be exemplary, not universally normative" (Carruthers, 1990, p. 234). This is why these textbooks made constant shifts from text to the images which they contained and the examples they always provide in an *Essempulare*. They did not simply accompany the text, but played a primary role in helping the reader to achieve associations in ways which were not necessarily considered by the writer. Furthermore they allowed the reader to develop a form of logic which was not dictated by the visual (a 'print-logic'), but by the

contingent and multifaceted forms in which accounting is intertwined – from the *oeconomia* of the College to the accounting for sins for the definition of the self (Quattrone, 2004).

It is difficult to say if these authors consciously thought of providing the reader with this experience through reading their books. Certainly these authors utilised rhetorical, meditation, and mnemonic practices that were available to them and to which some of them (certainly Pietra and Flori) had been exposed. In fact, the diagrams which Pietra and Browne proposed, in combination with the analytical method they adopted, were "open ended [they were] invitations to elaborate and recompose, not a prescriptive, 'objective' schematic" (Carruthers, 1990, p. 256), but a pragmatic instrument (see also Thomson, 1991) ready to be appropriated. And thus *Pietra's way* can become *our way*.

Accounting as a working space/time: the importance of 'praxis' beyond functionalism and towards knowledge commodification

Books to be practiced

What has been described in the previous section highlights the need for a further reflection on the experience of reading, of practicing the book. In this respect, Camille has highlighted how, for example,

the medieval book was activated constantly [...] by the speaking, sucking mouth, the gesturing, probing hand, and the opening, closing body. Reading a text was a charged somatic experience in which every turn of the page was sensational, from the feel of the flesh and hair side of the parchment on one's fingertips to the lubricious labial mouthing of the written words with one's tongue (1998, p. 38).

He argued that this bodily experience is less evident with printed and virtual texts, but clearly reading Pietra's and Flori's treatises required handling them in order to make connections amongst text, images, and numbers, and to allow a full reading and learning experience. Thus Johns noted:

Reading is a deceptively simple practice. It can seem so obvious and self-evident an activity that the idea of its having a history may seem bizarre. But it is becoming increasingly clear that people in the past and of other cultures do not read in anything that might unproblematically be called

the same way as us. [...] The historicity of reading has particularly important implications, however, for the simple reason that it is through reading that documents of all kinds are put to use and thereby produce historical effects (1998, p. 384).

This historicity does not depend on a linear evolution of time, but on its ‘eventual’ nature – a nature related to a particular event, a particular occasion for that reading, a particular scope and *intention*. As Johns continued:

Recognition of the ineffable character of [reading] thus needs not to imply that print is a peripheral subject for the historian of science. On the contrary, in the future we shall need to marry the two. [...] The salience of printed books and papers cannot now simply be exorcised by alleging the inability of texts to determine their readers’ conclusions; that they were unable to force concurrence does not mean that such objects were not interpreted at all. The reading of the book is no less skilful, and no less local, than conducting an experiment. To understand the transformation of science into apparently universal culture, then, we need to create a history of reading practices surrounding scientific books as detailed and intricate as the appreciation we already have on the experimental practices surrounding scientific instruments (1998, p. 48).

Thus there is no true meaning of the message outside the practice of reading (Johns, 1998), just as there is no scientific truth outside the practice of the laboratory (Latour, 1987; Latour & Woolgar, 1978). So whereas scripts, inscriptions, traces, books, and indeed science may appear to be homogeneous because of the consensus they have gained (along with the scientific and academic practices which help to establish them), if one looks at them as part of a broader network in which their ontology is defined (ontological politics; Mol, 1999),³⁰ this is never the case. It is only when the book shows an ability to attract the reader, to engage – only when it is performable and this performability from potential becomes actual – that it can ignite a process of objectification in which those methodical, visual, and mediating elements can play a fundamental but neglected role, at least in accounting (but see Thomson, 1991). It is thanks to ‘practicing’,

and to the diversity and heterogeneity allowed by the repetition of this activity (Deleuze, 1968; Tarde, 1999) that what was heterogeneous comprised what then appeared to be homogeneous.³¹

It is this engagement which producers of manuscripts and, even more, the first printers sought, for a book which engages is a book which sells; that is the period when the book became a commodity (Eisenstein, 1983a). The need to engage the reader makes the boundary between the book as object with an appealing visual appearance, and its content blurred. There is no longer a clear difference between the form through which the book conveys a certain body of knowledge (be it rhetoric, accounting or some form of Spiritual Exercises), and the knowledge itself. There is an indissoluble link between the “schema, image, word and intellectual contents” of a book (Vasoli, 1978, p. 21, our translation), and there cannot be a separation of “the analysis of [the] symbolic meanings [of the text] from that of the material forms by which [texts] are transmitted” (Chartier, 2007, p. 1). The printing press, which made books available to a much wider audience in larger quantities than ever before, created the need for greater readability. In order to exist, the book had to engage the reader, thereby opening the way to the commodification of the book as artefact, in ways inextricably linked to the commodification of the knowledge it was supposed to convey.

As Johns noted, what is communicated affects and is affected by the way it is communicated, and also relates to whom this communication is directed (1998, p. 473). Analogously, keeping the accounts through written, virtual (or even oral) records clearly affects the users’ practice. It affects that ‘liturgy’: its performance makes the user experience the medium in certain ways which relate to shared practices concerning the organisation of knowing (as in the case of the art of memory and rhetoric, as it seen in Section Making accounting practical: memory, rhetoric, and the relevance of method beyond science).

This is even truer for books with a practical content – books which ask the reader to ‘do things’, whether it be retreating into a dark space to meditate on the self, as in the case of the Jesuit Spiritual Exercises (see Barthes, 1971); or accounting for the wealth

³⁰ If one looks at them as an actor-network (Latour, 2005).

³¹ When this peculiar combination of homogeneity of forms and heterogeneity of uses occurs, the book becomes what has been defined elsewhere as a heterogeneous object (Quattrone & Hopper, 2006).

of a monastery, a firm, or a contemporary multinational. If one wants to understand the features of accounting knowledge, it becomes crucial to gather an understanding of the knowledge of accounting knowing (Quattrone, 2000), i.e. how this knowing happens and succeeds in organisations and society.

Why does accounting succeed? The performability, engagement and superficiality of accounting as “orthopraxis”

There are two tables in Pietra’s *Indirizzo* (Figs. 9 and 10) that contribute to an understanding of why these books attracted the user and became *books to be practiced*. Fig. 9 illustrates the actions that *Padre Cellerario* needed to perform in his duty of administering the Monastery. The table segments the year in months (beginning from June, as was the custom for the Benedictines of that time) and provides an exemplification of the operations which the assistant should perform for each of these months. As Pietra stated, however, this table:

has to be used only as example, for in each of our Monasteries it will be mastery to compose this instruction according to the use of that village, and in conformity to the qualities and quantities of its rents and expenses, which will be taken from the ledger (1586, p. 6).³²

In other words, Don Angelo knew well that his instructions were too general to be ready practicable, so what he provided was, not surprisingly, a method, a way of doing things. What is interesting, however, is that he did so *visually*, through a well ordered space on the page of a book. What he did was to create a performable space, an archetype, a frame, which could then be filled by those who were going to use the method he was proposing.

Fig. 10 is another example of this type: a matrix through which the inventory of the Monastery can be prepared. As with every matrix, this graphical layout is a pattern of absences and presences (Law & Singleton, 2005). What is accounted for is defined by the empty top left corner which defines the centres (e.g. the *Foresteria*, the *Infermaria*, and so forth). On the vertical axis are subjects of accountability, the Fathers who are accountable for them

(e.g. the *Reverendo Padre Abate*, Head of the Monastery, the first to be checked). The things for which they are accountable (e.g. *Lettiere di Noci*, *Pagliarazzi*, and so on) are outlined on the horizontal axis. Accounting is full of these spaces (and times, such as the year-end), beginning from the highly visual format of the way in which entries are made in Journals and Ledgers (no need to reproduce them here), which, with their visual prototype, are ready to be filled by accountants. These visual spaces thus become a “work place” (Lynch, 1985; see also Coopmans, 2007 with regard to images), i.e. spaces which can be performed and practiced. Far from any representationist remnant and any functionalist and teleological residue, visual ‘re-presentations’ in accounting (text-)books are performable spaces/times, where things are always made present again and never represented in a conventional manner. As noted in Section Accounting images and the fabrication of practical knowledge: The importance of the *visual* and re-presentation, there is nothing to be represented until this is not made present again – re-presented – in so far as there is no text until this is not read (Cavallo & Chartier, 1999, p. 5) and there is no book unless it is opened and used (Johns, 1998).

This has some profound repercussions for the way one can conceive of the inscriptions of which accounting is made. What is interesting here is that these inscriptions (Latour, 1987), these virtual maps of the Benedictine Monasteries and Jesuit Colleges, not only give the *Padre Cellerario* or the *Procurator* of the College the impression of being able to see and control from a distance the happenings in remote areas of the orders. They do much more: they offer the possibility to reinvent the rationale, nature, and function of accounting inscriptions thanks to their performative nature.

Graphical representations (be they referred to a utility function of an economic theory or a drawing of ring-tailed lemur troops) are always so partial and simplified that they essentially contain very little; they have little truth in them; for, if it ever existed, it has been lost in the process of diagrammatic representation which has sacrificed details and context for the sake of clarity. This is the only way in which they can effectively communicate and engage the user in a performative exercise.

If one wants to communicate, as Don Angelo Pietra well understood, this needs to be done in ways that are visually engaging and methodological

³² “*ha da servire solamente per esempio, essendo che in ciasqueduno nostro Monastero sarà mestiero di comporre tale istruzione secondo l’uso di quel paese, e conforme alle qualita, & quantità delle rendite, e spese sue, che saranno state tratte da’ Libri Maestri*”.

Forma della Istruzione annuale molto al proposito per lo Padre Cellararo. Cap. 1.º.

Giugno.	Ottobre	Dicembre.	Aprile.
<p>1. Intitolare il Libro maestro nuovo, secondo la forma del nostro esemplare.</p> <p>7. Commettere a Vinegia la provisione di pepe, Zafferano, Zucchero, Rottami, & altre Spezierie: Crisostomi, Pelli, & Sapone secondo il bisogno dell'anno.</p> <p>10. Commettere le rafce grossa Calligione, Rondofco, o altro.</p> <p>11. Miere la Segala, & il Frumento.</p> <p>12. Stare attento al seminare del Miglio.</p> <p>13. Comprare la crotta necessaria per lo scaporo, & per le pianelle di quell'anno.</p> <p>14. Comprare le rafce fandi per la ucceria le gnata quell'anno.</p> <p style="text-align: center;">Luglio.</p> <p>1. Segare il secondo fieno.</p> <p>2. Stare attento alla uccidia di tutto il fieno di quell'anno.</p> <p>3. Fare tingere le rafce negre, & le Tanete.</p> <p>11. Comprare il Sale a un taglio di bontà, per crutarlo, & ordinarlo metà luna d'Aglio.</p> <p>14. Stabilire, o tentare i Massari, confermando, o alterando i Capitoli.</p> <p>15. Scrivere il Racconto di Segala, Frumento, & Legumi.</p> <p style="text-align: center;">Aglio.</p> <p>1. Vendere tutto il restante uino, che dee esser uenduto in Monastero, & fuori.</p> <p>16. Tagliare tutta la Velliera di rafcia.</p> <p>17. Comprare il Panno necessario alla fiera di Bergamo per la Velliera, che si legna.</p> <p>18. Scrivere il Frumento, & l'altre biade haure da gli affittuali, & dai Massari in pagamento.</p> <p style="text-align: center;">Settembre.</p> <p>1. Segare il terzo, & ultimo fieno</p> <p>10. Scrivere il Frumento dato a Signori Medici a' Dottori, & ad altri Salariati del Monastero.</p> <p>11. Comprare le Candele di fieno per tutto l'anno.</p> <p>12. Comprare Touglie, & Manipoli necessari alla fiera di Crema.</p> <p>13. Scrivere, & rifiquotere gli affitti di cafe, & botteghe, maturati a S. Michele.</p>	<p>1. Stare attento alla Semenza da seminare. Tagliare la Velliera di panno, & le pianelle. Far provisione delle Pelli & legnate alla Velliera, & far racconciare le uscite.</p> <p>Rifiquotere gli affittimaturati a S. Michele. Trattare delle Possessione, che s'hanno ad affittare di nuovo.</p> <p>10. Commettere Anchioli, & Tonina a Genova, per l'Auenteo, & per la Quarefina.</p> <p>11. Scrivere le Tasse, & Annate alla Congregatione.</p> <p>12. Scrivere il Miglio, Vino, Panno, Miele, & altri minimi, o mullare haure quell'anno.</p> <p>13. Rinverte a Roma, o a Vinegia la metà delle nostre Tasse.</p> <p style="text-align: center;">Nouembre.</p> <p>1. Scrivere il uino dato a Signori medici, a idicatori, & ad altri Salariati del Monastero; & lo hauro dagli affittuali di Massari, & da ogni altro in pagamento.</p> <p>12. Fare le permance di terre (occorrendone) Scrivere, & rifiquotere i fitti compiti quell'anno a S. Martino, maturati, & da matura.</p> <p>Scrivere la Spesa delle Molina, & quella che hanno fatto gli affittuali, massari, & altri, con la roba data & ricevuta. l'acqua che si compra, & che s'affitta con tutte le altre partite, come nel Giornale a 11. di Nouembre.</p> <p>Scrivere il Frumento macinato, & il uino confumato, il butiro, & il formaggio hauro dalla mandra, & dalla fiesca.</p> <p>Scrivere il uino rifiquotito, & la rendita haure dell'horro.</p> <p>Saldare affatto co' li massari licitati, & rifiquotere il credito, & stabilire i massari in uino.</p> <p>Stabilire il prezzo corrente delle tegole non pagate, con gli affittuali, molinari, & altri.</p> <p>Mettere le partite nel Libro maestro, & dare i conti col calcolo a' Padri Superiori, & alle uerenti Padri Visiratori.</p> <p>Scrivere il fieno misurato a Malghetti.</p> <p>Riuedere li seminati, & uero il macinamento.</p>	<p>1. Vendere la prima terza parte del Frumento, che dee esser uenduto in Camerone, o altro.</p> <p style="text-align: center;">Gennaio.</p> <p>1. Affittare i bolchi da tagliare quell'anno, Curare i fofsi secondo il bisogno, & secondo i capitoli fatti li commasari, &c.</p> <p>4. Vedete que arbori s'hanno a tagliare, & attendere, che si rimettono i piantoni.</p> <p>Fare le falcine, & legne ordinarie.</p> <p>7. Andare, o commettere a Vinegia la cera per la candellera, uua candola, & una palurina, amandolo, fichi, Zucchero, Sapone, Cordona, & altre cose necessarie.</p> <p>Pagare, & rifiquotere i conti maturati.</p> <p>15. Vendere la prima terza parte del uino da uendere quell'anno in Camerone, o altro.</p> <p style="text-align: center;">Febraio.</p> <p>1. Comprare uoglio nuovo per un'anno.</p> <p>Vendere la Segala.</p> <p>Stare attento al potare, rimettere, & prouanare leuati secondo il bisogno, & i capitoli.</p> <p>Raffegare in aliti le arbori al proposito.</p> <p>11. Rifiquotere i fitti maturati a Carneuzie.</p> <p>12. Rinverte a Roma, o Vinegia la seconda metà delle nostre Tasse.</p> <p>Riuedere li piantoni, & in quelli sù conuenza ne piglia, o pregiudicio alcuno.</p> <p style="text-align: center;">Marzo.</p> <p>1. Vendere la Pua, con gli altri Legumi, & i minimi, o mullare che usano quell'anno.</p> <p>La seconda metà del frumento da uendere quell'anno in Camerone, o altro.</p> <p>11. Preparare i danari per l'Annata, & per la Tassa del capitolo, & per li debiti co' Monasteri.</p> <p>12. Potte le partite nel Libro maestro, & per dare i conti col calcolo a' Padri Superiori del Monastero, & mandargli al capitolo con li conti perfetti.</p>	<p>1. Scrivere i Terratei, o altra fore di fitti uenuto in questo, o in altro tempo.</p> <p>Vendere la strumentata, legne, falcine, lino, canape, lana, formaggio, & altre cose.</p> <p>15. Vendere la seconda terza parte del uino.</p> <p>Rifiquotere i fitti maturati a Pasqua, con gli altri crediti quanto è possibile, auanti che si proceda al saldo del Libro maestro.</p> <p style="text-align: center;">Maggio.</p> <p>1. Fittare i pacelli a Malghetti, & ad altri.</p> <p>10. Vendere il restante frumento da uendere.</p> <p>16. Segare il primo fieno.</p> <p>Scrivere le partite capitolari secondo il libretto della Congregatione, & i conti priuati, & le spese fatte, come per lilla del R. P. Abate.</p> <p>24. Comprare la tela necessaria al'Alfena, o alla fiera di Camerone, o in Orzina.</p> <p>25. Fare la lista di tutti gli restanti in Monastero, & alla Corti per uolo nostro, & da uendere.</p> <p>31. Scrivere il frumento macinato, Vino, Frumento a Segala, Pua, & altri minimi con i fitti in uoglio in Monastero, & alle Corti, & dai per limofina, secondo l'esemplare a 11. Maggio.</p> <p>Frumento, uino, & altri grossi, & minimi dati, & ricevuti in uoglio da dieri, & il soprapiù del comun prezzo, & del uino.</p> <p>Formaggio, Carne, Butiro, & altre cose haure da Malghetti, dalla mandra, & dalla Società di Bellamio, &c.</p> <p>Saldare con gli affittuali, molinari, & malghetti, massari, & altri, & rifiquotere i loro salarij, crediti, & debiti, come al detto giorno all'esemplare si uede.</p> <p>Saldare col Salaro, Marefcalco, Spetiale, Sartore, Ferraro, Maragnone, Boccardo, & altri artigiani come sopra.</p> <p>Scrivere i ueroi fofsi, & fienelle fitti, & ogni altro conto di quell'anno come sopra.</p> <p>Saldare il Libro maestro, & dare i conti a' Padri Superiori del Monastero, & con lilla distinta de' Granari, & Cantine, & come nel capitolo dell'istruzione distintamente appare.</p>

Fig. 9. Forma della Istruzione annuale molto al proposito per lo Padre Cellararo (The form of the annual instruction very [useful] to the aim of the Padre Cellarario). Source: From Gale. *The Making of the Modern World*, 1E. © 2008 Gale, a part of Cengage Learning, Inc. Reproduced by permission. [www.cengage.com/permissions](http://galenet.galegroup.com/servlet/MOME?af=RN&ae=U3600054859&srcht=a&ste=14) <<http://galenet.galegroup.com/servlet/MOME?af=RN&ae=U3600054859&srcht=a&ste=14>>; <<http://galenet.galegroup.com/servlet/MOME?af=RN&ae=U3600054860&srcht=a&ste=14>>.

in nature. It was useless to provide a detailed and exhaustive representation of all possible actions which the Padre Cellarario could envisage, for instance. Much better to stay at the superficial but clear, ordered, and visually appealing level of the example (or of the *Essemplare*, in Flori's case), and offer a space and time to perform these actions, making them our own. An attempt which would try to tell it all would not spread, for it would not be translatable and thinkable at the 'eventual' level of the practice (Johns, 1998), i.e. it would not engage the prospective user and/or reader who could see in that space an opportunity for action. The needed level of generality is the synonym of and the condition for superficiality.

So what is left for the reader of these graphical representations is to reconstruct the space within them, and allows us to link photos to maps or drawings to graphs and to produce stories out of pictures. Paradoxically, for popular readers at least, the work we must do to put all of those

pictures together is what makes the story they tell seem so powerful (Myers, 1990, p. 262).

And this is how these representations have any meaning at all.³³ Thus it seems that inscriptions of all kinds are also able to be mobile because they are superficial, because they represent a "world in its absence" (Latour, 1987); and thus this absence, this empty space, is ready from appropriation by the user, be the user: a human being or a non-human cameral or information technology.

Accounting, organisations and society: from orthodoxy to orthopraxis

Grafton and Jardine noted the profound implications of the pedagogy of Ramist graphical representations for what counted as knowledge in societies:

³³ I am borrowing the words of one of the anonymous referees in this passage.

Compendio di tutti gli Inventari delle Officine, Camere e Celle de' Monaci, basati alla creazione de' nuovi Officiali dell'anno. 1586. Cap. 9.

	Lettere di Noct.	Paglierazzi.	Letto di Piuma.	Matrazzi.	Caprazzi.	Colsi.	Coperte di Pelizza.	Coperte da letto.	Valenzane.	Schaunne.	Seggie.	Calfe.	Quadri di Noct.	Secchi d'ortone e di rame.	Candelieri d'ortone.	Bacine d'ortone.	Inglitare d'ortone.	Piatti di Petro.	Tondi di Petro.	Piatelli di Petro.	Scudellini di Petro.	Salini di Petro.	Caudoni forniti.	Ramine.	Padelle di Rame, e acciaio.	Lenzuola.	Tonaglie.	Sugamani.	Fourette, e grimali.	Mannipi.	Pannicelli.	Taperi.	Spallere.	Padiglioni da letto.
Intelligenza	17	19	14	11	15	17	10	13	11	8	11	7	9	11	10	1	1	40	10						10	6	11	10	10	6	1	11	8	
Infermeria	4	4	3	3	4	3	4	4	5	3	3	3	3	3	4	1	1	10	10			1	1	1	3	4	6	10	10	1	1	1		
Pianura												1														12	11	6	10	10	1	1	1	
Materia																		13	10	11	170					12	15	07	15	8				
Refettorio																											6	10						
Sagrafia																1	1										6							
Barbana													1		3																15			
Porta	1	1	1	1	1	1			1	1	3	1	1	1													3							
Famiglia	8	7	6	4	5				4	10	5			5																				
R.P. Abate	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	13	14			3	1	1		2	4	4	14			4		
R.P. Titolare	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1					1	1				1						1	
V.P. Priore	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
V.P. Titolare	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
P.D. Alberto	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
P.D. Giuliano	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
P.D. Gregorio	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
P.D. Pantino	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
P.D. Raffello	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
D. Amadeo	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
D. Strapione	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
D. Nereo	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
D. Hierar.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
D. Monaco	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
D. Hoafino	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
D. Amosio	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
D. Eufro.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
D. P...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
D. Rionzio	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
D. Albano	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
D. Viglio	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
D. Cornelio	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
D. Emilio	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
D. Tim.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
D. Flasio	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
F. Bernardo	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
F. Sofraio	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
F. Marbano	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
F. Sterno	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
F. Coemidio	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	
F. Bando	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	

Di più alla Camera, del R. P. Abate uè un Crocifisso d'Avolio, & un quadro dell'ere Maggi, & à quella, del R. Titolare un quadro della Pietà, & alla Sagrafia sono le reliquie, argentearie, e i Paramenti, come nell' Inventario particolare.

Fig. 10. The inventory space in Pietra's Indirizzo (1586, cap. 9).

What was there about Ramus' approach that so threatened established teachers that they dismissed it as [...] 'seditiously disturbing'? [...] the threat was institutional: Ramus delib-

erately discarded the difficulty and rigorous of scholastic schooling and thereby attracted those who regarded education as a means to social position rather than as a preparation

for life of scholarship (the theological debate). In so doing, he explicitly (though not necessarily deliberately) achieved the final secularisation of humanist teaching – the transition from ‘humanism’ to ‘humanities’ (1986, p. 168).

And they continued: “[Ramism] opened the prospect that the purpose of education was to purvey information and skills, not to be morally improving” (1986, p. 168).

Whether or not humanism was the owner of this privileged attitude towards information and skills is not within the scope of this paper (and indeed it seems that various notions of ‘practical’ could equally apply to medieval cultures). Rather, it is of interest that this ‘superficialization’ of education implies that the meaning is not contained in the text but in the practice of it. As Carruthers noted, drawing on Paul Gehl, religious truth can be seen to be achieved in two ways: through *orthodoxy* and *orthopraxis*. The orthodox believers seek

to reproduce the experience of learning from the teacher, whose teaching lives in the text, verbal tradition or creeds. An orthopractical adept, by contrast, seeks to achieve an immanent experience of the divine equivalent to that of the founder, usually by following a devotional practice presumed to be similar (quoted in Carruthers, 1998, p. 1).

Thus, for example, “nobody in 1660s Europe built an air-pump successfully by relying solely on Boyle’s textual description of the engine” (Johns, 1998, p. 44), for this always required the active participation of the reader (along with other actants) in a broader network of experiences.

Thus the secularisation of knowledge to which Grafton and Jardine (1986) referred entails a relationship with some shared practices (which define an organisation and a society), in order for this knowledge to exist and acquire meaning (see Myers’ quote). This brings us back to a new form of religiosity, of liturgy, in which meaning is defined through the fulfillment of some type of devotional practice. Accounting inscriptions (in budgets, activity based costing systems, balanced scorecards, and the like) mean little if not enacted through specific *orthopraxis* which, in the context of this paper and early modern treatises, was related to the art of memory and rhetoric.

We are back to a kind of medieval worship of *numbers as figures*, of devote *images* which need to be liturgically experienced. In so far as the medieval monastic practice of meditating images leads to a *theoria*, i.e. an illuminating and direct vision of God (Carruthers, 1998, p. 172), in accounting one witnesses the equivalent mystical belief in numbers as figures which, for their simplicity and apparent objectivity, are supposed to provide access to a privileged business truth and utility (and this seems to be increasingly the case in contemporary times).

Accounting, finance, and economics all produce various theories, various *theorias*. They re-present and communicate a sort of renewed alliance between education and morality, where what is just is only what is ‘useful’, as referred to in the beautiful (but empty) aesthetics of their formulas, the etymology of which, not surprisingly, shows a clear relationship to a visual and schematic understanding of the world (from Latin *forma*, form; a term used in medieval classroom teaching to identify schema to aid the memory of students; Carruthers, 1990, p. 72). The difference is that these theories do not emerge and are not believed to emerge in the context of a religious liturgy, but in the context of scientific and business praxis; whereas they share with liturgy many of those religious features which early medieval *orthopraxis* presented.

It is the books’ ability of making others believe that the content of the text can be easily grasped which makes the text and the book an object. It becomes an object that people can refer to, describe, and criticise. And this despite the fact that its content may be absolutely evanescent, while the form appears to be clear (the reader may think of a contemporary accounting technique such as Activity Based Costing or Balanced Scorecard, to which many refer but few can agree on what they are). Paradoxically, accounting is performable not only because it forces the user along certain directives, as a disciplinary gaze would imply, but also because it leaves the user free to enact that space which is provided by the topology of the ordered method (think of the Balanced Scorecard in which the core image is constant, while the content of the four boxes and of the central circle always differ, for they relate to the eventual enactment of this abstract method of performance measurement). As De Certeau noticed (1984, pp. 29ff), the user seems always to have local tactics to react to dominating ordering strategies, which are supposed to force human beings into

patterns of behaviour. What seems interesting in accounting terms is that this possibility for resistance and appropriation is *built into* the practice itself.

What some books (and not others), some accounting techniques (and not others) manage to do is to ignite a process of reference to a text, an inscription, a visual image, an object, which offers the reader the possibility of beginning to practice it. It is the ignition of this process of making reference which, if maintained and repeated, makes accounting happen and thus succeed. This is why accounting needs always to be conceived of as a continuous form, i.e. accounting.

As I have noted elsewhere, hierarchies and accounting systems appear, at a superficial level, as the result of homogeneous rationales and uses, and thus seem homogeneous prescriptions easily operationable. They seem to be well ordered traces left on white sheets of paper (Quattrone, 2004). However, this apparent homogeneity is, in fact, empty (for these traces are representative of an absence, of nothing), and thus ready to attract a process of (always partially) filling this emptiness.

Conclusions and implications for accounting research

In opening his book on *Orality and Literacy*, Ong affirmed:

Diachronic study of orality and literacy and of the various stages in the evolution from on to the other sets up a frame of reference in which it is possible to understand better not only pristine oral culture and subsequent writing culture, but also the print culture that brings writing to a new peak and the electronic culture which builds on both writing and print. In this diachronic framework, past and present, Homer and television, can illuminate one another (1982, p. 2).

In a sense, this paper has adopted a similar diachronic strategy. It has looked at two early accounting treatises (Flori, 1636; Pietra, 1586) to provide a historically grounded understanding of *how* they appealed to the reader to make accounting practical and thus succeed. The paper has addressed this matter by looking at four interrelated areas (see Fig. 1): issues of analytical *method* and the relationships between early modern accounting and the art of memory and rhetoric; (2) the role that *visual* inscriptions play in making accounting practical, by offering clear schematic forms of ordering and organisation of thought; (3) the role of the *medium*, in

the specific case of this paper, the book, in the fabrication and communication of accounting knowledge; and (4) how the enactment of this knowledge always requires an *orthopraxis*, i.e. how inscriptions always relate to the ways in which the relationship between texts and users happen through the fulfillment of practices allowing the creation and appropriation of what counts as accounting. The analysis of these accounting texts helps us to conceive of accounting as a practice which succeeds not only because it forces the users within prescriptive guidelines, but also because it aids the user to develop a calculative ability which goes beyond simple arithmetic to extend and comprise the possibility of organising knowledge in topical ways, thanks to visualising and imagination practices. These texts engage the reader, for they appear to provide readymade solutions to administrative problems, while merely creating a space and a time for practising accounting and making it happen: i.e. succeeding. Accounting is seen to happen when practiced, even as books become books when they are read. Thus for accounting to exist, it needs to attract and generate diversity; the more it attracts and generates heterogeneity, the more it is seen as a homogeneous practice.

In making these points, this paper has drawn upon historiographies which have sought to highlight similarities (rather than differences) among oral, written, and printed cultures (see, for instance, Carruthers, 1998; Fox and Woolfs, 2001; McKenzie, 1990). These approaches show how various forms of communication intertwine and make clear-cut separations between medium and message difficult. *How* accounting becomes a successful practice is related to *where* accounting happens. Affirming that there are continuities in the ways in which knowledge is fabricated and communicated makes the arguments of this paper susceptible to de-contextualisation and generalisation, and can hopefully offer insights for further investigation in the four areas (method, visual, medium, orthopraxis) and the two directives (how and where), informing Fig. 1.

In particular, the paper has sought to demonstrate *how* accounting texts can be explored for their pictorial form rather than their textual and representational content. Studies on method, rhetoric, and the art of memory have highlighted the role of images in the organisation of thinking and knowledge. This is a neglected area of inquiry in accounting studies, in which the emphasis is often placed on content-based rather than visual knowledge. The

study of Pietra's *Indirizzo* and of Flori's *Trattato* has illustrated that accounts and the pictorial 're-presentations' that they produce need to be examined, not exclusively for their representational power, but for their visual and classificatory power, for their ability to engage and mobilise. As Fabbri (1998) noted, inscriptions are semiotic acts and effects of sense and engagement (see also Jones, Mclean, & Quattrone, 2004). This emphasis offers a new vista on how accounting can be perceived for its semiotic power in organising and defining what counts as knowledge and calls for an organisational semiotics which, for instance, views numbers as figures (Pietra, 1586; see now also Vollmer, 2007).

The paper has also sought to highlight the importance of *where* these signs are recorded – where this 'imagination' happens (i.e. in a book or in a virtual ledger). How the nature and role of accounting differs, depending on the medium of communication utilised in recording entries, is still unexplored territory. And although it is understood that relationships between management controls and information technologies affect what counts as control (e.g. Quattrone & Hopper, 2005), little is known about those forms of aural accountability which shape the way in which organisations work, possibly even more than formal systems of accountability do. This paper has examined a specific mode of communication represented by 16th-century accounting textbooks; however, there is no reason why aural forms of accounting and accountability should not be 'accounted for'. Given that social interaction is still largely aural,³⁴ this seems to be a fruitful area of study in which issues of trust and the formation of societal links in communities intertwine with oral, written, and printed forms of business communication. If various forms of culture still co-exist in the making of what counts as knowledge, it is striking that accounting studies, while examining accounting in various contexts, have concentrated mainly on written signs.³⁵

³⁴ In some cases this communication needs to be aural. This is the case, for example, of some criminal organisations, where organisational actions and organisations must not leave any visible trace and thus accounting accountability have to rely on non written 'inscriptions'.

³⁵ Studies in the behavioural accounting tradition have looked at aspects other than semiotic to concentrate on various forms of social interactions. The raising literature on trust and interorganisational relationships (e.g. Dittillo, 2004; Free, in press) is an example of other areas where the nature of accounting and accountability is mediated and resolved.

Furthermore, the empirical material explored in this paper – early accounting textbooks – constitutes an appealing case, for it is inserted in a process of rationalisation of practices and societies which happened in early modernity and spanned the most disparate areas of everyday life, from the military to cooking (see De Certeau, 1984). However, early accounting textbooks may represent the most fascinating case of all, given the centrality of administration techniques for the functioning of our contemporary organisations and societies.³⁶ If the notion of society comes from Latin *socius*, i.e. companion, ally (see Latour, 2005), then understanding how ties between these *soci* are made and maintained is a way of understanding how 'societies' are negotiated and mediated. How accounting and an accounting *forma mentis* has contributed and continues to contribute to the definition of the 'civic being', shaping morality and what counts as just, is certainly an area deserving of further enquiry. How mechanisms of societal accountability intertwine with issues of organising the minutiae of our daily life is a matter which needs still to be understood.

Finally, the focus on accounting as *orthopraxis* – a type of apprenticeship which requires imitation but allows difference and innovation – is also a matter deserving of further inquiry. There is scope for investigating that empty space between the text and the practice and for understanding how this gap is filled through the fulfillment of various business rituals which range from meetings to decide whether or not to implement a new management accounting practice on the one hand, to the extenuating negotiations over the preparation of annual budgets on the other. What I have sought to do in this paper, through the constant reference to memory, rhetoric, and meditation practices, is to highlight how the understanding of what is taken for granted can be sought in areas and times which are not necessarily cognate to the disciplinary area of study.

In this sense, there is a great deal which can be gained by the study of that relatively new branch of history known as book history. If the meaning of books is made in networks of relationships, then the distribution of accounting 'authors' (be they accountants, the standard setter, or the author of an accounting manual), their authorship and their

³⁶ I am grateful to one of the anonymous referee for highlighting this point.

authority is also diffused across a network. This matter must be disentangled, for the knots and boundaries of this web are all to be discovered. Book history is the “end and a beginning” (Finkelstein & McCleery, 2005, p. 26). This statement has been taken seriously in this paper, for whereas the history of accounting inscriptions is long, its study as a practical method, as a medium of communication, as a visual imagination, and as orthopraxis is still in its infancy. Accounting books are nowadays, to a significant extent, virtual. They are kept through various forms of information technologies. What book history can teach us and what this paper has sought to explore is that the present use of accounting numbers shares with past uses many features. Accounting scholars and practitioners too easily forget the meditation, memory and rhetorical practices which surrounded the genesis of accounting as we know it nowadays. This paper has sought to remind those who believe that accounting and finance are neutral tools in managing financial transactions that these still present too often forgotten mystical features which lead us to *believe* in the information these practice produce. There is nothing necessarily wrong with these beliefs if one takes them for what they are. The risk is though that these beliefs in accounting figures (and, possibly to a greater extent, in finance models and modelling) become a new form of mystical religion, the superficiality of which makes it the most fundamentalist in kind.

For those who think that time is a scarce resource that should not be wasted on accounting history,³⁷ this paper closes with the words used by Adrian Johns at the end of his book, *The Nature of the Book* (1998, p. 638): “we can address major current issues of communication, and perhaps even explain them, by using the historian’s craft. [This] is, I think, an optimistic conclusion”. A conclusion which should inspire accounting scholars – at least those who believe that historical works (even in accounting) are useful for understanding who we are, and in what organisations and society we currently live.

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³⁷ This is a statement made in public by a major contemporary accounting scholar.

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