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Management accounting goes digital: Will the move make it wiser?

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ABSTRACT

This essay places current fascinations with the digital revolution into the historical and cultural contexts that have intertwined with the evolution of management accounting as a practice involved in the production of knowledge for decision-making. In outlining similarities and differences in the production of management accounting information from aural to digital cultures, it argues that while the effects of the digital revolution on management accounting and decision-making are still unclear, these effects surely (and hopefully) will not deliver the dream of perfect information and rational decision-making as one may be lead to believe by the growth of data-driven organizations and societies. Becoming aware of this impossibility is the first step for bringing wisdom back into decision-making processes and making management accounting gaining central stage again in the organizational arena.

Words are important

"*Chi parla male, pensa male e vive male. [. . .] Le parole sono importanti*" (*Palombella Rossa*, by Nanni Moretti, 1989)[1]

Words have a history (Long, 2001). Accounting words have a long history too. For example, not many accountants know that the word 'inventory' comes from Latin *inventio* (Goody, 1996); that is, the first canon of rhetoric—the process of developing and refining one's arguments. This link already reveals, and points to, the persuasive power of accounting and its narrative nature (Carruthers and Espeland, 1991), which convinces users, for example, that a given strategic objective may be right. Equally, this narrative nature helps users of accounting to imagine visions and strategies and to construct different courses of action among which one can then choose, making users enthused and engaged by this imaginative power (Busco and Quattrone, 2015): accounting cannot be an 'answer machine' (Burchell et al., 1980) that helps decisions to be made simply by calculation but it can prepare the ground for communicative actions which will lead to decisions to happen and be managed.

Similarly, not many know that the word 'auditing' comes from *audire*—to listen—showing a remnant of an aural culture that trusted the sense of sound more than that of sight. It was the sixteenth century Benedictine accountant Angelo Pietra who suggested that, in checking the accuracy of accounting records, one would benefit from "having a practical companion, who could help reading and checking the entries" (1586, p. 19; my translation), thus revealing that when auditing, greater trust was to be placed on hearing figures of speech rather than seeing numbers in writing.[2] Only recently, and only in some languages, the term that describes the auditing process has changed to reflect the shift in the attention paid to the impersonal visual aspect of an objective 'number' rather than the interpretation of a subjective 'figure' that requires intersubjective checks and balances. So, for instance, the Italian term for auditing is 'revision'—i.e., seeing it again, or, rather, auditing made by a visual check rather than an 'audit'. Nowadays, Pietra's advice that 'numbers' are 'figures', i.e., visual pictures that contribute to the composition and reinvention of visions, strategies and rationalities (Quattrone, 2015a) is almost forgotten. At his time, numbers as figures were much more about a speculation on a future to be debated than the representation of past performances to be used in management controls. The etymology of the word 'auditing' already points to the need for accounting figures to be checked in a communication effort that requires at least two companions. And if the second companion is not present then a minimal separation between 'me' and 'myself' needed to be established, as is the case in every act of control (Hoskin and Macve, 1986): for decisions to be well made, information requires an act of communication; i.e., an action which makes a community.

This is even truer if one looks at the origin of the word 'rationality', the putative ultimate referee of the correctness of decision-making. Again not many would know that 'rationality'

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[1] "*Those who speak badly, think badly and live badly. [. . .] Words are important.*" (*All translations from Italian are mine.*).

[2] Auditing is indeed claimed to be originally made aurally (Clanchy, 1979).

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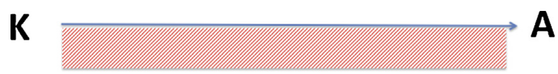

Fig. 1. Remnants of aural accounting: knowledge, action and the exercise of judgment.

comes from Latin *ratio*, and that *ratio* meant also 'account' and not 'logic' as one may suppose. But *ratio* is not just an account. It is a specific kind of account. In fact, *ratio* also meant 'proportion', as Pacioli (1494) reminded us from the very beginning of his work when discussing bookkeeping in a treatise about *proportioni et proportionalità*: a rational account needs also to be a *proportionate* account; i.e., an account that establishes a proportion and seeks to balance opposites (as opposed to being about 'maximization'). Therefore an account always implies a balancing act that establishes proportionate relationships between *soci* (i.e., companions) in societies (Puyou and Quattrone, 2014), or, as Latour would say, in 'socie-*ties*' (2005), where links among these companions are managed by powerful and pragmatic institutions such as accounting.

Accounting history, and especially the Italian accounting history that I know better, is full of examples where accounting has been used to establish this communication, a dialogue to debate what is right rather than to benchmark it to a given notion of rational social behavior. From the Jesuit way of managing their cash account (Quattrone, 2015a) to the reporting format of the income statement in Italian financial reports (Dagnino and Quattrone, 2006), passing through the planning and budgeting techniques developed in a large Italian state-owned enterprise (Quattrone et al., 2014), accounting (and management accounting even more so) has always been used to interrogate notions of rationality and of what counts as right, rather than assuming rationality as a given, in an effort to avoid that what was technically rational and correct equated with being morally just.[3] In other words, and as illustrated in Fig. 1, this historical account suggests that decision makers exercised judgment all the way along the link that connects knowledge to action: from the beginning of the gaining and construction of knowledge to the execution of the decision through individual and social actions (the red oblique line in the figure).[4]

Knowledge was not a given to be communicated untouched but it was a process of mediation eventually leading to a pragmatic 'balanced' decision or compromise.

This is also why accounting inscriptions are called 'records' (from Latin *recordor*—to remember) because they are signs that remind us that a communicative process has eventually lead to a decision that can finally be recorded. What is important in this recording process is not the accounting number, the bottom line, but how one got there. As Bob Scapens reminded us while working together on a CIMA sponsored project, one of the interviewees (a financial controller) stated that budgets are important for the process that they require for their construction, not for the outcomes that they generate. Or to quote Merchant and Van der Stede (2012), "for plans and budgets to serve a useful role, the issue is not whether to prepare a plan or budget, but rather *how* to do it." It is during this process that one really gets to know the organization and colleagues and their problems. The end result of that process, i.e., the budgeted profit, will already be obsolete by the time the budgeting process is complete. It is through discussing budgeting (hearing and discussing figures, visions of the future, as the early modern Benedictine accountant Pietra would remind us) and not by looking at budgets (i.e., looking at objective accounting numbers) that the knowledge is generated.

Fig. 2. Written accounting: knowledge, action and the exercise of judgment.

This is not a trivial reflection if one considers that a move towards a digital culture is said to revolutionize decision-making processes by altering the way in which knowledge is gained and actions are undertaken, with technologies and algorithms supplanting humans in the production and certification of knowledge, and in the making of decisions, as is already happening, for instance, in high frequency trading (MacKenzie, 2014).

How the relationship between knowledge and action has changed when moving from aural to digital cultures is what I would like to briefly reflect upon in the remainder of this essay. As the quote by the Italian film director Moretti that opens this section reminds us, words not only have a history: *words are important*. The same applies to figures and numbers: they have to be listened, discussed and understood because numbers, as much as facts, do not speak for themselves. The same applies, I would argue, to digits. Those who assume that figures, numbers and digits convey immutable truths, use them badly, think badly, and act badly.

Magic words

"'*La contabilità è a posto, Eccellenza'. Era la parola magica.*" (Giuseppe Tomasi di Lampedusa, *Il Gattopardo*, 1958, p. 47)[5]

I have illustrated elsewhere (Quattrone, 2009) how the development of accounting has been historically linked to humanist culture and more specifically to rhetoric, conceived of as a method of knowledge classification and invention and not merely as a technique of persuasion. These were the same techniques utilized in religious practices to question individual morality and collective social order (Quattrone, 2015a). When such techniques travelled into other spaces, thus constructing new fields of knowledge, from science (Galison, 1997) to accounting (Quattrone, 2009), recording slightly changed its function: no longer an instrument to question the morality of conduct but one to provide information and skills (Grafton and Jardine, 1986). Subjective and relative figures and images became objective numbers and facts, ready to be stored and objectified in visual inscriptions then accumulated in written books and centers of calculations (Robson, 1992).

The diffusion of Enterprise Resource Planning (ERP) systems made this objective feature of accounting numbers even more pervasive and visible, with a formal separation between supposedly powerful organizational centers and peripheries. However, access to a larger amount of data reconfigurable at will also incidentally allowed multiple loci of controls and therefore the diffusion of power (see, e.g., Quattrone and Hopper, 2001, 2005).

The inscription of accounting numbers on physical and virtual ledgers makes accounting numbers travel easily and become immutable mobiles that make action-at-a-distance a possibility (Latour, 1987), where the production and consumption of accounting numbers is now separated in siloed functions: on one side, the finance function, which produces mountains of data more for compliance than for management purposes (Power, 1997, 2007); on the other, the management and strategic functions, which consume data without a close scrutiny of their quality. This is what we see in Fig. 2, where numbers are used as mere inputs to decision-making processes with the exercising of judgment now beginning at the point when data have already been packaged and made

[3] The reader will forgive me for yet another self-reference to Quattrone, 2016, forthcoming, where I expand these points.

[4] This is also related to Weick's (1979) notion of 'enaction'—i.e., the connection of knowledge with action.

[5] *"The accounts are in order, Excellency". These were the magic words.*"