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TELEWORK: PROJECTIONS

by Ursula Huws

It is one of life's ironies that few things reveal the stamp of their times more precisely, or date more quickly, than prophecies of what the future will be like. Look at pessimistic thirties science fiction, for instance, with its megalithic fascist/stalinist architecture and endless assembly-lines; or fifties fantasies where clean-cut nuclear families keep hold of their decent middle-class all-American morality in the midst of nuclear destruction; or larky sixties space adventures where the women are all young and sport pastel-coloured mini-tunics and white plastic boots and the huge mainframe computers, with no visible source of energy, flash fairground coloured lights and, after prolonged whirring of their giant tape-decks, deliver any required fact in sepulchral speak-your-weight voices.

What these images reveal is not useful information about the future, but very culturally-specific (and often spectacularly wrong) assumptions about what is universal and unchanging in human life, the direction of technological progress, and the desirability or otherwise of particular social developments. In other words, they do not tell us directly what is going to happen, but what their creators believe, hope or fear will happen. To the extent that these creators are representative of others of their generation, this is, of course, useful information; people act on their beliefs and fears and hopes, and these actions, or reactions to them, will form the context which the next generation will map, react against and extrapolate from, to form the basis of its own prophecies.

Although of course more scholarly and soundly empirically based than most cinematic science fiction, a number of forecasts have appeared in the pages of *Futures* over the years which have offered similar hostages to fortune. Many futurologists of the last two decades have, like science fiction film directors, albeit very often in more elegant, guarded or subtle ways, offered us encoded moral judgements about the present embedded in their predictions about the future. In the smug light of hindsight, many can also be seen unwittingly to have revealed blind spots in relation to what was happening in the world around them as they wrote.

It is not the purpose of this article to survey these, nor to mock or gloat over their brave mistakes (which of us can ever claim to have been absolutely right?). Rather, I would like to focus on one particular set of predictions which have reappeared at regular intervals for the last two decades, with a persistence which is rare in this rapidly changing field. It is my hope that an examination of the assumptions which underly these predictions will shed light on what has actually been happening and what the forecasters hope or fear will happen and that this in turn will assist in the identification of the key interest groups whose actions or reactions will determine what happens next.

The predictions in question concern the use of information technology to enable people to work at a

distance from their employers, generally at home. This development, variously known as 'teleworking', 'telecommuting', 'electronic homework', 'the electronic cottage', 'networking', 'distance work' and 'flexi-place' occupies so central a place in forecasts about the future of work that it is difficult to escape the suspicion that it has acquired a symbolic importance quite out of proportion to its actual prevalence.

The image it conjures up is a powerful one. To the plate-glass and steel city centre skyscraper it counterposes a rural cottage; to the bustling, humming life of a crowded office, it counterposes domestic tranquillity; to the daily bodily crush on a rush-hour commuter train, it counterposes a disembodied, abstract, almost ethereal form of communication which leaves the senses intact and unassaulted. Implicitly, it promises the best of both worlds: full participation in the international traffic of ideas and information, and enclosure in the protective sanctuary of the home. The worker is safe, cocooned in familiar, womb-like surroundings, yet linked umbilically to the great world outside. The veins and arteries of the maternal body are telecommunications networks, throbbing day and night with their sustaining flow of information. We seem to be offered a resolution of the age-old conflicts between the needs for adventure and security, for communication and for privacy, for the excitement of the city and the serenity of the countryside.

This is the stuff of which symbols are made, and it is my contention that the 'electronic homeworker' has become a highly-charged symbol, embodying for many people their hopes and fears about the future of work. However the meanings which it carries are not constant. Not only have they changed over time; they also vary according to how their holders are placed in relation to the technology, to their work and to their homes: whether, for instance, they are men or women, employees or employers, living alone or caring for others, well or poorly housed, young or old, attracted to information technology or repelled by it.

If these differing meanings are not unravelled, the image, for all its power, remains hard to grasp, knotted at the centre of a confusing tangle of opposing attitudes. To change metaphors, we hear, so to speak, only a sort of static crackle, an emotional noise in which individual voices cannot be distinguished. Trying to extract some sense from this cacophony, as politicians do, the temptation is to divide them crudely into 'yesses' and 'noes', and this is what many commentators have done, analysing attitudes to telework almost exclusively in terms of two sharply polarised groups - optimists and pessimists, those in favour and those against, those who think it is good and those who think it is bad.

It is a curious fact, and further testimony to the power of the symbol, that few other aspects of work organisation are discussed in this emotionally (and often also morally) charged way. Although they affect much larger numbers of people, you would never expect, for instance, to be asked in such all-embracing terms whether you were 'for' or 'against' part-time work, or overtime work or assembly lines or payment by results systems or the use of migrant labour.

Because such crude polarisation obscures more than it illuminates, I propose to try to avoid it in this article. However, like any other commentator, my views, however much they may strive after objectivity, are inevitably coloured, both consciously and unconsciously, by my own particular situation and experiences and by the historic moment. It therefore seems only honest to begin with a brief account of the circumstances which may have influenced them. I am, and have been for nearly a decade, a self-employed single parent, working from my home in a somewhat overcrowded inner London flat. My work is a mixture of research, writing and lecturing and sometimes involves collaboration with others, either remotely or face-to-face. The room in which I work houses three computers, two telephones, a fax

machine, two printers, five filing cabinets, six book-cases, two desks, four chairs, a negative ioniser (broken), five plants, a six-foot square cupboard containing clothes, shoes and household linen and above it, my bed. At the moment the room is also occupied by one co-worker, and two cats. My income fluctuates alarmingly. I never go away for more than one night without taking the lap-top.

Since 1982 (when my daughter was born), I have carried out or been involved in the design or analysis of a number of surveys related to telework: a survey (I believe the first of its kind in Britain) of 'high-tech' homeworkers; a comparative survey of 'traditional' homeworkers; a survey of homeworkers and potential homeworkers with severe disabilities; a survey of mobile workers; a survey of keyboard operators based in central pools for whom decentralisation was being considered; large-scale surveys of workers' and employers' attitudes to remote work in four European countries; a comparative survey of teleworkers in fourteen German and British companies; a survey of 'new forms of work' in five European countries; and exhaustive (not to say exhausting) reviews of the literature on telework at various times.

So you could say that I am writing both as a practitioner of telework and as someone who is fairly familiar with what empirical evidence there is about it. However this does not produce omniscience. On the contrary, because the two experiences are to some extent in tension with each other, it would perhaps be more accurate to say that it has generated a heightened consciousness of the complexities of the issues involved and a wary reluctance to over-generalise. It should also be noted that, because most of my work has been based here, there is a British bias which will doubtless become evident in my choice of illustrative examples in this article.

Having declared my interests, let me return to the image of the electronic homemaker which, although it had existed since at least 1957 in the literature about automation (*Jones, 1957-1958*), made its first appearance in mass public consciousness in the early 70s. The context was the energy crisis - the sudden realisation that the era of cheap and apparently limitless supplies of fossil-fuel-based energy was over. Home-based working presented itself first and foremost as a way of saving fuel, and was discussed in terms of the 'telecommunications/transportation tradeoff'. By the mid-70s, researchers like Nilles (*Nilles, 1976*) and Harkness (*Harkness, 1977*) had produced detailed estimates of how many million barrels of oil would be saved per annum for each per cent of the US workforce working from home, and the word 'telecommuter' had been coined. According to this conception, the homemaker is simply someone who 'telecommutes' (i.e. communicates by means of telecommunications) as a substitute for physically commuting to work. Other factors, such as the contractual relationship with the employer, the nature of the tasks carried out and the location of the worker's residence, are assumed to remain constant, and the image of the sort of person this 'telecommuter' reflects that of the typical 'commuter'. Popular imagery of the period almost invariably assumes this person to be male, working in a managerial or professional capacity, conforming to a corporate ethos and living in the outer suburbs.

Parallel with these ideas ran another, more general set, whose origins lay in the libertarian 1960s and could in some cases be traced back even further to the beat generation of the 50s. These proposed more radical critiques of corporate industrial society, presenting information technology as a means of breaking down its vast inhuman corporations and greening its cities. Their catch-phrases included 'post-industrial society' (*Bell, 1973*) 'convivial technology' (*Illich, 1973*) 'the greening of America' (*Reich, 1970*) and 'small is beautiful' (*Schumacher, 1973*) and they shared a generally optimistic vision of decentralised small workplaces, intercommunicating by means of advanced technologies. They also shared a hippy-like hostility to bureaucracy and large-scale organisations, into which categories most would place oppositional organisations like trade unions as well as multinational corporations and

government departments. Perhaps in direct reflection of the authorship of the most influential books in this genre of popular futurology, the central character in this scenario of decentralised work, is also implicitly male, though sharing more of the characteristics of the stereotypical 'creative' worker than that of the 'commuter'. Compared with the 'telecommuter' this remote worker is more individualistic and less conventional; more likely, one guesses, to be self-employed. Speculating further, we can imagine him in jeans, rather than a suit, and living in the country, instead of a suburb. However the two visions share many features in common: their central protagonists are both middle-class and male; they are both predicated on an assumption that the worker has freedom to choose where and whether to work (which in turn assumes a background of full employment); and they both assume the technology to be benign and capable of control by its individual users. By the end of the decade, these two visions had to some extent come together to form Alvin Toffler's notion of the 'electronic cottage' (Toffler, 1981).

In the meanwhile, however, rapid changes were taking place in popular attitudes to technology. By 1978, not only was it clear that the western world was embarked on a period of major industrial restructuring, entailing widespread unemployment; it was also clear that a central instrument of this restructuring would be information technology, popularly referred to as 'the silicon chip'. Suddenly, at least in Britain, the newspapers were full of headlines like 'chips with everything' and TV screens awash with series purporting to explain the 'new industrial revolution' in tones which were a curious mixture of doom-laden prophecy and boyish excitement. The doom-laden prophecy focussed almost exclusively on unemployment ('technology could put 5m out of work' predicted a typical *Guardian* headline in September 1978) while the boyish excitement, having enthused over the incredible cheapness and smallness of microprocessors compared with valves or transistors, tended to concentrate on the marvellous range of activities which could be carried out 'from your own living room'. A common device was to set up in the television studio a 'home of the future' in which paterfamilias (sometimes accompanied by a deferential wife and children) sat, joystick in hand, before a screen in a comfortable living room, exclaiming in amazement as he found he could use a home computer to check his share prices, book a holiday, pay his bills, and investigate the latest cricket scores. It would also be possible, the viewer was told, for home banking, home shopping and 'even work' to be carried out in this way. The technology was presented essentially as an executive toy, and its users, once again, were assumed to be male and middle-class.

The consensus which had previously existed in the public mind about technology being basically benign was shattered in the face of these sharply contrasting views about its likely effects. While it was still considered Luddite in most circles to question the inevitability of technological progress, it was now legitimate to ask whether it was 'a threat or a promise?'. At this stage of the debate, the possibility of being able to work from home was seen very much as part of the 'promise' side of the equation; it had not yet come to seem a threat, but this situation was not to last long.

At about this time also, cheap personal computers and word processors began to make their appearance in offices up and down the country on a noticeable scale. And the people who were expected to use them were not the male managers and professionals of earlier popular images but women in hitherto fairly secure, albeit menial secretarial and clerical jobs. A new imagery of computer use was in formation to accompany this change. Instead of being associated with white-coated technicians or senior executives, who were presented as 'driving' or controlling them, computers began to be presented as instruments by which their passive female operators could themselves be controlled. Advertisements for word processors emphasised the silliness and unreliability (albeit combined with sexual attractiveness) of secretaries and emphasised the ways in which the technology could increase accuracy and productivity

and make it easier for managers to monitor the clerical workforce. Much of the previous mystique, embodied in specialist programming jargon, which had surrounded the computing process was also stripped away. Computers were now so easy to use, it was implied, that even dumb blondes could learn how.

Initially, such ideas made no reference to home-based working. However they did begin to attract the attention of feminists, especially as this period coincided with a rapid increase in the unionisation of white-collar women workers and the beginnings of an alternative analysis of the impact of information technology, based on working women's own experiences of computer-based work, which were sharply at variance with many of the media images. This analysis also drew on earlier critiques of industrial society, especially on the work of Braverman (*Braverman*, 1974) whose notion of 'deskilling' was adapted (not without some difficulty, given the historically close association of the category 'skilled' with 'men's' work in most industries) to explain the fragmentation, routinisation and increasing pressure of work which seemed to accompany the computerisation of low-level white-collar work (see, for instance, *9 to 5*, 1980, *Barker and Downing*, 1980). According to this analysis, workers' only hope of protecting themselves from the exploitative and factory-like conditions produced by office automation lay in unionising and bargaining collectively for more humane working conditions. Anything which separated workers from each other, therefore, was to be opposed. And homeworking, although it was still seen as a theoretical possibility rather than an immediate reality, came firmly into this category.

Feminist thinking on the subject was also informed by a prodigious literature, stretching back over two decades, on what was known in the 50s and early 60s as the 'trapped housewife syndrome'. Beginning with Friedan's analysis of the 'problem which has no name' (*Friedan*, 1963) the isolation of women in the home had become central to feminist arguments about women's oppression, and many of the projects of the 70s - from collective living arrangements to campaigns for nursery facilities - had been designed to break this down. As the eighties dawned, no explicit analysis of telework from a feminist perspective had yet been published, but there were many women for whom the prospect rang alarm-bells. The home was widely accepted as being the site, not of leisure, as it was for men, but of oppression. In feminist literature it was the place where women were on 24-hour duty working without wages to service their husbands, children and sick or elderly relations, where they had no private space and could, if married, be raped with impunity. Women who had no escape from it were likely to suffer from depression and loss of self-esteem and self-confidence. It was often compared to a prison. (see, for instance, *Comer*, 1974, *Oakley*, 1974)

It was around the turn of the decade that an entirely new note was introduced into the public discourse on the effects of new technology; the notion that, as the then Labour, subsequently Social Democrat British Member of Parliament, Shirley Williams put it, 'microelectronics offers the opportunity of reuniting the family' (*Williams*, 1981). But, although it echoed some of their concerns, this idea was not voiced by feminists. On the contrary, it was most often to be heard from people with an explicitly anti-feminist agenda: from the British Prime Minister, Margaret Thatcher; from Kenneth Baker, at the time British Minister for Information Technology; from bishops and industrialists.

At first glance, the connection between the family and microelectronics is none too obvious. It is made unusually explicitly in a book by Mike Aldrich, Managing Director of ROCC Computers (formerly Rediffusion Computers) and closely associated with the UK Government's ill-fated cable policy, having been the main author of the influential report by the British Cabinet's Information Technology Advisory Panel (ITAP), *Cable Systems*, on which the policy was largely based. His book, complete with an

introduction by Kenneth Baker, mainly consisted of plugs for his company's products - ROCC was one of the leading manufacturers of data entry systems in Britain and was at the time investing heavily in viewdata (or videotex) systems, including home work stations - but it includes the following revealing passage.

'No institution has suffered (as a result of industrial society) more than marriage. From an original Christian ethic of marriage "till death do us part" ...to the 1981 UK statistic that 37% of marriages fail during the first five years, we can see the erosion of an institution that has been central to our civilisation.

'The growth of transient marriage and one-parent families is the counterpoint to the decline of the extended family and the gradual withering of family responsibility for the old, the sick, the handicapped and the disabled. They have all become the responsibility of the State in the main because home-based family society could not cope.

'If the underlying economic trends were anti- family in the past, perhaps the future offers better prospects for our basic unit of social organisation because of trends in our working lives. In 1981, 60% of the total US labour expense was consumed by office workers. The total size of this workforce dedicated to working with logical goods or paperwork continued to grow...We have to face the fact that our society has changed from being blue collar to being white collar. This may change our attitude to work. It is not possible to deliver a steel mill to a cottage each day for the worker to use, but it is possible to deliver electronic paperwork to the cottage everyday. With the array of telecommunications products and services becoming available at ever reducing costs in real terms, the burden of change must be towards home-centring our lives rather than town or city-centring as at present for work as we know it.'

'...The home is becoming more important, paradoxically, while the institution it shelters falters. Perhaps one of the reasons for marital instability is economics.' (*Aldrich*, 1982)

Like so many other similar statements, this passage carefully avoids mentioning the word 'woman'. The family and clerical work are presented as abstract concepts, affecting everyone, rather than specific manifestations of women's work. Yet it is, of course, the changing role of women upon which the author is commenting. He laments the passing away of the days when women stayed at home caring for children, the old and the sick and deplores their growing independence of men, expressed in economic activity outside the home and a resulting freedom to live and bring up their children on their own if they so choose. He also implicitly recognises the need for women's work in the white-collar labour force. It is as a resolution to this apparent contradiction - society's simultaneous need for women's paid labour outside the home and their unpaid labour within it - that information technology is seized upon with such avidity: as homeworkers, women can do both at once. The role of telework has been transformed. Instead of being a solution to the problem of commuting, or the problem of the cumbersome and alien nature of large bureaucracies, it has now become a solution to the problem of the breakdown of the family. With the change in role, the image of the teleworker has also been transformed. There has been a change both of sex and of status. No longer the male ex-commuter or autonomous artist, the teleworker is now a woman who, by implication 'puts her family first', the corollary of which is that her work is relatively unimportant, something to be fitted in between emptying granny's bedpan and washing the baby's nappies.

It was at about this time, too, that attention began to be paid to the actual experience of telework. It was discovered that the British software industry had, since the 1960s, been employing substantial numbers

of home-based programmers, mostly women who had left office-based jobs in order to have children. Thanks in large part to the charismatic personality of its founder, Steve Shirley, and the assiduous efforts of its public relations officer, Rosemary Symonds, F International (later rechristened the FI Group), a software company entirely based on the labour of home-based women, was featured in innumerable press articles and radio and TV programmes in glowing terms.

Surveys based on interviews or self-completed questionnaires with individual homeworkers produced more ambivalent results. While a minority were successful entrepreneurs, most homeworkers worked for a single employer and suffered in some degree from isolation, insecurity and low confidence and regarded their situations, though better than no work at all, as part of the price they paid for wanting to spend time with their families. Many, especially those who were treated as self-employed, were underpaid and lacked benefits they would have been entitled to had they worked on-site (see, for instance, Olson, 1981, Pratt, 1983, Kawakami, 1983, Huws, 1984, Vedel, 1984, Lie, 1985). In fact, although most were middle class, they had some things in common with traditional homeworkers in manual occupations like sewing or packing (see Bisset and Huws, 1984). For most of these women, telework did not present itself as a perfect solution to any problem; it was merely one of a range of possible compromises available to them during periods of their lives when they were torn between the irreconcilable demands of wage-earning and caring. The ambiguity at the heart of their situation rendered their experiences susceptible to a wide range of different interpretations.

Some, who feared that telework could become a means of destroying trade union organisation, drew on it for evidence of exploitation, and there were calls from trade unions and other organisations representing office workers (such as the American group, 9 to 5) for electronic homework to be controlled or even banned outright, as was argued with some force by the German trade union, IG Metall. Others, with equal fervour, argued that telework was a means of liberating women (e.g. *Guttek*, 1983).

Telework became established as a subject of controversy and, in the mid-80s, was the focus of several weighty policy discussion documents and technology assessments (e.g. *US Congress Office of Technology Assessment*, 1985), international studies (e.g. *European Foundation for the Improvement of Living and Working Conditions*, 1984) and conferences (e.g. *National Research Council (USA)*, 1985, *Housing Associations Charitable Trust (UK)*, 1984).

While these documents tended to analyse telework in a basically moralistic framework (attempting to find some acceptable central ground in a debate structured around arguments for/arguments against), yet another public discourse was developing, in which telework played a more instrumental role, and was discussed more dispassionately, as one of a range of possible forms of work organisation.

The key word in this discussion was 'flexibility', and its subject was the restructuring of organisations to make them leaner and more able to respond quickly to market changes, particularly against Japanese competition. The new buzz phrases included 'flexible specialisation', 'just-in-time production' and the 'core-periphery model' of workplace organisation (see, for instance, *Atkinson*, 1984, *Curson* (ed) 1986). Few of the ideas put forward in this debate were entirely new. The idea that automation could be used to individualise mass-produced products, for instance, had been advanced by Jones in his prefigurative series of articles on automation in *Design* in 1957-58. And diagrams explaining organisational structures by means of concentric circles had featured on overhead transparencies in management studies courses for at least two decades. What was new, was the fact that these ideas were not being advanced in an abstract way as an aid to general discussion about organisational forms, but were being put forward

prescriptively for immediate and concrete application.

Manufacturing companies which had survived the crises of profitability and great shake-outs of labour in the late 70s and early 80s were now reinvesting and looking for ways to expand without committing themselves to a large, permanent workforce. Some service industries, like retailing, were reorganising, using automated point-of-sale technology to make themselves more sensitive to market changes, while others were seeking ways to reduce their fixed costs. Flexibility was presented as the means of achieving these goals. And flexibility was construed as flexibility for the employer: flexibility to change working hours, to switch workers from task to task, or to take staff on or drop them in response to demand. Managers were presented with a menu of options to choose from to bring about such flexibility: new shift patterns; annual hours contracts; multi-tasking agreements; temporary or fixed-term contracts; part-time work; subcontracting (in the public sector this was encouraged by means of privatisation and compulsory competitive tendering); the increased use of part-time workers; and the use of homeworkers. Telework was perceived simply as one of these options. On the face of it, seen from this perspective the concept would appear to have been emptied of much of its emotional content and de-gendered. In fact, much of the literature on workplace flexibility refers, directly or obliquely, to women's needs for personal flexibility in the disposition of their hours to meet family needs, and elides these two in fact quite different and generally incompatible needs to suggest that they are the same thing: that flexibility for the employer must also mean flexibility for the worker. There appears to be a general assumption that 'core' workers are male and 'peripheral' ones female, although there is, in fact, surprisingly little evidence that this model is matched in reality (*Huws, Hurstfield and Holtmaat, 1989*). In this scenario, then, teleworkers are still likely to be women, but this form of work is no longer being presented as a solution to the decline of the family; it is simply one available means of reducing an employer's overhead costs and increasing organisational adaptability.

Intersecting with this discussion is yet another, in which telework also makes a guest appearance: the debate on the enterprise economy. Here, telework is seen as an intermediary stage on the road to entrepreneurship. This idea was first publicised by Rank Xerox, whose 'networking' scheme was launched in the early 80s (Judkins, West and Drew, 1985). Under this scheme, senior executive and professional staff were given training in running their own businesses and set up as teleworkers with the guarantee of a minimum amount of work from Rank Xerox during their first year of independence. Since then, some definitions of telework have included self-employed people working from a home base who happen to use computers during the course of their work. It is, in practice, impossible to draw a watertight line between small businesses operating from a home address and other forms of telework (or indeed satisfactorily to define any type of telework) (*Huws, 1988*). It is thus open to anyone who chooses to do so to perceive the growing population of self-employed people as a thriving pool of entrepreneurs, many of whom will go on to set up small businesses based outside their homes. In this view, teleworkers have changed their image again. They are once more most likely to be male (almost all the Rank Xerox 'networkers' were men) and they are not perceived as being tied down by domestic commitments but as being free agents, motivated to work long hours to establish themselves in a competitive open market. The problem to which they represent a solution is the 'culture of dependency'; their function is to reinvigorate the economy, cut the dole queues and inject new life into the traditional values of self-reliance and the free market.

I have touched in this article only on some of the more important problems to which telework is seen as a solution. There are, of course, others: the problem of the employment of people with disabilities, the problem of the economic regeneration of remote regions, the problem of providing a distraction-free

environment for creative thought, to name just three. And I hope I have shown that these 'solutions' have engendered very different images of who or what a teleworker is, and whether telework is 'good' or 'bad'. It is impossible to conclude without asking the question, which of these images conforms most closely to reality?

I am afraid that the conclusion I have come to may not be very illuminating. It is this: that telework is so nebulous and ill-defined a concept that it can hardly be said to exist in any clearly-defined and quantifiable way; that it exists more powerfully as an ideological construct than as reality; that there is sufficient evidence to support virtually all of the differing and, on the face of it, often mutually incompatible ideas I have outlined above, but that in no case is there enough to indicate that any more than a minority of the workforce will be affected. There *are* people working from home with their employers' agreement in order to avoid commuting (but not all that many); there *are* individualistic types who find the large corporation so antipathetic an environment that they have set up 'electronic cottages' for themselves (but not all that many); there *are* women working from home with computers because they cannot find satisfactory childcare arrangements who are entirely happy with the arrangement (but not all that many); there *are* others in similar situations who believe that they are exploited and underpaid (but not all that many); there *are* public and private sector organisations systematically investigating the transfer of some of their staff to home-based work (but not all that many); there are lots of people working from home who incidentally use computers in the course of their work, from plumbers to farmers to architects; and there are lots of people with jobs outside the home who sometimes use their home computers for an extra bit of work. To make things even more confusing, mobile phones and fax machines and lap-top computers have made it possible for increasing amounts of work to be done on the move, making them no longer place-specific at all (*Huws*, 1989). Because people do not live by information alone, the notion that a majority of the population could ever become teleworkers is far-fetched. However all these categories are growing and seem likely to continue to do so.

To me, the most interesting feature of these different images of telework is not so much what they tell us quantitatively about what is happening, but the dynamics of their interactions with each other.

Let me end with one example, drawn from *Futures* June 1988 which contains an article by Tom Forester entitled 'The Myth of the Electronic Cottage'. His theme, that telework is not likely to grow at the rate predicted in the 1970s, is hardly unusual. However his manner of arriving at it is. He bases his argument almost exclusively on his own personal experiences, and those of a handful of friends, of working from home. True, he scans some of the literature on the subject, but in a fairly desultory way. For instance, a wide range of empirical and analytical studies which focus on gender issues are dismissed collectively as 'raising specific issues of financial exploitation, conditions of employment and the lack of trade union representation'. His argument centres on the fact that for him 'an initial honeymoon period of two to three years, which was accompanied by feelings of elation and high productivity, was followed by a less satisfactory period which was accompanied by feelings of loneliness, isolation and a growing desire to escape "the same four walls"'. Because his starting point was the essentially male notion of the 'telecommuter' and its associated idea of the 'electronic cottage', he was totally unprepared for an experience which any woman would recognise immediately as the 'trapped housewife syndrome', and which a more careful reading of the feminist literature would have warned him about.

To extrapolate to the whole of humanity from one's own experience is, of course, highly dangerous. However it is individual experiences like these, and the decisions they inform, which form the building blocks of social movements. We ignore them at our peril. For it is in the interplay between ideas and

lived experience that new attitudes are forged, and these attitudes in turn form the basis of action. The extent to which the electronic cottage becomes a reality, and the specific forms which that reality takes will depend on the decisions taken by a range of social actors - large employers, entrepreneurs, creative individualists, women with dependents, planners. These decisions will not be monodirectional; nor will they necessarily be permanent. They will interact with each other to produce new and unexpected patterns; new areas of conflict will arise and, in the resolution of these conflicts, new social forms will be negotiated. Whether telework will remain a useful term for describing some of these forms is anyone's guess. For the present, the concept is still up for grabs. Take it, and enter your own meaning.

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