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IS TIME SPENT, PASSED OR COUNTED? THE MISSING LINK BETWEEN TIME AND ACCOUNTING HISTORY

Focal Texts: H.J. Voth, *Time and Work in England, 1750-1830* (Oxford: Clarendon Press, 2000); S. de Grazia, *Of Time, Work and Leisure* (New York: The Twentieth Century Fund, 1963) and E. P. Thompson, "Time, Work-Discipline, and Industrial Capitalism," *Past and Present* (1967).

Abstract: This paper takes its inspiration from Voth's [2000] work on *Time and Work in England, 1750-1830* which argues that the British industrial revolution led to greater production levels not because of an increase in the productivity of labor but because of the larger amount of hours worked per week. This change led to a decrease of free time in favor of worked time. If this was the case, one might argue, accounting played a marginal role either in increasing the efficiency of the work force, or in disciplining the shop floor to guarantee control of the labor process. This paper argues that if accounting is to gain a crucial position in the history of economies and societies 'time' needs to be expressly posited on the agenda of accounting historians for, at the moment, it seems that the link between time and accounting history is missing. The aim of the paper is to show that if a linear, neutral and objective view of time is abandoned then the possibilities

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to study the organizational, social and even political roles of accounting will proliferate. This view is illustrated by moving from linear views of 'time' ('time spent') to more relative and constructed conceptions ('time counted').

INTRODUCTION

Hans-Joachim Voth opens his book *Time and Work in England, 1750-1830* with this interesting question: "Did the industrial revolution mark a watershed in term of time-use?" [2000, p. 1]. As Voth rightly argues, the question is interesting as it relates to a twofold set of issues. Firstly, it concerns the productivity of labor. Labor accounted for a major part of GDP during the industrial revolution,[1] and to a large extent still does. Thus understanding whether or not the development of new modes of organizing and controlling production and its outcome had an impact on productivity is a significant issue. Secondly, the question concerns broader matters of 'well being'. It is important to establish the pattern of change in the proportion of time spent at work and at leisure [Voth, 2000, p. 2].

Voth concludes his work by pointing out that:

> During the industrial revolution England began to work harder – much harder. The timing and the extent of the rise in annual hours differed by location and social group. None the less, the finding that emerges most consistently from this study is that, by the 1830s, both London and the Northern counties of England had seen a considerable increase in annual working hours. *What drove the change was not longer hours per day. Instead, changes in the number of days worked per week, and in the observance of holy days, were largely responsible for the rise in annual hours*. In London, the demise of 'St Monday'[2] and of numerous religious and political festivals were the main factors [2000, p. 268, *emphasis added*].

He continues:

[1] It is not the aim of this essay to establish the timing roots and features of the industrial revolution, issues which have been the subject of several studies in economics as well as sociology [see Floud and McCloskey, 1981]. The main concern of this paper is with time and its relevance to accounting histories. Analogously, although it is of vital importance to understand the relationship between increases in the productivity of labor and its remuneration, this is not the aim of the current contribution [see Nyland, 1986].

[2] St Monday was the habit of taking the first day of the week off to recover from the heavy drinking which took place on weekends.

> Because annual working hours increased between the middle of the eighteenth and nineteenth centuries, GDP per hour grew more slowly than GDP per capita. A very substantial part of the increase in output was a result of extra toil and not of rising productivity . . . If our estimates of annual hours are even approximately right, *the efficiency with which the economy combined factor of production grew barely, if at all*. It is in this sense that the First Industrial Revolution was an 'industrious revolution' [Voth, 2000, pp. 271-272, *emphasis added*].

The conclusion is clear: it was the proportion of worked hours compared to those dedicated to leisure that changed, not efficiency.

This is an interesting conclusion and an 'industrious' conclusion, given the amount of archival work which the analysis required, for the issue Voth addresses is a difficult one. While data on worked hours are quite reliable after 1850 the same does not apply to the period 1750-1850, which is key to understanding work patterns during the industrial revolution [Voth, 2000, pp. 5-6]. As Kuznetz noted "the data are not adequate for testing hypotheses concerning the time patterns of growth rate" [1966, quoted in McCloskey, 1981, p. 249]. Voth manages to overcome the problem through an interesting and inventive archival study of testimonies given in court. Looking at the evidence provided by witnesses called to testify in cases of various kinds, he constructed a data set on the timing of main daily activities for the period 1750-1830 suitable for inferring the number of working hours per day, week and year.[3]

Voth's conclusion also has implications for the present, especially with regard to the second set of issues recalled above, well being. As he states, thanks to the ingenious construction of the data set "We can now contrast the period of the Industrial

[3] Voth's book is organized as follows: the first chapter illustrates the aim of the work, the second describes the method adopted in the construction and analysis of the data set, the third illustrates the pattern of time use for the period 1750-1830, the fourth analyses causes of changes in this pattern, and the fifth summarizes the arguments and draws the conclusions of the work. The book is primarily dedicated to the demonstration of the validity of the hypothesis initially stated, i.e., the increase in British GDP was due to a larger amount of worked hours rather than greater toil. In this sense, Voth's argument is simple and linear (see next section), although quite disruptive of generally accepted views on the issue.

Revolution with the present not only in terms of real income, but of time-utilization" [Voth, 2000, p. 272]. Given the possibility of this comparison, it is easy to demonstrate that "Instead of work occupying more than half of 'our' time, making a living now only requires 30 per cent of waking hours" [ibid.], so we now arguably live *better* than during the industrial revolution. We have all *progressed*.

The following section illustrates how these two sets of issues are relevant for accounting history.

Relevance of Voth's Arguments for Accounting History: The reference that Voth makes to St Monday in the quotation above is not casual. St Monday is also one of the key themes of "Time, Work-Discipline, and Industrial Capitalism" by E. P. Thompson [1967]. Thompson focused on labor discipline as the main feature of the change in work patterns during the industrial revolution. According to Thompson, one of the main features of industrial capitalism was the ability to impose a work discipline on the labor force, a discipline which homogenized and regularized work patterns, eliminating the possibility of self-organizing which had been key in the pre-industrial work organization of craftsmen and women.

Both Voth and Thompson raise issues which are very familiar to accounting historians, for they concern the role that the development and refinement of various managerial techniques (such as accounting) played in the industrial revolution and the emergence and spread of capitalism. In this respect, accounting has been linked to the emergence of modern enterprises in various ways. If one looks at this role from a theoretical (and historiographical) rather than from a strictly factual point of view, the relation can assume various connotations. Since Weber [1991], who placed accounting at the centre of rational profit calculations, studies in the area have increased. Sombart [1953] asserted that capitalism could develop only because of the possibility of rational and economic accounting calculations. Yamey [1949, 1964] questioned this relation along with the role of accounting (specifically, double entry) in decision making. This link was then emphasized by authors such as Pollard [1967], who asserted that accounting played a crucial role in supporting management by providing useful departmental cost calculations. Chandler [1977] and Chandler and Deams [1979] placed the same emphasis on accounting as a tool for efficient allocation, monitoring and coordinating financial resources within U.S. multidivisional firms [see also Johnson and Kaplan, 1987].

More recent works, such as those of Boyns and Edwards [1996, 1997], have stressed the role of accounting in making economic decisions.

Others, by contrast, view innovations in cost and management accounting as a way to control the labor process [Armstrong, 1987; Hopper and Armstrong, 1991]. Accounting's ability to establish a disciplinary regime is developed from a power-knowledge perspective in works by Hoskin and Macve [1986, 1988, 2000] and Carmona, Ezzamel and Gutiérrez [1997]. Others, such as Miller and O'Leary [1987], link the development of accounting to broader trends in economies and societies towards standardization and calculability in the efficient management of individuals. This analysis was subsequently developed by looking at the links between the spatial arrangements of the factory and the accounting calculations carried out therein [Miller and O'Leary, 1994; Carmona, Ezzamel and Gutiérrez, 2002].

This short and partial review of the literature identifies studies which are very different in terms of historiographical perspective (from realist and economic-driven interpretations to post-structuralist approaches), temporal horizons (some concern the industrial revolution others the early 20th century) and geographical areas (Europe and/or the USA). However, the review highlights wider theoretical issues. It indicates how the emergence and historical development of accounting can be explained by multifaceted and changing rationales which can be utilized to interpret and justify the role of accounting in modern economies and societies.

This brief review is also for appreciating the primary importance of Voth's findings to accounting history and to accounting studies *tout court*. For if his arguments hold, accounting would play a very limited role in organizations and societies and it would leave accounting historians (regardless of their perspective and focus) in theoretical difficulties. This is so for two reasons. The first relates to Voth's argument on efficiency. If the rise in British GDP was due to an increase in GDP per capita and not in GDP per worked hour, and if this implied the stability of labor productivity, then little scope exists for viewing accounting and management controls as having a role in increasing such productivity. It may well be that accounting played a disciplinary role as a modern power-knowledge apparatus but it had no economic impact whatsoever. To some extent accounting would be decoupled from the economic phenomena which characterized the British industrial revolution. Broadly speaking, accounting would have a very limited impact on economic matters, at least for the period under consideration.

The second set of reasons relates to the issue of well being. If time is "a good itself – it is all we have to spend" [Voth, 2000, p. 273], if time is a 'thing', an objective feature of our world and social lives, it can easily be measured and thus no room exists for accounting beyond mere recording and use of timesheets for cost allocation. Voth's argument is clear: economic production increased not for the better use of time but for a change in how time is spent; less leisure and more work. Accounting, *pace* critical accounting, would have a limited impact on organizations, society at large and the human condition if it had no impact either on the work *versus* leisure divide, or on labor conditions and productivity. Its role, and the theoretical interpretation which accounting historians could give it, would be limited to 'certifying' through recording how, from the industrial revolution onwards, the boundary between work and leisure has progressively shifted in favor of more leisure and less work.

The power of Voth's argument is its simplicity. At the centre of his analysis is the dichotomy between work and leisure in which time spent can be classified. If this classification is not questioned, it seems difficult to escape from his rigorous analysis and the little room for accounting that can be found in his story. The present paper thus intends firstly to reflect on this dichotomy. The next section illustrates how 'time' and its ubiquity are not objective and intrinsic features of human life but the result of a process of time recording which defines the object that is recorded, i.e., time itself. If one wants to recognize a role for accounting one possibility is to conceptualize this dichotomy not as given, but as the result of a process of definition which is directed towards making the difference between work and leisure clear. Time can be conceived of as a concept which is constructed thanks to the use of recording practices such as accounting.[4]

Secondly, in the section titled 'The missing link between time and accounting history', the paper speculates on the consequences for accounting history (and for accounting historians) of conceiving time not as objective but as a result of recording

[4] Other perspectives on time could have been chosen and followed (see Le Poidevin and MacBeath [1993] for a review of the debate in philosophy; Kennedy [2003] for physics; Lefebvre [1992] for geography; and Rakoff [2002] for law). However, the aim of this paper is to illustrate to accounting historians the constructed nature of time, not to review how it has been conceived of in other disciplines, not withstanding the latter's value for accounting history.

and prioritizing practices. If time is not a 'thing' but an object of processes, of definition, then a range of issues to be studiedre-emerge; for definitions, classifications and divisions are always a matter of mediation, search for agreement and ultimately, of negotiation and controversial political battles [Bowker and Star, 1999]. How the historical development of accounting techniques contributed and was intertwined with issues of prioritizing business objectives and time recording [see Loft, 1990] is an issue which powerfully re-enters the agenda of accounting historians. The arguments advanced in the paper are summarized in the conclusion together with some possible lines of investigation for taking 'time' into account in accounting histories.

IS TIME SPENT, PASSED OR COUNTED?

It is probably because time, its flowing, classification and measurement are ubiquitous [Zerubavel, 1985] that we presently consider time as a thing, time is reified [Berger and Luckmann, 1966]. Time seems the most natural and objective thing on Earth. However, as Zerubavel notes, even the most obvious of time classifications, the seven-day week, is not as plain as it may seem:

> Equating the week with a seven-day rhythm is a result of an ethnocentric bias that is challenged through an examination of the surprisingly wide variability of the week's length in different parts of the world. (Such an examination also highlights the variability of the functions of the week, from the regulation of religious or economic activity to the construction of divinatory calendars.) This comparative perspective on the weekly "beat" helps unveil its conventional nature [1985, p. 4].

Zerubavel's analysis sheds new light on the variability of the week's length across time and countries, on the various meanings that one attaches to each individual day of the week and on how modern practices, such as work patterns and discipline, help to define it all [also Sorokin and Merton, 1937]. In other words, time is a difficult concept to define [Jaques, 1982] and is often left undefined. In his work on the evolution of timekeeping technologies Landes [1983, p. 187] noted how time does not have a metaphysical ontology and still we get to know it because we have defined ways of keeping time. In a sense, time may not exist but its concept does. However, this has not always been the case and in some parts of the world it still is not the case, as the following sections illustrate.

Is Time Spent or Passed?: The activity of recording time has a long history which cannot be recalled in this brief paper.[5] Time keeping has gone through an enormous technology advance. We have moved from the sundial of Roman times to the atomic clock of the present [Landes, 1983]. We now live in an era where time has become self-evident [de Grazia, 1963] given the great accuracy of time measurement. Today, "you are considered a fool if you ask what [time] is, or doubt that it is objective, universal, irreversible, non-projectable, quantitative or set in inelastic, non compressible units" [de Grazia, 1963, p. 317]. It seems that time can be recorded in only one possible way, one which is linear and objective: clock time.

However this has not always been the case. Thompson, with respect to 'primitive' cultures, notes that:

> In Madagascar time might be measured by "a rice cooking" (about half an hour) or "the frying of a locust" (a moment). The Cross River natives were reported as saying "the man died in less than the time in which maize is not yet completely roasted" (less than fifteen minutes) [1967, p. 58, drawing on Nillson, 1920].

The following passage by Evans-Pritchard on the time consciousness of a Sudanese tribe (the Nuer), quoted by Thomspon [1967, p. 96] is another illuminating insight into different conceptions of time:

> . . . the Nuer have no expression equivalent to "time" in our language, and they cannot, therefore, as we can, speak of time as though it were something actual, which passes, can be wasted, can be saved and so forth. I do not think that they ever experience the same feeling of fighting against time or of having to co-ordinate activities with an abstract passage of time because their point of reference are the activities themselves, which are generally of a leisurely character. Events follow a logical order, but they are not controlled by an abstract system, there being no autonomous points of reference to which activities have to conform with precision. Nuer are fortunate [Evans-Pritchard, 1940, p. 103].

Generally speaking, in peasant societies, the flowing of time is not linked to the clock but to the tasks routinely carried out [Sorokin and Merton, 1937; Thompson, 1967; Landes, 1983].

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[5] Extensive analyses may be found in Cipolla [1967]; Lippincott *et al.* [1998] and Landes [1983]. See also Hassard [1990a; b].

Yet, time is by no means necessarily linear. As the etymology of the word reveals, the concept evokes the cyclical return of sea tides, a word with which 'time' shares the same root [Goody, 1968, p. 330]. Finally, a linear vision of time flowing (e.g. the passing of the years) can be combined with a cyclical view (e.g. the constant return of week days [Zerubavel 1985, p. 84]). Think of a watch, usually round although it marks time linearly.

Different ways of time keeping and time recording commonly co-exist even in the era of the atomic clock. In this respect, Zerubavel observes that there are:

> . . . a variety of ways in which the very same instant can be dated. To quote an example from fiction, "When I was a younger men – two wives ago, 250000 cigarettes ago, 3000 quart of booze ago" (Vonnegut 1963, p. 11). This is also true for time reckoning. There are an infinite number of temporal reference frameworks within which one might anchor the present – the number of days following the purchase of a bottle of milk, the day within one's menstrual cycle, and so on indefinitely [1982, pp. 1-2].

The perception of time is not as objective as it may seem [Fraisse, 1968, p. 326] and recording (and recalling) time is less so.

In the example of the Nuer, there is nothing to spend, nor is time passed or counted. The question to answer is then: how is it that we now consider time as an objective thing in order to say that it is "all we have to spend"?

With regard to this issue, it is interesting to note that spending time is an expression typical of the English language whereas, for instance, in some Latin-rooted languages 'time' is 'passed' and not 'spent' [de Grazia, 1963]. Time does not have the same connotation and attitudes toward it differ in various societies [Sorokin and Merton, 1937; Thrift, 1980]. For instance, arriving punctually for an appointment (i.e., being 'on the point', an ap-point-ment [Landes, 1983]) is considered crucial in northern European societies (e.g. by a stereotypical Englishman) but not so much in Mediterranean countries (e.g. in stereotypical Italy). Arriving late at a dinner, for instance, gives the host the possibility of preparing the meal in a more relaxed manner and the guest would not panic if trapped in a traffic jam.

This variety in attitudes goes back to the roots of the various conceptions of work and leisure across times. With regard to this the analysis carried out by de Grazia [1963] is insightful in many respects. He begins his analysis on the construction of the difference between work and leisure in ancient Greece. At that time the word leisure (at least in Aristotle) was "a condition or a state – the state of being free from the necessity to labor" [de Grazia, 1963, p. 14] and as such, it was not strictly time related. The equivalent word to 'leisure', '*schole*' was rarely contrasted with 'work'. Instead it was contrasted with 'action', which in turn, was defined as the opposite of leisure ('*aschole*', with the prefix 'a-' expressing the lack of 'schole', i.e., leisure). Analogously in Roman times, leisure was expressed as '*otium*' and its opposite was '*negotium*', that is, being occupied in affairs of varied nature, from work to war, all these activities having in common the negation of leisure (i.e., '*neg-otium*'). De Grazia also stresses how *otium* and *negotium* were interchangeable by quoting Pliny who advised "others to alternate *otium* and *negotium*: when tired of one take to the other" [1963, p. 22]. What is interesting in this etymological analysis is that in both Greek and Roman times the emphasis was on leisure rather than work, the point of reference in people's lives was the former not the latter.

But how is it that "we are now at a point were sociologists are discussing the "problem" of leisure. And a part of the problem is: how did it become a problem?" [Thompson, 1967, p. 95].

The history of seeing leisure as a problem is long[6] and marked by a few crucial steps. Firstly, the shift from the Greek to the Roman era was accompanied by the entrance of another important actor in the play of time definition – Christianity. This made the opposition *otium/negotium* more problematic. In Medieval Christianity, for instance, the emphasis was given to contemplative life (*vita contemplativa*). However, this contemplation was not for its own sake. It was an active effort to find truth and then God (an attitude, which becomes an integral part of monastic life with the Benedictines initially and with the activism of the Jesuits, later). Secondly, the *Rinascimento* marks another important step. As noted by de Grazia:

> A Calabrian friar, Tommaso Campanella, founds the imaginary *City of the Sun*, where no one works more than four hours a day. Here too everyone works . . . After work, people are free within the limits of the solar city's laws to play or to study as they wish [1963, p. 32].

Here the emphasis has already shifted from leisure to work, which becomes central to everyone's life, what rests is *free time*.

[6] The interested reader can usefully consult de Grazia [1963, pp. 11-328].

With the birth of free time, in contrast to work which 'occupies' our lives, the need for measuring the time for engaging in the activities which one likes most becomes a crucial issue [Thrift, 1980]. Once the shift has taken place, work and free time become geared to time along with the problem of measuring it. However, we need to wait until the 19th century to witness another important shift - from natural time to shared (or social) time.

This shift first occurred with the development of the national communication network for mail in Britain and the expansion of the railways [Landes, 1983; Thrift, 1980; Zerubavel, 1982]. It was the development of railway communications that revealed the need for a change from local time (related to the natural rotation of the Earth around the Sun) to a shared notion of time. As noted by Zerubavel: "if time is to be shared as an intersubjective social reality, it ought to be standardized" [1982, p. 2]. The following story is likely known by many accounting historians. The British Post Office to facilitate the control of delivery times:

> . . . started to run all its mail coaches throughout Great Britain in accordance with a uniform standard time [and since] the Royal Observatory in Greenwich was the most reliable in Britain, every mail coach guard was required to carry a timepiece indicating Greenwich mean time (GMT) . . . *This was the first attempt in history to synchronize different communities with one another* [Zerubavel, 1982, p. 6; *emphasis in original*].

This effort, which was then repeated on a larger scale in the USA, attempted to overcome the differences between local times (still tied to solar time) which were difficult to reproduce in a common timetable, given the unbearable weight that this document would have [Zerubavel, 1982]. The timetable, as much as European Community Time, became the first example of the materialization of 'social time' into a practical device. Yet, the longer the distance between the local and the social, the longer the chain of transformations that natural time needs to go through [Latour, 1987] as "it is much easier to achieve *temporal coordination* at the level of the family than at the level of the community, not to mention the city, the nation, or the entire world" [Zerubavel, 1982, p. 4, *emphasis in original*].[7]

[7] An interesting example of this chain of transformations is the complicated mediations which led to the agreement of setting the degree 0 of longitude at Greenwich which then assumed a global relevance passing through maritime customs, first, and railway innovations later [see Zerubavel, 1982, pp. 8ff].

This is just one of the many examples of synchronization which contributed to defining modernity as opposed to pre-industrial times. As Thompson noted, the first machines of the industrial revolution in Britain were built by clockmakers and the machine itself could be seen as a timekeeper, given that it set the pace of work [1967, pp. 66-70]. He also observed:

> Those who are employed experience a distinction between their employers' time and their "own" time. And the employer must *use* the time of this labour, and see it is not wasted: not the task but the value of time when reduced to money is dominant. Time is now currency: *it is not passed but spent* [Thompson, 1967, p. 61; *italics in original, underlined added*].

Thus, in the definition of our current view of time as a 'thing', as a currency that can be spent, several other 'things' need to be taken into account. These relate to religious attitudes and monastic rules, utopias, the clock, the invention of automated machines, railways, timetables and so on. The list is certainly incomplete but it illustrates that 'time spent', i.e., an objective view of time, is the least natural thing on Earth rather than the opposite. In other words, the achievement of a notion of time which is shared and objective requires the deployment of a series of techniques, technologies and beliefs which all embed subjective choices. Time recording is not a simple representation of the flowing of an objective entity, i.e., time. In this sense "time, as we know it, is a very recent invention" [Huxley, 1936/1973, p. 122; quoted in Loft, 1990, p. 13], dating back to the development of railway communication systems, it is a notion which did not exist previously, at least in the manner in which we now know it.

In this transformation, accounting may play an important albeit neglected role. For at the moment, it seems that accounting treats time as given [see Ezzamel and Robson, 1995]. Time may not exist, nor pass or even be spent, but what is probably more important is that it can certainly be produced (e.g. through counting it), especially in contemporary societies.

Time Counted: It is worthwhile quoting here a passage from Sebastian de Grazia's Work, Time and Leisure, to which this short paper is highly indebted:

> Leisure time (note how familiar is the association of leisure and time) has greatly increased today, it is said. Since free time means time off work or not related to

> work, it ought to be possible to verify or confirm this proposition. Has industrial society given more time to men [*sic*]? . . . Let time on the job, then, be considered work time. There are 168 hours to a week. If a man holds down a job of 40 hours a week, how much free time would he have – 128 hours? He would answer no. . . . An early slogan of the shorter-hour movement in the United States proclaimed "8 hours of work, 8 hours of sleep, 8 hours for all the rest." The eight-hour remainder is not at all free time, however. Instead it covers, as the phrase puts it, "all the rest" – shopping, grooming, chores, transportation, voting, making love, helping children with homework, reading the newspaper, getting the roof repaired, trying to locate the doctor, going to church, visiting relatives, and so on. Do all these activities belong to free time?
>
> We are confronted with one of the toughest problems in any statistical treatment of leisure and free time . . . It seemed that in changing from the term leisure to the term free time we had gone from a qualitative to a quantitative concept. We have now something that could be measured with ease . . . We said that free time is time off or not related to job . . . but where should time spent in a weekly visit to the relatives be put? Or time spent in going to church? There seems to be a strong sense of obligation involved here, so that even if a person wished to spend his life differently, he was not free to do so [de Grazia, 1963, pp. 64-65].

Analogously, when reading de Grazia's and Voth's books and reflecting on issues of time and accounting for this paper, I did what academics call 'doing research'; work for which I am paid (or should be paid?!). However, in the case of these two books, I am spending my time working as much as I am getting pleasure from reading them, a pleasure which indeed sounds very much as 'p-leisure'.

Thus, the issue shifts from time spent or passed to how time is classified, how it is counted, and how it is perceived. It can be perceived as worked (and then susceptible to being paid) or spent at leisure, but it is not the money received or given which should be considered as the watershed between work and leisure, a boundary difficult to draw. The case of do-it-yourself work is quite illuminating in this respect [de Grazia, 1963, pp. 73ff]. If it is not done for pleasure but to save money and to be able to pay the mortgage, then it is difficult to understand whether this is time spent at work or leisure. Although do-it-yourself activities are certainly time free from (official) work:

> How shall we classify these activities, as work or free time, and how much time do they take up? Classifying them as free time simply because they are unpaid would pass only the sleepyheads of an inefficient accounting system [de Grazia, 1963, p. 75].

People perform other work than their formal role and these activities are classified as 'free time'. Yet often they require even more toil than one's normal work. In other words, the issue shifts on how time is counted and how we account for it.

With regard to this, Latour noted:

> The obsession with calendar time makes historians sprinkle technologies with agricultural metaphors referring to maturation, slowness, obsolescence or germination, or else mechanical metaphors. . . . In fact time does not count. Time is what is counted. It is not an explanatory variable; it is a dependent variable that needs to be explained [1999, p. 88].

How then is time classified under 'worked' or 'free' categories? Contemporary societies seem to be characterized by a stratification of time [Gurvitch, 1964] which privileges 'institutional time', i.e., time devoted to work within bureaucracies, over time devoted to 'interaction' with other individuals, to relegate time devoted to the self to last place in the league [Lewis and Weigart, 1981]. A major role in this stratification and hierarchization of time is certainly played, once again, by synchronization:

> Synchronizing one's life is a public achievement which merges the unbridgeable individuality of personal existence constituted out of the embedded time with the irreducible collectiveness of social order constituted by stratified times. The synchronicity of an entire society continually recreated by the millions of multifarious actions of millions of citizens make plausible the rationality of that social order. Breakdowns, strikes, terrorist attacks, earthquakes, and other social unsynchronized events challenge the public rationality [Lewis and Weigart, 1981, pp. 451-452].

It is through this synchronism, and this search for and control of synchronism which makes individuals feel that time is a scarce resource. What is theoretically the most synchronized aspect of our life if not work? As work is carried out in constant relation to other subjects (clients, suppliers, etc.) it inevitably calls for synchronism. It is this required synchronism which makes what is synchronized prevail over other less institutionalized forms of time. Certainly it may well happen that one works in a badly organized public administration. It may well happen that some members of the family, for example children, manage to monopolize their parents' time (but this is the case only for short periods and generally they do not intentionally pursue this aim, i.e., when they are newborn). It may also happen that within families one member of the family manages to impose a kind of synchronism over another. However, the resources that s/he can devote to this synchronization are limited if confronted by those of larger networks called firms.

Certainly contemporary societies devote enormous resources to the achievement of synchronicity in order to guarantee linearity and to make it appear the most obvious thing on Earth, something which is difficult to oppose [Kirk and Mouritsen, 1996]. Think of the example of the French TGV given by Latour [1997]. The TGV is run according to a timetable which ensures passengers arrive at the train station at a certain time, trains pass certain places at a given time and so on. The TGV's synchronization is more powerful for it is linear as a rail track [Burrell, 1997] and belongs to a powerful network of train stations, railways, ticket counters, electricity power stations, clocks and timetables, which all work as a co-ordinated unity. The result is that TGV time dominates the less synchronized stratified times, and this makes the passenger feel that s/he is late and can miss the train. In a highly synchronized society, s/he cannot oppose it, either s/he takes the train *on time* or not.

Accounting has certainly been part of this picture of making time linearly shared and synchronized. But, time is currently missing from accounting despite calls to make its role visible [notably Chambers, 1989; Ezzamel and Robson, 1995; Hopwood, 1989; Loft, 1990]. While studies of disciplinarity in contemporary times [e.g. Anderson-Gough, Grey and Robson, 2001] have begun to look at this relationship, historical research does not seem to have addressed these issues. This absence is even more relevant when we consider that synchronization is one of the aspects of time in which accounting may play a role. For example, while it is plausible that the interplay between clock time and accounting can be seen as constraining and disciplining, it is less obvious how such interplay can also enable organizational creativity [Glennie and Thrift, 2002; Jones, McLean and Quattrone, 2004], and how synchronization is always subject to continuous political processes of mediation [Hopwood, 1989].

THE MISSING LINK BETWEEN TIME AND ACCOUNTING HISTORY

A quick browse of Anderson's compilation of accounting history articles [1998] published in academic journals in the years 1995-6 shows that the word 'time' appears only once in the title of the 287 articles listed. Paradoxically, the word 'future' appears more often. The word 'past' is listed too and its presence reveals the attitude to consider past, present and future as objective dots on the timeline. This example is certainly not statistically significant, but it is insightful in corroborating what Ezzamel and Robson say with respect to how "little attention has been given to the relevance of time and theories of time to accounting" [1995, p. 149]. Paraphrasing Landes [1983] many accounting works go back into accounting history but paradoxically time is absent from most of them. Despite calls to examine the relationships between time and accounting [e.g. Chambers, 1989], time still does not seem to be an issue for accounting historians, a claim which a more complete analysis of accounting history publications likely would corroborate.

What follows seeks to illustrate the considerable work which remains to be done in at least three different areas of inquiry. The first area concerns the role that accounting plays in synchronizing organizing activities (e.g. by illustrating how time-recording devices are linked to accounting records [see Loft, 1990], and creates centers of calculation [see Robson, 1991]). The second operates in the opposite direction and regards the possible role that accounting plays in de-emphasizing linear and teleological views of technologies of synchronization such as machines and clocks (e.g. by illustrating how accounting deadlines and prioritizes results in constant mediations and power struggles which allow centers of discretion [see Munro, 1999; Quattrone and Hopper, 2001, forthcoming]). The third, but by no means the last set of issues involves the role that accounting plays in defining benchmarks of varied nature in order to visualize and make tangible abstract ideas of progress (by spatializing and temporalizing [see Jones, McLean and Quattrone, 2004]). Performance measures not only make time a scarce resource but contribute to creating a seamless flow of organizational time, thus showing where the firm *was*, where it *is* and where it *could* be.

With reference to synchronization Landes noted:

> The clock is not merely a means of keeping track of the hours, but of synchronizing the actions of men.

> The clock not the steam-engine, is the key-machine of the modern industrial age . . . In its relationship to determinable quantities of energy, to standardization, to automatic action, and finally to its own special product, accurate timing, the best clock has been the foremost machine in modern techniques; and at each period it has remained in the lead: it marks a perfection toward which other machines aspire [Mumford, *Techniques and Civilization*, quoted in Landes, 1983, preface].

Analogously, de Grazia states that "people are geared to machines" [1963, p. 302] much more than they realize, and this gearing begins very early in the morning, if it is true that we get up thanks to the sound of an alarm clock. However, people are geared to time not only through machines. The synchronizing role of the clock is also played by many other modern practices which are less material although equally pervasive. One of these is certainly accounting. Accounting does synchronize (and co-ordinate through transfer prices [Chandler, 1977]), for it prioritizes and prompts action [Ezzamel and Robson, 1995]. Through reporting dates and budgeting periods, it contributes to the construction of a shared notion of time, as much as the unified timetable of British railway companies did with the GMT [Hopwood, 1989]. Accounting practices are part of the broader process of standardization [Miller and O'Leary, 1987; 1993] within economies and societies and constitute a crucial part in trends toward the establishment of modernity [Hoskin and Macve, 1986]. As noted by Loft [1990], what needs to be illustrated in greater detail is the "physical and social construction of . . . useful time in the factory, and . . . 'its coming together' with accounting in terms of the merger and elaboration together of technologies of time recording and techniques of cost accounting" [1990, p. 36]. However, how and why this merger which leads to synchronization is achieved, and above all, which organizational 'time' becomes dominant [see Quattrone and Hopper, 2001] is left at the margin of accounting history.

This lack of attention to how accounting is intertwined with other co-ordinating technologies leads to the argument that accounting has a role in defining temporal priorities and sequences of action and how processes aimed at this definition may relate to other organizational specializations and temporalizations (e.g. different views with respect to what should be done first and why). This argument opens a range of possibilities which go beyond a teleological and structuralist view of accounting and time recording as a purely and fully successful disciplining activity. In this respect, as noted by Hopwood, "the setting of temporal standards of performance is still a site for struggle and compromise. Budgets and plans still do not result in shared unproblematic notions of a temporal order and progress. Rather they serve as practices around which the temporal aspects of economic affairs are negotiated and attempts are made to actively define frequently contested notions of temporal activity" [1989, p. 1]. Budgeting is an explicit example, for it defines what should be done, when, by whom, and implicitly how. Once again accounting contributes to time stratification by making some 'times' appear more important than others. Yet budgeting is a source of interpretation, discussion, revision and, in the end, of various organizational timings (i.e., various concurrent attempts to define organizational times and priorities [Anderson-Gough, Grey and Robson, 2001; Gurvitch, 1964; Jones, McLean and Quattrone, 2004]) rather than a single shared time (i.e., a linear, univocal and objective view of what should be done and when). For example, the history of how budgeting practices have developed in various organizational and institutional settings and have been the subject of processes of mediation and given rise to political negotiation, is still to be written.

With regard to the third set of issues, the definition of the idea of progress, the role of accounting goes far beyond the already clear and pervasive synchronization examined above. Ezzamel and Robson [1995], for instance, illustrated how budgeting and planning help raise our consciousness of time as a scarce resource.[8] The stress on the scarcity of time is:

> . . . reinforced through the various mechanisms of the management control system: (i) comparison of actual results against target rates; (ii) measurement and reporting of performance variances; (iii) interactions between superiors and subordinates over performance variances; and (iv) linking variances to the corporate reward scheme. By formalizing and highlighting the importance of the rate, accounting controls not only monitor performance but also raise time consciousness (and work-related stress) by increasing the perceived scarcity of time [Ezzamel and Robson, 1995, p. 153].

[8] See also Mitchell [1934] for the government and Goody [1968] for the role of budgeting practices in giving importance to time in capitalist and in socialist economies.

Therefore, because of accounting, time is perceived as a resource and thanks to accounting we can say that we have been more efficient in its use. What is asset turnover if not the materialization of the speed at which time has passed in an accounting inscription [Latour, 1987]. Could we measure and talk of efficiency without the asset turnover ratio? Probably not. If today no one would contest that 'time is money' and that 'time is gold' (as stated by Benjamin Franklin [see Goody, 1968]), it is likely because this ratio (and the double-entry bookkeeping behind it) has made the flowing of time visible, measurable and worthy [Clark, 1985, p. 62]. Asset turnover is the accounting and business version of the clock, which is thus visualized on a sheet of paper, where business operations become apparently ordered in a clear temporal sequence (i.e., financing, investing and realizing resources).

Writing, as much as recording and accounting, is a means of giving form to the distinction between past, present and future by crystallizing oral histories or business activities in written facts which are then susceptible to further study, analysis and investigation [Goody, 1968, p. 337]. In the words of St. Augustine "From what we have said it is abundantly clear that neither the future nor the past exist . . . Some such different times do not exist in the mind, but nowhere else that I can see" [1961, p. 23, quoted in Jaques, 1982, p. 23]. Without being 'counted' [Latour, 1999] it would not be possible to see something which does not exist and therefore accounting of all kinds is developed in order to create distinctions, classifications and rankings [Bowker and Star, 1989]. Various temporal demarcations appear under the form of closing periods and are crystallized in balance sheets and income statements. Accounting is not neutral in this respect, for by setting a benchmark in time (and space [Burrell, 1992; Goody, 1968]), it allows for judgments to be made on whether the firm has progressed or not. However, this aspect seems to have been largely overlooked in historical works, with attention being devoted to the presence or absence of accounting periodization [Chambers, 1989; McSweeney, 2000].

As noted by de Grazia:

> Industrialization gives us not only work and many other good things; *it gives us the gift of leisure, that is, free time, more free time than ever* this hitherto backward old word has seen [1963, p. 87, *emphasis added*].

We are back to where we began – the issue of 'well being'.

Accounting and management controls are powerful management practices to force people to do things that they would do differently or would not do at all. How is it that 'work' has such a negative connotation that we now consider it as the opposite to time freed from it? Accounting history is another possible avenue to understanding why 'work' is now perceived as such. However, the emergence of this attitude has not yet been studied through an accounting lens. The link between accounting and well being now should be clearer. We have all *progressed* but, in making this claim, we have not considered the role that accounting has played in constructing this (illusionary) perception and, above all, how various definitions of progress may coexist, compete, win or lose.

CONCLUSIONS

This paper has sought to reflect on the relation between accounting and time in accounting history and on how abandoning the conception of time as an objective feature of organizational worlds may open up new areas of investigation in accounting history. The vehicle for this reflection has been provided by Voth's *Time and Work in England, 1750-1830* [2000], which argues that the industrial revolution in Britain led to greater production levels not from an increase in productivity of labor, but rather the greater number of hours worked per week. This change led, in turn, to a decrease in free time in favor of worked time. A likely corollary of this conclusion is that accounting played no role either in increasing the efficiency of the work force, or in disciplining the shop floor to guarantee a control of the labor process. More generally, accounting would have little role in defining the human condition and the perception of time not only in historical but also in contemporary settings.

This paper has also sought to place accounting at the centre of the issue of time by questioning the commonly held assumption that time is linear and objective – an object which can be 'spent'. It has done so by reviewing alternative views of time and focusing on the simple but intriguing idea that "time does not count. Time is what is counted" [Latour, 1999, p. 88]. Accounting is conceived as part of a broader trend towards time definition and standardization which has characterized the evolution of Western economies and societies since the early Middle Ages.

The paper has also sought implicitly to set a research agenda by highlighting some neglected issues in accounting history research. First, how the emergence of accounting as a practice has contributed not only to the synchronization of organizational activities and the definition of time boundaries and priorities in organizational actions but also allowed multiple and concurrent timings in organizations. Second, how various notions of time have contributed to shaping accounting across different times and organizational settings. Third, how political, social, religious and technical conditions which have surrounded the emergence of a standard time could have impinged upon the emergence of contemporary accounting practices.

The conditions are auspicious that time becomes an integral part of research in accounting history, rather than being treated as given. As noted by Landes:

> People have asked me how is it that so important a subject has been so little studied. I'm not sure that I know the answer; but this, I hope: that time measurement will never again be so ignored [1983, p. xv].

Let us hope that the same could happen to the missing link between time and accounting history.

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