

**SPACE, TIME AND MONEY –
A STUDY OF ACCOUNTING IN PRACTICE**

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ABSTRACT

Based on empirical research this paper attempts to answer in what ways accounting numbers affect people's lives and work. By seeing how accounting operates as a chain of translations, this practice is conceptualized as a producer of powerful and hard-to-resist forms of space/time/value relations which lies at the heart of everyday life and work today. The paper discusses how this practice translates people, objects, and actions into numbers, and thence into money or monetary values, and vice versa, based on three different organisational settings. At the everyday level of working, accounting operates as a way of approaching the world in an apparently neutral manner, yet shapes that which can be thought, said and done, delimiting or re-limiting existence. In other words, the space/time/value relation created by accounting proves to be a powerful base for the construction of personal and professional identities. It is not thereby simply a disciplinary force in the sense of constraining or repressing identity, instead this relation actively enables certain experiences or perceptions to emerge, even while it excludes others.

Key words: chain of translations, accounting in practice, taken-for-grantedness

HOW DOES ONE CREATE RELATIONS BETWEEN NUMBERS, THINGS AND PEOPLE?

The studies that form the basis of this paper started with a problem facing a ward sister whose work I followed. She could not understand an income statement, which was supposedly related to the ward. Accounting was a foreign practice to her, but it had been recently introduced as one of her tasks and she was forced to take part in its practice. This created many problems for her, as it does for many people, and thus became a research issue for me.

Accounting numbers offer a reduction of uncertainty, a co-ordination of activity and a certain kind of decision-enabling pictures, and this is why they are used so extensively in management. Activities, people and things can be summarised into a form that can be grasped at a glance. In a world where we have come to accept that many if not most things can be reduced to numbers, we increasingly accept numbers as a universal language. Many organisational processes, activities and decisions are, however, often complicated and opaque, and thus not easily reducible to numbers. In my first case of the psoriasis ward, the sister working there perceived the gap between helping people with psoriasis and the numbers as immense. Nevertheless she had to act in, and manage, the ward through these numbers; it was not thinkable that she could do her job "properly" without doing so, and so her existence was reshaped to accommodate the numbers and their ability to form part of her working existence and identity. In the other cases which this paper is based on, albeit in differing ways, the same influence of accounting to shape work and activity manifested itself to me in my observations. Accounting and its numbers had simply established themselves as "there" an unavoidable if frequently questioned presence in "doing one's job".

This kind of hidden yet taken-for-granted influence of accounting has been an increasing focus of research since the 1980s (see e.g. Davis 1982, Chua 1986, Demski 1988, Whitley 1988). Over this period a range of critical research perspectives have pointed out that traditional accounting research had left many important questions unaddressed or inadequately answered, e.g. those concerning knowledge, power and conflicts, issues of how accounting, in practice or as practice, has become so integral and hard to resist or avoid within modern management and managerial organisations, accounting as a process of meaning creation and how control and power are exercised through definitions and linguistic artefacts (e.g. Tinker 1982, Hopwood 1983, Boland 1986, Swieringa & Weick 1987, Hoskin & Macve 1988, Rose 1991, Preston et al 1992, Boland 1993, Hopwood & Miller 1994, Chua 1995, Czarniawska & Sevón 1996, Jönsson 1996, Preston et al. 1997, Power 1999, Lowe 2000, Mouritsen et al. 2001).

The results of such investigation have given new insights into the significance of accounting as technology enabling the efficient coordination of activity but also as a form of rhetoric promoting the values of efficiency and coordination. The results indicate the central role of accounting as a means of enabling organising and managing to take place, and helping to handle the endemic organizational problems of complexity, uncertainty and divergence of interests. Critical accounting research has also given a new take on the way in which the relations between knowledge and power play out, where the production of accounting-based calculation and definitions of what is going on are key means of constructing organizational structures and processes, hence showing how far accounting knowledge enables the exercise of (managerial) power. These research findings suggest that, while the objectivity of accounting is at best an ideal and at worst an illusion, nevertheless, in the way that McSweeney (1997) has shown, this ideal is dominant in understandings of accounting and consequently in the ways that accounting is utilised to manage work and workers.

Rich as these findings are, there is still much to be explored about accounting in practice, particularly at the level of people interact with accounting practice and its rhetoric. One significant question as yet inadequately answered, even by the new critical accounting research, is how far the general insights and understandings it has developed are borne out at the level of everyday work. This paper want to briefly present a study and its results of an yet another inadequately answered question – how and why do accounting numbers have so many wide-ranging effects that are so difficult to resist at the level of everyday work, across disparate work environments. It is a study with a kind of fieldwork that could reveal how accounting numbers are produced, reproduced and acted upon in a range of workplace settings.

ACCOUNTING IN PRACTICE AS TRANSLATIONS

Studies of Science and Technology (SST) field were seen as offering particularly helpful and fruitful concepts and insights. SST focuses on *how* facts are constructed in science, how researchers transform phenomena such as a soil transformation to a scientific text, and the ways in which machines, technology, inscriptions and people take part (Latour 1998). This process has many similarities with the way accounting constructs facts and acts, since accounting also implicates people within a field of inscriptions, technology and machines, which, as in modern science, include machines that both record and analyse what accounting technology and inscription constructs and enable an intensification of accounting as technology and inscription device. The applicability of an SST approach to understanding how phenomena such as skin problems become accounting numbers is explored systematically in what follows, through taking some of its key concepts and applying them to this new problematic. The key concepts borrowed from SST are *translation*, *association*, *blackbox* and *performative perspective*, and together they enable a particularly way of making accounting's effects visible.

Translation is the primary concept adopted here, since it is the basic means of enabling us to understand how things become other things, such as psoriasis treatment becoming accounting numbers. SST has argued that translation, as a movement embracing both change and continuity, can be applied both to linguistic and physical objects. From translation, as an approach, it is apparent that in every translation something is lost while something is added, as the means to something being kept constant, an outcome achieved by using what is already known to create what would not be there without the translation process, via some technology. This idea was a guide for selecting my field material, and for then having a basis for understanding the processes of movement between activity and accounting in everyday life in organisations.

Association is the next key concept. Translation creates associations between things, people and concepts. The associations thus established can then acquire a stable character if they are reproduced again and again, and here the appropriate use of technologies is a key way to reproduce and so stabilise such associations. Still, no translation-grounded associations are so stable that they will never be called into question. Translations continue and shift, they can take different paths, and at the same time they can have many interpretations in different situations. Repetition can itself become difference. Therefore the very attempt at stabilisation gives rise to other translations and transformations, sometimes far from the original point of departure. Translation and association are therefore key terms, but not as terms simply ensuring stasis and closure, since they also enable shifting, destabilising and the emergence of previously "hidden" possibilities.

Blackbox is a metaphor for those associations that are kept under cover, taken for granted. A blackbox is sealed under normal conditions. It will remain closed as long as norms activated

by it are in place, which they are as long as people are convinced by those norms. Still, given the analysis just made, it is apparent that even blackboxes do not remain sealed for ever. They can be opened or reopened in a crisis situation. In everyday organising, the associations "hidden" in black boxes become a "natural" way of defining things, which makes it easier to understand the world. But those associations can be exposed and examined; and the identifying of blackboxing as an aspect of accounting practice for examination and exposure is a key technique adopted here.

Given the deployment of these three concepts, accounting in practice can then finally be seen from a *performative perspective* as a chain of translations, where certain associations are established. When such associations become stabilised, they are taken for granted, and can be treated as blackboxes and used to create new associations. Accounting practice can therefore be seen as far more than just a process undertaken by an accountant who works with debit and credit. Instead, it can be seen as what implicates actants across space and time within a macro-actor, and gets them to act in ways that construct stable and long-lasting associations between humans, actions and objects. It is arguably therefore a key means of constituting that macro-actor in the first place and enabling its continuance. It is in this expanded sense that accounting can be understood as a chain of translations, where associations are established and stabilised, and which makes possible the existence of the elements of the chain by defining their character. Once understood in this way, accounting practice in this study can become a black box that can be partly opened, given the selection of an appropriate set of keys and/or codes, fit for that purpose. The study was therefore guided by the question – *How is everyday organising translated into accounting numbers and the other way around?*

THE SETTINGS AND FIELDWORK

I have studied accounting in practice in three settings. The choice of these settings was guided by grounded theory precepts (Glaser & Strauss 1967). The three settings were: a ward unit, a bus company and an investment company. The ward unit was chosen as the first setting because there accounting was still somewhat exotic – a practice which was relatively new. The bus company was much more familiar with this practice, although previously it had not been as widespread it was now a practice which was continually expanding, also during I was studying it. In the investment company accounting had long been taken for granted as an integral part of the everyday work of business. As I progressed across these settings, I drew upon constant comparative analysis to theorize what I was seeing, and how far chains of translation and the associations made via them operated in similar or different ways. Each case presentation is followed by an analysis, and each analytical chapter builds on the previous analysis and previous cases. In this way, the theoretical ideas are successively developed.

Inspiration for doing fieldwork has come from anthropology (Wax 1985), the discipline that also offered the insights into how numbers are used in different parts of the world (Crump 1990). During my study, I have turned into an anthropologist of accounting in practice. I have travelled to various destinations, asked questions, looked at documents and made observations. I went from one place to the next by bus, train, tram or car, following the traces of a translation of work to numbers and of numbers to work, and seeking to identify the associations made via this translation process. I have talked to people who work in organisations. I have joined them at coffee breaks, at lunches, at meetings, attended their meetings with people with skin problems, went with them on bus rides etc.. I had my notebook with me, and I used my camera: I have taken many pictures. Sometimes I interviewed with a tape recorder (For a more detailed empirical descriptions see Frandsen 2004, Frandsen 2001 and Frandsen, 2000).

PSO – FROM PSORIASIS TO NUMBERS AND THE OTHER WAY AROUND

The first chain of translations comes from PSO (a ward dedicated to psoriasis treatment). The material portrayed here is very detailed, so that the reader does not lose sight of the everyday life in organisations with and around accounting practice. I begin with the rent that figured in an accounting document that the ward sister had problems with understanding. As rent is about houses, the first thing I explore is the house where the ward is situated, together with the history of how the house was rebuilt to make room for psoriasis treatment instead of a house for bath. There is no doubt that this is a house where treatment of psoriasis is carried out; there are plenty traces of that. Next, I continue to follow the chain of translations – from the house to the treatment to the document that the ward sister did not understand.

This chain of translations, necessary to reduce the PSO treatment to a number in an accounting document, was very long. The list of elements/actants necessary to make this reduction was also long. It ran from cardinal and ordinal numbers to systems of numbers, to control over land by number systems, to geographical coordinates, to computer programs, to cable networks, to linguistic artefacts such as responsibility, to many people, to documents, to money, to formal decisions from the local government, to laws enacted by central government, and so on and so forth. Accounting in practice seen as this particular chain of translations led me to interesting reflections about space, which were taken as a starting-point for developing a theorisation of this practice.

ACCOUNTING IN PRACTICE AS SPACE CREATION

Tracing the first chain of translations showed a first way in which accounting can be integrated into everyday movements. This observation pointed toward the importance of space and place in organisational practices. This importance can be better understood through the insights from cultural geography, in this case Tuan's (2001) insightful analysis of the close relation of the body and its movement to space /place and experience. Space stands for destination not yet reached, for freedom of the unknown, for transcendence. Place is home, what is familiar and known. A space can become a place when the routes are no longer unfamiliar.

Based on Tuan's discussion, it is possible to show how the house where PSO is situated has become as a place for psoriasis treatment, and how its relation to accounting numbers, which claim a relation to PSO, produces a space and a ground for new experience. "Accounting space" is not the only space produced at PSO. The discussion centres around how the space-forming relations become established, and how they later become known and familiar, transforming a space into a place. Four categories are developed at this stage of the analysis:

The character of the associations: To form durable associations, well known artefacts called money and numbers are used. Money can eliminate the differences between two different things. Interestingly, money is seldom visible other than as numbers on a paper in the chain of translations. In this way, money is translated into profit and loss accounts, where objects, people and movements are summed up as a "lifeless and neutral" objects. Through the use of labels and ordinal numbers, a certain order can be produced, under which calculations and value can be placed.

What has been homogenised through money is at the same time differentiated: the result of this combination is a hierarchy. Numbers, cardinal and ordinal, visualise various aspects of what they claim to represent, producing associations that make it possible to think about movements and things as events in a given form. Value, expressed in numbers, makes it pos-

sible to construct wedges and split things that are not otherwise possible to divide, for instance people as part-time workers. Numbers are flexible and practical. Many meanings can be attributed to them when they are translated into local situations. In the relation to space, this means that a space always has a possibility to acquire some other value, and thereby become another space, when things can be discerned and ordered in some other way.

The integration of associations and the delimitation of movements: The associations imposed themselves on everyday life movements. This is done by both "offering" and "forcing upon" the (re) production of numbers in a reciprocal relation with the people involved. As a new practice acquires meaning, numbers produced by it come to be used in their daily work. This facilitates the establishing of accounting in practice. Accounting numbers offer the possibility (or ideal/illusion) of a common language, accessible for everyone. But for the integration to continue, something has to be added, to make it easier for the numbers to point to, and connect people to, things and situations. What is calculated has to be made "thinkable", to be given a form, relatively easy to see. It is here that the linguistic artefact "responsibility" (whose contemporary Swedish form approximates to what in English is usually called "accountability") acquires special importance. This artefact helps give meaning to everyday life movements, representing them as predetermined actions. Responsibility is a way to put people "in place", and to create space for the associations that accounting in practice includes. This makes it easier for movements to become events, next to be expressed as numbers, and thus attributed a value. Responsibility produces PSO's relations to other spaces, and several of them are also put together into a bigger space, a macro-actor SU (Sahlgrenska University hospital). Also technologies such as maps, computers, post, fax and telephones play an important part in the integration of such associations. With their help, accounting numbers can be produced and consumed. Such production and consumption is necessary to produce and maintain an order.

Order and its relation to change: This category tries to capture the order these associations can produce, if they are continuously reproduced and integrated in everyday movements. I also explore the possibility of changing whatever order has been produced. To change an order, numbers and values must be enrolled on the side of the change, but change itself has to follow the order of the hierarchy it expresses. The flexible character of these associations between numbers and events means that new value can be produced, and that an order with a different space can be produced. But not everyone or everything can change. When numbers and values get better known, and become a place in Tuan's sense, this place is only as flexible as the numbers in the hierarchy. Numbers delimit people's movements between spaces and places, defining what is possible.

The production of other spaces: As mentioned before, accounting space is not only space produced at PSO – other spaces are also produced. Because of the specificity of the treatment delivered at PSO, based on a face-to-face interaction between the staff and people in need, trust had to be established between them. Through these interactions, which often become a life-long relationship, they produce an emotional place together. Such associations have diffuse boundaries, and are established differently than those which form accounting in practice (Law 2000).

To sum up: Accounting in practice helps to stabilise many of associations formed in health care organisations, offering two links that increasingly cannot be refused – numbers and money. Acceptance and use of these links is however often of positive help in integrating, delimiting and re-limiting the movements of which everyday life and work consist. A space

for health care, and a place for care are both produced with their help. At the same time, production of other spaces continues, creating different associations, and delimiting and stabilising everyday life in different ways.

Thus, in retrospect, the first case gave rise to a categorisation of accounting in practice that revealed it as a way to produce space, where money functions as a measure of value, and where important associations between value and space are established. The next case offers a possibility of testing the validity and adequacy of this categorisation in another chain of translations, through studying an organisation where space is seen differently and where accounting as practice has been more taken for granted and embedded, the bus company.

TIME AND ROUTES PRODUCE SPACE

In this chain of translations I traced how movements of a bus through the landscape become numbers and revenue, and how these accounting constructs then circulate through the company before returning, retranslated, to the people who drove the buses. I have followed the local bus driver on one of his morning routes. I could see how he managed to place the bus at every important bus stop on time, in order to transport people to work and school. Next, I have followed the accountant who translated invoices, budgets, and income statements. I have also observed what happened at the traffic office. Finally, I followed the manager who translated budget numbers which were coming from Scotland, where the company headquarters were, but also from Stockholm and Göteborg, where the local numbers were put together after they returned from different places.

The translation also made me and the numbers travel to an Authority that "owned" all the routes. They handled the allocation of routes through tenders in a very discriminating and effective way. Routes, types of buses and kilometres to be covered are prescribed and specified by the Authority. Control over planned deliverables is both detailed and extensive. Kilometres are measured through GPS, or the Global Positioning System. Bus companies that want to be in the public transport business have to compete by offering a low price. Not a single kilometre outside the plan would be paid for, unless it was authorised. Routes and kilometres were planned into schedules down to every minute, hour and day of the year, and bus drivers were connected to such schedules. The list of elements needed to make this reduction possible was very long: buses, watches, calendars, bus drivers, schedules, computers, GPS servers, accountants, authorities, managers, budgets, cables, travelling public, numbers and money. One important part of this picture had to do with time. Time, measured by watches and calendars, was a critical element in this chain of translation. It also had importance for the theory of accounting in practice.

ABOUT TIME AS SPACE

At this point, I compared two chains of translation with one another. The comparison focused on similarities and differences playing out within the four categories specified before. The new element was the role of time played in accounting for the bus company's practice. Of particular importance here is measured or "objective time" (Tuan 2001, Crump 1991, Zerubavel, 1981, Joerges 2000), which is treated as a separate construct from space, and taken for granted as being such, but the maintenance of which takes a great deal of technology and reproduction. Objective time was the most important new element in this case.

The first category, *the character of the associations*, is still applicable. Ordinal numbers, cardinal numbers, and money are still in use in establishing and reproducing associations of a

certain character. Extensive integration of these associations made it easier to produce events and to value them. Objective time made it easier to expand these associations.

As far as *the integration of associations and the delimitation of movements* were concerned, the similarity lies in that numbers were both "offered" and "forced upon" the accountant and the managers. Accounting numbers were already part of a language that everyone could and did understand. The difference was that therefore less force was needed to get acceptance of accounting-based numbers and values. Accounting in practice was not a stranger in this setting. The use of the linguistic artefact "responsibility" was therefore more taken for granted than at PSO in creating boundaries and delimiting or re-limiting what was to be done. Numbers defined the responsibility process in the way that they did at PSO however, in the way that numbers and values were easily connected to people, and put people "in place". Time as measured by calendars and watches here helped key associations to become integrated and delimited movements in a precise way. The reciprocal relationship between objective time and accounting in practice (Hoskin 2001) makes it possible to put movements through a landscape "in place", and creates a space for money as a measure of value, which makes associations even more visible and stable. Objective time is a way to produce movements as distinct chronological events, whose value is easily measured with money. Thus, as the popular saying has it, "time is money": and vice versa.

The supportive technologies in use in the bus company were not very different from PSO: however computer programs, maps and faxes were added to make associations even more integrated. An obvious surface difference could be discerned between objects integral to PSO activity, such as TL01, houses and diagnoses, and those integral to bus transportation, such as buses, roads and bus stops. The largest difference was, however, the extensive use of calendars and watches and related technologies in the bus company.

The order produced at the bus company was similar to PSO, but at the bus company, everyday life was perceived by more people more widely in numerical terms. It was no problem to people to understand from numbers where the buses were on the road and to change things if there was a problem. The space of predetermined actions was obvious and acceptable to managers. Spaces were brought together by accounting in practice and a macro-actor – the transport company – was largely produced and reproduced in this way. Numbers were the way to visualise efficiency and profit, important for this actor. By separating and combining different times and spaces, numbers could also be put together in different ways and consequently produce different value (Harvey 1990). This was a way to transcend what is, and to become something else. Thus while the spaces defined *order*, at the same time they also defined what it was possible to *change*. As a hierarchical order, the bus company was comparable to PSO, but the space of predetermined actions was different. The manager and the accountant had an extended space to act; the ward sister did not – she could not change the numbers as they were beyond her reach.

The production of other spaces was visible in the bus company as in PSO, but it was harder to follow because of the integration achieved by the use of objective time. To drive a bus could be seen also as a way to get to know a landscape, and to get to know people who live there. This is difficult, however, as long as money as a measure of value and objective time is so present. Full life stories are reduced, and replaced with experience of the other people through numbers only. Objective time diminish the scope for and value of personal or subjective experience of time (Ezzamel & Robson 1992). The idea of objective time permits an expansion in the ways of theorising accounting in practice. Value is circulating in a form of money and

many actants are engaged in production of this value, which also becomes a way of living in and understanding space. Accounting in practice produces value, and in time this product becomes more and more stable. When accounting becomes more accepted as a way to express movements, situations and events, the everyday movements start to change in order to fit the numbers. A space becomes a place, but the familiarity of this place is deceitful. It is the use of numbers which is stable, not the place. The place becomes flexible as the numbers are interpreted, and this becomes a way to know the world.

To sum up: Accounting in practice contributes to establishing and then maintaining the associations which organise both health care and public transport, which can then take shape as, and be seen as, macro-actors. This settling is possible because of two links that are on offer – numbers and money. The acceptance and use of these links makes it possible to integrate and delimit everyday movements. In this way a space for health care becomes delimited, a place for care becomes defined, but also space/time and places for public transportations become enclosed. This latter move is achieved with the help of objective time. Thus, in the latter case more strongly, accounting in practice stabilises associations, numbers and money, with the support of objective time. At the same time, in the public transportation company, as in the psoriasis ward, other spaces are also produced, even if those get less attention and are difficult to differentiate by money as a measure of value.

Will this theory of accounting in practice hold even in a setting where such a practice is extensively taken for granted and embedded in the everyday work of business? In order to answer this question, the study of an investment company was conducted.

THE INVESTMENT COMPANY

The purpose of an investment company is to act as an intermediary vehicle for ownership and to produce value in terms of money. The company under study has full ownership of a group of companies held for long-term growth, and another group regarded as short term profit makers.

I visited one of the subsidiaries, where they told me about the unexpected visits from the CEO. Apparently, most of his time he visits factories to see for e.g. whether a new machine functions as expected. In the factories, everything is organised to make a value flow which also the CEO is the first to support. At the same time, he constantly checks the latest accounting numbers coming into the headquarters via his telephone while he visits the factories. The companies send regular accounting numbers to the headquarters, and these numbers have to be as expected, and they have to be there on time. The CEO then confirms any relations of value of concern in person by his visits.

Next, I went to the headquarters to see how numbers are aggregated and put together. Here I did not find any machines, as in the factories, or people in uniforms, but men in black suits and computers. With help of computers, numbers are translated into further numbers, with different positions for currencies, rents and selling and buying shares. This was a place where loss of faith in numbers would be risky. In this context, not only time and space are understood as value. Numbers are brought together and translated into an annual report, where numbers, texts, figures and pictures are put together. Some of the profits are translated into dividends, and continue their journey across the Atlantic, where another investment awaits – to translate them even further. The last chain of translation was therefore a chain where money was translated into money, thus becoming ever more abstract or self-referential.

A THEORY ABOUT ACCOUNTING IN PRACTICE

Money is not a simple to grasp or describe, nor is its relation to accounting simple. Many authors have attempted to explain it (for texts on money, see Simmel 1900/1978, Crump 1981, Weatherford 1998; for its relation to accounting, see e.g. Ezzamel & Hoskin 2002). My analysis of the relation between money, space, form and translation has to a large extent been based on Crump (1981), especially his idea of money as circulation.

One peculiarity of the third study, as compared to the other two, was that accounting in practice was taken for granted there. The speed with which accounting in practice produced numbers and sent them in some direction or another was impressive. Money and numbers were used to name and count. They differentiated and held together at the same time. Money split things in ways that would not be possible otherwise. The ground for this possibility was already prepared by its relation to accounting-derived hybrid numbers, such as "man-hours", waiting to be connected to money to be valued, with the speed of a machine. This speed was possible because space and time were "in place" in the investment company. Every number was then put into position for a new journey. *The character of the associations* was the same but even stronger than in the previous chain.

The integration of these associations was amply expressed in the language used by those who worked there. The language of numbers was not forced upon them. It was a taken for granted way of talking and seeing things, further developing and confirming their role as professional accountants and managers. In other words, a predetermined commitment to "responsibility" was easily accepted. What had been a foreign language in PSO was, so to speak, the mother tongue in the investment company. The associations were (re)produced in a way strongly dependent on that form of value which is money, as it permits easy circulation. And as long as these associations are stable and unquestioned, maintained for instance by the financial discourses inside and outside the company, they will continue to expand and spread throughout its everyday life practices. The technologies used at the investment company were not very different from those used at PSO and the bus company, though in one respect they were fewer: for in a place where the principal business is putting numbers together, desks, phones, and some papers suffice. Through them, various spaces were produced side by side, with no overlap, and yet they could all be put together in time for an annual report. Just by pressing a button, the numbers from a subsidiary became translated and sent to such places as banks, currency positions, the stock market, or analysts. In this way, the action of objective time made the associations travel even further, precisely because they were now so abstract and self-referential.

In this study, therefore, time and space are rendered equivalent with money as a measure of value. The linguistic artefact "responsibility" is an important part of this production. The translation of responsibility down to each unit of each subsidiary company and then up to the annual report via the nexus between time, space and money makes the character of the associations continuous. In other ways, the investment company was not dissimilar to the two other chains, and not always most "advanced". For instance, in terms of integration devices, it was the bus company that was most striking because of its specific use of objective time for that purpose.

However, here the annual report appeared important in the way accounting in practice played out in the company. The *order* and the hierarchy were shown in the annual report. Meetings with the executives helped to confirm who was included and who was not, but also who was in charge. This order could then produce certain values wished by the owners. The board

needed to answer the owners' questions concerning value. The issue of control over the use of value was very important when the form of value permitted easy travel and therefore high probability of *change*. To prevent it, the order is also about keeping the faith about value intact. Also the CEO is an important person in this respect, as a device to control the cash flow. The numbers presented by the CEO were a way to create meaning concerning what was happening. Otherwise, switching between pictures, numbers, and products was as easy as turning a page in an annual report. Many spaces were brought together in the investment company. As a place of time/space/value it functioned as a stabiliser, permitting value to circulate in an endless self-referential journey in a value network.

Other spaces were produced, too, but they were harder to find because a great many things were related to space/time as value. For example many felt the possibility to invest in new machines stimulating. Some appreciated when all the machines were running or when a lorry could be seen loaded with products ready for delivery. Some even saw how to solve tax problems or to buy and sell other companies as an intellectual challenge, but also to develop the teamwork between people in the organisation so that more value could be created. It was also a place where value could encourage a professional career. In a way Investment was a context where you could create something that would survive each person – a creation that could transcend the body. Even if associations never can be controlled even in a context like Investment, it was hard to find other spaces which did not emerge from numbers and money, as a measure for value, when accounting in practice is taken for granted.

To sum up: Accounting in practice helps to settle the associations which organise health care, public transport, and the investment company. This practice offers two links – numbers and money. This settling is possible because of two links that are on offer – numbers and money. The acceptance and use of these links makes it possible to integrate and delimit (and re-limit) everyday movements, so that the associations can continue to travel towards a more abstract value. In this way, a space is produced, which can be seen as a value-network. Thus accounting in practice stabilises associations, numbers and money, with the support of objective time. Other spaces are also produced, but these spaces get less and less room where and when accounting becomes taken for granted, and are hard to keep apart from money as a measure of value.

CONCLUSIONS

In this study, the question of why accounting numbers have such effects is answered by conceptualizing accounting as a producer of new forms of space/time/value relations, and tracing how this practice contributes to (re)producing numbers into money and the other way around: or how accounting in practice functions as a time/space/value machine.

Accounting in practice is seen as developing through three modes or phases. In the first, illustrated by PSO, accounting is a little known practice, but its introduction permits a construction of a revenue- and cost-focussed space/value relations. In the second, illustrated by the bus company, the introduction of objective time permits a reconstruction of space and spatial dynamics into revenue and cost-focussed time relations. In the third, when accounting is taken for granted, and time and space are "in place", value becomes coterminous with space and time, which makes it possible to produce ever more abstract value, where things, people and situations can be substituted by numbers. Thus, accounting in practice is a way to communicate that contributes to the production of space, but also (re)produces value through money and numbers, which becomes coterminous with time and space. In this way,

accounting in practice contributes to an increased degree of abstraction in organisational discourse.

Such a conception of accounting explains the central place of a space/time/value trinity in everyday life. Accounting is thus made visible as a subtle approach to the world, which nevertheless shapes what can be thought and even the limits of possible existence. Accounting's space/time/value trinity gives people an idea of who and what they are, and thus has a doubly disciplinary force, where certain experiences translated into the disciplinary expert knowledge that is accounting emerge as a disciplined and disciplining way of living in the world.

REFERENCES

- Boland, R. 1986. The micro dynamics of a budget-cutting process: Modes, models and structure. *Accounting organization and Society*, 11 (4/5), 403-422.
- Boland, R. J. 1993. Accounting and the interpretive act. *Accounting, Organization and Society*, 18 (2/3) 125-146.
- Chua, W-F. 1986. Radical developments in accounting thought. *The Accounting Review*, LXI (4), 601-632.
- Chua, W-F. 1995. Experts, networks and inscriptions in the fabrication of accounting images: a story of the representation of three public hospitals. *Accounting, Organization and Society*, 20 (2), 111-145.
- Crump, T. 1990. *The anthropology of numbers*, Cambridge: Cambridge Univ. Press.
- Crump, T. 1981. *The phenomenon of money*, London :Routledge & Kegan Paul.
- Czarniawska, B., & Sevón, G. (eds.) 1996. *Translating organizational change*, Berlin: Walter & de Gruyter.
- Davis, W.S., Menon, K., & Gareth, M. 1982. The images that have shaped accounting theory, *Accounting, Organization and Society*, 7(4), 307-318.
- Demski S. 1988. Positive accounting theory: A review. *Accounting, Organization and Society*, (13(6), 623-629.
- Ezzamel, M., & Robson, K. 1992. Accounting in time: organizational time-reckoning and accounting research, in *EAA Madrid*.
- Ezzamel M.; & Hoskin, K. 2002. Retheorizing accounting: writing and money with evidence from Mesopotamia and ancient Egypt. *Critical Perspectives on Accounting*, 13(3), 333-637.
- Frandsen, A-C. 2004. *Tid, rum och pengar – en studie om redovisning i praktiken*, Göteborg: BAS
- Frandsen, A-C. 2001. *From quasars to bus stops and numbers: how a time-network is used and organized within accounting practice*. Working paper 2000:390, School of Economics and Commercial Law at Göteborg Univ.
- Frandsen, A-C. 2000. *From psoriasis to a number*, Interdisciplinary Perspective on Accounting, Colloquium, Manchester, July 2000.
- Glaser, B. G., & Strauss, A.L. 1967. *The discovery of grounded theory: Strategies for qualitative research*. New York: Aldine.
- Harvey, D. (1990) *The condition of postmodernity*. Oxford: Blackwell
- Hopwood, A. 1983. On trying to study accounting in the contexts in which it operate. *Accounting, Organization and Society*, 8(2/3), 287-305.
- Hoskin, K. 2001. *Accounting, being and time: A secondary derivation from Derrida's quasia and gramme: Note on a note from a being and time*. International Conference on Spacing and Timing – Rethinking Globalization & Standardization, Palermo, Italy November 2001.
- Hoskin, K. & Macve, R. 1988. The genesis of accountability: The West Point connections, *Accounting, Organization and Society*, 13, 37-74.

- Joerges, B. 2003. Reflections on the millennium, calendars, and the Gregorian hegemony. In B. Joerges & H. Nowotny (Eds.), *Social studies of Science and Technology :Looking Back Ahead* (261-291). Netherland: Kluwer Academic Publisher.
- Jönsson, S. 1996. *Accounting for improvement*. Oxford: Pergamon.
- Latour, B. 1998. *Artefaktens återkomst*, Stockholm: T. Santéus AB.
- Lowe, A. 2000. The construction of a network at health care Waikato, *Accounting, Auditing and Accountability*, 13 (1), 84-114.
- Miller, P. & Hopwood, A. (eds.) 1994. *Accounting as social and institutional practice*. Cambridge: Cambridge Univ. Press.
- McSweeney, B 1997. The unbearable ambiguity of accounting. *Accounting, Organization and Society*, 22(7), 691-712.
- Mouritsen, J., Larsen, H. T., & Bukh, P.N.P. 2001. Intellectual capital and the “capable form”: Narrating, visualising and numbering for managing knowledge. *Accounting, Organization and Society*, 26 (7/8), 735-762).
- Power, M. 1999. *The Audit society: Rituals of verifications*. Oxford: Oxford Univ. Press.
- Preston A.M, Cooper, R.M. & Coombs, R.W. 1992. Fabricating budgeting: A study of the productions of management budgeting in the national health service, *Accounting, Organization and Society*, 17 (6), 147-164.
- Rose, N. 1991. Governing by numbers: Figuring out democracy. *Accounting, Organization and Society*, 16 (7), 673-692.
- Simmel 1900/1978. *The philosophy of money* (Repr.ed.). Boston, Mass.: Routledge & Kegan Paul.
- Swieringa, R. & Weick, K.E. 1987. Management accounting and action. *Accounting, Organization and Society*, 12 (3), 293-308.
- Tinker, M.A., Merino, D.B., & Neimark D.M. 1982. The normative origins of positive theories: Ideology and accounting thought. *Accounting, Organization and Society*, 7 (2), 167-200.
- Tuan, Y-F. 2001. (8th ed) *Space and Place*. London: Univ. of Minnesota Press.
- Wax, R.H. 1985. *Doing fieldwork: Warnings and advice*. Chicago: Univ. of Chicago Press.
- Weatherford, J. 1998. *Pengar: Från sandsten till cyberrymden* . Lund: Leander Malmsten.
- Whitley, R.D. 1988. The possibility of utility of positive accounting theory. *Accounting, Organization and Society*, 13(6), 631-345.
- Zerubavel, E. 1981. *Hidden rhythms – schedules and calendars in social Life*, London:Univ. of California Press.