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## The visual and material dimensions of legitimacy

**Citation for published version:**

Quattrone, P & Puyou, F-R 2018, 'The visual and material dimensions of legitimacy: Accounting and the search for Socie-ties' Organization Studies, vol. 39, no. 5-6, pp. 721-746. DOI: 10.1177/0170840618765013

**Digital Object Identifier (DOI):**

[10.1177/0170840618765013](https://doi.org/10.1177/0170840618765013)

**Link:**

[Link to publication record in Edinburgh Research Explorer](#)

**Document Version:**

Peer reviewed version

**Published In:**

Organization Studies

**Publisher Rights Statement:**

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# **The Visual and Material Dimensions of Legitimacy:**

## **Accounting and the Search for *Socie-ties***

### **Abstract**

The aim of this article is to contribute to the literature on legitimacy by investigating its material and visual dimensions. By drawing on studies on rhetoric as a means of composing visions of social order and on an historical analysis of accounts in three paradigmatic eras (Roman times, Renaissance and Modernity), it shows how symmetry in accounts constituted an aesthetic code which tied members of a community together in ‘*socie-ties*’. We investigate the rhetorical process of *rationatio* and explore how the visual and material dimensions of accounts provided social actors with an opportunity to explore their positions and ties within a community. This process augmented social actors’ understanding of their current relations by reducing them to a series of entries into an account, thus allowing them to reflect on what it meant to be a legitimate member of a society.

**Key words:** Legitimacy, Accounting, Rhetoric, Visual, Material, Romans, Renaissance, Modernity.

### **Introduction**

A recent wave of studies (e.g. Barros, 2014; Meyer & Höllerer, 2010; Patriotta, Gond, & Schultz, 2011) signals not only the difficulty of social actors making sense of the vast array of criteria for legitimacy, but also the complexity of theorizing this important notion.

In responding to calls for paying greater attention to the role played by the material and the visual in understanding the appropriateness of social behaviours and rendering them legitimate (Jones, Boxenbaum, & Anthony, 2013; Meyer, Höllerer, Jancsary, & Van Leeuwen, 2013; Van Leeuwen, 2007), we draw upon studies on rhetoric (Carruthers, 1990; 1998; Erkama & Vaara, 2010) and explore how accounting constitutes a visual and material instrument to assess the morality of the self in relation to broader notions of social order. Accounting therefore helps social actors to question the legitimacy of their relationships with other members of their communities.

We show how symmetry in accounts constituted an ‘aesthetic code’ (Gagliardi, 2006), which helped members of a community to establish and maintain a complex nest of ties amongst themselves in a continuous and collective search for legitimate and moral social behaviours. The visual and material nature of an account (*ratio* in Latin, Goody, 1996, p.12) and a process of questioning called *ratiocinatio* (Carruthers, 2015) provided social actors with shared rhetorical procedures that helped them to reflect on their societal roles and made them legitimate members of a community, thus sustaining ‘socie-ties’ (from Latin, *socius*, i.e. ‘ally’, ‘companion’, Latour, 2005).

The identification of rhetorical features of accounts as visual and symmetrical artefacts allows us to identify, compare and contrast what we see as three paradigmatic aesthetic codes in the history of accounting: Roman times, the Renaissance and Modernity. We argue that in Roman times and in the Renaissance the legitimacy of socie-ties derived not from the representational, persuasive or cognitive power of accounting numbers, but from the ability of its rhetorical figures to scrutinize ambiguous notions of fairness and *aequitas* (Kaye, 2014). Accounts from these periods help to make sense of the relationships of Roman citizens and Renaissance merchants within their larger social, political, religious and economic community. By contrast, accounts from late nineteenth century Britain concentrate primarily,

if not exclusively, on economic connections, thus exemplifying a move from figuring out complex legitimate ties within communities to conceiving of them as objective tools to represent financial transactions. When accounting becomes conceived of as a representational practice, a new aesthetic code emerges; indications of class status, morality and social proximity are no longer to be found in the accounts, but in the emergence of the accounting profession – a phenomenon that we investigate in the context of the establishment of the Institute of Chartered Accountant in England and Wales (ICAEW).

The article is organized as follows. The next section reviews the literature on the discursive sources of legitimacy, but also the visual and material sources, first in studies on organizations and then in accounting studies. By introducing the rhetorical process of *ratiocinatio* (Carruthers, 2015) and the notion of ‘aesthetic code’ (Gagliardi, 2006), we then show how social actors augment their understanding of their relationships by reducing them to a series of entries into material accounts, using them to investigate abstract notions of legitimacy. The case material follows, insisting on the complementarity of verbal, visual and material dimensions of accounts to appreciate the legitimacy of social ties. The article closes with a discussion of the findings and an agenda for further research.

### **Literature review: From the discursive to the visual and material nature of legitimacy**

#### *Discursive, visual and material sources of legitimacy in the study of organizations*

The notion of legitimacy as consonant with broader norms and social rules has a long history and a central role in sociological theory and organization studies (Weber, 1956; 1978; Deephouse & Suchman, 2017; Suchman, 1995). Varied is the list of possible sources of legitimacy, with the ‘tools of legitimacy’ (Barros, 2014) ranging from narratives (Golant & Sillince, 2007), frames (Meyer & Höllerer, 2010) and discourses (Vaara & Tienari, 2008), to

verbal accounts (Elsbach, 1994), media (Pollock & Rindova, 2003) and, more recently, blogs and social networks (Barros, 2014).

The emphasis on verbal strategies of communication in some of these works (e.g. Elsbach & Sutton, 1992) has opened the way for the emergence of a stream of works emphasizing the role of rhetoric (e.g. Green, 2004; Suddaby & Greenwood, 2005) in providing legitimating accounts for individual and social action (Creed, Scully, & Austin, 2002; Patriotta et al., 2011). These works show that when individuals and social actors struggle to understand sources of legitimate behaviour and cope with various institutional pressures for compliance, they seek refuge and comfort in narratives, storytelling and rhetoric (see Landau, Drori, & Terjesen, 2014). From this perspective, discursive regimes and narratives ‘provide materials and opportunities for individuals reflexively to author version of their selves’ (Brown & Toyoki, 2013, drawing on Tracy & Trethway, 2005). For Joutsenvirta and Vaara, legitimation can thus ‘be seen as a discursive process creating senses of legitimacy or illegitimacy in text and social context’ (2015, p. 744).

This shift in the literature’s focus from consonance to norms and social rules towards the study of narrative, discourse and rhetoric is not trivial. It signals the possibility of viewing narrative, discourse and rhetoric as reflexive means of judgement and scrutiny, especially because such norms and rules ‘are rarely uniform or followed consistently [and are] often rife with contradiction’ (Hirsch & Bermiss, 2009, p. 263; Hallett & Ventresca, 2006). They help individuals and organizations to reflect continuously on social rules, norms and values and their own identities as social actors within communities.

It is this possibility that we aim to explore in this article, by responding to Meyer, Höllerer, Jancsary, and Van Leeuwen’s recent call for studying how the ‘compositional structure’ of visual texts, narratives and concepts generate legitimacy (2013, p. 531). Visuals are invariably linked to cultural values and norms and the conventions used in their

composition embody the aesthetic tastes and moral ideals of an historical moment (Kostelnick, 2004; 2012). How visual and verbal components are connected (Kress & Van Leeuwen, 1996), articulating several modes (e.g. language, pictures, sounds, gestures, music) into ‘modal ensembles’ (Kress, 2010), reflect, but also participate in the invention of complex and abstract arguments (Scott, 1994), leading to the development of shared practices and behavioural norms (Anteby, 2010). This study therefore engages with multimodality studies (Kress & Van Leeuwen, 2001) by seeing accounts as compositional artefacts in which to explore the links among aesthetic, rhetoric and the exploration of shared practices regarding the legitimacy of social ties within communities.

*Accounting legitimacy and rhetoric: from the persuasion of the text to the composition of visions of social order*

Within and outside accounting studies, growing attention has been given to the ways in which calculative practices (Miller & O’Leary, 1987) such as budgeting and planning (Oakes, Townley, & Cooper, 1998) contribute to the appropriateness of organizational action by showing consonance with institutional norms, rules and values (Richardson, 1987). This emphasis reinforces the observation that legitimacy is intrinsically relational, as it ‘represents a relationship with an audience’ (Suchman, 1995, p. 594).

The study of the persuasive power of accounting and its cognitive effects (Carruthers & Espeland, 1991) has recently shifted from accounting texts in manuals (e.g. Aho, 1985, 2005; Thompson, 1991) to the visualization that accounting produces (e.g. Thompson, 1991; Quattrone, 2009). Special issues of accounting journals (e.g. Hopwood, 1996; Davison & Warren, 2009), edited books (e.g. Jack, Davison & Craig, 2013; Puyou, Quattrone, Mclean, & Thrift, 2012) and comprehensive reviews of the literature (Beattie & Jones, 1992; Davison,

2015) have now been dedicated to an investigation of the way accounting constructs and conveys complex messages to an audience.

In the most recent review of this growing literature, Davison (2015) surveys a number of works concerning ‘visual forms related to accounting’ (p. 123, Table 1) and shows how such forms range from photographs in companies’ reports to cartoons and graphics, with current developments involving videos, web pages and social networks (see Barros, 2014). This work confirms how contemporary cultures grant relatively greater importance to visual (and now digital) rather than to oral, manuscript, written and printed texts (Finkelstein & McCleery, 2002). Rather than a focus on the materiality and visual features of the artefacts that surround accounting (e.g. photographs, faces, cartoons), however, we would like to explore the aesthetical and symmetrical design of the account itself and investigate the role that this design has played in the constitution of ties amongst members of a society (Latour, 2005).

Various works have explored the role that accounting plays in continuous processes of ordering (e.g. Ezzamel, 2009), thanks to rhetorical practices of classification, visualization and composition that help social actors to reflect on legitimate modes of actions in relation to ambiguous contexts (Meyer, 1986), therefore making them legitimate players in processes of social ordering (Quattrone, 2015). This focus shifts our attention from consonance to rules, norms and values to the reflexive role that texts, visual and material artefacts play in the emergence, scrutiny and validation of such rules, norms and values through the rhetorical and reflexive composition of an aesthetic code of a society.

Rhetoric, especially in accounting, management and organization studies (e.g. Carruthers & Espeland, 1991; Green, 2004; Suddaby & Greenwood, 2005), has often been associated with words, texts (see Davison 2014 for an exception) and persuasion. The first canon of classic rhetoric, the *inventio*, reveals instead a more creative nature of this practice

by originating two related words in many contemporary Western languages: ‘inventory’ and ‘invention’ – the formation of new knowledge and relationships, especially thanks to the recombinatory abilities of the whole rhetorical apparatus (Barthes, 1970; Bolzoni, 1995). The rhetorical *inventio* and its categorial organization in *topoi* – meaning ‘spaces’, but also ‘topics’ – made of rhetoric a spatial practice for reasoning and argumentation (Carruthers, 2015). Rhetoric can thus be conceived of ‘as a craft of composition rather than as one primarily of persuading others’ (Carruthers, 1998, p. 3). A craft that does not happen only in the mind but in a relationship with material and visual artefacts that help individuals to understand their role by composing views of the self in relation to larger communities ‘within which a single life was “perfected”’, thus becoming ‘civic beings’ (Carruthers, 1998, p. 2).

This more multimodal understanding of rhetoric implies an understanding of a set of techniques such as a collective reflexive practice aimed at the continuous (and never fully fulfilled) search for legitimate relationships between individuals and societies. The importance of accounting as a visual and material rhetorical practice thus requires the exploration of a specific aesthetic code (i.e. a correspondence between systems of beliefs and of values on the one hand, and specific patterns of combination between formal elements such as visualizations and artefacts on the other hand, Gagliardi, 2006), which we argue in the following section, for accounting implies that attention be paid to the role of symmetry, balance and proportions (Thompson, 1991) in both accounts and societies.

### ***Ratiocinatio*, the search for legitimacy and the aesthetic code of ‘socio-ties’**

*Ratiocinatio* is a rhetorical method of interrogation and scrutiny, which proceeds from what is visible, known or written (e.g. a material inscription, a commonplace or a law) to



question and explore what is invisible, unknown or unwritten (Carruthers, 2015). This practice consists of two complementary activities: a strategy of augmentation constituted by reasoning by analogy as a basic invention tool, along with its contrary, “brevity” or compression. One should think of these two contradictory movements as acting in tandem [...]. Brevity and augmentation are contraries but complementarily so, each needing the other, each only perceptible in relation to the other. (Carruthers, 2015, p. 11)

Medieval disputes on usury narrated by Kaye (2014), for example, exemplify this articulation of augmentation and compression. The visualization of monetary transactions into accounts mentioning ‘*who* was involved’, ‘*when* did they take place’, ‘*how* much money was involved’ and ‘*what* it was used for’ resulted from a process of ‘compression’ of the complex particularities of the loan to a few lines of text and numerical signs on paper. This reduction onto accounts was accompanied by an augmentation in the form of debates: The known (exchanges of cash inscribed into an account) was utilized to question and explore the unknown – the legitimate behaviour regarding usury that was compatible with Christian doctrine.

The etymology of the word *rationatio* (from *ratio*, meaning ‘account’ and ‘proportion’ and not exactly ‘reason’, as in the contemporary sense of the word, Carruthers, 1998, p. 33) reminds us that an essential component of individuals’ search for their locus as civic beings was constituted by visual and material *rationes* (i.e. visual ‘schemes’, ‘structures’ or ‘designs’; Carruthers, 1998, p. 33). It also reveals that these designs needed to have, but also generate, specific visual and material relationships: They had to generate a sense of proportion, as the reference to the word *ratio* entails (see Thompson, 1991).

At least from Greek times and Aristotelian ethics, the idea of symmetry ‘carries also the connotation of “middle measure”, the mean towards which the virtuous should strive in their actions’, thereby linking aesthetics with ethics (which becomes an ‘aesth-etics’) (Weyl, 1989, pp. 3–4). Symmetry carries and conveys ‘a complex sense of balance/*aequalitas*, as applied to the aggregation of interacting individuals within the *civitas*’ (Kaye, 2014, p. 13).

Symmetry has characterized the search for common good from mediaeval to early modern time (Carruthers, 1990; 1998).

This ‘aesth-etics’ of symmetry builds a key link between visual and material representations and concerns of moral legitimacy as proportionate social relationships. This is core to the idea of legitimacy as articulated by Suchman (1995, p. 594) as ‘a *relationship* with an audience’ (emphasis in original; see *Accounting legitimacy and rhetoric* section), where this relationship needs to be established and managed through some type of visual and material artefact which operationalizes abstract notions of legitimacy (Meyer, 1986). The aesthetic and rhetorical experience of producing accounts not only represents merely what happened through compression (see (a) in Figure 1), but also makes readers reflect upon and compose abstract criteria of belonging, allowing them to go from material and visual objects to wider labels, originally unknown via augmentation (see (b) in Figure 1). How symmetry materializes into visual and material accounts, we argue, constitutes the aesthetic code of a society, providing individuals with guidelines for canons of legitimacy, such as balance and proportions.

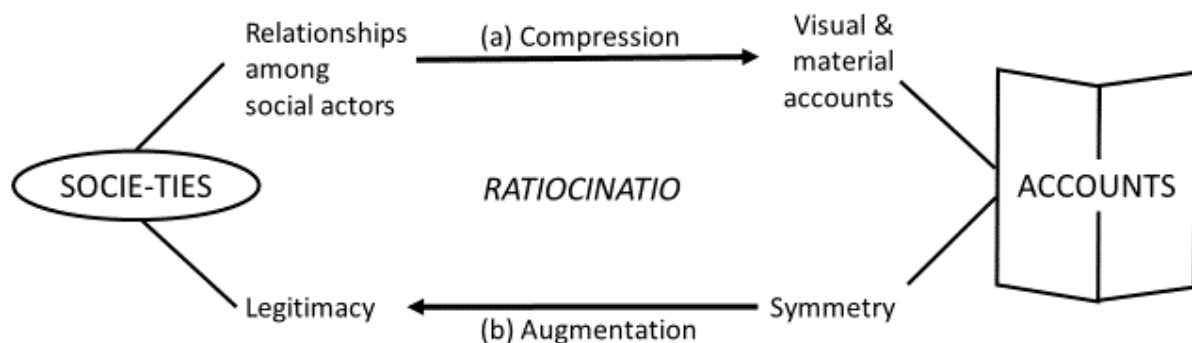


Figure 1. *Ratiocinatio* as compression and augmentation linking accounts and socie-ties

In producing accounts, the process of compression generates ‘high-visual intensity’ texts (Kostelnick, 1988, p. 31) embodying a significant visual and material dimension. Accounts differ from exclusively verbal forms of written expressions according to their ‘density’ (Goodman, 1968 quoted in Mitchell, 1986) – the number of features that they incorporate, including colours, materials, precision and layout. Accounts are therefore neither exclusively visual nor exclusively textual but involve multisensory apprehension, especially during processes of augmentation in which their very layout participates to the assessment – of the morality of loans, for example. Accounts can be conceived of as ‘things’ embedding aesthetics codes that tell us ‘what is that differentiates us from others and what is that we have in common with others’ (Gagliardi, 2006, p. 711).

Yet, we also argue in this article that accounts do not have a representation purpose (i.e. implying accuracy and isomorphism between the represented and the representation), but a speculative one. They are figures with a material and aesthetic dimension to them, not mere numbers resulting from immaterial formulae and calculations. Accounts are always produced through rhetorical compression of social relations. Their shapes and formats reveal different

instantiations of symmetry over time, and therefore different grasps of what makes individual legitimate in societies. They generate a sense of proportion and symmetry in line with the aesthetic code of their time.

### **Data and method: giving sequence and contexts to accounting practices through a visual historical case of accounts**

*Exploring the evolution of accounting rhetoric: a case for comparative historical cases*

In the previous section, we referred to rhetoric as a visual and material practice of reflexive knowledge and social ordering (rather than simply of persuasion). To explore this visual and material dimension of rhetoric, we have selected three emblematic periods significantly permeated by rhetorical accounting practices: Rome during the late Republic and the Empire (from the second century BC to the fourth century AD), Italian Renaissance (between the late thirteenth century and the seventeenth century), and England at the end of the nineteenth century. Taking this bird's-eye view allows us to explore not only the social settings, but also the material and visual conditions of accounting, as marked by major evolutions due to religious (e.g. Christianity), technological (e.g. paper, printing), and economic (e.g. capitalism) transformations.

Rome under the Republic and the Empire is a period of remarkable richness for exploring the roots of a long-standing co-existence between widespread accounting practices and formalized rhetorical principles. Although of Greek origin, rhetoric has indeed gained considerable audience and influence through the ages, thanks to such Roman treatises as Cicero's *De Inventione* and the anonymous *Rhetorica ad Herennium*, both written around 85 BC. Given this influence, we believe that 'evidence from the ancient world is of interest and importance in complementing that which is more familiar from medieval and modern times'

(Macve, 2002, p. 456; see also Andreau, 1999), and considered the inclusion of a survey on private Roman accounting practices as a judicious first step in our demonstration.

The Renaissance period is characterized by the rediscovery of the same Greek and Roman achievements, the influence of which was permeating all the arts and sciences (McCarthy, Sangster, & Stoner, 2008). The period is also marked by the domination of Italian city-states over commercial trade and finance in Europe and by the slow diffusion of double-entry bookkeeping (DEB) techniques. In addition, the period sees the transition from education based on medieval scholastics to the development of a ‘de-rhetorization of rhetoric’, marked by a drive toward simplification and order (Thompson, 1991, p. 586). This period is therefore one of transition towards a new form of rhetoric and a new method of keeping accounts: undoubtedly an interesting time for our purpose.

Although it is not the unavoidable consequence of the previous two periods and even less a definite conclusion to a linear history of accounting, we have decided to study England at the end of the nineteenth century as the last historical period of our article. This choice is justified by the simultaneous emergence of accounting as a discipline regulated by professional associations and by the academic administration of accounting knowledge – two factors symptomatic of a modernist aesthetic (Mitchell, 1994). We notably concentrate on the formal examinations implemented in 1892 by the then recently founded ICAEW and its preliminary entrance exam, which included such topics as Greek or Latin. The formalization of what accounting education should be was thus explicitly associating humanist knowledge with training in accounting. Yet, accounting of the time exemplifies the disappearance of social, political, and religious concerns from the accounts and marks the triumph of methodological exactness (Thompson, 1991).

The choice of studying three structurally similar historical cases makes the context variable, and its influence therefore apparent (Kieser, 1994; Kipping & Usdiken, 2014). It

also highlights differences and regularities among the three historical periods (Usdiken & Kieser, 2004), leading us to formulate inductive propositions on the persistence of links between the rhetorical nature of accounting practices and the legitimacy of social relationships, despite changing notions of symmetry and legitimacy. Unlike historians, we have therefore yielded to the social scientists' tendency to embed our historical narratives within theoretical generalization (Bucheli & Wadhvani, 2014; Rowlinson, Hassard, & Decker, 2014). Yet, in this article, history has been integrated into the construction of the theoretical model and not used merely as a depository of available data (Ocasio, Mauskapf, & Steele, 2016).

#### *Pragmatic concerns related to the selection of relevant sources*

Accounts are peculiar to the extent that they mix words, numbers and frames, charts and ornaments. This mixture challenges a clear division between the image and the word as 'text and image converge into one semiotic currency' (Goggin, 2004, p.103). The methodology used to analyse historical sources was therefore 'visual rhetoric', defined as the study of artefact as 'the purposive production or arrangement of colors, forms and other elements to communicate with an audience' (Foss, 2004, p.304). Because a central objective of this article is to theorize accounting artefacts as the result of conventions of depiction, which help people to understand their relationships within communities, our theoretical ambition has been particularly influential in the selection of our sources.

Although historians praise proximity with primary sources as a distinctive feature of their discipline, comparative history rests primarily on the interpretation of secondary works (Tosh, 2010, p.166). We have therefore engaged primarily with the work of other scholars to document our argumentation. The 600 years covered by the Roman period saw a remarkable

stability in economic practices (Andreau, 1999) – a continuity that allows researchers to compensate for the scarcity of primary sources directly related to private Roman accounting practices by mobilizing texts and other documents disseminated over that long period, indirectly evoking such practices. Mobilizing the work of multiple experts helped us to grow confident in the compatibility of our arguments with available historical evidence (Arnold & McCartney, 2003) and with the particularities of the historical context (Lipartito, 2014). Bookkeeping played a significant role as an auxiliary source of the development of Roman law (Malherbe, 2005), and a significant amount of the information currently available on Roman accounting practices comes from legal cases (Minaud, 2005). Our understanding of Cirero’s prosecution against Gaius Verres (70 BC), for example, was acquired through the work of several scholars (e.g. Meyer, 2004; Minaud, 2005; de Ste. Croix, 1956), providing us with a variety of viewpoints and a richer understanding. In addition, because some of the material mobilized, such as contemporary commentaries on past legal disputes, are ‘tertiary sources’ (Kipping, Wadhvani, & Bucheli, 2014), we have been cautious of the influence exerted by the researchers’ intention and prejudices on our own interpretations (Tosh, 2010).

The material available on accounting practices for the Renaissance and Modern periods is overwhelming by comparison with the Roman corpus. The choice of documents was thus guided by the desire to make connections between periods, so as to avoid a mere chronological succession of events. The sources selected are not simple and isolated ‘facts’ but acquire meaning depending on how they are linked to each other. For example, we paid attention to display pictures in each period showing similarities and variations in the accounts.

We have also made use of etymological analysis to highlight links among accounting, rhetoric, and aesthetics, knowing that ‘words have a history’ (Long, 2001) and conscious of

the fact that analysis and theorization make sense only when they are inserted in a broader lexical and cultural context (Carruthers, 2013).

In the following section, we discuss some empirical material on the way accounting practices operate a simultaneous process of compression (from relationships between actors into material accounts) and augmentation (from the symmetry in accounts to the legitimacy of individuals in societies) in accordance to the ‘aesthetics’ codes typical of three historical periods.

### **The making of Roman *societies*: *Ratiocinatio* and the invention of the citizen body**

Romans were clearly conscious of the general advisability of keeping accounts (de Ste. Croix, 1956), which took the form of wooden tablets covered with wax (*tabulae*), bound together and kept in a dedicated room called the *tablinum* (Minaud, 2005). In Roman society, the use of wooden *tabulae* was common to accounting documents and other venerable acts. Key political acts (like the creation of treaties and magisterial edicts), religious acts (like vows and prayers), and significant household acts (like the making of a will) were all performed on waxed tablets (Meyer, 2004). All the acts produced on *tabulae* shared similar traits and qualities creating connections among legal, religious, political and economic realms. To undertake a debt, for example, was seen as incurring a religious vow, and until it was clear that the vow had been realized or the debt had been paid, the person was a *reus* (debtor), in the (uncomfortable) position of a defendant in a court case (Meyer, 2004). Tablets also suffered no erasures and displayed a formulaic language using archaic vocabulary and syntax, set forms and spelling, and a rhythmic quality, to create something that would sound impressive, precise and exhaustive when read loud in a distinct and powerful way called *recitatio* (Meyer, 2004). Andreato (2007) insists on the Roman habits to



blend oral and written communications. It was the combined actions of written aspects, eloquent speech and adequate rituals that prompted the existence of the Roman citizen body (with its various social classes) from tablets (Meyer, 2004). Tablets were understood to have performative powers and the capacity not merely to depict, but also to make sense of and bring shape to a disordered universe, as made explicit in the relationships not only among Roman citizens, but also between Roman citizens and slaves (see Figure 2), as we illustrate through the examples that follow.

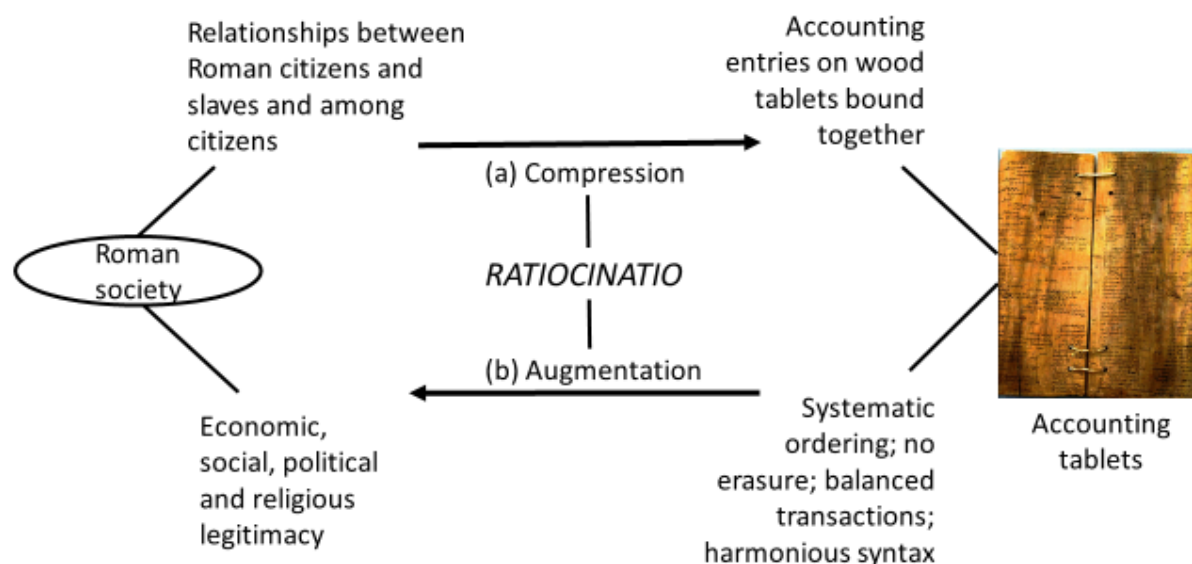


Figure 2. Overview of the accounting rhetorical process interrogating social legitimacy in Roman times

### *Relationships between Roman citizens and slaves*

Wealthy *Roman citizens* would entrust the management of agricultural estates and large sums of money to slaves, who would undertake economic transactions on their behalf. Keeping accounts was then part of the ‘management rules’, constitutive of the domination of the Roman elite over the slaves in charge of running their agricultural estates (Ruef & Harness 2009).

The most explicit guidelines concerning bookkeeping practices mimicked classical rhetorical recommendations and consistently mentioned the ‘how much’, ‘who’, ‘when’, ‘where’ and ‘how’ of every transaction (Minaud, 2005). Roman bookkeepers used to list information in systematic ways, as illustrated, for example, in the book of accounts of Kellis. (See Figure 3.) These wooden tablets from the fourth century AD contain accounts of an estate and present a structure ‘very typical of the period’ (Andreau, 2004, p. 434), on which records of past transactions were grouped by year and by types of goods (i.e., wheat, barley, jujube and wine). According to Andreau (2004), the design of the Kellis tablets exemplified a form of ‘symmetry’ due the regular succession of records in each account, referring first to inflows, then to stock and finally to outflows. There was thus a *formula* (a pattern of information to be provided) and an *ordo* (a specific order) in which to present accounting information.

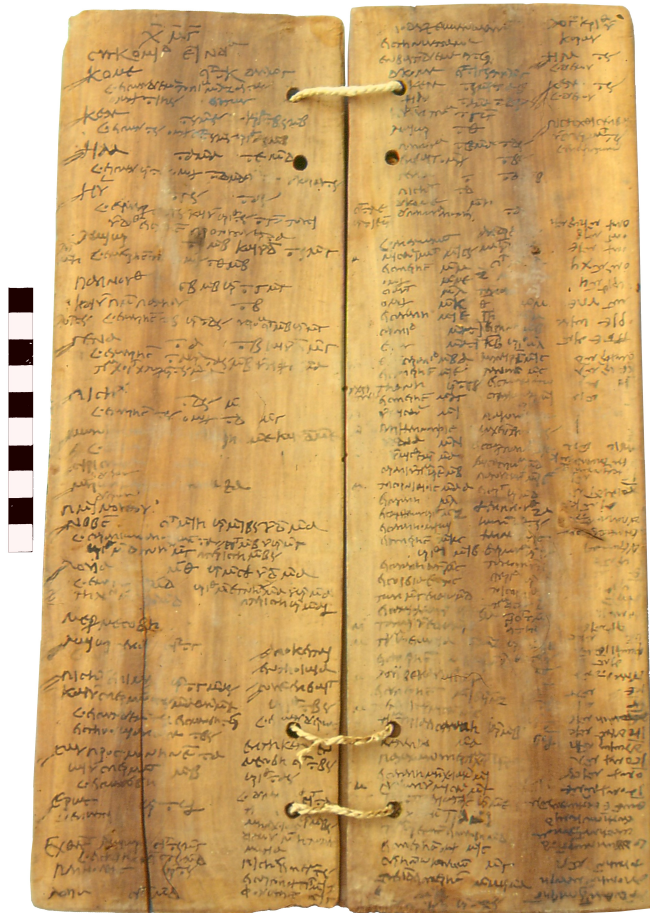


Figure 3 –The Kellis Agricultural Account Book (Egypt), wood tablets, circa 350–360 AD<sup>1</sup> (Tablet 1 verso and tablet 2 recto)  
 (Courtesy of Prof. Colin Hope)

Accounts were carefully compiled, so as to be convincing when displayed during inspections by the master (*dominus*) (Andreau, 2004). The compression of local activities into entries in tablets was presenting distant masters with simple information regarding their properties. Any confusion in the order of the items (*perturbatae*), such as when entries were placed in unexpected places (*repentinae*) provoked doubts about the morality of the bookkeeper (*ratiocinator*) (Andreau, 2007). Visible indications of change in tablets were also interpreted as signs of fiddling and untrustworthiness. Tablets therefore gave masters material for reflecting upon the morality of their servants.

<sup>1</sup> See Bagnall (1997, pp. 90–105) for a translation into English.

Masters clearly inspected accounts to get an idea of the wealth created over a period, but also to assess the trustworthiness and moral character of slaves. It was not uncommon to examine the accounts to consider whether a slave could pretend to be emancipated (Minaud, 2005). Financial success and the slave's diligence in record keeping could thus be used to identify those who deserved manumission. The value of liberty and what it took to be rewarded freedom or Roman citizenship was elaborated upon using accounts as a proxy of the slave's merits and legitimacy to belong to Roman society. In this context, accounts were reflecting what was not immediately discernible – such as other people's virtues. They were also means of maintaining and/or establishing new ties in the Roman community, as the keeping of accounts was a necessary step in claiming a position in Roman society and gaining social prestige.

#### *Relationships among Roman citizens*

Romans shared a reluctance to be seen as exploiting their fellow citizens (Morris, 1999) – a reluctance they did not exhibit in their relationships with slaves. Roman citizens had a particular interest in the numeric comparison between what was received and what was given between equals, a sign of the importance of reciprocity, as exemplified by the Roman law maxim, *do ut des* (i.e., an act of giving that needs to be reciprocated by another one).

As the exchange of services was often not immediate, such relations relied on the good faith (*fides*) of citizens. *Fides* was crucial to engage in specific kinds of immaterial financial transactions, and it was notably documented by the proper use of tablets. The prevalent accounting document common to *patres familias*, known as the *codex accepti et expensi*, recorded information related to their properties and the principal transactions impacting their estate. In a society in which 'who received was in debt' (Minaud, 2005, p. 89), looking at the

*codex* helped Roman citizens to document how they could *parem rationem* (Seneca's expression to convey the idea of 'being even') with other citizens. There was a strong incentive to keep accounts carefully (Oldroyd, 1995). Cicero clearly stated in his defence of Roscius, for example, that *tabulae* of accounts could not 'honestly' or 'with honor' be set aside, ignored or lost. For him, a *codex* was a document standing for 'the voice' of Roman citizens: an artefact that 'could not be slighted without their author also feeling the sting' (Meyer, 2004, p. 220). Only villains like Senator Verres could present personal accounts full of inept erasures, but the poor state of Verres' accounts did play a key role in convincing jury members in 70 BC that he had plundered cities in Sicily. It was part of a senator's duties to collect money from the province where he stayed, but the absence of a flawless *codex* made doubtful the adequacy of these transactions with respect to *mores* (i.e. common decency). *Rationes* were thus used to explore the morality and to assess the innocence or guilt of Verres.

The *codex accepti et expensi* was also mobilized regularly outside tribunals and notably during the *census*. The Roman *census* consisted of placing citizens into a hierarchy of three classes (the *plebeian*, the *equestrian* and the *patrician*), creating and ordering the entity known as the Roman citizen-body (*civitas*). There were no formalized pre-set conditions for belonging to a particular class, and prestige was a combination of several dimensions publicly displayed on the occasion. Once again, accounting tablets were one of the key tools for citizens to document their aspirations to social status. Personal wealth was undoubtedly considered both 'necessary and good' (Finley, 1973, p. 35) and a condition to access specific citizens' rights, such as the right to vote (Edwards, 1989). Yet, *censors*' interpretative task relied on no systematic correspondence between accounts and specific social position. *Censors* in charge of inventorying the Roman citizen body had to consider simultaneously the diversity of information they could hear and see on these occasions. Practically, the *census*

was an act of augmentation, building an ordered society from information received from tablets and their *recitatio*. This process of augmentation was immediately followed by a new act of compression, as the result of the *census* took the form of tablets on which the names of the citizens were written according to their rank and stored until the following *census*. It was clear to the Romans that the status granted on a given *census* was not permanent; rank was determined anew every five years or so.

The symmetry in Roman accounts arises from the juxtaposition of entries recording properties and transactions into tablets which look flawless, sound authoritative and are presented bound into codices resembling other legal, religious and political documents made of the same prestigious materials. An important part of the legitimacy of Roman civic beings arises from their capacity to produce such tablets and engage with them in collective performances matching the visual and aural aesthetics of the time.

### **The making of Renaissance *socie-ties*: *Ratiocinatio* and the invention of the community of Christian merchants**

Renaissance bookkeepers were trained in the art of composing written documents after pre-set, rhetorically engaging figures adapted from Roman oratory art but applied to a literary format (Aho, 2005). Accounting documents compiled using DEB, but also artefacts from most domains of arts and sciences, such as geometry, architecture and painting exemplified the larger functioning of Christian cosmos as harmonized diversity (*discordia concors*) – a characteristic that could be attributed to God Himself. In this context, keeping precise and beautiful accounts helped Florentine merchants to become legitimate citizens of Florence, for instance, by being seen as moral Christians, successful entrepreneurs and even influential

politicians (Padgett & Mclean, 2011) (see Figure 4). We provide some evidence for this statement in the remainder of this section.

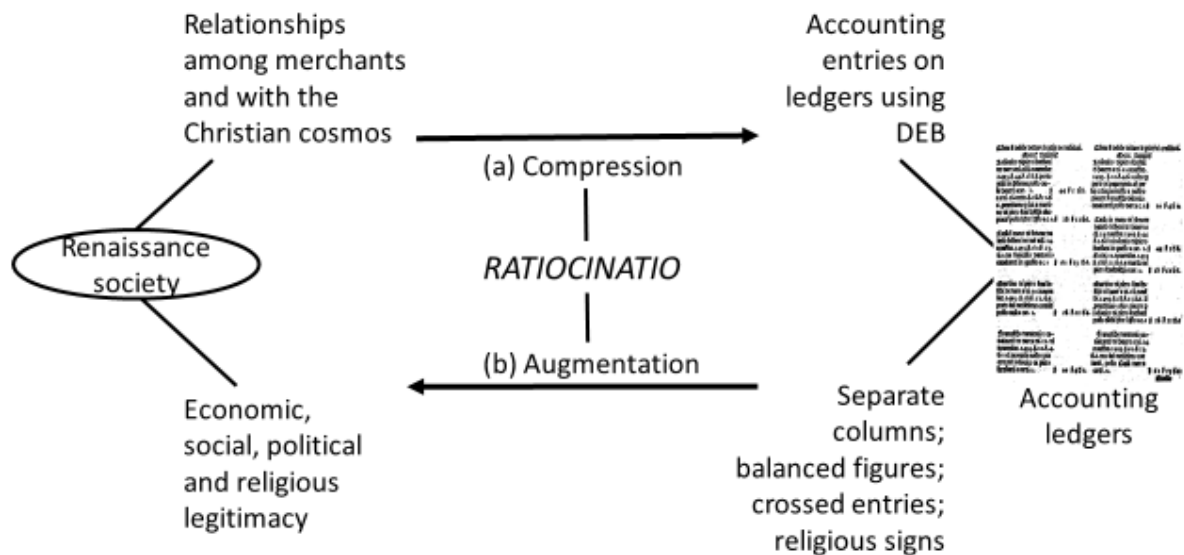


Figure 4. Overview of the accounting rhetorical process interrogating social legitimacy in Renaissance and early modernity

### *Relationships between merchants and the Christian cosmos*

During the Renaissance, accounts were not used merely as depositories of economic transactions; they also helped to reflect on wider social preoccupations with moral and religious concerns. Questions related to the prestige and morality of merchants were assessed through the aesth-etic of their accounting documents. Pacioli’s *Summa* illustrates how the convention of presentation was two columns, creating separate places for bookkeepers to record ‘debit’ and ‘credit’ (see Figure 5). This aspect of Pacioli’s sheet is remarkable, for it forced the accountant to stand between two opposite spaces and decide for every transaction who should be credited and who should be debited. As much as labyrinths and mazes were designed in the Middle Ages and Early modernity to force individuals to choose between opposite directions and to reflect on how to find their way in life, metaphorically speaking (Carruthers, 2010), accounts called for similar reflections, forcing accountants to pause and

reflect on the nature of the transaction and its relationships with the wider cosmos. This enactment of visual methodological guidelines in constructing accounts generated the idea that the Thomistic criterion of justice (i.e. ‘we owe no more than what we have received and we have no more than what we have already given’, Aho, 1985, p. 34) was either satisfied or not. This layout also greatly facilitated verifications, and notably the *summa summarum*, which ensured that the sum of the credit and debit columns were equal.

<b>Cōme si debbe vittare le ptite de debitozi.</b>	<b>Cōme si debbe vittare le ptite de creditozi.</b>
<p><b>ADCCC. LXXXIIII?</b>  <b>Lodouico di piero forestani</b>  <b>de dare adi. xiiii. nouembze</b>  <b>1493. §. 44. f. 1.º. d. 8. porto</b>  <b>ptati in pñansa. posto cas-</b>  <b>sa hauere acar. 2. §</b>  <b>ea di. 18. detto. §. 18. f. 11. d.</b>  <b>6. pmettamo p lui a marti-</b>  <b>no di piero fora toscani a suo</b>  <b>piacer posto hēre i qsto a. c. 2. §</b>  <b>18 f 11 d 6.</b></p> <p><b>Cassa i mano di finone da</b>  <b>leso bōbeni de dar adi. 14.</b>  <b>nouembze. 1493. §. 6. 2. f. 13.</b>  <b>d. 2. da francesco vantonio</b>  <b>canalcanti in questo a. c. 2. §</b>  <b>62 f 13 d 6.</b></p> <p><b>Martino di piero fora to-</b>  <b>scani de dare a di. 20. nouem-</b>  <b>bze. 1493. §. 18. f. 11. d. 6.</b>  <b>porto lui medesimo contati</b>  <b>posto cassa a car. 2. §</b>  <b>18 f 11 d 6.</b></p> <p><b>Francesco vantonio : ca-</b>  <b>nalcanti de dare a di. 12. di</b>  <b>nouembze. 1493. §. 20. f. 4.</b>  <b>d. 2. di promise nostro pia-</b>  <b>cere per lodouico di piero</b>  <b>forestani a carti. 2. §</b>  <b>20 f 4 d 2.</b></p>	<p><b>ADCCC. LXXXIIII?</b>  <b>Lodouico di piero forestani</b>  <b>de hauere a di. 22. nouembze.</b>  <b>1493. §. 20. f. 4. d. 2. sono p</b>  <b>parte di pagamento. E per</b>  <b>lui ce lia promissi: a nostro</b>  <b>piacere francesco vantonio.</b>  <b>canalcanti posto dare a c. 2. §</b>  <b>20 f 4 d 2.</b></p> <p><b>Cassa in mano di finone</b>  <b>valeso bōbeni de hauere a</b>  <b>di. 14. nouembze. 1493. §. 44.</b>  <b>f. 1. d. 8. a lodouico di piero</b>  <b>forestani in questo a car. 2. §</b>  <b>44 f 11 d 6.</b>  <b>E a di. 22. nouembze. 1493</b>  <b>§. 18. f. 11. d. 6. a martino di</b>  <b>piero fora toscani a car. 2. §</b>  <b>18 f 11 d 6.</b></p> <p><b>Martino di piero fora to-</b>  <b>scani di hauere a di. 18. nouē-</b>  <b>bze. 1493. §. 18. f. 11. d. 6. li</b>  <b>pmettamo a suo piacere p</b>  <b>lodouico di piero forestani</b>  <b>posto obbi hēre i qsto a. c. 2. §</b>  <b>18 f 11 d 6.</b></p> <p><b>Francesco vantonio ca-</b>  <b>nalcanti de hauere a di. 14.</b>  <b>nouembze. 1493. §. 6. 2. f. 13.</b>  <b>d. 6. reco lui medesimo con-</b>  <b>tanti. posto Cassa dare a</b>  <b>carti. 2. §</b>  <b>62 f 13 d 6.</b>  <b>quello</b></p>

Figure 5. Extract of Pacioli’s *Summa* (2<sup>nd</sup> edition), paper, 1523 (folio 210 verso)  
 (Courtesy of Bibliothèque municipale de Lyon)

For Pacioli, who was a mathematician and a Franciscan, for profit seeking not to be considered as avarice, it must be integrated into the (beautiful) Christian cosmos (Carruthers & Espeland, 1991). This connection was made explicitly by his recommendation to start all ledgers by an opening formula such as ‘*a nome di dio Guadagno*’ (in the name of God profit)



but also implicitly by composing – almost painting – the cosmos into the accounts, using harmonious proportions.

The importance of beauty could be explained by a trend common to numerous realms of human activities, including accounting – to see in proportions and symmetries reflections of wider cosmic features that are otherwise invisible. It is likely that DEB was unnecessary from a strictly commercial point of view (Goody, 1996, p. 61; see also Hoskin & Macve, 1986) and that it attracted the attention of Renaissance accountants primarily because of its beauty (Aho, 1985, p. 40). Indeed, DEB ‘may have developed under an aesthetic impulse, a pressure toward symmetry, neatness and perfection’ (Goody, 1996, p. 61), which delivered, along with other arts and sciences of the time, an image of the order of the universe whereby merchants had to claim their legitimate place as good Christians.

#### *Relationships among merchants*

In the context of commercial voyages, navigators were primarily concerned with such questions as ‘What do I own?’ and ‘What have I done?’ Investors, on the other hand, were concerned with ‘Am I being cheated?’ or ‘What is my fair share of the revenues?’ (Carruthers & Espeland, 1991). To all of them, accounting books served to keep precise records of credits with indications of to ‘which’, ‘how much’, ‘since when’, and ‘why’ individuals were in debt to each other. DEB engaged users visually, but it also suggested visual solutions to their problems. When journal entries were transferred to the ledger, for example, they had to be ‘crossed out twice’ – with a diagonal line when the debit was posted and a second one when the transaction was posted as a credit (Aho, 1985, p. 32). This way of presenting accounts clarified and elucidated the rigour and completeness of the steps followed in preparing the ledger. (See Figure 6 with the double crossing of each entry.)



Figure 6. extract from the journal of Sir Thomas Gresham, vellum, 1546  
*(Courtesy of The Mercers' Company)*

Notice the Cross at the top of the page in Figure 6. This presentation precisely illustrates Pacioli's recommendations to 'remember God and your neighbour' (translated by Taylor, 1956, p.180) that positioned the self both in the Christian cosmos (painting the cross) and in society (double crossing). As Carruthers noted (1998, p. 167), these combinations of figures (e.g. the Cross) and numbers (i.e. the value of the transaction) were 'numerical mystica' – rhetorical tools that forced individuals to participate in hermeneutic games. Ledgers and balance sheet were not merely well-ordered spaces to keep records and check the veracity of past economic transactions, but also 'figures', which resisted full 'calculation', the composition of which was 'infinitely interpretable' (Carruthers, 1998, p. 167, drawing on Fredriksen, 1992), therefore supporting personal reflection. Padgett and McLean (2011) demonstrate that, at least for the city of Florence, accounts were fusing consideration of mathematical techniques and social embeddedness. Keeping rigorous and beautiful accounts

was useful for Renaissance merchants to understand the role they played, the position they held and the relationships they enjoyed in Florentine society. The documentation of lists of creditors brought to consciousness the ties that every merchant had with other members of the community (Carruthers, 1998; McCarthy et al., 2008).

In this context, multi-vocal conceptions of credit co-existed, for to gain credit was to promote one's position as a business partner, a friend and a political ally (Padget & McLean, 2011). Conversely, the loss of credit carried with it a moral tone that tarnished reputation, with dramatic consequences for one's capacity to continue as part of the community. Credit was thus a convenient perceptible reduction of transactions used to deal with a much broader and indiscernible concern related to the social prestige of individuals in terms of status, wealth and power. The augmentation from credit information and aesthetic aspects of accounts was thus a device for exploring individual positions in the community by providing indirect elements documenting economic, social and political connections.

Symmetry in Renaissance accounts was found in the growing popularity of DEB implying the rigorous recording of economic transactions twice. This evolution accompanied the use of separate columns to record credits and debits facilitating the visible balance between the two. Well-kept accounts are also legitimating Renaissance merchants beyond their economic circles as the amount of debt informs the extent and strength of their social network and the ever present Christian aesthetic ascertains their morality.

### **The making of Modern *socie-ties*: *Ratiocinatio* and the invention of modern socio-professional networks of experts**

The dominant economic philosophy of mid-Victorian Britain was free trade mitigated only with limited forms of State interventionism (Walker, 1995). The occasional irruption of

State policies in the regulation of the economy is exemplified by the Companies Act of 1855, which required all limited liability companies to transmit a balance sheet to the shareholders and to appoint auditors to check whether financial documents were properly drawn up and true (Walker, 1995; 1996). For account users, accounting was seen to reduce the complexity of their economic ties to numbers. Some scholars have seen a move from the production of ‘fictions’ to ‘scientific facts’ in the evolution of bookkeeping practices of the time (e.g. Littleton, 1933).

In this context, the accounts proffered objectivity through economic ties between companies, and bookkeepers ceased to be skilful polymaths and became professional experts – guardians of the ideology that would see the market as the place where economic ties are made and morally assessed. In modernity, the bilateral symmetry obtained through the exact mathematical equality of balanced accounting calculations displayed in uniformed printed grids became the dominant aesthetic consideration in support of legitimate economic ties. (See Figure 7.) In the next two sections, we illustrate these points through examples.

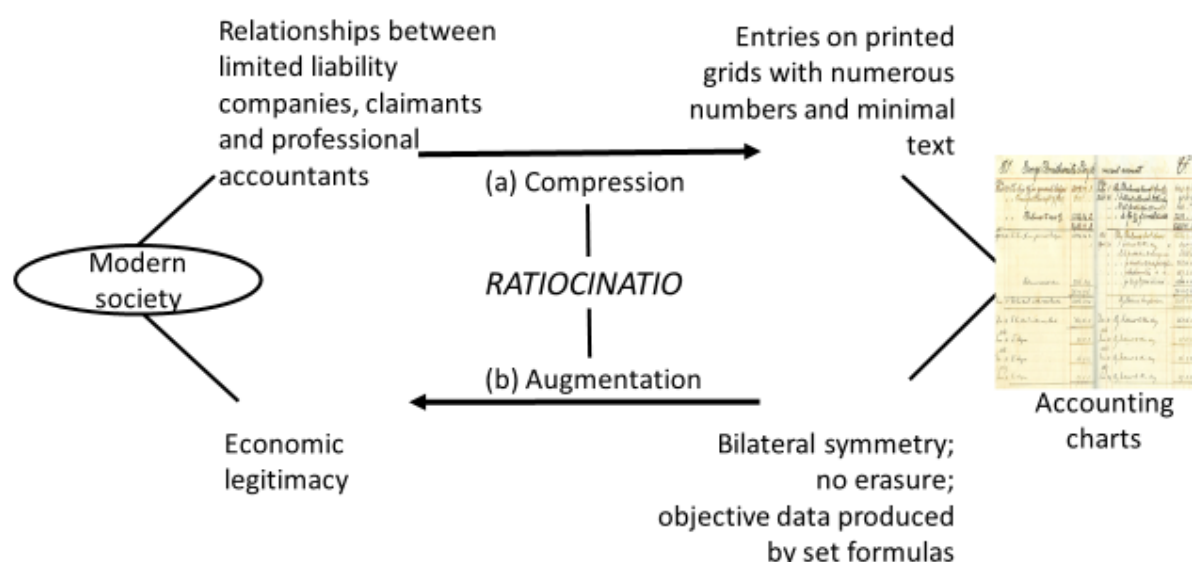


Figure 7. Overview of the accounting rhetorical process interrogating social legitimacy in late 19<sup>th</sup> century Britain

*Relationships between limited liability companies and claimants*

In modernity, accounting is still concerned with producing accounts documenting relationships using the same questions as in previous periods: ‘what’, ‘when’, ‘who’, ‘how’, ‘to whom’ and ‘how much’? If the compression of economic transactions on paper relies on the same inventory of *topoi* as before, however, these transactions were ‘painted’ (or composed) according to different canons. Essentially, the aesthetic of accounts became one of scientific objectivity: a concept that emerged during the second half of the nineteenth century and that promotes emotional detachment (Porter, 1996) and the application of mechanical formulas. Comparing Renaissance and nineteenth century leggers, for example, Aho (1985) observes that 1) entries are concise tabular postings rather than complete sentences, 2) there is a complete elimination of any religious phraseology and symbolism, and 3) the language implying reciprocal rights and duties has disappeared.

Figure 8 shows an account from the Ledger of Bernardo de Alemano de’ Medici for the years 1456–1457. Each entry includes the nature of a given credit or debt and its amount, and lists the names of the individuals that hold the debt or credit. In these entries, a Cross precedes the date and all sentences are written in the first person throughout the entire ledger

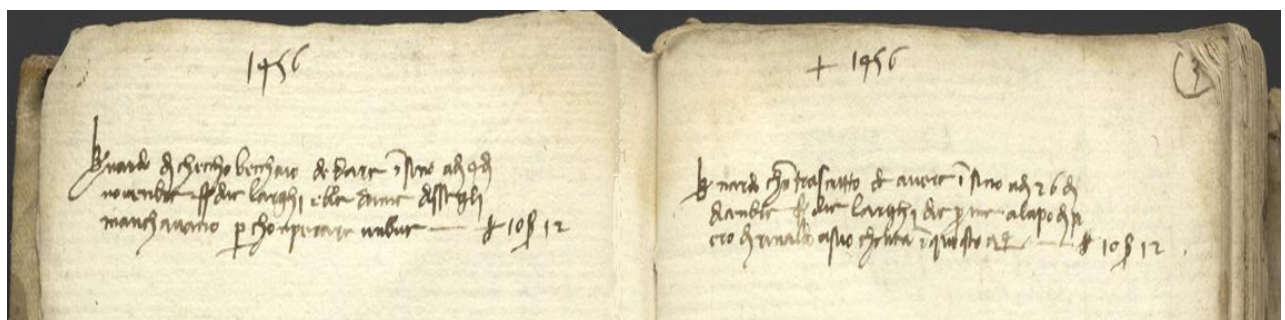


Figure 8 – extract from the Ledger of Debtors and Creditors by Bernardo de Alemano de’ Medici, vellum, 1456–1457 (folios 2 verso and 3 recto)<sup>2</sup>

<sup>2</sup> University of Pennsylvania Libraries, Ms. Codex 1516. In the Public Domain: <http://openn.library.upenn.edu/Data/0002/html/mscodex1516.html> (last accessed January, 2016).

By comparison, Figure 9 shows an extract from the accounts of another emblematic businessman, but from Victorian Britain: George Braithwaite Lloyd. No explicit references to religious phraseology and symbolism exist, and there is no use of the first person, as sentences are reduced to a minimum. The growing importance given to the concept of objectivity is also to be seen in the changing aesthetic of accounts in favour of printed grids and tables. The use of grids is related to the ideals of correctness, justice, truth and equality, equally cherished in previous periods but now associated with efficiency, quantification and scientific rationality (Chakhovich & McGoun, 2016), turning accounts into what are believed to be standardized representations of the economy.

Dr		George Braithwaite Lloyd		current account		Cr	
1864	Dec 31	To his Cr in general ledger	2078 17 1	1864	July 1	By Balance transf. from Cr	604 19 6
		" " Transfer to his capt. Cr (1865)	800 - -		Sept 31	" " Interest allowed to this day	91 11 9
		" " Balance to new Cr	5554 14 2		" "	" " P. & L. for attention to mail	100 - -
			8433 11 3		" "	" " do. for $\frac{1}{20}$ of 11000 divided	2200 - -
1865	April 30	To his Cr in general ledger	5554 14 2	1865	April 30	By Balance bro't down	5554 14 2
			2256 3 4		" "	" " Interest to this day	89 17 7
		Balance carried down	7810 17 6		" "	" " P. & L. for attention to management	66 13 10
			2256 3 4		" "	" " for donations to clubs & public houses	262 10 0
June 15		To his acct with new Bank	2256 3 4		" "	" " for bank income tax do. do.	337 2 5
					" "	" " for Cr of £7500 divided	1500 0 0
						By Balance brought down	7810 17 6
Dec 31		To his acct with new Bank	263 16 0	1865	Dec 31	By Interest to this day	263 16 0
1866	June 30	To cheque	55 15 5	1866	June 30	By Interest to this day	55 15 5
1866	Dec 31	To cheque	56 9 2	1866	Dec 31	By Interest to this day	56 9 2
1867	June 30	To cheque	37 8 5	1867	June 30	By Interest to this day	37 8 5

Figure 9 – extract from the accounts of George Braithwaite Lloyd, paper, 1864–1867  
(Courtesy of Lloyds banking)

Modern accounts still act as composition devices but their supposedly objective scientific nature deprives that composition of connections beyond the economic realm. Although they may still require such connections in practice (see Barker & Shulte, 2017, on how accounting standards inevitably require judgement to be operationalized), they no longer do so in theory (as their design and canon does not require the users to interrogate them

further than seeing the numbers they contain). The layout of modern account supports honour and unblemished reputation for the corporation it represents, but it does so following rhetorical criteria that privilege ‘the economic’, with the ‘numerical mystica’ (Carruthers, 1998) forcing the user to concentrate on a set of relationships that are all economic and transactional in nature. Compression and augmentation now construct and operate within the same economic space.

And, given that objectivity consists primarily in the effort to pattern the self by refraining from leaving a trace of the knower in the documents produced (Daston & Galison, 2010), information regarding the morality of account producers becomes separated from the representations of business relationships. Hence the need for a professional body.

#### *Relationships between professional accountants and account users*

At the end of the nineteenth century Britain a major novelty in the accountancy field was the creation of nationwide professional associations aimed at increasing confidence in the reliability of the persons and systems in charge of producing accounts. This goal was typical of modernity characterized by faith primarily grounded in the appreciation of the correctness of abstract principles employed in the production of knowledge (Giddens, 1990). Among the initial difficulties faced by the founders of the ICAEW in 1880 was ‘the failure to find any suitable or acceptable definition of a “public accountant”’ (Howitt, 1966, p. 150). *Who* genuine accountants were was nevertheless solved via the implementation of preliminary, intermediate and final examinations from December 1882.

Preliminary examinations to become an articled clerk at the ICAEW included tests in basic arithmetic and English, but also papers on such subjects as Latin and Greek and foreign languages like French or German (ICAEW syllabus 1902). This training resembled that of a

Renaissance humanist intellectual. Yet, unlike Renaissance accountants, who were trained in the letters in order to use these skills to question moral issues (Carruthers, 1990), modern professional accountants did not have this humanist knowledge at the core of their professional abilities. In nineteenth century Britain, such knowledge was testament to the logical abilities of candidates, but also to their status and culture. This restriction was not merely a sign of candidates' future ability to keep accounts; it closed access to the profession to a certain category of elites.

Intermediate and final examinations differed from preliminary exams to the extent that they explicitly comprised the preparation of accounts. In the intermediate and final examinations of 1892, the only schemata to be found in the documents are trial balances, balanced sheets and profit-and-loss accounts that embed a sense of proportion, symmetry and justice, based on fixed mathematical determination. In the design of such visuals, the mathematical notion of 'bilateral symmetry' – the exact identity between geometrical forms or perfect equality between sums in different columns (Weyl, 1989) – dominates. (See Figure 10.)

7. Arrange the following Balance Sheet so as to show three items on each side of the Statement. The partners share profits equally:—

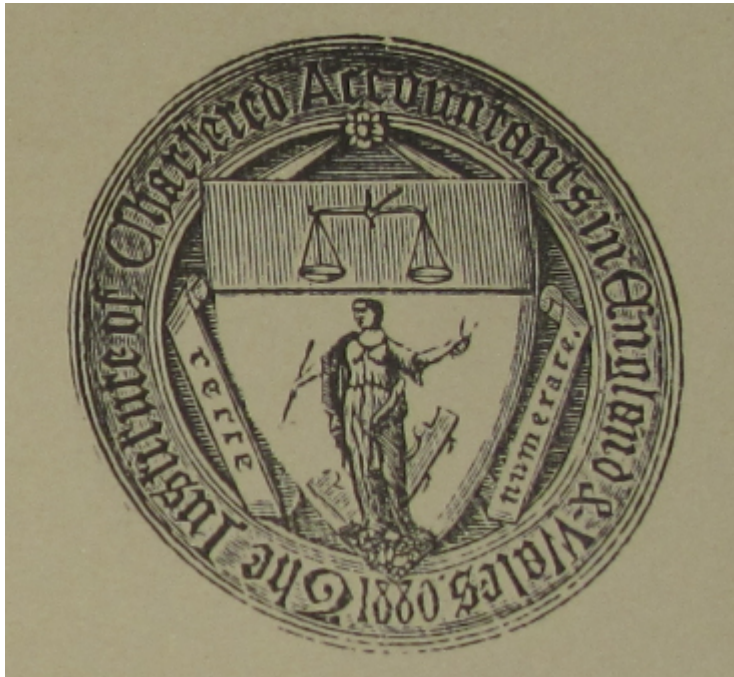
	£.		£.
A. B. Capital Account ...	4,000	Cash ...	1,680
C. D. ditto ditto ...	3,000	A. B. Drawing Account ...	1,575
Profit and Loss Account ...	1,000	C. D. ditto ditto ...	1,190
A. B. Interest on Capital ...	200	Furniture ...	435
C. D. ditto ditto ...	150	Debtors ...	7,885
Creditors ...	4,415		
	<u>£12,765</u>		<u>£12,765</u>

Figure 10 – Extract from the 1892 final ICAEW examination  
(Courtesy of the ICAEW)



With examinations, accounting becomes self-referential: Accounts are scrutinized for themselves and for similarity, even exact symmetry, with pre-set models of accounts (solutions to the examination). Accounts had become the end results of common formal protocols applied by people trained in similar ways. As noted by Grafton and Jardine (1986), this shift reveals a process of identifying ‘why’ actions were performed (the end – a moral issue) with ‘how’ they are done (a matter of skill – the means). This new rationale for action made the possession and mastering of appropriate skills equivalent to virtue: Rigorous application of accounting techniques was enough to deliver valuable services to the community. As with the medieval civic being, mastering the rhetorical skill makes one morally just and tied into a society, but in modernity the skill is skinned to its economic bone. With objectivity, ethics becomes equivalent to rigor, and morality lies in the efficacy of securing scientific knowledge.

With the exception of the ICAEW emblem, clearly visible on the front cover of most printed documents, the accounts, charts and other figures present in ICAEW examination papers referred to nothing that was not method-oriented. Moral claims beyond technical expertise could be found only in the rhetorical figure of the ‘Institute Lady’: a judge-woman personifying Justice, placed below the scales measuring good and evil and holding a compass and a ‘sword of decisiveness’ for equity, harmony and balance (Howitt, 1966, see Figure 11). The motto ‘*Recte Numerare*’ nonetheless required that the Institute’s primary ambition be to measure precisely the economy.



Picture 11 – The 1892 Institute Lady of ICAEW  
(Courtesy of the ICAEW)

The development of an education aimed at specifically mastering the skills of accounting marked a shift from beauty and interdisciplinarity to scientific rigor and expertise. In late nineteenth century Britain, the population of account producers is thus formally separated from account users, as the producers become professionals distinguished by credentials. Credentials share a common etymology with credit, as it comes from the Latin *credere*, meaning to believe and to trust. Yet, unlike the credit dear to Florentine merchants, modern credentials are clear-cut matters: One either is or is not a chartered accountant. Chartered accountants' membership, testament to their skills, is made explicit by the 'CA' attached to their names –, standing for Chartered Accountant. Such signals attached to practitioners (and not to the accounts), became dominant in supporting faith in economic figures.

Symmetry in modern accounts is found in the exact equality between numbers juxtaposed in printed grids. Accounts deprived of signs of subjectivity are legitimating economic ties to the extent that they emulate a scientific aesthetic and are produced by

professionally qualified experts. Political and religious issues are foreign to the accounts and morality is ascertained through the rigorous application of formal procedures evoking scientific protocols. Showing mastery of the visual and material technical skill equated moral justness.

## **Discussion and conclusions**

The motivation for this article resided in recent calls for examining the material and visual dimensions of legitimacy (Jones et al., 2013; Meyer et al., 2013; Van Leeuwen, 2007). Our point of departure to investigate these dimensions was the greater attention paid to the role played by rhetoric (e.g. Suddaby & Greenwood, 2005; Patriotta et al., 2011; Erkama & Vaara, 2010), narratives, discourse and storytelling (e.g. Vaara & Tienari, 2008; Mclean, Harvey, & Chia, 2012; Joutsenvirta & Vaara, 2015), in the study of legitimacy. For these studies, rhetoric is involved in establishing a sense of legitimacy for individuals, organizations and their behaviours (Erkama & Vaara, 2010).

Accounting is also intrinsically rhetorical (Aho, 1985; Carruthers & Espeland, 1991; Quattrone, 2009), and thanks to its ability to construct narratives of rationality and appropriateness (Meyer, 1986) has been seen as a powerful tool of persuasion by making things calculable (Miller & Power, 2013). In this article, we also wanted to explore the relationship between accounting and legitimacy from a rhetorical angle. We have drawn on studies that emphasize the nature of rhetoric as a reflexive method of composition and social ordering (Carruthers, 1998; 2015) rather than as a communication tool to persuade audiences. In this way, we have built a framework to interpret accounts as visual and material rhetorical instruments able to establish relations leading to a process of moral judgement.

By inserting accounting documents in different historical and cultural contexts, we have argued that social norms would not be immediately discernible, but that accounting, with its immanent concern for ‘aesth-etics’, allowed social actors to interrogate them through visual forms of proportion, balance and symmetry. We showed how accounts from the end of nineteenth-century England differed from those produced in the Roman and Renaissance times, being conceived of (and composed) as ‘mere’ representations of economic activities inducing a correspondence between rigorous objective mathematical calculation and what was good and therefore ‘just’. Historical comparison demonstrates that accounts are not, by design, limited to producing economic insights. Their essentializing character has been reinforced by the emergence of professional disciplines (Mitchell, 1994) and by professionals reluctant to span political, economic, religious and aesthetic considerations. This perspective is unlike that of a Cicero who would read, see and hear in Verres’ poorly kept accounts, signs of his failure to manage Sicily properly as its prefect, but also of his lack of morality as *pater familias* and as Roman citizen. Reflection embracing the different aspects of social life in communities, necessary for the process of *census*, to emancipate a slave and to ensure that trade conformed to Christian imperatives has currently been replaced by a belief in the application of mathematical formulas in a professionalized world. (See Table 1.) It is when (not necessarily in different historical and linearly ordered times) the nature of accounting is conceived not as one of interrogation, but as one of representation that it requires another external institution to guarantee its social acceptance (e.g. the profession).

	Compression →			Augmentation →	
Society	Examples of relationships between actors	Examples of visual and material accounts	Role of <u>visuality</u> and materiality	Symmetry	Legitimacy
Roman	1- Between Roman citizens and slaves 2- Among Roman citizens	1- Kellis accounts of agricultural estates (AD 4 <sup>th</sup> ) 2- <i>Codex accepti et expensi</i> *	The <i>codex</i> was the person himself, “his face” and “his voice” (Cicero in Meyer 2004)	Systematic ordering; no erasure; balanced transactions; harmonious syntax	Economic, social, political and religious legitimacy
Renaissance	1- Between merchants and the Christian cosmos 2- Among merchants	1- Pacioli’s <i>Summa</i> (1523) 2- Entries from T. Gresham ledger accounts (1546)	Accounts helped merchants to position/paint themselves in society and in the Christian cosmos	Separate columns; balanced figures; crossed entries; religious signs	Economic, social, political and religious legitimacy
Modern	1- Between LLC and claimants 2- Between professional accountants and account users	1- Entries from G.B. Lloyd ledger accounts (1864-67) 2- ICAEW examinations (1892)	Accounts are seen as rigorous scientific representations of companies’ <i>economic</i> ties only	Bilateral symmetry; no erasure; objective data produced by set formulas	Economic legitimacy

\* None has survived the ages

Table 1. Comparison of the rhetorical process for figuring out social legitimacy in Rome, Renaissance and modernity

This historical analysis shows how accounts rely on composition methods that allow their users to mobilize the known (e.g. monetary transactions) to interrogate the unknown (e.g. the morality of such transactions). This analysis has implications for our understanding of the concept of legitimacy and for the role that visualizations play in relation to it.

Our article provides insights on how to deal with the problem of the intrinsic ambiguity and complexity of criteria of legitimacy. Our analysis shows that, for example, the rhetorical and procedural nature of accounting allows one to conceive of the idea of legitimacy as created through visual and material artefacts. Models of equality such as accounting in Roman and Renaissance times, which go beyond the idea of an exact arithmetical correspondence (unlike the situation in later modernity), do not stress conformity and legitimacy in substantive terms (cf. Etzion & Ferraro, 2010 in relation to sustainability reporting). Rather, these analogical models play with the lack of correspondence that characterizes any epistemic object (Knorr Cetina, 1997). They ‘transcend content and work

beneath the words' (Kaye, 2014, p. 18) in a relatively pragmatic manner, allowing the scrutiny of intrinsically ambiguous criteria of legitimacy that refrains from giving rules, norms and beliefs a substantive definition, while still emphasizing the need to cohabit the same *civitas* by following common procedures.

The incompleteness of visualizations and other material objects has particular implications. For example, Knorr Cetina notes that epistemic objects, accounts just like every other form of visual representation, 'never quite catch up with the empirical object' (2001, p. 185) and that they do not eventually lead to closure, but to further openings. It implies that such visualizations cannot be conceived of as carriers of given messages that can instrumentally be used for persuasion. Accounts like diagrammatic trees, wheels and grids, but also whole books and churches (Quattrone, 2015), generate processes of interpretation involving the visual, the material and even the aural (e.g. during the Roman census), and it is the intrinsic incompleteness of every single mode taken individually and as the continuous shifting of the user among these modes that allows legitimacy to be interrogated and eventually found. To understand further issues of legitimacy, future research may benefit from engaging into the language of visualizations and their multimodal facets, scrutinizing the interstices between the verbal, the visual and the textual, but also the smell and touch of tools of legitimacy (Barros, 2014). In a world dominated by images, where the eye is king and other forms of engagement with the material are marginalised while still at play, rebuilding a multimodal vocabulary to understand dynamics of legitimising procedures seem a promising but still uncharted field of new inquiry. In addition, this article calls for research into new, forgotten and ignored 'aesthetically' forms of data visualisations which mobilise oppositions, tensions, and differences in the display of information in order to consider emotions and sensitive perceptions as relevant information. The efficiency of such

tools (e.g. meditation, design thinking or indeed accounting) may be appreciated through their ability to prompt judgements about individuals' contribution to balanced societies.

In addition, the incompleteness of such artefacts also stresses their epistemological, political and social limitations to lead to the creation of shared meanings. Accounting is therefore not only amongst those key material 'arrangements that allow calculation' and the formation of such powerful institutions as the market (Callon & Muniesa, 2005), but also one that may contribute again, thanks to its material and visual 'aesthetics', to promote equitable social relationships. Conceiving of accounting as an instrument of representation means that these relationships be reduced to rational financial transactions. Conversely, conceiving of accounting as an instrument of interrogation creates the conditions of possibilities for the reasonable proliferation of balanced 'societies'.

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