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ACCOUNT BOOKS

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Introduction. How does an account book organize?

To exist large entities such as organizations and societies have to be summed up somewhere (Chandler, 1977). They are ‘facts’ (from the Latin *facere*, to make with effect) and there is nothing less factual than a fact that needs to be made, achieved and accomplished for it to exist (Jones et al., 2004). This chapter argues that it is no accident that accounting has been central as an administration technique common to most organisations and societies for centuries because accounting books offer a much needed space and a set of useful practices for different constituents of otherwise immaterial entities to coalesce. Accounting is about recording events into books where inscriptions can later be organized in relation to one another in a coherent whole, into facts, by users.

In Rome during the late Republic and the Empire (from the second century BC to the fourth century AD), scrolls were used for the chronological recording of economic transactions into draft documents called *adversaria* (Minaud, 2005). The information from *adversaria* were then recorded into carefully designed accounts kept on wood tablets covered with wax named *codex accepti et expensi* about once a month. The transfer of information from scrolls to *tabulae* (tablets) was done by reading out loud the *adversaria* in order to update the *codex*. Figure 1 is an engraving from a tomb (III c. AD) that shows the preparation of accounts on tablets using *adversaria* held by a slave and the checking of the information against the actual sum of money contained in a bag by the master (Littleton and Yamey, 1956). The person in charge of entering transactions in the accounts (*ferre*) and to close the transaction (*referre*) (Minaud, 2005) was also in charge of *dispungere*, i.e., to check the accounts or ‘to

balance them' (*rationem computare*) by comparing receipts and payments (de Ste Croix, 1956). This work was accomplished using little marks (*punctum*) made by a stylus next to the entries so that third parties could easily examine what had been done and agree on the *dispunctio* (Minaud, 2005).

<Insert Figure 1 here>

[This figure can be viewed in the final published version, available from the publisher]

The recoding of information into tablets allowed their users to then engage with the text in more complex ways than when using scrolls (Camille, 1985). The visual distribution of information on tablets mixed aesthetic and pragmatic considerations. In tablets, unlike in scrolls, transactions were grouped by year and by types of goods and balance was systematically verified by a rigorous comparison between receipts and payments. The design was chosen for the sake of 'neater appearance' but also to make the accounts 'less fatiguing to follow' and 'to trace individual items within it' (Littleton and Yamey, 1956).

Account tablets were thus carefully compiled so as to be convincing when displayed for example during inspections by third parties (Andreau, 2004). Although the physical aspect of tablets was vitally important (the use of *adversaria* in particular helped to limit the number of corrections), the engagement with the accounts involved other modes of perception than vision, including voice and gestures (as made explicit in the action of speaking out the information during *ferre* and *referre*¹) revealing the origin of much later auditing practices (from the Latin *audire* 'to hear'). Roman society was indeed mostly aural (Konig and Whitmarsh, 2007) with texts designed to be read out loud using a formulaic language

¹ Modern day 'referees' entering in their notebooks the names of football players who committed a foul play ('booking them') while waving a coloured card to them is a contemporary equivalent of a multimodal performative performance impacting the status of individuals (who might well for example be missing the next games as a consequence).

characterized by archaic vocabulary and syntax, set forms and spelling, and a rhythmic quality, to create something that would sound impressive, precise and exhaustive when read in a distinct and powerful way called *recitatio* (Meyer, 2004; Andreau, 2007). Accounting is therefore not just concerned with books but also with faces and voices. A *codex* was a document standing for ‘the voice’ of Roman citizens, being almost part of their bodies to the extent that it ‘could not be slighted without their author also feeling the sting’ (Meyer, 2004, p. 220).

The use of wax tablets for keeping accounts was not solely justified because of their authoritative sound and aspect but also because of the specific qualities attributed to such a material artefact in connection with other documents (Meyer, 2004). The authority of accounting tablets relied in part on their capacities to link and relate with other prestigious objects and practices. In Roman society, the use of wooden *tabulae* covered with wax was not unique to accounting documents but they were also (even mainly) used for other venerable acts such as key political treaties, magisterial edicts, religious vows, and significant household acts like the making of a will (Meyer, 2004). Accounting texts, like all texts, cannot therefore be decontextualized. They are always referring to other texts from which they derive part of their power and significance (Eco, 1985). This intertextual relation is not necessarily based on similar contents but can be grounded on the use of similar material, on shared visual aspects, and on similar processes of classification.

This work of classification has consequences beyond the mere recording of economic activities as it also participates to the structuring of societies at large. Accounting does make organizations coalesce and it surprisingly does so through mechanisms of repetition that divides, separates, and classifies. It is thus a ‘device’ (from the Latin *dividere* meaning to divide or to separate) that generates realities such as organizations (Singleton and Law, 2013), identities, and by extension entire communities. In Figure 1, typical Roman social ties

are enacted through the distinction between the Roman citizen wearing a toga, sitting at his desk, holding tablets, and counting his money while the reading of *adversaria* is assigned to the servant or slave, wearing a different dress, and standing up in front of his master. Figure 1 reflects and enacts the kind of social distinctions of class and status in place in society as well as in business.

As a consequence of the central role played by accounting documents to support one's status in organisations and societies, all kinds of unconventional practices to make the books look better have developed over time. Since accounting exists, bookkeepers have on occasions turned into counterfeiters and falsifiers. Among accounts 'fabricators', i.e. persons able to construct a complex finished product from ideas, some inevitably opt to deliberately convey fraudulent or misleading information. Andreau (2007) mentions several techniques for tampering with wax tablets such as adding additional information later (*interpolare*), striking words (*inducere*), and writing on top of existing words (*superductio*). The whole panoply of techniques has proved in use as illustrated for example by the trial of Verres (70 BC) during which Cicero carefully examines some accounts in which the name 'C. Verrutius' appears to be the result of afterthoughts to mask the name of the wicked governor Verres thus showing 'not only that man's avarice, but the very bed in which it lay' (Littleton and Yamey, 1956, p. 45).

How do account books configure human thought and action?

Accounting generates identities and shapes for whatever falls within it (Singleton and Law, 2013) including organizations which appear as sets of transactions recorded into books. For example, many businessmen see their companies primarily through accounting documents. Financial statements typically are where executive managers of large multinational

companies will get a vision of the empire they rule from their headquarters. Organizations are therefore commonly reduced, *a fortiori* to distant shareholders only interested in the revenues from their investments (supposing such persons exist), to the bottom line of a profit and loss account from which action of selling and buying is prompted (Dent, 1991; Law, 1994).

Account books thus occupy a very particular position as they are the condition of visibility of otherwise abstract organizations. Yet, traces left in account books do not make visible the organization itself (Bastide, 1990). To become tangible, organizations require enactment from account users filling in the many absences of accounting documents. Signs and words in accounts are no organizations until they are constructed as such by account users. They must trigger the interest of users who then build organizations from them. In this process of composition with account books, the visual dimension of accounts plays a central role.

Doing accounting is not merely to record entries and make arithmetic calculations within accounts but also to make calculations *with* accounts, combining them in an infinite number of different ways (Quattrone, 2009). In this process, account books are to be understood as combinable visual and material sites used to generate new knowledge in an invention process. Accounting practices thus involve writing in and reading from accounts but also processes of composition of visions. Such a work of composition use accounting inscriptions in topical ways, from *topos* 'spaces', meaning that accounting is an ordered classification of arguments in and with material spaces.

That people will collectively engage with accounting documents with the hope to address important issues is dependent on the fit between that document and legitimate aesthetic canons. Puyou and Quattrone (2014) show for example that symmetry is an important feature of accounts legitimacy but one that takes different forms across the ages. Symmetry in Rome is a mix of visual and audible features while it takes a more exclusively visual dimension in the Renaissance and a mathematical meaning in modernity. For example, Figure 2 shows the

careful attention in the Renaissance to centre the information recorded into accounts as an important step for making it beautiful, balanced and therefore legitimate and convincing. This attention to visual symmetry is made evident by the scribe folding the paper into two halves in order to mark the centre and position the text right in the middle (Jéhanno, 2011). Note also how the two entries into the accounts figuring on top and at the bottom are also symmetrical.

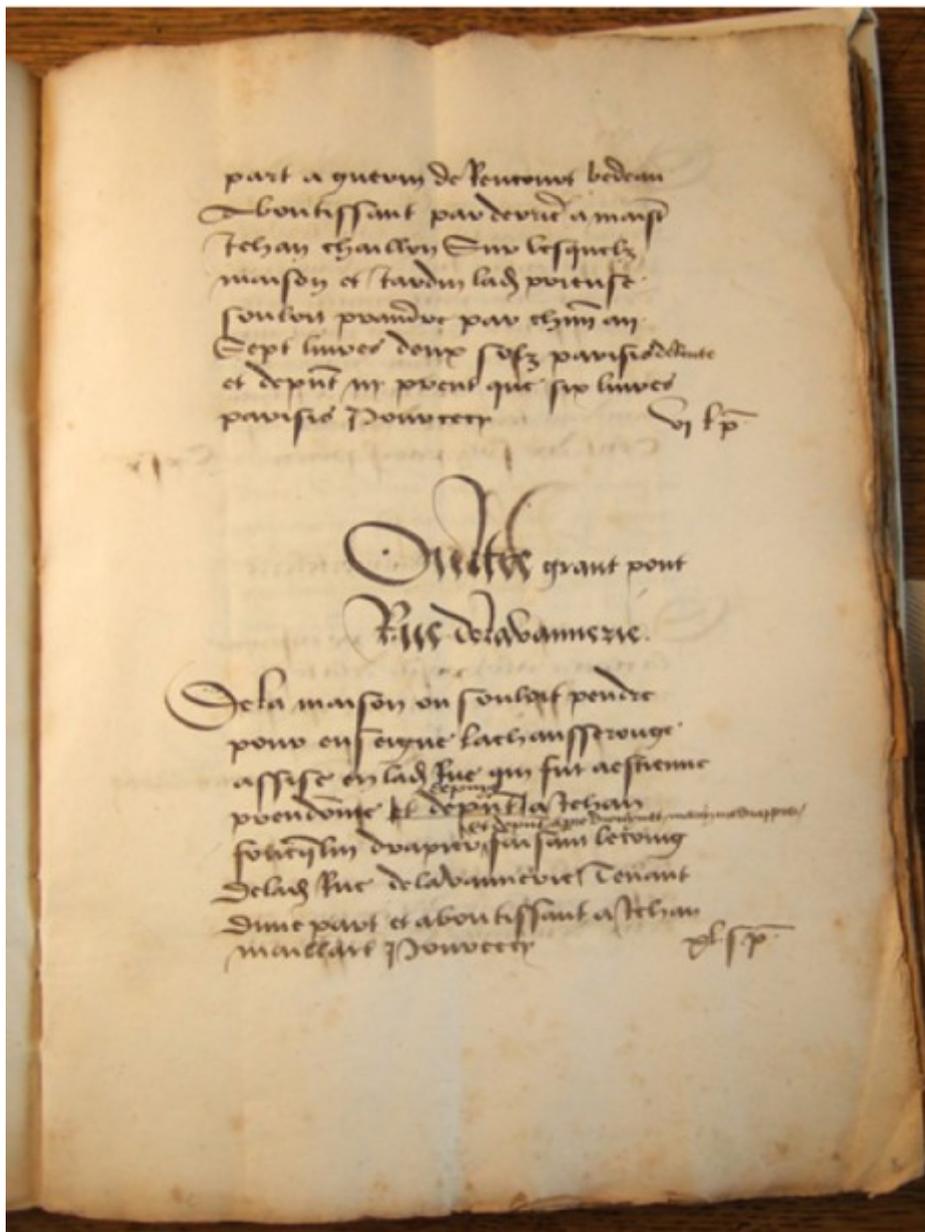
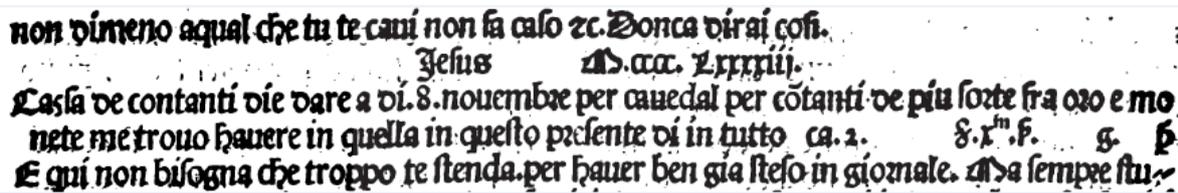


Figure 2. *Comptes de la prieure de l'Hotel-Dieu de Paris*, 1493, paper, f°8r.
 The document can be found in the Archives Nationales (France) in Paris (H5 3665).
 Taken from 'La série des comptes de l'hôtel-Dieu de Paris à la fin du Moyen Âge: aspects codicologiques' by C. Jéhanno (2011, p. 29)

(© picture C. Jéhanno)

From the nineteenth century, the aesthetic of accounts becomes essentially one of scientific objectivity. The change towards accounts privileging numbers visually distributed through homogeneous printed grids over words has become so ingrained that a modern translation (Figure 4) of a passage from Pacioli's *Summa* (1523) on how to enter entries in the ledger looks entirely different from the original (Figure 3). The very same content takes entirely different forms as typical aesthetic criteria for building legitimate accounts change from one period to the next.



non d'meno aqual che tu te cam non fa caso zc. Donca dirai cofi.
Jesus M.ccc. Lxxxiii.
Cassa de contanti die dare a di. 8. nouembæ per cauedal per cõtanti de più forte fra oro e mo
nete me trouo hauere in quella in questo presente di in tutto ca. 2. 8. x^m. f. 5. 6
E qui non bisogna che troppo te stenda. per hauer ben gia steso in giornale. Ma sempe stu

Figure 3. Pacioli's indications for a ledger entry, 1523, paper, f°202v
The document can be found at the Bibliothèque Municipale de Lyon (Rés 105625).

Thus, your posting in the Ledger looks like this:

LEDGER ACCOUNT: Cash		Page C-1		
		Year: 1493 AD ^s		
Date	Description	Reference	Debit	Credit
08 Nov	By: Capital for gold and other coins	J2	24	

Figure 4. Cripps' translation of Pacioli's indications for a ledger entry, 1994, p. 27.
(Courtesy of the Pacioli society, Seattle University)

Taking a bird's eye view covering examples of account books from Rome, the Renaissance, and modernity allows us to explore the material and visual forms of accounts as marked by major evolutions. Although accounting remains stable enough to still be recognized as homogeneous, account books are fluid objects evolving over time (De Laet and Mol, 2000). Staying the same depends upon change and evolution including in their visual and material

forms which then play an important role in support of their perceived immutability (Law and Singleton, 2005) notably as far as their purpose and actual content are concerned.

The visual form of accounting inscriptions is as important as their content to assert the legitimacy of social relations and the existence of collectives, including organizations. Yet, 'representations have little determinate meaning or logical force aside from the complex activities in which they are situated' (Lynch and Woolgar, 1990, p. vii). Like all visual representations, too simplified and containing very little truth in them, accounts have to be filled. They produce little truth, but they produce engagements. When engaging with account books as performable spaces, there is a process of objectification of the underlying organizations. Accounting practices make organizations into facts or objects, immaterial but represented, made present. Such organizations as objects have no intrinsic property, but they are performed through repetition and appear homogeneous (Quattrone, 2009). For organizations to succeed (to happen), engagements have to be repeated and maintained. In absence of repetition through time and space as promoted by accounting practices, nothing would hold stable at all, organizations least of all.

An exemplary retracing of the organizational force and effects of account books.

The material aspect of accounts has always been used as a technology of trust building, as a technology of information circulation, and as a technology of imagination. All these technologies are supportive of processes of organizing for they engage users to produce organizations by performing accounts (i.e. reading them and composing with them). Yet, people do not necessarily see the same thing in the accounts that circulate. Accounting attracts and generate heterogeneous uses (Quattrone and Hopper, 2006) and different visions. Engaging with accounts does not merely reflects different points of views but also produce

different organizations with sometimes rather incompatible purposes (economic, social, technical, political etc.) hidden behind a homogeneous name and façade (often constituted by shared accounting layout). The same set of accounts can thus refer to different organizations, although they will all *look* very similar².

An illustration of accounting's ability to produce different organizations is given by the situation at Ronelec³, a hydroelectric company which is part of a large energy conglomerate (Puyou, 2014). At Ronelec, engineers see in hydroelectric dams technological assets that need to be maintained in order to prevent incidents and durably produce power. Ronelec traders in charge of selling the electricity produced on the market are by contrast seeing in dams major cash generators. As a consequence, establishing maintenance schedules has become a point of contention between financial experts and engineers as it implies temporary reductions in electricity production levels. Agreements on how often and when maintenance should take place are reached during meetings where operation and finance managers voice their arguments in favour respectively of the pursuit of rather conservative safety policies or ambitious performance objectives. Maintenance people call such meetings 'the axe committee' in reference to the budget cuts announced there. The finance department leads in discussions but compromises are reached despite disparities in participant's priorities. For example, a threshold imposed on growth in operating expenses, including maintenance, was set to 5% instead of 2% following discussions on future levels of sales, costs and therefore profits. Gatherings of managers with opposite ideas to discuss the company's future financial statements, in particular Ronelec's expected profit and loss account, play a key role in bringing together members supportive of what appears to be different organizations hidden

² It is the 'heading' which makes the components of accounting homogeneous. For example in the Jesuit Order, the powerful and absolute heading is the idea of God. Yet, no precise understanding of what is meant by the idea of God is imposed homogeneously from the top of the hierarchy. Thus, Jesuit members work for what the individuals believe is worthwhile working for (Quattrone, 2004).

³ A pseudonym.

behind a common name. The axe committee is a local institution where tensions between objectives of profitability and security can be addressed on a regular basis. Subgroups with radically different cultures and identities coexist along with the institutions that help them find reasonable arrangements. By classifying dams as assets, accounting participates to the creation of a common vocabulary that articulates visions of dams both as major sources of costs (depreciation and maintenance) and of revenues. Interestingly, engineers engage with accounting because they have hope that it will help them solving their concerns about maintenance. It is when people in the periphery become convinced that the content of accounts is relevant to them that accounting works. Accounts have various, concurrent, and competing characters and rationales. They solicit our hope of solving a problem, of getting power, of making money, or of salvation (Quattrone, 2004). It is a way to connect with others, including opponents, like when engineers fight against the dominance of bean-counters over discussions on the profit and loss account.

Actors engaged into accounting practices seek to achieve order but also concomitantly create further openings and orderings (Jones et al., 2004). Arguably, there are more than just two different organizations at Ronelec. In addition to a focus on profits or on maintenance, other individuals (like for example union members) compose with Ronelec published accounts an organization that looks closer to a public service company focusing on navigation facilities, on the preservation of the river natural habitats, on irrigation, and on safeguarding jobs in rural areas. Despite a taken for granted 'economic nature' of the accounting system, it actually goes beyond profit maximizing organizations. Accounts do not work for one 'pure' reason (such as economic performance) but reduce the complexity of human beings visions and relations to traces that appear as linked to a homogeneous rationale (Quattrone, 2004) but which can also be debated.

Accounting thus produces different organizations that cannot be summarized or represented simultaneously. There is a gap, an absence between the text of the account and actual practices that is constantly filled by meetings, negotiations, and arguments. Accounting practices are generating organizations in the making. The authority is not entirely monopolised by the centre. Standardization is never quite achieved. Accounting practices do not create totalizing systems but support the coexistence of different interconnected organizations in parallel (Singleton and Law, 2013). These different organizations share similar organizing processes. Shared practices is what makes organizations, not shared content or understanding.

As multiple users engage with accounting, its presence increases and the organization is enacted by the participants. The organisation is experienced through the circulation of people and documents related to accounting, for example in preparation to the axe committee. Not all versions of the organization are compatible but they remain related because they rely on the circulation of the same 'intermediaries' (Callon, 1991) such as accounts serving the continuous needs for mediation for organizations to exist. Accounting is powerful because of two-way relationships between centres and periphery, although which is which vary depending on who answers the question: the centre being where electricity is produced for engineers and where it is sold for traders.

Why is understanding the organizational power of account books relevant?

Objects like account books and facts like organizations are ontologically complex and multiple (Law and Singleton, 2005). This chapter argues that accounting is a set of practices that create and shape organisational reality (Hines, 1988) and it shows that account books are involved in the active production of different organizations not merely because of different

perspectives on the same object, but because multiple organizations are actually performed involving different sets of relations and contexts of practices. The versatility of accounting and organizations should not be attributed to humans' 'interpretive flexibility' but to their ontology (Quattrone and Hopper, 2006).

Where and when accounting processes take place is having an impact on organizing processes. That entries are made on tablets using a stylus or on screens using a keyboard is likely to make a difference. And yet, a common characteristic of the production of accounting information in aural and digital cultures is the impossibility to deliver the dream of perfect information (Quattrone, 2016). In no cases do financial statements stand on their own, independent from other documents, and under no circumstances they are forcing anyone to think in one way or another. Texts cannot compel readers to do precisely certain things (Johns, 2006). What organizations are is therefore uncertain and it has been for centuries one of account books' main powers to deal with uncertainties. Accounting is about speculation about futures to be debated. Being aware of this is a condition to maintain wisdom in decision-making processes (Quattrone, 2016). Everything does not happen in the text of the account nor in the mind of the user but in-between the two. Organizing is a heterogeneous encounter between people and artefacts. It is also a collective practice sufficiently coherent to be discussed and acted upon. Legitimate organizations, societies and communities arise from interactions such as the one that have been taking place for centuries around account books.

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