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Thomas Berker

# Perspectives on "Telework from Below"

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senter for teknologi og samfunn
institutt for tverrfaglige kulturstudier
norges teknisk-naturvitenskapelige universitet
7491 trondheim
tlf: +47 73 59 17 88 / fax: +47 73 59 15 27

norwegian university of science and technology
department of interdisciplinary studies of culture
centre for technology and society
n-7491 trondheim, norway

# 1 Introduction

> As he turned over, rays of sunlight broke his sleep. He jabbed a button on the clock radio. '...closing the trade, Campaigns predicted that the summer would be a hot one indeed. This is Herb Martin from the world of sports ... and this is radio K-WOW. It is 2:35 and a big, bright beautiful Tuesday afternoon....' He was out for coffee filters and hunted through the garbage can for a used one. Finding one in an empty milk carton, he fished it out, carefully rinsed it, and folded it into the coffee pot. The water wasn't ready, so he walked over to the phone and dialed the library. 'Hello ... this morning I dialed for microfilm reference 42328, and it didn't come through ... when did I call? About 3 AM ... but my indicator light didn't go on. ... I'll have it checked then. When will the system be up again? ... OK, I'll dial for it. (Nilles, Gray et al. 1976)

Sometimes scientists feel like writing fiction. Particularly in cases where the topic of their studies does not (yet) exist, they tend to design scenarios, and they garnish them with real life people in real life situations. Sam, the protagonist of the cited passage, is such a real life person of an imagined future, he is working from home, and he supposedly has no regular working hours. Later in the day, he will have a conversation with a colleague via the 'video channel' of his phone and after 'pressing the NOT AVAILABLE button on its carrier' he will finally take a nap.

This piece of 'science fiction' is part of one of the first notable studies on telework, conducted by Jack Nilles around 1973. Since then, almost a third of a century has passed and the number of teleworkers has increased. Stating the mere increase is the most cautious way to handle the concern about the number of teleworkers, which is omnipresent in the literature on telework. It was called 'measuring a rubber band' (Qvortrup 1998). This is not only the case because of the multiplicity of existing definitions, which lead to different numbers, but also because of the elusiveness of the phenomenon at stake.

In this short overview over selected pieces of telework related literature mostly published within the last five years a case is made for the abandonment of a certain notion of telework, which will be called technology-

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centred telework. In the second section of this text its sources are traced back to the time when telework was still science fiction of the kind presented above, but it will be also argued that this notion of telework is surprising persistent. Concluding the second section, Celia Stanworth's analysis of managerial mindsets of the 1990s is introduced to show that and how the technology-centred approach is persistently intertwined with managerial strategies to (re-)organise work processes through technology.

The third section is devoted to the efforts to redefine telework in the 1990s. Following Watson Fritz and her colleagues (1995), it is argued that in order to understand work environments the multitude of differing degrees of dispersion within is much more important than nominal definitions, which merely create new categories of telework when a new specific setting is identified. The normal case of non-telework, which is usually imagined as commuting between centralised workplaces and scattered homes, becomes a special case of dispersion. A completely new view on spatial aspects of work opens up called 'telework as perspective' by Paul Jackson.

## 2 Technology-centred approaches to the reorganisation of work

The issue of telework and its future precedence over other forms of work is inextricably intertwined with the advent of new information and communication technologies (ICTs), which is rather imagined than really experienced. This was true in 1973 and still holds true three decades later.

### 2.1 Beginnings and continuities

At the beginning of the 1970s, in reaction to the first oil-shock, Jack Nilles conducted a study on, what he and his co-authors call, 'the telecommunications-transportation tradeoff'. The resulting extended final report, published

in 1976, contains all the topics that have been important for a significant part of the literature on telework since then.

First, there is the futuristic diction that is already present in the subtitle, which reads 'Options for tomorrow'. The authors promise to examine 'the various alternative approaches to accomplishing a given task or goal, weighing their relative merits, and selecting the 'best' one' (Nilles, Gray et al. 1976). If we take a closer look at this weighing process, a particular bias is visible. In a chapter devoted to 'human factors', empirical evidence of a high level of resistance against computer-aided work (ibid: 61) is confronted with mere science fiction. In scenarios fictional characters are working in telework settings. The story about Sam, which was cited at the beginning, is one of them. These stories imitate the genre of observation transcripts pretending to allow a closer look on real life daily routines and actions. This imagined everyday life of the future is not without technical failures, but the protagonists always master the situation, as Sam does by calling some technician (ibid: 62-77). Another example for the crucial function of imagined futures in this study can be found in the chapter on 'evolutionary phases' of information industry firms. Here expected future steps of organisational processes are presented, as the authors themselves admit in a rather arbitrary manner. These steps are centralisation, fragmentation, dispersion, and finally diffusion, hence irresistibly leading to telework arrangements. As a driving force behind this expected evolution, again technology is identified (ibid: 11-17).

The core of this approach as a whole, is expressed most clearly by the authors themselves, when they conclude their preface with the words: 'Finally, we hope to show that although newly developed technologies have enabled mankind to get itself into various forms of serious trouble, they can also be used to get us out of future difficulties' (ibid: vi).

The topics taken up in this early piece of literature become a commonplace throughout the next 25 years. The continuities are eye-catching. For instance, we find the very same structure of argumentation in an article from 1996, where Lynch and Skelton examine the future of telework. The vo-

cabulary has changed. Also the technologies mentioned are different. However, the basic approach is the same and is described clearly in the article's introduction: 'The information based society, supported by IT and advanced communications infrastructure, will inevitably lead to flexible organisations and new ways of working. An example of this is the rise in prominence of teleworking' (Lynch 1996: 33; emphasis: TB). It is the technologies that *inevitably* lead to changes in the organisation of work. Hence, we encounter accounts of the future of organisations too. There developments, which directly lead to telework, are stated. The term used for those 'diffused' (the term used by Nilles) organisations reads now 'virtual companies' (ibid: 33-34). Again, technologies are enumerated, mostly technologies that not yet exist or that only exist as prototypes, as promises. Finally, again 'human factors' are identified as the main obstacles against the implementation of telework. Here two issues are mentioned. We are already familiar with the first one. It is the concern about resistance against the technologies. This is downplayed, however, because 'the barriers will disappear for the next generation of workers' (ibid: 38). The authors take second 'human factor', the psychological barriers, more seriously. These problems, like the lack of social contact or informal information flows, according to Skelton and Lynch can nevertheless be addressed by technological means (ibid).

As a result, on a more abstract level this approach can be characterised as based on a formula that applies the 'unlimited possibilities of new ICTs' to work, which finally and within the logic of this view *inevitably* results in universal advantages and consequently in large amounts of telework. As a main obstacle, 'human factors' are identified.

### 2.2 Experiments, evaluations, and the search for obstacles

Since 1973, particularly in the 1980s and early 1990s, countless telework 'experiments' have been conducted. These are usually induced by a company that is interested in testing the promises of telework, more often than not with a clear focus on the idea of cost cutting. In the first step, apt workers or compartments are identified, which then are equipped with what is

meant to be the needed technology. Then typically social scientists or psychologists become involved. In evaluation studies they examine impacts helping to estimate the advantages and disadvantages of a broader introduction of telework.

These experimental settings can be seen as a stringent consequence to Nilles et al.'s agenda - if not even as its execution. Nilles et al. deliver the theory and some futuristic visions. Now empirical material is to be collected to proof the theory by materialising the visions. It is notable that this material is not sought where telework is already going on for decades. It is not the travelling salesperson for instance, that attracts the attention. The topic of the experiments is *the change of work's spatial organisation.*

However, in most of these experiments the drawbacks at least balance the positive outcome so that scarcely one of the 'classic' telework experiments survived its experimental stage (Crossan and Burton 1993). These rather discouraging experiences lead to the search for obstacles against telework, which became thereafter the main topic of telework evaluations. The major obstacle to a higher level of uptake of telework is in line with Nilles et al. identified as the 'human factor'.

Using the categories proposed by Berry (Berry 1996) when he refers to 'forces against telework' these 'humans' can roughly be grouped. First, managers and their difficulties are analysed. These are often linked with control issues, which are concretised as the problem of managing by output rather than by input (ibid: 7). According to studies cited by Berry this is problematic because it requires higher management skills and leads to a higher management overhead. The account that managing telework is more difficult than managing workers that are located close to managerial control leads to the conclusion that managers 'prefer' having their subordinates within reach. Thus, a contradiction is constructed. On the one hand, managers are being forced to keep pace with technological developments to achieve competitive advantages, on the other hand, managers are considered

as actually not ready to act in a way necessary to successfully manage the needed organisational changes.

For example, Suomi, Luukinen et al. (Suomi, Luukinen et al. 1998) state that there is no reason against the successful adoption of telework in Finland since there is both technological feasibility and readiness of workers. Organisations are depicted with the help of anthropomorphic metaphors: 'Changes in organisational structures and processes are usually painful, and organisations postpone these changes until they are unavoidable' (ibid: 335). According to Suomi et al., this organisational inertia is tantamount to the managerial impotence to handle new organisational cultures.

Another version of managers as obstacle is that managers simply are not familiar with telework and its advantages (Weijers 1992), which again can be paraphrased as a kind of individual and organisational inertia.

Regarding the teleworkers themselves, authors are first concerned about problems that might affect the organisation as a whole. Teleworkers and their office-based co-workers are considered as diverging because of their different work experiences resulting in peer pressures and tensions (Berry 1996). Related to this are the general communicational difficulties, which are mainly assumed to be influenced by the lack of traditional channels of informal talk ('meetings at the water cooler', 'hallway-talk'). A more in depth analysis of resulting problems in knowledge and skills transfer is carried out by Sumita Raghuram (Raghuram 1996).

The second category of problems related to the worker is more concerned with the individual. From the perspective of the individual, the result of the stated lack of socialising is isolation. Huws identifies this even as the major drawback (Huws 1984) of telework in general. Other problems commonly associated with individuals are the need for self-direction and self-support, which are capabilities that are particularly difficult to assess by organisational means like Human Resource Management measures.

Some evaluations of telework introduce modifications of the term telework. Most often this is by distinguishing different types of telework, sometimes

by relating telework to other new work arrangements. It depends on the empirical setting whether such a differentiation is applied or not. However, the experimental setting and the task of evaluating the telework often disable any differentiation of this kind. A study conducted by Hill, Hawkings and Miller (1996) is typical for this restriction. The authors present findings of a study conducted with the help of 'a large national corporation' (= IBM). They compare the responses of office-based workers and teleworkers. The study is conducted in the midst of the implementation of a corporation-driven telework program. In only comparing a group of office-based workers and a relatively homogenous group of teleworkers (ibid: 295) the ambiguous findings have to be interpreted by differences located somewhere in the black box of the individual, the authors conclude: 'Some thrive others do not' (ibid: 299).

At this point psychologists like Norman et al. (1995) take over. Referring to two concepts, the learned helplessness theory and Lazarus and Lanier's primary-secondary appraisal theory of stress, they survey teleworkers. Their coping strategies are observed with two expected findings: Optimistic attributions lead to more positive telework experiences and problem-focused (as opposed to emotion-focused) coping strategies lead to more positive telework outcomes. Both hypotheses are affirmed and thus the 'human factor' problems linked to telework are successfully defined as the problem of the individuals themselves. Those individuals that do not thrive have to be adapted to new attitudes.

## 2.3 Technology-centred alliances

It is indeed the complete set of actors involved in telework experiments that is blamed for failures and the slow uptake of telework in general. However, this does not affect all actors in the same way.

We already became acquainted with the managerial caste as part of the universal obstacle called 'human factor'. Writing about 'managerial mindsets', Celia Stanworth examines the consequences of the 'call to arms', of which the concerns about managerial and organisational inertia hindering 'neces-

sary advancement' are part. As a part of the 'excellence discourse', she observes an ever-growing segment of literature addressing managers, who are depicted as 'hero change-agent' (Stanworth 1996). As she notes this literature is 'often technocratic in tone, exhorting its audience to act now, because the technology is an irresistible driver for change [...]' (ibid: 54). According to Stanworth this is linked with the notion of the 'information age' as an age of plenty:

> This implicitly assumes that the modern industrial age was dominated by scarcity, and also that proliferation is always progressive. The 'digital revolution' is about accessing infinitive amounts of information carried by the information highway. [...] Most commentators link this abundant future with the creation of many more jobs, and the prediction is that these jobs will be predominantly high in status and remuneration. (Ibid)

If there is the urgent need to move forward to a broader implementation of new technologies with their promise of being beneficial both for the single company and for the whole society as well, who would not be ready to follow 'the call to arms'? This example for over-determination explains why even concepts that were already proven as wrong and misleading still work as guidelines for managerial measures (ibid).

Thus, by critically examining managerial mindsets of the 1990s Stanworth shows how the technocratic tenor in the literature on telework is re-actualised through the hype around Internet and data highways. The surprising continuity in the literature on telework over almost thirty years is linked with another continuity, which might be a little less surprising. It is the belief in the revolutionary yet beneficial impacts of computer-based new ICTs, which is indeed at least thirty years old, and has been powerfully revived recently by the Internet.

## 2.4 'Telework from above'

To draw a first conclusion we can state that there is a technology-centred approach to telework dating back to the early 1970s. Technology and the users are opposed in this strand of literature. Technology itself is hardly identified as obstacle, other than the users and their use of the technology,

no matter at which level of the working process they are involved. The model of change that is addressed in such a way is one of a few visionary executors of technological change. For example the initiators of telework-'experiments', or visionaries (like Nilles, Grey et al 1976) have to fight resistance of actors on every level, perhaps even their own lack of preparedness. This model of change can be called technology-centred as it clearly implies a top-down view of technological implementation: trying to adapt individual and organisational developments to technological needs.
The technology-centred approach is linked to telework experiments and their evaluations. In the most extreme form of these experiments, teleworkers are considered as laboratory mice that have not yet been adapted to a new environment. In line with this some of the evaluators discussed above are mainly concerned about the question how people can be adapted to telework by pedagogic means.

With the technology-centred variant a definition of telework is established:
*Telework since the early 1970s is a label for efforts to change the spatial organisation of work by means of ICT and other technologies.*
Even though we have seen that with the Internet hype this kind of telework was revived, the crisis of this concept is undeniable. This at first becomes noticeable as a crisis of definitions. Lindström, Moberg, and Rapp are not alone when they blame the literature on telework:

> When doing research in this area, one is often frustrated by the many concepts used without clear definitions. And when there are definitions, authors often define the same concept in different ways and they use different concepts for the same complex phenomena. This confusion regarding concepts makes it difficult to do research and compare results from different studies. (Lindström, Moberg et al. 1997)

Unfortunately, their effort to take remedial measures is not very helpful. When they finally inscribe 14 well-defined concepts and eight different types of work places into a couple of two-dimensional grids, it remains unclear why it should be easier now to do research on telework as the field is broadened rather than more concisely defined. Within the line of my rea-

soning Lindström et al.'s taxonomy can be interpreted as an effort to review the literature and establish which kind of telework experiment is conducted in each case. However, the variety of different settings and conditions has become so big that a map of the most important ones hardly is capable of giving directions. In the next section, a point of view is introduced that broadens the perspective still further to include forms of telework that finally go beyond the scope of Lindström et al.'s taxonomy.

# 3 From technology-centred telework to dispersed work

Several authors of the technocratic strand of telework literature seem surprised that the companies they observe have sometimes informal telework arrangements, i.e. that there is telework going on without being labelled telework and without being specifically monitored (Gurstein 1996). If we label these forms of spatially-dispersed work telework, the definition given above is no longer sufficient. We know little about this hidden telework, which is difficult to access and never identified as being a problem. Thus, an examination of hidden telework has to proceed indirectly. In this section, two main ways of doing so are presented. First, there is the theoretical approach by Watson Fritz, Higa et al. (1995). Using their distinction between traditional and non-traditional criteria for workplace selection, the dualism telework vs. non-telework can be deconstructed. Second, there is Heather Hamblin's (1995) empirical study that directs attention to a phenomenon unknown to the evaluators presented above: the power of the 'human factor' to *enable* telework.

## 3.1 Degrees of dispersion

Watson Fritz, Higa et al.'s (1995) aim is similar to Lindström et al.'s. It is to establish a taxonomy of basic forms of telework. Regarding space, however, they reject the definition of Brandt (1983), who argues in line with Lind-

ström et al. that the location of workers, for instance if they are working at a central office building or at home, implies their degree of dispersion. Instead, they categorise four different types of telework that are independent from the worker's actual location:

> (i) an intact work group located in a remote geographic location; (ii) geographically distributed workers who are collocated with peers who are members of the same organisation but not with members of their work group; (iii) geographically distributed workers who are colocated with other workers who are not members of the same organisation; (iv) geographically distributed workers who are isolated. (Watson Fritz, Higa et al. 1995)

In a second step, they argue that traditional and non-traditional criteria for selecting a location have to be distinguished:

> By traditional location, we mean that the organisation has used traditional factors, such as proximity to customers and suppliers, transportation alternatives, and cost and availability of labour and energy resources [...]. A firm will generally choose a location that minimizes costs and/or maximizes demand for its products. (ibid: 320)

Non-traditional criteria are, according to Watson Fritz et al., the proximity to the home location of the worker, or even no corporate criteria at all – when the worker has chosen the location. Combining those two categorisations, they establish a scheme of working locations that are distinguished by the polarisation 'traditional vs. non-traditional' and which may nevertheless differ in their degree of dispersion.

It is worth stressing that, according to Watson Fritz et al.'s taxonomy, traditional criteria of the allocation of the space and time of work are determined by factors that are out of reach of the individual worker, whereas 'non-traditional' criteria imply his/her involvement.

Often the 'experiments' studied and evaluated by the literature are located between the traditional and the non-traditional pole of the axis, as they are neither congruent with traditional criteria nor are they willing to involve the worker. The earlier telework experiments tend to a remarkable high degree of control in respect of the technical equipment used and the real work processes even on a micro level. If we think about the high level of mistrust

against the 'human factor', this is not surprising. It may be interpreted as an echo of the 'nineteenth-century 'panopticum' principle of control over industrial production – co-location, presence and visibility' (Perin 1998). Historical studies on the 'panopticum principle' and the early industrialisation stress the making of the modern work place as separated entity. A broad range of disciplinary measures accompanied this making. For instance, the workers initially had to be compelled to learn punctuality, which is nothing else than the coercion to be co-present at a specific time at a specific place. From this point of view, it becomes apparent that the organisation of *one* place and time of work for every member of the organisation can be reformulated as particular organisation of work and non-work, which is specific to a certain historical period, yet hegemonial for more than one century. It is precisely this hegemonial status, which obscures differing work patterns, which always have existed - for example within the female or immigrant sections workforce. This hegemony is challenged from above this is what Watson Fritz et al. assume, but it is also challenged from below, as the next part of this section will show.

### 3.2 Employees' perspectives on labour flexibility

One of the evaluations that differentiate telework and locate it in the context of a broader framework is Heather Hamblin's study of 'Employees' perspectives on labour flexibility' (1995). The research method might be considered simple. It consists mainly of a questionnaire, which is sent to virtually every clerical and secretarial graded employee of a large enterprise. It comprises questions about attitudes toward flexible work arrangements, including telework. Thus, still a broad variety of work settings and conditions is included; Hamblin divides the sample into five major subgroups according to the job-title (ibid: 489), remarkably not according to the fact of working at home or at the office. Several factors are identified, which according to Hamblin are able to influence the readiness for telework:

- the antagonisms self-employed vs. employed (ibid: 492),
- children/family in the household vs. single households (ibid),

- the suitability of the respective job (ibid: 489), and
- the suitability of the home as physical space (ibid).

In stressing the perspective of the employees, a broad range of influencing factors becomes visible, transgressing the limitations of the approach that opposes the technology and the user without distinguishing the different socio-demographic and work-related conditions. In lieu, the involved persons are seen as an important source of knowledge about possible tendencies. There is a principal willingness to work outside a central office among workers. This is a major outcome of Hamblin's study.

This readiness may also be adequately phrased as due to mere compulsion, which is introduced as one critical factor for withdrawal of telework within the Telecommuting Withdrawal Model (Fireman 1996). Compulsion 'may stem from having to take care of children or other dependants. Unusually long or arduous commute trips may also make an employee consider telecommuting a necessity.' (Fireman 1998) Besides any kind of need and coercion, the voluntary choice of the teleworker can be highlighted. Leonard Sturesson (1998) describes for instance the telework project in Nynäshamn (Sweden) as collaborative effort driven by 'a little group of enthusiasts who were themselves practising both commuting and teleworking, with one of them becoming project manager' (ibid: 324). Lifestyle choices are important here; in some cases, it might moreover be an individual or collective effort to find an eligible way of working and living.

Hamblin's contribution within my argumentation is to direct our attention to the whole life of the worker, the conditions of the home and the work place, and their mutual relationships. She shows that the 'human factor' has to be seen as under certain circumstances, which are situated within the whole range of daily activities, enabling new forms of spatial organisation of work, which then is not any longer something that is only challenging routines and habits of the involved 'humans'.

### 3.3 Telework as perspective: the location of work in everyday life

As Paul Jackson puts it, writing about the methodological scope of one of his studies, telework can be seen as a perspective on work: 'rather than simply studying instances of telework, teleworking ideas were used as a perspective from which to understand the possibilities for the spatial reorganisation of work, particularly those supported by new technologies' (Jackson 1998).

However, to conceptualise telework as a perspective on work entails not only a new methodological scope, it is also a notable shift away from the technology-centred notion of telework. Where the literature, which was presented in the first section, is devoted to limited cases, experiments, instances of telework, Watson Fritz et al.'s as well as Hamblin's approaches deal with the rather general questions of spatial and temporal organisation of work. Telework as 'perspective', as Jackson puts it, is an awareness directed towards spatial (and temporal) aspects of work. Co-location of management, workers and resources is no longer taken for granted, neither is the existence of one best way of organising work. Whether this is due to a paradigm shift in the way work is done 'out there' is still awaiting empirical clarification. However, there is an apparent indication for a paradigm shift in the discourse on the ways work is done. If we adopt Jackson's perspective, telework as discrete topic is plainly disappearing. It and its literature appear as expressions of a transitional age where – in the context of a relatively stable environment – scattered deviating 'instances' of another organisation of space and time of work have been tested and evaluated. Within the scope of technology-centred telework experiments, the outcome of 'human' resistance is hardly surprising. Hence, a considerable proportion of the findings presented above (see 2.2) can be considered as artefact. Adding the insight in the historical character of telework, though, these findings are nevertheless interesting as information about a particular historical period.

# 4 Outlook

Since the 70s, the literature on telework was concerned with 'instances' within an environment of non-telework. Later, the focus was increasingly shifted to more general questions, like the reorganisations of space and time in work ('telework as perspective'). This shift, it is argued here, implies that the paradigm of the co-presence of all members of an organisation at one place has lost its coercive power. Whether this will inevitably lead to a new paradigm – for example the virtual organisation, where co-presence is not any longer the normal case – is still an open question.

While Jack Nilles was writing about a future development in future tense, the endeavour of this article can be rephrased as effort to shift to present tense. Thus, in the present situation in which more and more work is done temporally and spatially dispersed, but concurrently physical co-presence is by no means vanishing, we are obliged to analyse how this co-existence works. This is the only way to determine if the simultaneity of concurring but also concurrent developments is indeed a transitional stage to a new paradigm, or if the hegemony of one model of the 'one best way' is itself special case in history.

I propose to examine telework 'where it is actually going on'. Nowadays there are plenty of areas where dispersed work enabled by ICT is applied. Sam, the worker made up by Jack Nilles et al. is nowadays an urgent reality. The difference is that both he and we do not call what he is doing telework, rather he is more often than none deliberately managing different degrees of dispersion of his work place in everyday life, what I propose we should examine.

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