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**When Time is Money: Contested Rationalities of Time and
Challenges to the Theory and Practice of Work.**

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Biographical Details

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Abstract

An explicit focus on time challenges established social science traditions. As such, it changes the ontology, epistemology and methodology of the social study of work. It offers a new perspective on power relations, on past and current employment and production practices, and on the effect of the industrial way of life on the environment. This paper explores the impact of the commodification of time on work and wider socio-environmental relations and considers the valorisation of speed in work and production processes. It brings to the fore taken-for-granted incongruities between different time priorities. Finally, it investigates the implications of the non-stop work patterns associated with globalised information and trade.

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Introduction

At the beginning of the 21st century work has attained a new local and global quality. Localised and individualised efficiency deals are established where previously standards would have been set nationally and bargained for collectively. At the same time, work is negotiated in the context of a global labour market and global competition: the world, not nations, is the market where labour is traded and the fate of much future work sealed. Electronic communication, low transport costs and deregulated, unrestricted trade dissolved many of the boundaries that used to delimit the competition for work on the one hand the negotiations over conditions on the other. Since the leading industrial nations have committed themselves to the General Agreement on Tariffs and Trade (GATT) and the rules set out by the World Trade Organisation (WTO), it is difficult for any nation to extricate themselves from the logic of the competitive global market. 'At a world level', as Hans-Peter Martin and Harald Schumann (1997: 7) point out, 'more than 40,000 transnational corporations of varying shapes and sizes play off their own employees (as well as different nation states) against one another.' There are always workers somewhere else able and willing to do the job cheaper than North Americans or North/West Europeans.

This global liberalisation of both trade and movement of capital as well as the privatisation of public enterprises are the principle economic strategies heralded to bring benefit to everyone. However, whilst global competition is good for business and share prices, it tends to set labour conditions and wages on a downward spiral even if they rise in the short term for workers in the poorer parts of the world. To better understand this global race to achieve maximum efficiency and minimum wages, we need to turn our attention to an aspect of work and the labour market that tends to be invisible even when it is negotiated and bargained for. We need to familiarise ourselves with the taken-for-granted multiple role of time -- as resource and commodity, as medium for exchange, as measure of the work time to be exchanged, as parameter within which transactions are conducted -- in order to grasp not just the changes in contemporary work relations but to conceive of potential alternatives. When we thus render visible what tends to be implicit, a whole range of inequalities become illuminated and the relationships between them apparent. The explicit focus on time

consequently offers a new perspective on work: on employment and production processes, on power relations and inequalities.

This is not to suggest that the study of work has ignored the issue of time. On the contrary, time has featured prominently for many decades in all areas of research concerned with the sphere of work: anthropology and history, sociology and social policy, economics and business studies, social psychology and geography, gender and women's studies, organisation and social theoryⁱ. A significant proportion of these studies tend to be preoccupied with the link between industrial/capitalist production and its organisation to the time of the clockⁱⁱ on the one hand and with problems associated with clock-time assumptions imposed on work outside the sphere of paid employment on the otherⁱⁱⁱ. The body of research is vast and still growing. Most of it, however, is strictly discipline and perspective based. Accordingly, it is specifically focused either on the history of working time or the contemporary condition, on the perspective of employers or that of employees, on processes inside the sphere of paid employment or ones that fall outside it. Rarely is time explicitly theorised. This means, the potential of the focus on time for understanding connections and interdependencies is yet to be realised and much work remains to be done in terms appreciating the implications of the unquestioned economic approach to time as money and its role in relations of power and inequality.

In this paper, therefore, I will neither engage in surveying or evaluating this extensive literature on time and work nor offer a historical account of the development towards the current relation to time as money. Instead, I want to investigate a number of interdependent issues and relationships: first, I consider the assumptions and presuppositions associated with the relation to time as money and its connection to the valorisation of speed in work and production processes. Second, I examine the link between the commodification of time and new working conditions associated with time-based rationalisation, intensification, compression and flexibilisation. Third, I explore its connection to the restless, sleepless, non-stop work patterns associated with globalised work time, information and trade, that is, work in the competitive world of unbounded time and space. Fourth, I trace the implications of the economic approach to time in spheres of work that are not easily commodified on the one hand and those whose time is not remunerated on the other. Fifth, I bring to the fore contested rationalities of time, taken-for-granted incongruities and mismatches between different time priorities and time-based competition to open up a critical conceptual space for alternative praxis. Finally, I establish connections between these contested temporal rationalities.

When Time is Money: The Timescape^{iv} of Paid Employment

Commodity and Abstract Exchange Value

The industrial way of life is associated with a particular approach to time and speed: time is perceived as a scarce resource; speed is associated with efficiency. A slower, measured pace had to give way to the speeding up and general acceleration of daily life and work. Times when nothing happens, breaks and pauses, waiting and rest are considered unproductive, wasteful, lost opportunities. The time-is-money equation permeates contemporary western business and labour relations. Companies calculate their labour costs in 'man-hours'. Labour is paid by the hour, the week and the month. Surplus value and profit cannot be established without reference to time. Overtime, 'time out' through absenteeism and strikes all form integral aspects of the calculation of a business' production costs, its efficiency and its performance in relation to competitors. Here, payment is not for goods and services but time.

For workers to be paid for their time rather than the goods and services they provide, time had first to become an abstract exchange value which needed to be differentiated from the use value of such goods and services. All the endlessly different products of work have different use values which are always context and situation specific, as is clearly the case with, for example, the use value of a table, a coat, an operation and a pension plan. However, when we want to exchange something for money, a third value has to be introduced to mediate between the two. Unlike the use value which is context and situation specific, this mediating exchange value has to be context independent. The common, decontextualised value by which products, tasks and services can be evaluated and exchanged is time.

Time is the decontextualised, a-situational abstract exchange value that allows work to be translated into money. Since, however, money is a quantitative medium, the time that features in this exchange has to be of a quantitative kind as well: not the variable time of seasons, ageing, growth and decay, joy and pain, but the invariable, abstract time of clock where one hour is the same irrespective of context and emotion. Only the quantitative, divisible time of the clock is translatable into money. Only this decontextualised time can serve as an abstract exchange value and thus be traded as a commodity on the labour market. Only in this decontextualised form, as Karl Marx (1857/1973: 140-143) showed, can time become commodified on the one hand and an integral component of production on the other. In Marx's analysis, therefore, clock time is the very expression of commodified time^v. That is to say, the use of time as an abstract exchange value is possible only on the basis of 'empty

time', a time separated from content and context, disembodied from events. Only as an abstract, standardised unit can time become a medium for exchange and a neutral value in the calculation of efficiency and profit.

Not all time, however, is of this kind. On the contrary, this quantitative time of economic exchange is a very specific cultural construction with a long history that is given material expression in the clock (LeGoff 1980). Outside of this specific human construction, time is life; it is change and difference; it is evolution; it is development; it is birth and death, growth and decay; it is the past and future gathered up in the present; it is potential; it is origin and destiny. Moreover, in interaction we generate and make time. Interaction is the source of asymmetry and with it the difference between the past and future. This links the interaction principle of sociality with the creation of time and time with the irreversibility and unidirectionality of existence. That is to say, whether we are talking, learning or working together time is generated in the interaction -- the world is irrevocably changing, each moment is forming difference. It is a mark of the interactive generation of time that there can be no un-talking, un-learning, un-working, no reversing of time thus generated. Finally, social relations are permeated by time giving. Time as gift operates largely outside the time economy of employment relations in the context-dependent interactions between spouses, lovers and friends, between parents and children, carers and the cared for. Time giving stands opposed to relations in which time may be exchanged between people or for money, as is the case in employment relations.

With clock time, in contrast, the variable times of nature -- of day and night, seasons and change, growth and ageing, birth and death -- are objectified, constituted independent of life and cosmic processes, of human activity and social organisation. Clock time comes in uniform, invariable, infinitely divisible units which can be given a number value. As such it facilitates the standardisation of time and for its precise quantification. In this form it allows us to integrate all levels of reality -- cosmic, physical, biological, and cultural -- as well as all known historical periods (see Elias 1992) and it serves as a base to translate one quantity into another: labour can be translated into money; risks can be calculated for insurance purposes; historical periods can be related to each other. Created externally, clock time can function as a symbol for orientation, regulation and control.

Thus, the transformation of lived time into a commodity that we can use, allocate, control, and exchange on the labour market has to be understood with respect to a very specific development: *the creation of a non-temporal time* and the orientation of social life to

this very specific kind of time. Here the control is no longer over the time structuring of the activity but over the commodity itself. With this commodification, the control of time has become an ineradicable, integral aspect of industrial social life and as such it affects the timing, the tempo and even the temporality of that life. The commodification and the control of time therefore need to be recognised as specific phenomena of industrial and industrialising societies.

A whole raft of consequences arise from this decontextualisation, commodification and the relation to time as money. Four of these are of particular interest here:

1. When time is money then the faster something moves through the system the better it is for business. Accordingly, efficiency and profitability are tied to speed.
2. When time is money then any un-used time is money wasted, hence the development of the non-stop, 24-hour society.
3. When time is money then a whole range of time compression and rationalisation schemes become implemented in the cause of global competition.
4. When time is money then any (work)time that does not easily fit this abstract quantitative scheme of commodification is defined as 'other' and finds itself constituted in the shadow of the dominant time economy based on money.

The first three consequences are discussed as subsections of this part of the paper; the fourth is explored in the next section.

While the assumption that time is money seems allpervasive in the industrial-capitalist system, we need to appreciate that time is not at all like money. There are significant differences that are worthy of our attention. Thus, for example, whilst time passes outside our control, money can be consumed at an intentional pace or it can be left to grow. Added days and years mean ageing, growing older and therefore closer to death, whilst the accumulation of money means unrestricted growth of wealth, that is, growth that can continue indefinitely. As a constitutive dimension of our lives, time is lived, generated, and known. As a resource it is used and allocated. As a commodity it is exchanged for money on the labour market. Unlike money, however, time cannot be externally stored or accumulated. Whilst money stands in a direct quantitative relation to value -- the more the better -- this is clearly not the case with time, otherwise the time of prisoners, pensioners and the unemployed would have to be accorded maximum value.

The money value of time, we need to recognise, is exclusively tied to paid work, which means, any time that falls outside this framework of evaluation is not exchangeable for

money. Yet, by far the largest proportion of people's time -- the time of children and the elderly, of parents and carers, of prisoners and the unemployed, for example -- is in fact not exchanged for money but lived, generated and given. Their time is 'valued' in the shadow of economic relations, filtered through that way of thinking about and evaluating the world. And since, furthermore, money relates to power, any time that is not readily translatable into money, as I shall show below, tends to be associated with a lack of power. To understand the conflicting rationalities involved let me begin by exploring the time-is-money and speed-equals-efficiency-and-profit associations.

Speed equals Efficiency & Profit

In industrial and industrialising countries speed is valued over processes that take a long time and over procedures and actions whose duration cannot be accurately estimated and calculated. To be efficient is to produce something or to perform a task in the shortest possible time. To be profitable is to spend as little money as possible on labour time. To be competitive is to be faster than your rival. Efficiency, profitability, and competitiveness all carry a positive value in industrial and industrialising societies.

Yet, speed is not a value in and of itself. In many societies across the world, speed and haste carry a negative value. They denote a lack of decorum. In these cultures it is considered undignified to rush and carry out daily routines at great speed. For industrialising societies, in contrast, faster means better, increased speed constitutes progress: a faster aeroplane is more advanced than a slow one. A train that gets its passenger to a business meeting in two hours is 'superior' to one that takes two hours and twenty-three minutes. A fast worker is seen as an asset to a company, a slow one considered a drain on its resources. Fast learners are considered bright while the notion of the 'slow learner' stands for dull-wittedness, lack of intelligence and a negative deviance from the aspired norm. These evaluations tend to hold true irrespective of regard to quality which may be far superior in the slower transport, work or learning achievement.

This veneration of speed is puzzling when we consider that the 'time saved' is usually achieved at a price, that it has to be paid for with extra energy which puts an additional burden on resources. Even the link between time and money does not necessarily explain the value of speed. If time were money, would it not make more sense to *invest* time/energy in activities, to take longer to cook, travel and learn, thus enhancing their value? Equally puzzling is the stigma attached to slow learners and workers when we link it up with the

traditional knowledge that 'a good thing takes time'. The valorisation of speed makes little sense until we grasp that time as quantitative resource, work as paid employment, and the money-efficiency-profit link are inseparably intertwined, that they are mutually defining.

The concept of 'time economy' may help to shed light on the paradox and to understand the underlying rationale of this contemporary speed fetishism. It alludes to the implication of time in the economic investment-return-profit cycle, that between an investment and its return is a time-span and that the shorter the elapsed time, the greater is the profit. Crucial to this relation is the payment of interest for the time of money borrowed. In addition to profit and interest as motivating forces for the high value of speed, competition plays a central role. The more time one is left with after an activity the better since this allows even more actions, transactions and productions to be fitted into the period of time thus freed up. When time is money, then the production of something of equal quality in a shorter time allows for a reduction in the price of the product which increases its competitiveness. Equally, the faster an invention comes to market the better for the competitive edge over business rivals. To be first, that is faster than competitors, is crucial whether the 'product' is a news story, a new drug, a new invention or a new fashion trend. Thus, when time is money, speed becomes an absolute and unassailable imperative for business. At the same time, when speed is equated with efficiency, then time compression and intensification of processes seem inevitable.

This argument was first presented by Karl Marx (1867) in *Capital* Vol. I where he argued that in a context of competition the commodified labour time as abstract exchange value had to be intensified in order for employers to stay competitive and profitable. Competition, he proposed, will compel employers to intensify the energy expended by workers.

It imposes on the worker an increased expenditure of labour within time which remains constant, a heightened tension of labour-power, a closer filling-up of the pores of the working day, i.e. a condensation of labour, to a degree which can only be attained within the limits of the shortened working day. This compression of the greater mass of labour into a given period now counts for what it really is, namely an increase in the quantity of labour. In addition, to the measure of its 'extensive magnitude', labour-time now acquires a measure of its intensity, or degree of density. The denser hour of the 10-hour working day contains more labour, i.e. expended

labour power, than the more porous hour of the 12-hour working day. (Marx, 1867/1976: 540)

The means by which this intensification is to be achieved are manifold and can involve managerial strategies focused on the use of machinery on the one hand and the rationalisation, mechanisation and reorganisation of labour on the other, all in turn are underpinned by a purely quantitative approach to time. One of the rationales for the industrialising societies' approach to speed intensification and time compression is thus to be sought in the quantification, decontextualisation, rationalisation, and commodification of time, in the calculation of time in relation to money, efficiency, competition and profit. Before I move to some contemporary expressions of the speed fetishism in the world of paid work, I would briefly like to reflect on the speed-related issue of equity.

The link between speed, economics and clock time operates against the principle of equal opportunity whether this be in relations between the sexes (see below), occupational groups, cultures or categories of people. That is to say, the valorisation of speed with its tight link to economics militates against equity and equality in all spheres of work and employment. It means, for example, that artists, carers, and people providing services compete on unequal terms with occupational groups whose work is better amenable to translation into the clock-time units on the one hand and time compression on the other. Such inequality turns into a major problem where the principle of commodified time has been politically imposed across the board, irrespective of suitability: where in the name of efficiency it has been thrust upon education and health services, on the caring professions, theatre companies and the visual arts community without regard for their unique temporal complexities that are ill-suited to evaluation and remuneration on the basis of commodified time and the speed-equals-efficiency-and-profit logic.

Equally, the economic imposition of this logic obstructs equality between cultures, that is, between societies who consider speed to be socially unacceptable and those who valorise it as a virtue at both a personal and collective level. This particular inequality is most clearly discernible in the relations between 'first' and 'third' world countries: in the latter's difficulty to adapt and conform to the former's time discipline and speed fetishism as well as in the differential level of pay offered to workers of those respective countries.

Finally, it prevents equality amongst categories of people with the very young, the elderly, the disabled, and their respective carers being discriminated against. Let us take disability as an example. For disabled persons to be given equal opportunity at work, it is not

enough to merely supply them with the appropriate technological aids. As French (1993) insists, such aids are no substitute for bringing disabled persons 'up to speed' with their able-bodied colleagues. Bringing time to the centre of equal opportunity debates, she argues, is important if we are to take seriously the disadvantage of disabled persons in the work place.

In my view the only way to give equal opportunities to visually impaired people engaged in employment normally requiring vision (which is most employment) is to pay them the same amount for less work, and the same applies for many other disabled people. Such is my past socialisation as a disabled person, and my knowledge of other people's attitudes, that I would not, at the present time at least, feel able to accept this solution for myself.

(French 1993: 3)

It is the socialisation into a specific approach to time that is at issue here. To question and challenge the taken-for-granted view requires full understanding of the kind of times that support practices and traditions as well as their multiple alternatives. The task for social scientists therefore is to understand the principles that underpin, maintain and perpetuate the dominant time and its impact as well as the characteristics of times that fall outside its remit. It is to demystify and make the taken-for-granted problematic which in turn creates the potential for alternative visions and for effective actions. To this end I want to explore a number of innovations in working time that are rooted in the time-is-money and speed-equals-efficiency-and-profit schema but take the time economy further, that is beyond the mere speeding up of processes to a control of time that may in certain circumstances also involve a slowing down.

Rationalisations of Working Time

The issue of economic efficiency is tied up with a whole range of well-established and more recent processes of working time rationalisation and the pursuit of time control. These innovations in economic relations of time include amongst others the automation of work, the subjection to Taylorism, the flexibilisation of work time and more recently just-in-time processes involving production, work, delivery and consumption. All in turn are implicated in the move towards a non-stop, 24-hour society.

After early improvements in worker ‘efficiency’ through reorganisation, closer supervision and piece-work, the use of machines became the next and most obvious way to speed up work processes since mechanisation proved to be an efficient way to eliminate waste which always means wasted (money)time. With mechanised production, as Marx already noted in *Capital* Vol. 1, greater efficiency, that is time compression, could be achieved by a variety of means: by increasing the speed of the machines, by allocating a greater number of machines to be operated or supervised, by getting machines to do ever more of the tasks previously executed by workers, and by improving the technology itself. The efficiency saving associated with automation translates into cost savings on labour, that is, the reduction of jobs on a massive scale. This development is particularly pertinent today where, due to efficiency gains based on automation, businesses such as banks, insurance companies, airlines and the telecommunication industry have shed jobs on an unprecedented scale. In Germany alone, half a million bank employees have lost their jobs during the 1990s. One computer programmer, for example, can today do a job that previously required 100 people. This radically reduced labour time for the job means mass unemployment and goes under such euphemisms as downsizing, re-engineering, outsourcing and wage compression.

At the turn of the last century, Frederick W. Taylor in the USA, took time-based rationalisation to the factory by cutting out all unproductive times from the work process. Taylor reorganised work processes in the factory by breaking down jobs into their component parts and re-assembling them in such a way that the entire factory was synchronised, to run like clockwork, without any idle time. His time compression was rooted in extreme task fragmentation and the separation of mental and manual functions. It involved the timing of tasks and allocating a standard time as norm that excluded all the unproductive times that used to constitute an integral part of the working day and production processes. Here, the stop-watch rather than the clock dictated the pace of labour and underpinned this timed system of efficiency.

Under Taylorism “the stopwatch is the equivalent of a whip”, a union man claimed (US Congress, 1912: 508: 18). As a whip cut the air and the skin to discipline labour, Taylor’s stopwatch cut and sliced time itself to impose the presumably objective logic and scientific management on human movements... (O’Malley 1992a: 196)

This de- and re-assembly of time units per task produced massive efficiency gains in the factory and work places in which these time-and-motion studies were employed to re-organise and rationalise companies. In the general fervour to achieve maximum efficiency,

efficiency became equated with the good. A new social temporality was created, a time for dissection and reassembly, a social time freed from space and linear causality, an objective time that conveniently suited the employers' agenda.

The cutting up of work processes and their 'creative' reassemblage for the purpose of achieving the greatest possible efficiency, we need to appreciate, requires as a basic condition an empty, abstract time that is divisible into an infinite number of recombinable units. The processes of work, in other words, could be taken apart and rearranged in new ways only *after* an objective, standardised, decontextualised time had become the accepted norm. The general orientation towards clock time thus constitutes the foundation for the flexible and rational (re)organisation of time.

Since this process of re-combining and re-assembling work time is similar to the task performed by editors of television and film, we could, with Michael O'Malley (1992a) call it *time editing*. Just like the editing of television and film, such work-time editing is shrouded in an air of importance and inescapability. 'Dressed in the clothes of efficiency', writes O'Malley (1992a: 199), 'the editing of time could seem like a resort to a higher authority [rather] than mere convenience. In a contentious society of clashing interests, it could seem impartial and objective, free of local prejudice'. Such time editing practices, however, invariably meet with resistance for the simple reason that people are different from machines and strips of celluloid: they *are* time, they *live* time, they *generate* time in interaction, they are *rhythmic* beings that pulse with the rhythms of the earth. In contrast to the machine time of the clock, these socio-cosmic rhythms are not invariable but variable, they are constituted by highs and lows in energy and activity, by periods of exertion and recuperation, intense sociality and quiet contemplation. Yet, the temporal conflict that arises with the imposition of clock time and time-editing practices in the workplace tends to be ignored in the majority of analyses concerned with the rationalising fervour of work and production processes. Thus, for example, Tomaney (1994: 176) explains that 'Taylor advocated bureaucratization of the shop floor (through time and motion study) as a means to solve the *problems of coordination and reintegration raised by the increasingly complex division of labour*' (my emphasis). Focus on the time practices and processes in the work place clearly takes the analysis in a different direction, away from the socio-technical problems associated with the complexification of the division of labour to concerns that span from conceptual matters to social relations and from socio-cosmic rhythms to issues of socio-economic equity.

The next rationalisation of time I wish to consider concerns the flexibilisation of work time which was heralded as a worker-friendly innovation that would give workers more choice and control over their patterns of work. Flexibilisation involves a de-coupling of work time from the time of the organisation and from the collective rhythms of public and familial activities. It can have a number of different, even conflicting consequences for those involved: workers may be able to achieve greater control over the allocation of their own time, whilst for employers it constitutes a tool for improving efficiency. For workers, flexibilisation can take different forms and have different effects. It can mean decreased travel time, better child-care arrangements and/or improved choice on one hand and an increase of weekend work and night shifts, unpredictability in the length of working time, and/or a shortening period of notice for temporary work schedules, on the other. In the latter group of implications, uncertainty for the worker is at its worst, as Marc Elchardus (1991:701) points out, 'when the working time is rendered directly sensitive to market fluctuations'. Elchardus (1991) designates the difference as one between flexibility *for* the worker and flexibility *of* the worker. Whilst the former allows workers a greater degree of control over their time the latter entails an increase in the unpredictability of working time.

What is for the employing organisation an issue of rationalisation and efficiency can become a burden for workers for the very reason that workers do not operate exclusively in the commodified, rationalised and mechanised time of industrial employment but in a complexity of times which, in turn, need to be synchronised with the times of significant others and the society within which those employees live and work. When the multiple 'components' come adrift there is a price to pay. People encounter ever greater difficulties in co-ordinating the flexible and inflexible elements of their lives of work, family, friends, leisure, cultural activities, public amenities use, and political engagement. The more flexible and/or unpredictable the work pattern, the more time has to be spent by those involved and their families on the task of synchronisation. Rarely, however, are those two analytic categories -- flexibility *for* and flexibility *of* the worker -- neatly separated; instead, they tend to interpenetrate and constitute simultaneous, multiple complexities.

The complexity of the situation is persuasively detailed in Karen Davies' (1998) study of a new flexible work model introduced to an Intensive Care Unit at a Swedish hospital. This study demonstrates that the capacity of workers to master the new fluid and flexible temporal arrangements differs with gender and the composition of the nurses' private lives. That is to say, whether or not the flexible schedules were experienced as time *for* or *of* the worker

depends on whether or not the nurses in question have families and whether or not they are the family member primarily responsible for the household and the children. For parents with young children, she argues, 'it is important to know one's schedule ahead of time, of predictability' (Davies 1998: 6). The same does not, however, apply to single persons who do not need to co-ordinate their schedule with significant others or to parents of older children who are less dependent on having their lives synchronised with that of their parents. The study paints a picture of ambivalence and paradoxes where individuals 'can oscillate between feelings of powerlessness and unfathomable possibilities for [achieving] individual goals' (Davies 1998: 13-14), and it stresses the need to understand such new work practices in context. This means that research on changing time patterns of work organisation needs to take account of 'the totality of individuals' lives where work and home, work and life outside work, constitute a whole' (Davies 1998: 9).

Similar paradoxes emerge when we explore the related but different rationalisation of time enshrined in just-in-time production. Just-in-time production is concerned with the elimination of wasted time, wasted storage space and wasted output. The system entails manufacture and delivery to order -- that is, at the right time in the required quantities -- which requires, as John Tomaney (1994: 166) explains, 'shop level flexibility in adjusting the amount, kinds and timing of in-process materials' on the one hand and maximum flexibility from the work force on the other. This particular time control and compression strategy involves a two-pronged approach to flexible work: to have labour available or on call for when it is needed -- the just-in-time worker -- and to demand flexibility so that across the work force both a 24-hour cover and sensitivity to the peaks and troughs in the market can be achieved. Beyond the demand for absolute flexibility from the employee, there are a number of alternative strategies available to companies engaged in such 'lean production' and just-in-time manufacturing. One involves giving the work to sub-contractors who are called in only when needed; the other entails converting employees into self-employed workers. As Hans-Peter Martin and Harald Schumann (1997: 119) point out,

'Millions of people who used to be on company payrolls', 'now do the same work as before as computer experts, market researchers or customer advisers, but they are paid per item or per contract and the whole of the market risk falls on their shoulder'.

This particular process of time rationalisation therefore raises the spectre of a modern version of the day labourer: without job security, without prospect, without benefits, without coverage for sickness and old age. In the USA this army of just-in-time labourers numbers more than 5

million, most of whom offer their services to three or more companies, making Manpower - a temporary employment agency - the largest employer in the USA.

Just-in-time production, we need to recognise further, externalises company costs associated with unproductive space and time. It externalises costs associated with 'unproductive' space by transferring the warehousing onto the motorways and byways of society with devastating environmental consequences. Cost associated with 'unproductive' time are externalised by placing the burden on individual self-employed workers and their families. And yet, here too paradoxes reign supreme and unsettle established ways of understanding the effects of changes in working time on either-or terms.

For its smooth functioning just-in-time production further depends on complex and intricate co-ordination, synchronisation, timing, sequencing and prioritising which in turn requires a highly committed work-force. It needs a work-force that co-operates at every level to make this highly artificial system work: that co-operates with flexibility in their working hours and in the jobs they do; willing and able to team-work and to transgress their job description; prepared to put themselves out for the greater good of the company. Such a work-force, however, is not achievable if the just-in-time logic is extended to the worker. Research on this area shows that for the fragile just-in-time system to work it has to reverse the logic with respect to the worker: it has to give extra concessions, extended commitment, long-term contracts and security. Again, this paradox at the centre of the just-in-time logic demands that we transcend the dualistic analyses that have tended to dominate the largely a-temporal social science analyses of work.

The last feature of this pervasive process of work rationalisation I want to focus on is the non-stop principle. This principle, again, is rooted in a very particular approach to time. The argument runs something like this: When time is money then any un-used time is money lost. This means, any time that machinery is not running is money lost. Any time that paid workers are not productive is money lost. Any time that shops are not open is money lost in terms of potential sales and opportunities. When this approach to time is combined with the assumption that time is a neutral decontextualised resource, the logical conclusion is a move towards the 24-hour society where people are servicing machines and working productively night and day so as to use the facilities to their full capacity and where shops are open around the clock, every day of the week throughout the year, so as not to miss out on any potential business opportunity.

This constant hive of activity is reinforced by the fact that the technology of our society, the machines and equipment, are designed to run continuously without concern for night and day. Indeed, the economics of production and capital investment are so much in favour of using assembly line and processing plants continuously that large sections of the population now work at night or on rotating shifts. They in turn need services at all hours, and so yet another group of people is inexorably drawn into this world where nature's temporal order no longer rules. (Moore-Ede 1993: 8)

The problem with the twenty-four-hour society, Martin Moore-Ede (1993: 8) continues his argument, is that it 'forces us to operate the human body outside the design specs crafted by prehistoric experience'. The non-stop principle is premised on a machine time where one hour is the same irrespective of context. For workers, however, not all hours are the same. As I have already argued above, to employees it makes a significant difference not just how long they work but also how intensely they work and when they work. To employees night time is not the same as day time and weekends are different from week days. Some shifts suit some workers better than others. Some pace is acceptable while another leads to stress or strikes. Times are different, have different meanings, are experienced differently. What for employers and managers constitutes an abstract exchange value is for their employees contextual, socially situated and related to the tasks at hand.

Despite the contested nature of these time-rationalising strategies business tends to continue to pursue them as if on auto-pilot. For them it seems the only logic in a context where time is money; where modern telecommunication is speeding up the pace of global trade; where competitive pressures force companies to provide their services 24 hours a day; and where competitive shareholder demands for increased returns require plants to operate around the clock, 365 days a year. This association of clock time with money and speed with profit and efficiency is elevated to a further level when it is combined with globalised communication in both information and transport on the one hand and deregulation and the global interchangeability of labour on the other.

Trading in Globally Unbounded Time and Space

Virtually all the industrial/ising nations are committed to deregulation and open-border trade as laid down by the rules of the world trade organisation. We are dealing here with an ideological confederation of institutions and practices that comprises transnational corporations and international trade agreements, globalised financial markets and global

institutions such as the World Bank and the World Trade Organisation. With the Free Trade Agreement, the barriers of national borders have been dismantled and with globally connected information, speed conquers distance. Business can operate in a globally constituted communal present. Global companies therefore operate in unbounded time and space, able to take their business to where the job can be done at the lowest cost.

In Europe and the USA where there is a strong political commitment to the 'free' market, there is a tendency for the economic valorisation of deregulation and freedom of (business and consumer) choice to be almost equated with political rights. In the free market, so the arguments goes, people have the right to free choice.

In the free market people express their sovereignty directly by how they vote with their consumer dollars. What they are willing to buy with their own money is ultimately a better indicator of what they value than the ballot, and therefore the market is the most effective and democratic way to define public interest. (Korten, 1995: 68)

The difference between the political and economic way of exercising choices and rights, however, is significant: while political rights are expressed by the vote, economic ones depend on money. That is to say, in the world of economic exchange, choices and rights evaporate when a person has no money. This means markets are inescapably biased in favour of wealth and, importantly, more money means more socio-political power which makes the largest transnational corporations, banks and financial institutions extremely powerful^{vi}. Moreover, they are answerable only to the authority of money. Money is both the lifeline and the exclusive measure of value. The potential for maximum profit dictates where corporations place their operations and with it their jobs, move their finances, deposit their pollution. It further determines the proportion of people hired to staff fired, of expansion to 'downsizing'. Where money is the goal, means, outcome and final arbitrator between values, people's needs as well as concern for social well-being become a source of economic inefficiency and weakness: thousands, even millions of people are being cast aside by corporations that no longer have a need for them because the job can be done more cheaply by a machine or by workers in another part of the world.

The very essence of the globally constituted free trade agreement, policed by the World Trade Organisation since 1995, is its dissociation from time and space. In tune with the globalisation of time -- that is, world time, standard time and the global present -- locality, context, seasonality and history are rendered irrelevant. Absolute decontextualisation is the

ideal condition for money to flow freely and for capital and operations to be moved unencumbered where the circumstances for wealth generation are optimal. In such decontextualised conditions, real people living in particular places with specific needs are sidelined out of the frame of reference: they have no place in a decontextualised world.

Operation in a global context of unbounded time and space brings with it a number of discomfiting time-space features worthy of our attention as they impact directly on the world of work. Noteworthy, for example, is the discrepancy between transnational companies' approaches to time and space respectively: whilst their space of operation spans the globe, their time horizon of concern is exceedingly narrow. Short-term profit is prioritised over long-term gains. The present takes precedence over the past and future. The future is discounted. A second characteristic, already referred to above, relates to the disconcerting fact that corporate culture is renown for its abstraction from people-based history. Its history written in money, take-overs and growth patterns, the transnational corporation has no commitment to past, present or future employees, no loyalty to its country of origin or the societies within which it operates: money, not people, defines efficiency, expediency, and appropriate action. This opens up a third disjuncture, this time between the pursuit of short-term profits and the long-term effects of corporate economic activity on local cultures and the environment. For local communities the (often abrupt) disappearance of a major employer to more profitable locations creates social havoc and devastation, engendering a volatile mixture of anomie and alienation. As living rather than abstract entities, employees and their families build up loyalties and commitment, nurture relationships and special interests, develop specialist knowledge -- all slow and long-term processes. When these long-term interdependencies are suddenly dissolved, social structures evaporate, leaving members of communities without the support and stability essential to communal life. The time for recovery tends to be proportional to the devastation. A fourth temporal feature relates to the way continuity is constituted. As members of living communities and families, workers are not exchangeable, whereas the members/employees of corporations are. For the corporations employees are like parts of a machine, which means their function can be achieved by another human 'part'. For the company, the stability of the structure is maintained as long as sufficient money flows through the corporate veins and arteries -- shareholders and the free market, so the assumption goes, sustain the corporations' source of life.

In this contemporary global context of deregulation, national politicians' commitment to employment can be nothing but empty rhetoric. Moreover, as long as the time-based root to

these economic relations is disattended it will be difficult -- economically and politically -- to find viable alternatives to the current trend towards mass unemployment, falling incomes and intensifying insecurities. For the sociology of work, furthermore, neglect of the complexity of the temporal features involved will make it difficult to theorise in meaningful terms the contemporary condition of work, associated inequalities and the contested rationalities involved. Furthermore, this glocal sphere of 'time and work' cannot be understood without its other, that is, without the world of work outside the time economy of paid employment. No theory of time and work is complete, in other words, without the complex interdependencies between those different timescapes of work.

In the Shadow of the Time Economy of Paid Work

Not all time is money. Not all human relations are exclusively governed by the rationalised time of the clock. Not all times are equal. Not all working time is remunerated. Yet, all work relations touched by clock time are tied up with hegemony and power. This is clearly demonstrated in research on time in unemployment (Jahoda et al. 1932/1972) in the lives of young people between school and work (Allatt 1992), in retirement (Young and Schuller 1991) and in farming (Inhetveen 1994) to name just a few examples. This varied body of work identifies times that are constituted in the shadows of the time economy of employment relations, times not calculable in monetary terms yet evaluated through the mediating filter of both the rationalised time of scientific management and the commodified time of the market.

When there is a need to co-ordinate multiple times -- the times, for example, of paid work, leisure, school, meals, shopping, caring, and voluntary work commitments -- then we begin to see that not all times are equal, that some times are clearly privileged and deemed more important than others. This differential treatment of times becomes visible in the sequencing and prioritising of certain times and in the compromises in time allocation that have to be achieved on a daily basis. The implicit inequalities tend to be so taken for granted that they are no longer challenged. Thus, it is rarely questioned that work, school and organised leisure times (in that order of importance) take priority over shopping and meal times, that the times which are governed by commodified time take precedence over those outside the time economy of employment relations.

Times that are not convertible into currency, we need to appreciate, are rendered invisible by the basic assumptions and categories of classical economics and social science. Time-generating and time-giving activities have no place in the meaning cluster of quantity,

measure, dates and deadlines, of calculability, abstract exchange value, efficiency and profit. They simply cannot feature in the analysis. This means that despite of social scientists' increasing sensitivity to work time as a multiple rather than singular phenomenon, the relationship between the various work-time rationalities will continue to elude analyses of work time as long as the times that fall outside the time economy of employment relations are excluded. Even analyses of paid employment will be inadequate as long as they emphasise self-paced production, flexibility, and personal rhythms, for example, (Hassard 1989a: 21) but ignore the time-giving, time-constituting and time-generating aspects of work relations. Studies of work time, in other words, will remain locked in the clock-time framework of analysis as long as they disregard research on times that fall outside the hegemony of commodified time.

Feminist social scientists have provided the most coherent and wide-ranging accounts to date of time relations in the shadow of paid working time. It is for this reason that I am using the work on women's time as an exemplar for times lived, given, and generated in the shadow of the hegemony of universal clock time. We have to bear in mind, however, that much of what is identified in this research applies not just to women but to all those outside the time economy of employment relations -- children and the elderly, the unemployed and disabled, home carers and the retired -- and we have to further appreciate that it does not apply to *all* women at *all* times of their lives.

Since the late 1980's, feminist researchers on time and work began speaking to those silences and introduced levels of complexity previously unknown in that area of research and theory^{vii}. After first demanding equal rights in and to the linear time of history and after consequently establishing the fundamental difference between patriarchal and matriarchal time, contemporary feminists are striving to come to terms with the complexities and contradictions posed for women by the dominance of clock time and emphases on linearity and finitude. In their quest to transcend the old dualisms and essentialist ways of theorising, they seek to conceptualise the paradoxes of belonging to a world dominated by the quantitative times of production whilst orienting towards the generative times of reproduction.

For Luce Irigaray (1983) and Mary O'Brien (1989) Heidegger's (1927/1980) 'Being unto death' signifies the masculine approach to time which they reject as an inappropriate perspective on human temporality and the human relationship to nature since it excludes birth and the *time-generating capacity* of procreation. To reintegrate birth as central to human

temporality, they argue, is to find a new relationship to continuity and a 'shift from a death-determined future to a birth-determined one' (Foreman 1989:7). It is to foreground aspects of life in our relationship to nature and humanity. Clearly, we are not dealing here with a question of choice: not birth *or* death, nature *or* culture, lived *or* constructed time. Rather, those who give and generate time also live *in* time. They are subject to a complexity of times governed by natural and social rhythms, by culturally set rites of passage, by calendars and clocks. Focusing on time, we recognise that we live, breathe and eat in a rhythmic way; that we are timepieces that pulse to the rhythms of our planet; and that we operate on a daily basis in contexts of socially constructed clock time, a time that oscillates to a beat that is both out of step with the variable cycles of 'nature' and intricately tied to them. The differences, therefore, have to be understood as mutually implicating and to be theorised with reference to shared aspects, dimensions and characteristics.

Yet, this is only part of the story. There is a need for us to simultaneously understand how women's time of reproduction and regeneration are rendered invisible by the dominant times of calendars and clocks, how time giving becomes subsumed under time consumption and devalued in the context of economic relations of time. That is to say, we need to explore the contexts and the grounds on which women find their reproductive lives and their histories constituted in the shadows of the world of production. Generators of time simultaneously partake in, articulate, and help to maintain the dominant time as a collective construct: generative temporality does not exist in isolation but in an unequal interaction with the public time economy of paid work and market structures. Inextricably incorporated into a life of commerce, the creators and givers of time inevitably collude in the commodified relations of time in which speed and the economic approach to time are venerated and valorised. Within that context, they find it difficult to defend an open-ended time of care and a reduction in pace since their activities are evaluated through criteria based on a finite resource.

As the shadows of the world of resource consumption, time generating interactions are judged on the basis of the abstracted, standardised measure of the clock. Nowhere is this inequality between different temporalities more visible than in the world of work in industrial and industrialising countries. Sensitivity to the gendered nature of working time shows that women in industrialised and industrialising countries are both integral to the world of standardised, commodified time and clock-based rhythms and at odds with those times: they are subject to social time structures, deadlines and schedules. They are tied into an economic life in which labour time is exchanged for money, a life in which employment relations are

dependent on time as an abstract exchange value. Yet, the times of reproduction and nurturing, of caring, loving and educating, of household management and maintenance are not so much time measured, paid, spent, allocated and controlled as time lived, time given and time generated. Because such time is not easily quantified, it is not suitable for translation into money. This clearly has consequences. In a world where money is synonymous with power, any time that cannot be given a money value is by definition associated with a lack of power. We therefore need to look more closely at the complex timescape of contemporary work in which the rationalised, commodified time of the clock and times that operate outside and against the cash nexus interpenetrate.

Where research has focused explicitly on women's uses and experiences of time (Davies 1990), the data suggest that women as mothers and carers feel themselves on call 24 hours a day and that therefore the conventional split of eight hours work, eight hours leisure and eight hours of sleep and other essential activities does not apply to the daily structure of their otherwise very varied and different lives. The cliché of 'women's work is never done' exemplifies the incompatibility of women's time with a work time that comes in finite units, a uniform time that can be measured, quantitatively evaluated, exchanged for money, accumulated for 'time out', and delimited against leisure time. Irrespective of whether or not women are in paid employment -- part or full time -- and whether or not they have a husband, children and/or elderly parents, the complexity of their times is found to be irreducible to the decontextualised commodity. Their caring, loving and educating times, their household management and maintenance times, and their female times of pregnancy, childbirth and menopause are not so much time measured, spent, allocated and controlled as *time lived, time made, time given, and time generated*. Often it is mediated and derived time. It is rarely personal/own time but shared time, a relational time that is fundamentally enmeshed with that of significant others and as such it has to fit into the clock-time world of timetables, schedules and deadlines.

The premise of a smooth, continuous, progressive time constitutes a problem not only for the complexity of women's varied daily time-based activities and experiences, but also for assumptions relating to longer-term perspectives on women's working lives and their careers (Hantrais 1993, LeFeuvre 1994, Leccardi and Rampazi 1993). In a study of young Italian women's relation to the past-future dimension and those women's constructions of their female identities, Carmen Leccardi and Maria Rampazi (1993) found characteristics that transcended class and age differences. Their data suggest a plurality of interdependent times,

a patchwork that cannot be compartmentalised, dichotomised, or hierarchically sequenced and ordered. Having to integrate the dual careers of work and homemaker, both with very different ethical orientations, these women experience not only considerable difficulties in structuring their daily lives but also substantial ‘ambivalence when the time comes for making choices and projecting oneself into the future’ (1993:361). This is so because choices about careers are not achieved freely and independently but rather signify an awareness of the intrinsic limit to self direction. ‘The expectation of biographical events such as falling in love, forming a family, giving birth to and caring for children moulds their representation’ (1993:369). A ‘known’ future to some extent determines the content, the timing and the sequences of the choices: there is a limited time-span during which women can bear children. There are optimal times at which to start a career. Those temporal judgements, in turn, are tempered by moral and financial considerations. Women talk of juggling their many incompatible times and of creating a ‘puzzle of bits and pieces of work and training’ (quoted in Adam 1993: 173) as a substitute for a linear career structure. As such, these experiences resonate with feminist writings that challenge the assumption of work as a full-time, continuous occupation with a linear career structure.

Research on the gendered nature of working time thus points to the need to be sensitive to the complexity of every-day life where the multiplicity of times form an un/problematic, cohesive unity and where the stresses and tensions between some of the less compatible times are managed and expressed. Let us remember, however, that the complexity of times applies not only to women *and* men -- even to men in paid employment -- but to different categories of people, to people out of work or retired, to those working in professions and skills at the intersection of commodified and lived time, to pre-school children and to young people between education and employment. My account of the work on gendered time therefore served merely as an exemplar for work in the shadows of the time economy of employment relations more generally. The implications for research on time and work are therefore drawn from a much wider social base.

It may appear as if the multiple times identified thus far belonged to fundamentally different time systems - to clock time on the one hand and to the lived, constitutive, time-generating time on the other. This, however, is not the case. The multitude of times interpenetrate and affect each other's quality and meaning. Moreover, focus on the working time outside paid employment does not replace commodified time but shifts the emphasis

from time as finite, rationalised, decontextualised exchange value to time as historically embedded and embodied. It foregrounds a generative temporality that is nevertheless socially evaluated through the mediating filter of commodified time. That is to say, lived and generative times do not merely intermesh with the commodity but are evaluated through economic time with the effect that any time that cannot be accorded a money value is consequently suspect and held in low esteem. Aware of these connections, we see power relations in different terms - globally between nations and locally between groups and classes of people. Thus, for example, we recognise clock time as a globally imposed, industrial imperialism and we understand the associated devaluation of all times that are not quantifiable and translatable into a money value as well as the attendant valorisation of speed in relation to this colonising rationalisation process.

Contested Rationalities of Time: the Challenges

In this paper I have argued a number of theoretical and substantive points. I have suggested that in work relations where time is understood with reference to money, time is conceived as a neutral quantity that can be dissected and reassembled, exchanged, sold and controlled. Associated company-led time rationalisation and compressing strategies are only possible on the basis of clock time, a time that comes in standardised, invariable, infinitely divisible units that can be given a number value. Any time that cannot be exchanged for money or is not easily quantified in this way is either constituted in the shadows of the time economy of employment relations or finds itself in an uncomfortable, conflictual position within.

In terms of the underlying time theory the arguments presented in this paper are based on a very different position from ones that utilise time as a taken-for-granted variable and proceed from this position to argue for or against flexibilisation, the shortening of working time and all kinds of job-sharing strategies, on the one hand, and the re-valuation of housework and emotional labour on the other. In this paper^{viii} I have identified a number of assumptions and relationships to time that stand in conflictual relations to each other but are at the same time interpenetrating and mutually implicating. I have argued that time-is-money relations are dominant insofar as they have been imposed on people and cultures across the globe and to the extent that other time relations are judged and evaluated through the mediating filter of commodified time. The concept of implication is crucial here since these relations cannot be understood on traditional either-or terms.

This means that a time perspective which makes the complexity of work time explicit gives us an understanding of the contemporary condition that differs from dualistic analyses that see capitalism entering a new phase. It thus cross-cuts the emerging consensus that conceives of a new post-Fordist phase, detailed in Ash Amin's (1994) edited collection where he argues,

It seems that capitalism is at a crossroads in its historical development signalling the emergence of forces - technological, market, social and institutional - that will be very different from those which dominated the economy after the Second World War.

(Amin, 1994: 1)

From a temporal perspective, the clock-time based time economy of employment relations and its associated relations of power and inequity continue unencumbered and steadily intensified through all the phases identified in this work. They are as much a part of post-Fordist, post-industrial, post-modern, post-collective forms of organisation as they were of Fordism, Taylorism and the industrial modes of organisation that preceded them. From a temporal perspective, 'the old way of doing things' (Amin 1994: 2) is far from disappearing. When Karl Marx in 1865 reported to the General Council of the First International he was referring to 'primitive capitalism' not advanced capitalism under Liberal Democracy when he argued that capitalist production the tendency to sink average standard of wages and push the value of labour more or less to its minimum tolerable limit. Moreover, because time is largely taken for granted and therefore invisible, the social relations of time can continue to perpetuate inequities in the globally constituted world of work. As social scientists sensitised to the importance of the social relations of time, our task is therefore not merely to provide prognoses about the future of working time in terms of its quantity and duration but, more importantly, to speak to the silences and thereby create the potential for changing social relations that reach deep into the very fabric of socio-economic inequalities.

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ⁱThe following are a small selection of notable texts from this vast body of publications: anthropology (Evans-Pritchard 1940/1969, Bourdieu 1979, Hall 1983, Ingold 1995), business studies and organisation theory (Blyton 1989, Blyton et al. eds. 1989, Clark 1982, de Grazia 1974, Hassard 1989b, Hay and Usunier 1993, Moore-Ede 1993, Starkey 1988 and 1989), economics (Biesecker 1998, Hill 1989, Sharp 1981), gender and women's studies (Balbo and Nowotny eds. 1986, Boje 1996, Davies 1990 and 1994, Elchardus and Glorieux 1994, Hantrais 1993, Hantrais and Letablier 1997, Inhetveen 1994, Jurczyk 1998, Jurczyk and Rerrich eds. 1993, Leccardi 1996, Leccardi and Rampazi 1993, Lefeuvre 1994, Nowotny 1990 and 1994, Pasero 1994, Shaw 1998, Zulauf 1997), geography (Carlstein et al. eds. 1978, Glennie and Thrift 1996, Hägerstrand 1975, Harvey 1989), history (Landes 1983, LeGoff 1980, Kern 1983, Lundmark 1993, O'Malley 1990, 1992a and 1992b, Thompson 1967), social policy (Breedveld 1998, Garhammer 1995, Lee and Piachaud 1992, Rinderspacher 1989, Schor 1998), social psychology (Jahoda et al. 1933/1972, McGrath and Rotchford 1983, Yaker et al. eds. 1972), sociology and social theory (Buber Agassi and Heycock eds. 1989, Cottrell 1939, Gasparini 1995, Grossin 1969, 1974 and 1993, Hassard 1989a, Moore 1963, Nguyen 1992, Paolucci 1996, Rinderspacher 1985 and 1989, Roth 1963, Shaw 1994, Zerubavel 1979).

ⁱⁱBlyton 1985, Blyton et al. 1989, Clark 1982, Cottrell 1939, de Grazia 1974, Grossin 1969, 1974 and 1993, Pollard 1963, Thompson 1967, Thrift 1981, 1988.

ⁱⁱⁱBalbo and Nowotny eds. 1986, Boje 1996, Davies 1990 and 1994, Elchardus and Glorieux 1994, Hantrais 1993, Hantrais and Letablier 1997, Inhetveen 1994, Jurczyk 1998, Jurczyk and Rerrich eds. 1993, Leccardi 1996, Leccardi and Rampazi 1993, Lefeuvre 1994, Nowotny 1990 and 1994, Pasero 1994, Shaw 1998, Zulauf 1997;

^{iv}By timescape I mean the complexity of multiple times entailed, in this case in employment relations. For an explicit theorisation of 'timescape', see Adam 1998;

^vOn the issue of commodified time, see also Giddens 1981: 118-120 and 130-135, Harvey 1989, and Hohn 1984: 145-161;

^{vi}Measured in money terms, for example, the power of national governments is dwarfed by the amount of money that flows through corporations and financial institutions. In 1997 the sales of subsidiaries of transnational corporations were 20 % higher than the whole of world exports of goods and services. In addition, in the region of a trillion dollars get traded each day in the international currency market alone. That is enough money to feed the entire world for two years! For an extended argument on these issues, see Adam 1998 chapters 2 and 3; Giddens' *The Third Way*, Korten's excellent *When Corporations Rule the World*, and Martin and Schumann's *The Global Trap*;

^{vii}the following is a small selection from an extensive list of publications: Adam 1993, 1994/5 and 1995; Brewis and Linstead 1998; Davies 1990, 1994 and 1998; Forman and Sowton eds. 1989; Hantrais 1993; Hantrais and Letablier 1997; Inhetveen 1994; Jurczyk 1998; Kristeva 1981; Leccardi 1996; Leccardi and Rampazi 1993; Lefeuvre 1994, Nowotny 1990; Paolucci 1996; Pasero 1994; Zulauf 1997;

^{viii} as well as in previous work on this topic, such as, Adam 1993, 1994/5, 1995 chapter 4, and with an environmental angle Adam 1998.