Officing

Professionals’ daily ICT use and the changing space and time of work

Justine Humphry
2009

A thesis submitted for the degree of PhD
Centre for Cultural Research
University of Western Sydney
I certify that this work has not been submitted for a higher degree at any other institution, and that the thesis presents original research, except where otherwise indicated.¹

Justine Humphry, September 2009

¹This thesis adopts the Australian Government Publishing Style (AGPS) standard throughout based on Style manual for authors, editors and printers, 6th edn, rev. Snooks & Co, John Wiley & Sons Australia, Ltd, 2002.
Abstract

In the early years of the twenty-first century the office is popularly imagined as having a mobile and flexible form. In the context of these visions, I argue for a new understanding of the form of the office as a series of intersecting material and discursive processes. An account termed Officing is developed, offering several new concepts and methodological tools to recover and analyse these processes, with the aim of identifying trends and complexities in the space and time of work, and for making new connections with the issues of work–life interaction, time pressure and overwork. This account is developed through an investigation of professionals’ daily use of information and communication technology (ICT) at a municipal council in Sydney and at a global telecommunications company engaged in a workplace trial of a smart phone. An analysis of past and present discourse on the changing conditions and forms of office work is undertaken as part of this investigation.

I argue that the ‘Office of the Future’ operates as a myth through which new work forms and identities are envisaged and materialised, framed as a response to large-scale and seemingly external transformations. The origins of this myth are traced to the rationalisation of work and new mechanisms of labour control in Scientific Management. Reviewing the currency of this myth today, I argue that visions of the office create a discursive space for the emergence of new work forms and identities based on their dislocation (Du Gay 1996). Through these visions, mobile and flexible office forms and identities appear necessary, inevitable and urgent, a solution to global changes such as the irrelevance of place and time, the speed of information and communication, the rise of post-bureaucratic organisations, the complexity of technology and the need for better work–life balance. At the same time, the ongoing effort, space and time required to sustain the conditions that make these forms and identities possible, are denied.

The ‘office setup’ and ‘workability’ are two key concepts introduced as part of the account of Officing to recover and analyse this effort, space and time. Weber’s notion of a ‘rationalised’ or abstracted relationship forged between individuals and organisations informs a definition of the office as a configuration or ‘setup’ for establishing the official agency, authority and identity of workers. ‘Workability’ is a
concept developed to highlight how workers turn this office setup into a productive platform for work in the process of daily work. In formulating this concept, two important contributions are synthesised, that of ‘articulation work’ (Suchman 1995; Star and Strauss 1999) and ‘bricolage’ (Levi-Strauss 1966; De Certeau 1984) to expose the effort, space and time involved in achieving workability and to analyse its significance for the experience of work.

Through *Officing*, trends and complexities in the space and time of work can be revealed that would otherwise go undetected. Applied to the municipal council (*Innertown*) and the telecommunications company (*Worldcom*), these include the swapping of personal and organisational resources of space, time and technology, the integration of activities into a single block of ‘spacetime’ and a web of new places, rhythms and bodily techniques. These trends are magnified at *Worldcom* as a result of a pre-existing discourse of mobility and flexibility and the introduction of a new smart phone but are also evident at *Innertown* where there is a noticeable tension between the official and unofficial office setup. In sum, the *dislocated office* can be seen to be emerging as a central work platform for mediating external changes and identities produced through its dislocation. Yet, as a result of the denial of the effort, space and time required for its support, a powerful sense of time pressure, increased ‘boundary work’ (Nippert-Eng 1996) and a deep sense of ambivalence are foregrounded in professionals’ daily work experience.

I conclude by arguing that we must take into account our investment in material infrastructures since not only is time, space and a sense of self thoroughly tied up in these, these infrastructures demand ongoing support. New methods are needed to account for this work and to recognise that people have different levels of access to resources to mobilise towards workability. Drawing attention to the form of the office as a series of processes has a political goal. It offers a way to not just observe technological change from a distance, as if it really did take place outside of culture, but to include deleted accounts of work, space and time in narratives of change and in this way, create more sustainable material cultures.
# Table of Contents

List of Figures .................................................................................................................. v
List of Tables ................................................................................................................... vii
Acknowledgments .............................................................................................................. viii

## Introduction

- Background to research: what brought me to it? ..................................................... 1
- What this inquiry is about ......................................................................................... 4
- Research approach .................................................................................................... 6
- The thesis argument .................................................................................................. 7
- Outline of the thesis .................................................................................................... 9

## Chapter 1  Researching Officing: starting points, research and fieldwork .......... 13

- Introduction .............................................................................................................. 13
- The decentering of work ......................................................................................... 13
  - Changing conditions and forms of office work in Australia ............................ 15
  - Changing conditions and forms of office work in a global context ............... 22
- Windows into the office: centering materiality in the culture of work .......... 26
- Fieldwork and Methodology ....................................................................................
  - Methods ................................................................................................................ 30
  - Case selection ....................................................................................................... 31
  - Recruitment ......................................................................................................... 32
  - Terminology ......................................................................................................... 34
  - Location ............................................................................................................... 35
- Conclusion .................................................................................................................. 36

## Chapter 2  The Myth of the ‘Office of the Future’ ............................................... 38

- Introduction .............................................................................................................. 38
- The origins of the myth ........................................................................................... 39
  - Scientific Management and the systematisation of the office workplace .......... 39
  - The office as machine and the gendering of office work ................................. 41
  - The discourse of efficiency and productivity ................................................... 45
  - New philosophies of organisation and the office industry ............................ 47
- Past visions of the office of the future ....................................................................
  - The Memex .......................................................................................................... 50
  - Bürolandschaft (‘Office Landscaping’) ............................................................... 53
  - Word Processing .................................................................................................. 54
  - Re-imagining Myth ............................................................................................... 58
- Shifting the ground of the modern office ............................................................... 61
  - The Anywhere, Anytime office .......................................................................... 64
  - The trope of the desktop ....................................................................................... 65
  - Competing visions and the discourse of mobility and flexibility ..................... 69
  - Scripting user identities and the gender coding of deskwork ......................... 71
  - Framing change in technological terms ............................................................. 76
- Conclusion .................................................................................................................. 79

## Chapter 3  Officing: a material processual account of the office ....................... 81

- Introduction .............................................................................................................. 81
- From forms to processes .......................................................................................... 81
- Re-thinking stabilisation .......................................................................................... 90
  - From orders to ordering ....................................................................................... 93
  - Clarifications ......................................................................................................... 95
  - Deleting work, invisible work and forgetting ................................................... 97
| Chapter 4  | Innertown: a municipal council in Sydney | 114 |
| Introduction | 114 |
| The office setup at Innertown | 115 |
| Making the office workable at Innertown | 123 |
| Connecting | 123 |
| Synchronising | 130 |
| Configuring | 148 |
| Conclusion | 176 |

| Chapter 5  | Worldcom: the trial of a smart phone | 179 |
| Introduction | 179 |
| The office setup at Worldcom | 180 |
| The office setups of staff in the MOVE trial | 182 |
| Making the office workable at Worldcom | 184 |
| Continuous Connectivity | 184 |
| Always Already Synchronised | 195 |
| Configuring the ‘as if’ office | 206 |
| Relocating the office | 216 |
| Conclusion | 227 |

| Chapter 6  | Embodying the office and the consequences of forgetting | 230 |
| Introduction | 230 |
| Workability and ‘invisible homes’ | 231 |
| ‘Invisible homes’ and the space and time of work | 233 |
| The dynamics and politics of visibility | 238 |
| Hybridities and interdependencies of the office | 241 |
| Bodily techniques and forgetting as a cultural resource | 244 |
| Time pressure, overwork and work–life interaction | 250 |
| Conclusion | 259 |

| Conclusion  | Remembering Officing and future research | 263 |
| Ratcheting the dislocated office | 264 |
| Officing: its significance for the study of work and technology | 265 |
| Practical Applications of Officing | 267 |
| Sustainable Officing: a future agenda for research | 271 |

| Appendix 1  | Demographic Chart | 274 |
| Appendix 2  | Samples from Office Technology Diary | 278 |
| Bibliography | 282 |
List of Figures

Figure 1 ‘Now, you could do your business anywhere, anytime’ (TS Executive Office, a Canadian supplier of office centres, retrieved on 2 January, 2009, http://www.tsexecutiveoffice.com/index2.html)...............................................................................38

Figure 2 Office supply advertisement in K&J News, October 1921 (Delgado, 1979:47)..........................................................................................................................42

Figure 3 Nineteenth century cartoon depicting the employment of women as a chaotic affair (Delgado, 1979:38)...........................................................................................................44

Figure 4 Drawing of Vannevar Bush's 'Memex' in ‘As We May Think’ (Life Magazine, 19 November, 1945, retrieved 20 July, 2009 http://www.theatlantic.com/doc/194507/bush)........................................................................51

Figure 5 Bürolandschaft layout, Osram Offices, Munich, Walter Henn, 1963 (New National Office for Arts Council England, retrieved 28 June, 2009 http://www.carusostjohn.com/arts council/history/burolandschaft/index_02.html)......53

Figure 6 Osram Offices, Munich, Walter Henn, 1963 (New National Office for Arts Council England, retrieved 28 June, 2009 http://www.carusostjohn.com/arts council/history/burolandschaft/index_02.html)......54

Figure 7 Xerox Alto of Palo Alto Research Center (PARC) in ‘A Walk Through “Visible Storage”’, section 5 of 6 by Len Shustek from CORE 2.3 (The Computer History Museum, retrieved 28 June, 2009 from http://edthelen.org/comp-hist/Shustek/ShustekTour-05.html)..................................................56

Figure 8 Xerox Star showing display, keyboard, mouse and user, by Kevin Powers, ‘Designing the Star User Interface’ in (Graphical User Interface Gallery Guidebook, reprinted from Byte, issue 4/1982, pp. 242-282, retrieved 28 June, 2009 http://www.guidebookgallery.org/articles/designingthestaruserinterface)........57

Figure 9 ‘Are you doing the processing?... or are you being processed’, Illustrated cover (Processed World, Issue 1, 1981 retrieved 28 June, 2009, http://www.processedworld.com/pw_covers.html)..............................................................................59


Figure 11 Cartoon of Bunk Desks ‘Saving Space in the Modern Office’ (Riley, 2009)......59

Figure 12 Cartoon of Do-it-yourself ‘Relaxing Personal Environments’ (Riley, 2009)........59

Figure 13 Mobile ‘knowledge worker’ ‘in the field’ (Handel Image Technologies, retrieved 28 June, 2009, http://www.handelit.com/RiteTrack/RiteTrack-OffLineMode/tabid/88/Default.aspx)..........................................................65

Figure 14 Motorola’s ‘Q’ smart phone billboard, street corner in downtown Dallas, Texas, USA. (Photo by David Lenihan taken June 2006, retrieved 25 July, 2009 ‘David’s Blog’, http://davidlenihan.com/gadgets)..............................................................................67
Figure 15 Bigpond Wireless Broadband advertisement in (‘The Sydney Magazine’, *Sydney Morning Herald*, Issue 74, June 2009, p45)........................................................................ 68

Figure 16 MBF’s new offices on Bridge Street Sydney (2005) by Geyer Designs, (BOSS Magazine, Issue 8, August 2005).................................................................................. 70

Figure 17 Hyatt Gold Passport advertisement, (inside back cover of *Wired Magazine*, October 2006)........................................................................................................ 71

Figure 18 Freelance worker answering calls from her beach office, (‘My Career’, *The Sydney Morning Herald*, June 13-14, 2009) ................................................................. 74


Figure 20 Untitled (2001), Stenography pads turned into flowerlike objects, by Amy Balkin, from (La perruque (the wig), an exhibition at the office/gallery, San Francisco August 13, 2001 to mid-November 2001, retrieved 1 January, 2007 http://www.stretcher.org/archives/r2_a/2002_06_26_r2_archive.php) ................................. 114

Figure 21 The ‘offices’ of staff at Innertown’s main administrative centre. .......................... 115

Figure 22 IT Services and GIS Analysts share an area in the basement with the computer servers............................................................................................................................ 118

Figure 23 Oscar’s drawing of his desk space in his office technology diary.......................... 151

Figure 24 Close up of Mary’s desktop computer, computer display and surrounding objects.......................................................................................................................... 158

Figure 25 Mary’s shelves for filing and storing her hard copy documentation and pink labels for identifying folders .......................................................................................... 160

Figure 26 Beatrice’s ‘shelf’ with the personal mobile phone kept in view while working................................................................. 165

Figure 27 Untitled (2005), ‘Coat hangers on a blank wall’, by Peter Fyfe.................................. 269
List of Tables

Table 1 Office transformations from 1880 to present (dates loosely based on world-wide trends)................................................................. 49

Table 2 Chart of demographics, participants’ work ICT arrangements and technology experience......................................................... 274
Acknowledgments

A key concern of my research is to reveal the technological practices of professionals on their office in support of their daily work. Here, I’d like to acknowledge those people whose own support work, in the form of inspiration, assistance, engagement and commitment made this project and thesis possible as well as an enjoyable and satisfying experience. My deep felt thanks go first to my supervisor Elaine Lally. Elaine’s fascinating account of home computer users in Western Sydney in her book *At Home With Computers* was an early inspiration for my project. Elaine has continued to be a motivational force throughout my PhD, regularly dropping conceptual gems that have spurred me on to develop my lines of inquiry and analysis.

I’ve been extremely fortunate to have two other co-supervisors, Zoë Sofoulis and Greg Noble, who provided crucial input at key points. Zoë, I will always treasure our conversations in the University gardens, listening to your incisive and generous feedback. Greg, your suggestions were integral to the development of my fieldwork and writing and your pointers always sent me in fruitful directions. I would also like to thank my colleagues, friends and scholars at the Centre for Cultural Research (CCR) and the Advanced Cultural Institute of Sweden (ACSIS) at Linköping University. In particular, I am thankful to Ann Werner, Helene Egeland and Johan Fornäs at ACSIS who gave me their feedback, time and wisdom, and to the two centres for jointly supporting the Postgraduate International Scholarship. I’d like to express my gratitude to the administrative team at CCR for providing me with crucial ‘office’ support.

I am extremely grateful to all the participants and especially to the two individuals, who must remain anonymous, but whose assistance in securing access for me to conduct research made this project possible. Thanks to Peter Fyfe and Loretta Kelly for their proofing assistance and to my sister and parents for reassuring me that I would finish one day. My final thanks is reserved for my partner, Sarah Nielsen. Without her emotional, financial and intellectual assistance, including more than her fair share of the housework, I would still be dreaming about doing a PhD. With her help and belief in me, this dream has become a reality.
**Introduction**

*Background to research: what brought me to it?*

The 1990s and early 2000s were a time of intense change in the Information Technology (IT) industry. Personal computers became well established and newer, faster, multi-coloured models were released at an ever-quickening pace. At the same time, the Internet was being rapidly integrated into the operations of organisations, accompanied by significant investment in new information and communication technology (ICT). From 1995 to 2004, I worked as an IT systems consultant and helped to implement numerous technological changes within the community, education, business and government sectors. Through my observations of organisational responses and the experiences of individuals, I became increasingly intrigued and troubled by what I was facilitating. Most of these organisations had tight budgets and little scope for spending on computer technology. Nevertheless, there was a sense that they had to keep up: changing technologies, changing ways of providing services and changing expectations of service providers all converged. Coordinators and managers felt obliged to source funds for the acquisition of more computer technology—often with great difficulty and only after juggling competing financial demands.

New personal computers were just the beginning. It was the height of the Dot.com boom and the Internet seemed to be on the tip of everyone’s tongue. Email, electronic faxing, multi-function printer devices, improved network and routing systems, new methods for file sharing and storing, new software, databases and web sites were just a few of the ICTs that organisations purchased and that I helped to implement. My role provided me with a unique window into the organisational and personal experience of technological change. I spent considerable time moving between individual workstations, installing new software and hardware equipment and intervening to solve problems and issues when individual staff requested my assistance.
For a job that was perceived to be highly technical, these tasks were surprisingly social, requiring a sensitive approach. Staff did not always want new technology foisted on them nor have someone telling them they had to change the way they did their work. Some expressed concern and a sense of anxiety about whether they were capable of using ‘all this new stuff’ and how it was going to change their work and the time it took to do it. Some were optimistic and revelled in the chance of having a new computer or piece of software. Not all individuals had the same approach and how they went about working technology into their work processes and personal work environments varied considerably. Nevertheless, like the managers that spoke on behalf of the organisations, staff unanimously expressed an almost inevitable acceptance that they too had to keep up-to-date, and that these changes were inevitable, necessary and justified. Even without many of them knowing what the Internet was at the time, no-one came close to suggesting, ‘Oh, no thanks, I’d rather not have that.’ Yet, none of these workers were passive recipients despite many expressing deep ambivalence about technology. It was more complex than that. Even those who felt subjected to technological change were actively involved in trying to gain a sense of control over their equipment, software and overall work environment, perhaps more so than those who embraced new technologies and saw themselves as technologically savvy.

These personal experiences of staff with their technologies were hidden from the rest of the organisation. This could partly be explained by the physical organisation of work. People’s daily interactions with their ICT would often take place behind partitioned workspaces and enclosed offices, making them literally unseen by others. This was reinforced by the electronic work environments of staff, which mirrored the division of the physical workplace into private workspaces. I also noticed that with the exception of scribbles in my diagnostic notebook and the troubleshooting log in which staff noted down their problems, these experiences were not represented in any formal way, seeming to exist outside of the organisation’s official work processes. Moreover, staff themselves often seemed unaware of many of their own interactions since these had become a part of their daily routines and habits, only requiring focused attention when a new piece of software or equipment was installed or when something went wrong. At these times, there was often a strong desire by staff to not have their difficulties with technology identified by others and to keep
their technology troubles out of the public arena. All of these factors contributed to the self-management of their interactions with technology. There were exceptions to this: when staff sought assistance from their colleagues sitting nearest to them; when they aired their personal stories during group training workshops; and when technology breakdowns occurred that impacted on groups of workers or the organisation as a whole. In general though, the tendency towards the privatisation and routinisation of work contributed to the invisibility of these experiences, even when others shared the issues and problems that staff came across.

My observations also revealed an aspect of technology that ran counter to an image of technology that was dominant at the time. ‘Cyberspace’ was an idea that accompanied the early popularisation of the Internet in the early 1990s and was very influential in shaping the broader cultural perception of computer technology. The origins of the idea were a slew of popular science fiction books and films with the 1984 novel *Neuromancer* by William Gibson a foundational text. Gibson (1984) imagined ‘cyberspace’ as a virtual reality experienced purely in the mind, a disembodied reality he described a ‘consensual hallucination’ (67). This idea helped to create a sense of technology as a disembodied experience disconnected from a mundane physical existence and divided into an online and offline reality. In a work context this idea found expression in visions of the Virtual Office. Yet, it seemed to me that this vision was sharply incongruent with people’s everyday experience of technology and its lived messiness. It was true that people were creating a vast array of online spaces where people met, communicated and interacted. Yet, these spaces were not disconnected from offline lives, work or bodies but, instead, were thoroughly interwoven in new and complex ways. Sore backs and arms; messy desks; sticky notes plastered on stained monitors propped up on telephone directories; keyboards jammed with dog hair and last night’s dinner; cables jutting out of holes hastily drilled into desks, large open-planned rooms of humming, hot computers on sweltering, summer days; and clusters of staff hanging around screens pointing and laughing at the latest email joke, were all part of people’s everyday experience of technology. Technology was better understood as a mundane, sensory and partly collaborative experience, not a ‘consensual hallucination’.
With my systems consultant hat on, paying attention to these embodied interactions with technology proved to be valuable for a number of reasons. It revealed how technology had to be tweaked and modified for different needs, ways of working and skill level. This knowledge informed my own work practice so that I could anticipate the problems and issues that others encountered to prevent them arising again, modify the set up of technologies to better suit differences and suggest training for making adaptation to new technologies easier. It also made me more aware of innovations arising from these interactions that could be utilised to the benefit to others. All of this fed into the ongoing development of the IT system, albeit in a sometimes ad hoc way and made me realise that these ongoing negotiations and modifications were very much part of technological change as well as being an active and ongoing part of the production process. I began to realise that in addition to contributing to the development of new forms of work, these daily interactions of staff with their ICT were important accounts of the changing experience of work in their own right. The daily negotiations and attempts to gain a sense of control over the work environment, the differences in approach and the collective sense of inevitability of technological development were aspects of technology use that were crucial in shaping employees’ sense of self, space and time. Yet, because of their shadowy and private existence, these experiences did not have an official place in organisational accounts of work or in narratives of technological change circulating in the wider culture.

**What this inquiry is about**

It was recognising the importance of these personal daily interactions with ICT that inspired me to turn the spotlight on this underworld of activity to identify how these embodied interactions contribute to the production process and to the experience of work, and then to re-insert these narratives into an account of technological change as it was happening. To pursue these goals, I investigated the daily use of ICT by professional workers in two organisations: a municipal council in Sydney and an international telecommunications company with regional headquarters in Melbourne (given the names Innertown and Worldcom respectively). As part of this investigation, I analysed past and current trends in new technologies for office work with a focus on whom they targeted and how they were represented.
The timing of this project was crucial. Just prior to starting my research a wave of mobile and wireless technologies and services appeared on the market targeted to the business and government sector. Like the marketing of personal computers, these products and services were accompanied by a story about technology: with the aid of these new tools, knowledge workers could do their work anywhere, anytime, overcoming the unproductive constraints on time and location placed on them by desk-based personal computing, and enhancing their capacity to achieve a better work–life balance. The emergence of these mobile and wireless technologies and services marketed to professional workers provided an opportunity to undertake my research within the context of a new narrative of technological change, which, in turn, was taking place within a larger set of social transformations.

Office work falls into the broad category of white-collar work, of interest precisely because of its extensive reach and confluence of trends in work. Figures in Australia and other industrialised countries show a steady expansion of white-collar occupations over manufacturing jobs in the last half century, supporting the idea of the rise of a ‘Knowledge Economy’ (Drucker 1969). From 1966 to 1997 the number of Australians employed in production and manufacturing dropped from 46 to 28 per cent. In that period, nearly all employment growth was in service and professional work, which increased from 2.6 to 6.0 million workers (Australian Bureau of Statistics 1997).

Alongside this long-term shift in the production base, researchers in Australia and internationally have found that white-collar workers are prone to long working hours, overwork and increasing work intensity (Green 2003; Watson, Buchanan, Campbell and Briggs 2003; Edwards and Wajcman 2005). There is also an increasing polarisation of work and the rise of new divisions of labour (Edwards and Wajcman 2005; Huws 2006). Taken together, these changes indicate that there is a high level of complexity in a shift to an economy geared towards knowledge and, as Edwards and Wajcman (2005) point out, significant variations in the quality of the work experience (27-31). Along with the technological developments mentioned above, these trends and complexities provide the broad context for this investigation and inform my approach.
Research approach

My research approach departs from previous work in a number of ways. Recent studies of ICT have concentrated on new and usually single technological objects introduced into the office workplace. These include the personal computer (Zuboff 1988; Noble and Lupton 1998; Noble and Lupton 2002) the mobile phone (Lowry and Moskos 2005; Towers, Duxbury and Thomas 2005; Townsend and Batchelor 2005), photocopier (Suchman 1987; Orr 1996), personal digital assistant (PDA) (Waycott 2005), email (Smith, Rogers and Underwood 2003), instant messaging (Nardi, Whittaker and Bradner 2000), groupware software (Orlikowski and Gash 1994), information management systems (McLaughlin, Rosen, Skinner and Webster 1999), the Internet (Wallace 2004) and more.

My starting point is that technology in use by knowledge-based service workers usually encompasses a large and diverse collection of devices, media and software, some of which might not necessarily be considered technology. These objects fulfil one or more uses of information storage, retrieval or organisation, are of varying ages and are organised as part of an organisation-wide IT system accompanied by official policies that regulate their use. In taking this approach I make a number of assumptions based on my previous work experience. I assume firstly, that these objects, their organisation and regulation, together contribute directly to the overall make-up of the social and material arrangements of work and to how work is changing at an organisational level. Secondly, I assume that the ongoing modifications of multiple technological objects and the work practices that emerge from these are necessary for getting work done and that these too contribute to processes of change. Yet, I suggest that what these are and how these contribute to change are largely unknown because many of these practices and the objects to which they are directed are not recognised.

These questions guided my research design and analysis but also required me to confront a number of methodological and conceptual issues. Lack of recognition of the materiality of work, including the myriad objects in regular use and the embodied interactions associated with them, was more than incidental to my research and emerged as a central problem in itself, raising a number of interrelated questions.
Given that many technologies and practices are not visible in use, how can they be identified? How is their functioning as a collection indicated while retaining their distinctiveness? How can their scope be determined? Beyond these questions is the issue of recognition itself. To what extent are these objects and practices recognised or not? What does it mean for them not to be recognised? Why aren’t they recognised and why does it matter? Who determines whether they are recognised? Some of these questions are addressed as part of the fieldwork and methodology. A number of them, however, are taken up to form a major thread of the argument.

**The thesis argument**

I argue that the form of the office is best thought of as a series of processes that are obscured for the very reason that they are ‘forgotten’, becoming treated independently of their use either as the neutral and stable background of work or as an external object that wields its force on society (and in history). I argue for the need to develop new ways to ‘remember’ these processes, by which I mean: to reveal the work, space and time involved in turning the office into a productive platform with the aim of understanding how these processes contribute to the construction of a sense of time, space and self in relation to work. This argument builds on the understanding that work is contingent and relational and that what is defined and recognised as work is subject to ongoing negotiation and struggle. Within rational systems models of work, there is always work that escapes recognition and is not represented (Suchman 1983; Suchman 1995; Zabusky 1995; Star and Strauss 1999; Suchman 2000). Rational systems approaches continue to inform the production of the office at multiple social scales, reproduced in the myth of the ‘Office of the Future’, in institutional economies of space and time and in the wider culture.

I propose a material processual account of the office termed *Officing* as a way to remember the office as a series of processes. In developing this account, I depart from a labour process analysis of work and extend more recent practice-based, actor-network and cultural approaches to stress the contingent and mutually constitutive relationship between forms of the office and their use. Workability is a key concept developed to describe the temporary and provisional state of stability accomplished in use to turn the office into a productive platform. Efforts towards workability can
be seen as a form of ‘articulation work’ (Suchman 1995) performed by ordinary users and subject to a politics of visibility. However, I extend the scope of this concept to include all manner of ‘bricolage’ (Levi-Strauss 1966; De Certeau 1984), a concept used to describe the improvisational work of individuals and small groups in re-assembling symbolic and practical resources at hand to create new meanings and forms. Synthesising these two concepts helps to explain how employees pull together the office as a platform in the process of managing contingencies and limitations in the space and time of work, and in navigating and making sense of their lives in their entirety.

In the case studies of Innertown and Worldcom, efforts towards workability can be seen to have contributed to a shift in the form of the office, lending support to the emergence of the dislocated office. This includes the integration of all activities into a single chunk of ‘spacetime’, a term used to denote the relationality of space and time and the elimination of boundaries or markers that keep these categories separate and distinct. This re-organisation of space and time is accompanied by a new spatial and temporal sense and the development of new work practices, bodily techniques, places and rhythms, which form a web of new interdependencies to support emerging forms and identities of the office. In the case of Worldcom, this shift was further facilitated by the institution of a discourse of mobility and flexibility through the trial of a smart phone and the incorporation of staff’s professional identities as an important element of the trial’s success. While a shift to mobile and flexible regimes was evident in both cases, these regimes were haunted by a pre-existing discourse of efficiency and productivity that continues to structure how work, space and time are perceived, recognised and valued.

Revealing efforts towards workability highlights the complex relationship between technology and time and space, showing that time pressure, overwork and intensification are not only products of increased working hours, the speeding up of work by technology or the increasing ‘collision’ (Pocock 2003) of demands between work and home. The lack of recognition of these daily interactions with ICT itself impacts on the perception and use of time and space, magnifying feelings of time pressure and a perceived need to work faster, longer and harder even as individual technologies are utilised to save time. This lack of recognition is not simply imposed
from above. Individual employees collude in the ‘forgetting’ or denial of certain aspects of work expressed bodily, organisationally and even macro-economically. Informed by a feminist understanding of work, this collusion can be traced back to the ongoing rationalisation of work and the role of a discourse of efficiency and productivity in defining work and structuring space and time through the construing of some forms and identities of work as non-productive.

Although the material processual account developed is put to use to identify and assess emerging forms of the office and the changing experience of office work, this account could be applied in a variety of situations with the potential for application beyond the workplace. Indeed, Officing helps to identify and describe those work activities that are not neatly contained in a workplace. This might include incorporating studies of workability into formal methods for developing IT systems, assessing longer-term organisational strategies, enhancing participatory approaches in the workplace and developing more sustainable work practices, technologies and systems. At the same time, it is important to recognise that granting these ongoing embodied interactions an official status is a political move because it involves a process of representation (Suchman 1995). This can have unforeseen outcomes such as increased surveillance of workers or diminished discretion in the performance of tasks and duties. This issue of the politics of representing work and its benefits and tradeoffs are addressed in the conclusion where I make some suggestions and recommendations for future research.

Outline of the thesis

In Chapter 1, I consider some of the key social issues that have converged around changes in the subject, meaning and activity of work, including work–life interaction, time pressure and overwork. I reiterate the need for more studies and approaches that put materiality at the centre of research on work and put forward my research on professionals’ daily ICT use and the changing space and time of work as a way to address these issues from a new angle. In setting out this research I confront a central problem of this thesis, arguing for the need for a conceptual and methodological approach that can recognise the form of the office as a series of intersecting material and discursive processes. I introduce the account of Officing
and the main concepts of ‘workability’, the ‘office setup’ and the ‘myth of the office of the future’. The fieldwork and methodology are then presented in more detail including the recruitment process, terminology and research setting, and I explain how these support engagement with the central problem of the thesis and the development of Officing.

In Chapter 2, I argue the ‘Office of the Future’ can be understood as a myth, drawing on Malinowski’s (1954) understanding of myth as a kind of ‘charter’. By providing symbols and media through which the office is re-conceptualised, visions of the office of the future play a strategic role in attempts to re-organise the labour process and in mediating large-scale processes of social, economic and technological change. I show that even though these visions try to establish a revolutionary break from the past, they are anchored to their origins in Scientific Management. I consider more recent visions that extend a shift away from a centralised model of office work through a discourse of mobility and flexibility. I then analyse how these create a discursive and mythological space for the emergence of new forms and identities based on their dislocation. The chapter concludes by situating the appearance of the ‘dislocated office’ within the account of Officing developed more fully in the following chapter.

In Chapter 3, I reiterate why the account of Officing is necessary to expose the inner workings of the form of the office and to highlight the processes that feed into its formation. I synthesise a number of approaches to user/technology relations through the concept of ‘stabilisation’, drawing on literature from Science and Technology Studies (STS), Cultural Studies, Actor-Network Theory (ANT) and early critiques of computerisation that informed the foundation of a range of practice-based fields oriented to the design of technologies and systems. I then introduce several key concepts used in the analysis of the case studies including the ‘office setup’ and ‘workability’. This conceptual framework supports the examination of the construction of different economies of space and time of work and the situated and embodied aspects of ICT use in daily work.

Chapter 4 presents the first case study of Innertown, a municipal council in Sydney. This organisation represents a classic bureaucracy with a physically fixed and
hierarchical ‘form’ of the office workplace. The chapter begins by describing the material arrangements of staff embodied in the ‘office setup’, highlighting how this frames the agency, authority and identity of employees including limits and requirements for action and movement. The main content of this chapter is an in-depth examination of the process of making the office workable focusing on the daily interactions of staff with their ICT. Issues highlighted include differences in the way that individual offices are set up and how this impacts on daily work; the integration of work and non-work activities; the sense of control gained in achieving workability; and finally, what contributes to the hidden nature of these daily interactions. One of the main conclusions is that, despite official attempts to retain and strengthen a centralised and segmentist (Nippert-Eng 1996) model of the office workplace materialised in the office setup, Innertown staff put into practice a discourse of mobility and flexibility that challenged this model. At the same time, the lack of recognition of these efforts and the emerging spatialities and temporalities generated a heightened sense of time pressure, reproduced divisions of labour and ultimately, reinforced a centralised and segmentist model of the office.

The case study presented in Chapter 5 is an example of an organisation consciously implementing new forms of work based on a discourse of mobility and flexibility. This case acts as a counterpoint to the previous case study and the same theoretical framework of Officing is applied in its analysis. The main focus, like the study of Innertown, is the process of making the office workable, focusing on staff’s daily ICT use during the trial of a smart phone. Through this study, it is possible to see how new constructions of space and time and work identities based on ideals of mobility and flexibility are taken up, transformed and sustained in daily efforts towards workability. One of the main conclusions of this investigation is that staff in the trial reported that the smart phone enabled them to work more effectively across space and time accompanied by a new spatiotemporal sense: a single chunk of ‘spacetime’. However, making their office setup workable also demanded additional personal resources of space, time and skill. With little or no official recognition of these, staff experienced powerful feelings of time pressure and a deep sense of ambivalence towards their mobile office platform.
In Chapter 6, I bring together the findings from the case studies and draw some conclusions about the changing space and time of work and the implications for professionals’ work experience. I suggest that spatialities and temporalities that emerge in practice can be likened to an ‘invisible home’ (Star 2002). In practice, these produce a space and time other than the official office setup, one that contracts and expands dynamically to create a kind of distributed office technoscape. Critiquing the distinction made by de Certeau’s (1984) between ‘strategies’ and ‘tactics’ and the line between production and consumption, I argue these ‘invisible homes’ can be understood as stabilisation strategies not unlike strategies taking place at other scales. These strategies are experienced in the body through a dynamic of ‘forgetting’ and ‘remembering’ and are subject to a politics of visibility that determines whether they will be officially recognised or not. The final part of the chapter examines the new office forms and interdependencies generated through these strategies and the consequences of their invisibility for professionals’ experience of time pressure, overwork and the interaction of work and life.

In the concluding chapter, I consider how even though there is intense ambivalence about mobile and flexible forms and identities of work, there is a strong investment in making these workable: to meet current demands and expectations in working life, to gain a sense of autonomy and agency and to keep up with new standards of what is normal. I suggest that Officing could be used with practical applications in mind as a way to counter the forgetting of the materiality of the office that goes with this process of normalisation. I consider some of the pitfalls of remembering material processes of the office, understood as the active recovery of the effort, time and space in the production of a stable office platform. I conclude by arguing that despite these pitfalls, there needs to be more ways to identify and trace work that is hidden in bodily, organisational and cultural processes; to account for the effort, time and space of these processes; and for recognising that people have different levels of access to resources to mobilise towards workability.
Chapter 1  Researching *Officing*: starting points, research and fieldwork

*Introduction*

In this chapter I examine the positioning of the social and cultural study of work in the last two decades in response to large-scale socio-economic, organisational and technological changes. I argue, with Wajcman (2006) and others, that the dimension of materiality is largely missing from current debates about work and there is a need for an approach that foregrounds the complex relationship between technology, space and time. My research responds to this need by putting the daily use of ICT at the centre of an investigation into work–life interaction, time pressure and overwork. My overall orientation is sympathetic with a Social Shaping of Technology (SST) perspective. I view technology and its use as a reciprocal and co-evolving relationship situated within a larger set of social transformations. However, my focus is on the organisation and use of multiple technologies and their relationship to the changing space and time of work situated within the history of the modern office, which is the subject of the following chapter. This chapter explains the rationale for this approach in the context of current debates on work and commercial trends in the design of mobile and flexible forms of the office. *Officing* is put forward as an account developed to reinstate the material processes of the office to find out how these contribute to the appearance of new office forms and a sense of time, space and self. Finally, the chapter provides details of the research and methodology: the fieldwork, methods, case selection, recruitment, terminology and location of research.

*The decentering of work*

Any social and cultural analysis of work today must find its bearings in relation to the decentering of work as a subject of study, as an activity and in terms of its meaning. The subject of work enjoyed a centre stage position within sociology and to some extent anthropology from the end of World War II through to the mid 1970s, but as Strangleman (2005) notes, by the 1990s work had shifted to a more marginal
place in these disciplines (3.1). At least some of the impulse for this shift came from within: vigorous debates within the sociology of work about the over-emphasis on relations of production and the workplace as the site of all social meaning contributed to what Strangleman described as the ‘fragmentation’ of the field (5.1). This fragmentation was accompanied by significant changes in work itself so that the traditional areas that had once been its main subject, that is, male blue-collar work, literally began to disappear as manufacturing declined in industrialised countries (6.1).

While these changes had the effect of challenging the basis for and approach to the study of work, it also reinvigorated the field, stimulating new approaches and opening up hitherto uninvestigated and excluded areas simply because they had not been considered legitimate forms of work. In the late 1970s, ‘the home’ emerged as a site for the study of work, challenging the myth that productive labour only takes place within the workplace, and bringing domestic work out of its shadowy existence at the fringes of the economy (Kanter 1977; Waring 1989). This shift was both a re-definition of the meaning of work and its relocation as an activity into other spheres of life. This process was instrumental in expanding definitions to include other forms of unpaid labour including reproduction, in pointing out its gendered distribution and in making room for an understanding of the role of consumption in producing social meaning.

All these changes could be interpreted as academic research traditions being revised in response to internal and external changes, but in the mid 1990s a position was expressed that further challenged the study of work, arguing that work had lost its meaning in society. Strangleman (2005) dubbed this the ‘end of work’ movement (taken from the title of Jeremy Rifkin’s book published in 1995), describing it as, ‘a range of writers who have argued that work has now lost its meaning and that it is no longer possible for employment to provide actors with an identity’ (6.4). Bauman captures the ‘end of work’ position in his book Freedom (1989), a theme that continues throughout his later writing and which he relates to a general movement in modernity itself:
Work has been progressively ‘decentred’ on the individual plane; it has become relatively less important compared to other spheres of life, and confined to a relatively minor position in individual biography; it certainly cannot compete with personal autonomy, self-esteem, family felicity, leisure, the joys of consumption and material possessions as conditions of individual satisfaction and happiness. (74)

There is no doubt that the role of the consumer and the market is of fundamental importance in driving processes of social and technological change and as a source and site of identity formation and struggle. Moreover, as a result of enormous changes in work patterns around the world as well as challenges to the meaning of work, any study of work that accepts an inherent division of life into distinct realms of ‘home’ and ‘work’ can no longer be maintained. Nevertheless, once we accept that the workplace is no longer the singular and central site and source of change and identity and that work cannot be confined to a conventional definition based solely on paid labour in the workplace, it is amiss to ignore it or relegate it to the margins of our understanding of social and cultural change and as a source of meaning on a personal plane. This is especially the case when we consider, that in many industrialised nations, we are working now more than we ever have before.

Changing conditions and forms of office work in Australia

In Australia, like many OECD countries, there has been a steady increase in the number of average hours of paid work over the last two decades (Pocock 2003; Watson, Buchanan et al. 2003; Edwards and Wajcman 2005). There has also been an increase in the proportion of employees that work more than 45 hours a week (Headey, Warren and Harding 2006). In addition to spending more time at work, there are more people in work. In Australia over the last two decades there has been a marked increase in the labour force participation rates of women, an increase in the number of multi-job holders and the number of two-partner households in paid employment (Chesters, Baxter and Western 2008). The trend towards longer working hours and growth in the workforce is matched by data that suggests that Australians

---

2Edwards and Wajcman (2005:30-31) cite research showing a similar pattern of increased working hours and workloads in the United Kingdom. According to this research, a third of workers, predominantly male, are working more than fifty hours a week and an increasing proportion of workers in the public sector report working harder.
are working harder. Although research in this area is patchy, data covering unpaid overtime, longer working hours, overload, under-staffing, stress levels\(^3\) and surveys on preferred working hours suggest that workloads have increased and work is more intense than in the past (Watson, Buchanan et al. 2003)\(^4\). In the recent *Australian Work and Life Index (AWALI)*, Skinner and Pocock (2008) found a direct correlation between work overload, reported by over half of their respondents, and a poor work–life interaction (41). These trends have taken place in the context of a steady expansion of white-collar occupations over manufacturing jobs in the last half century.

These figures don’t do justice to the complexity of these trends nor do they contradict a shift towards less security of work and an increase in ‘non-standard’ employment. Indeed, figures show growth in workforce participation in Australia coincided with a marked decline in full-time jobs and that most of the new jobs created in the 1990s were part-time or casual (Watson, Buchanan et al. 2003). These trends have also coincided with a shift in the location of paid work away from the workplace. *Emergence*, a global research project on the changing locations of information-based work, surveyed just over a thousand Australian organisations in 2002 and found that about a quarter carried out at least one function remotely by telecommunications (Standen and Sinclair-Jones 2002). More recently, the Australian Bureau of Statistics (2008) surveyed locations of work in Australia and reported that 24 per cent of employees in their main or second job worked at least some hours at home. Thus, while statistics confirm that more workers are developing and applying their skills in the analysis and production of ideas, knowledge, and information rather than manufactured goods, these portray a more complex and less optimistic picture of a shift to a global knowledge economy than previously predicted (Edwards and Wajcman 2005:27-29). Indeed, some have argued that, taken together, these trends amount to new conditions of insecure and poor quality employment or ‘precarious work’ (Fudge and Owens 2006); conditions predicted to

\(^3\)In New South Wales, Workers compensation claims for stress have become the largest single cause of occupational disease increasing from 5% of all claims in 1992 to 19% in 1998. (Watson, Buchanan et al. 2003)

\(^4\)There is an acute shortage of data on this topic, particularly since it involves pooling multiple indicators. In the search for more recent data, one of the authors of the cited data source mentioned to me that he was not aware of recent research that draws together data on overwork and work intensification in Australia amongst professionals.
intensify in the current global financial downturn. Whether or not this is the case, these figures demonstrate that just as work has gone through significant changes in how it is conceived, as an activity and its location, it is also taking up an increasingly large proportion of people’s lives, pointing to a need to re-position social and cultural analysis in relation to work.

In her book, *The Time Bind* (1997), Hochschild investigated the daily activity of staff in a Fortune 500 American company concluding that ‘work’, far from becoming less relevant to individuals, is becoming more important than ever. In it, she argued that not only are we working more, but also and paradoxically, work is being used as a refuge from the pressures at home associated with overwork. By analysing the relational dynamics of ‘work’ and ‘life’, taking into account domestic labour and the increasing participation of women in the workforce, Hochschild’s research contributed to the re-positioning of work as a site and subject for social and cultural analysis. Since the 1990s, ‘work–family balance’, ‘work–life balance’ and similar variants have emerged in a number of industrialised countries as a significant issue, policy area and subject of academic research, inspiring academic and popular research on this and related issues such as time pressure and overwork.

Research in this area has found a strong correlation between the interaction of ‘work’ and ‘life’, the growth of longer working hours and the sense of being short of time and harried. In her book *The Overworked American* (1993) social economist Schor explained this connection as a clash or ‘squeeze’ between the parallel demands of consumption and employment. She believed that the current generation of working North Americans were stuck in a work/spend cycle, putting in longer hours than previous generations to keep up with the demands and expectations of a consumer society. In Australia, research has consistently reported a link between longer working hours, time pressure and how people meet their obligations and responsibilities in paid work and in their life outside work. In *Work, Life and Workplace Culture: The Australian Work and Life Index* (2008), Skinner and Pocock found that around 55 per cent of Australian employees frequently felt rushed or pressed for time and this was associated with long working hours, work overload and an overall poor work–life interaction (8).
The appearance of research addressing the issue of work–life balance, overwork and time pressure represents a reinvigoration of interest in work as a subject of study from a social and cultural perspective and marks a shift in focus to the point of intersection between life spheres. This shift has facilitated an engagement with some of the complex issues of work today, introducing dimensions of life outside of work and enrolling consumption, gender and care into the equation. Up until now, this research has largely concentrated on white-collar work in industrialised countries, leading to the potential exclusion of other types of work and experiences in the so-called knowledge economy. On this issue, Huws (2006) and several others have identified an increasing polarisation of work between high prestige professional service jobs in industrialised nations and a host of new low status information-intensive and manufacturing jobs in regional areas and offshore. This polarisation, Huws argues, has created a largely hidden support structure making possible the growth of a global knowledge economy, a trend that is difficult to assess and analyse when the focus is primarily on the local experiences of white-collar workers.

Though this is a wake up call for further research, white-collar work is a relatively recent area of focus, and it continues to be an important subject to study for the very reason that it lies at the intersection of major shifts in the meaning, activity and location of work. There is, however, a dimension that remains both under-analysed and under-represented in this considerable literature. Relatively little attention is given to the material culture of work for furthering an understanding of key social issues today such as work–life interaction, time pressure and overwork. This is despite the fact that throughout the 1980s and 1990s, the impact of computerisation in the workplace and telecommuting and telework were significant topics of sociological research in their own right.

More recently, there is evidence of an engagement with work-related use of mobile and wireless ICT (Brown, Green and Harper 2002; Brown and O’Hara 2003; Urry 2003; Lowry and Moskos 2005; Towers, Duxbury et al. 2005; Townsend and Batchelor 2005), and in Organisational Studies, spatiality has been taken up as an important issue (Baldry 1997; Baldry, Bain and Taylor 1998; Baldry 1999; Halford 2004; Heiskanen and Hearn 2004; Felstead, Jewson and Walters 2005; Halford 2005). Cultural and social researchers examining the boundary between the
household and the outside world have in some instances taken up work-related ICT use (Nippert-Eng 1996; Sorenson and Lie 1996; Noble and Lupton 1998; Lally 2002; Waycott 2005). Gregg (2007) notes that, since the ‘dot-com’ era, researchers of work in Cultural Studies have turned their attention to the new media industry and rise of a ‘creative class’ (see for example English-Lueck 2002; Pratt 2002; Jarvis and Pratt 2006). Yet despite this existing literature, there is a puzzling scarcity and deficiency of research examining the changing space and time of work with a focus on the technology practices and experiences of mainstream professional workers, and the combinations of new and established technologies that are their main tools of work. At the same time, commercial trends in technology and building design are feeding into and reshaping exactly how these dimensions of work are conceptualised, organised and practiced.

In the last decade we have seen the rapid development of a large number of Internet-enabled mobile and wireless ICT. Initially marketed almost exclusively to professional service industries, including business owners and resource managers, these products are increasingly aimed at a broader user-base including individual employees, freelancers, contractors and trade workers. Despite the diversity of products, a central tenet of their design and marketing is the idea that work has become detached from the specificities of place and time and now takes place ‘anywhere, anytime’. In the design and building industries, a similar rhetoric is directed towards altering and ‘reinventing’ (Worthington 1997) the built environment of the office workplace. In both cases, solutions are developed and marketed as critical tools for navigating and surviving global transformations in work, with particular emphasis on the rise of post-bureaucratic organisational forms, the speeding up of work by technology and the shifting boundaries of the workplace. Within this context, it is more important than ever to place materiality at the centre of the study of work.

Social and cultural researchers who do grapple with these trends and developments face major limitations of focus and definition. With the majority of research on work–life balance directed towards policy development, the focus has been less on what is going on at work and more on how to contain the large-scale social impacts of work. Summoning statistics on new technologies and work arrangements indicate
broad trends that impact on large numbers of workers. For example, in a recent Sensis survey (2008) in Australia, it was reported that 9 per cent of Australians have a mobile email or BlackBerry device and of these, 62 per cent never turn off their mobile email and 50 per cent almost always respond to work-related emails outside of office hours (20). This research points to a strong link between the use of mobile and wireless ICT and a culture of longer working hours and the blurring of work and non-work time. At the same time, in the search for widespread and measurable patterns and trends, the practices and experiences of individual employees are lost, as are the specificities of workplaces and work arrangements, presenting a flattened out and homogenous account of change.

These issues of focus are tangled in problems of definition and terminology. There are few models for conceptualising space, time and technology together and these are usually measured separately. Yet, it is exactly in the shifting boundaries of the workplace that it becomes clear that what defines space, time and technology, are how these interact, and how the direction, speed and volume of flows between them are controlled and regulated. Even at a societal scale, researchers are beginning to see problems of definition as an impediment for accurately tracking trends in work. For instance, the authors of the Emergence project, cited earlier, acknowledge upfront the difficulties establishing study parameters for measuring changing work arrangements. In response, they develop a new set of criteria to account for the possible range and make up of work arrangements, combining elements such as technology and location. Definitional problems are a perennial topic of telework and telecommuting literature, indicative of a struggle to develop a more variegated and nuanced model than one based on the traditional split between ‘homeworking’ and ‘working in a central workplace’. As far back as 1990, Huws, a seminal researcher of telework and one of the coordinators of Emergence saw this as a major limitation for the development of the field. She and her cohorts (Huws, Korte and Robinson 1990) tried to envisage an alternative model of the workplace as ‘a set of relationships, a network, an intellectual space, which we call the ‘elusive office”’ (208).

More recently, but in a similar vein, researchers of work have started to develop alternative models of the workplace and a terminology to describe the changing times and places of employment. Felstead, Jewson and Walters (2005), for example,
introduced the model of ‘plural workscapes’ in their study of professionals in the UK, to explain what they saw as a major shift in the spatial organisation of work. As part of this model, a new typology was put forward to describe the key ‘clusters’ of relations that make up these workscapes: ‘at home’, ‘on the move’ and ‘collective offices’ (23). Others have focused criticism on the vocabulary and orientation of ‘work–life balance’, claiming it fails to capture the interaction between life realms as enacted and experienced by workers (Eikhof, Warhurst and Haunschild 2007). This view is reiterated in the emerging field of Mobility Studies where a new terminology has been called for to describe the new meanings and interdependencies that are challenging and displacing traditional social categories of private and public, personal and professional, work and home. On this point, social theorists Sheller and Urry (2003) cite a need to ‘develop a more dynamic conceptualisation of the fluidities and mobilities that have increasingly hybridised the public and private’ (113).

All of these problems of focus, definition and terminology are bound up in the larger context of changes in the meaning, location and activity of work and in commercial trends and developments that challenge traditional models of the office workplace. Those who fail to address this issue in its full complexity fall back on simplistic and deterministic models or create new ones that are equally problematic. In one study of Canadian knowledge workers (Towers, Duxbury et al. 2005), the authors assume upfront that the relationship between technology, space and time is one of work extension, branding the mobile and wireless ICT under investigation as ‘Work Extending Technology (WET)’ (4). In response to such approaches, Wajcman (2008) has warned against taking a one-dimensional and tautological stance, suggesting that this may obscure ‘the complex ways in which people may be using these devices to change or reorganize their practices and how this might impact on their experience of the quality and not simply the volume of time’ (70).

Pocock (2003), an Australian researcher who has extensively researched the intersections between work, family and community makes the valid point that addressing the negative impacts of changing patterns of work requires more than new concepts. It needs structural, institutional and cultural change. On the other hand, concepts help to give shape and name to new cultural meanings that emerge in and
through the organisation and practice of work, including new interactions between technology, space and time. Yet, when culture is referred to, it is usually taken to mean a set of belief systems, values and attitudes that are ‘lagging behind’ changing patterns of work causing conflict or ‘collision’ (Pocock 2003:238-240). In this definition, not only is culture rarely seen to be generative of practices, meanings and subjectivities but also, the material world takes a back-seat role, seen as the neutral means by which work and life is performed. From this perspective, not only is material culture relegated to the background in an understanding of changing patterns of work, so too are alternative or new pathways that might facilitate structural, institutional and cultural change.

**Changing conditions and forms of office work in a global context**

Transformations in work at a global scale have been central to new theorisations of modernity and capitalism and many of these do directly address space and time. In these, ICT takes an explicitly front-seat role. Various theories have been proposed to capture different characteristics of these changes, including the Knowledge Economy (Drucker 1969), Post-Industrial Society (Bell 2001), Post-Fordism (Ash 1994), the Network Society (Castells 1996), New Economy (Sennett 2006), Soft Capitalism (Thrift 2005) and Liquid Modernity (Bauman 2000). Although these theories cannot be distilled into a single description, they share the idea that ICT is bringing about new regimes of space and time. These regimes, often referred to as ‘time-space compression’ and the ‘end of geography’, are seen to be ushering in a new era of instantaneity and speed of information and communication, producing in their wake a series of interrelated social effects that are global in reach. These include new relations between labour and capital, new post-bureaucratic organisational forms, the blurring of boundaries between home and work, additional forms of surveillance, information overload and the acceleration of society.

New organisational forms and technologies have a special place in these accounts. These are seen as both the outcome of new regimes of space and time and in many cases stand in for the structures or causal agents such as technologies that give rise to them. Bauman (2000), for example, illustrates his model of the shift from labour being fixed in place to conditions of fluid and flexible labour by reference to the
movement from stationary machine-bound or desk-bound work to forms of work and technologies that reach out beyond the factory or office walls:

Having shed the ballast of bulky machinery and massive factory crews, capital travels light with no more than cabin luggage—a briefcase, laptop and cellular telephone. (150)

Castells (1996; 2001) takes a different position on modernity, arguing for a networked and informational model of society. Like Bauman, Castells relies heavily on the notion of massive changes in the way time and space is conceived and formed, describing these in terms of ‘timeless time’ and the ‘space of flows’ brought about by ICT. To illustrate his network model, Castells (2001) refers to the ‘networked enterprise’, which is seen to be paradigmatic of the new relationships and forms that are made possible by these new regimes of space and time:

The network enterprise is neither a network of enterprises nor an intra-firm networked organization. Rather, it is a lean agency of economic activity, built around specific business projects, which are enacted by networks of various composition and origin: *the network is the enterprise*…These networks have the flexibility and adaptability required by a global economy subjected to relentless technological innovation and stimulated by rapidly changing demand. (67)

The special place given to organisational forms and technologies in the theories of Castells and Bauman extends to all of the accounts of modernity and capitalism referred to above, highlighting a problematic but ultimately productive slippage. Identifying these forms as a *cause* and *effect* of external conditions helps to explain (up to a point at least) global shifts in patterns of work and the changing space and time of work. These accounts also provide the basis for the development of a range of new technological and architectural solutions to address the social impacts these cause. However, in order to perform this role, these accounts rely on a position of technological determinism that assumes that social relations exist outside of or independently of the material world as a bundle of fixed properties and meanings wielded on society.

It has become commonplace to recognise that the starting point for studying technology should at the very least problematise a distinction between the social and
the technical and there are now several such approaches that fall under the broad umbrella of Social Shaping of Technology (SST) (Mansell and Silverstone 1996; MacKenzie and Wajcman 1999; Lievrouw and Livingstone 2002; Oudshoorn and Pinch 2003). Technological determinism has become a label that has an almost old-fashioned air to it, the focus of past debates and controversies. Yet, it is notable that this separation still persists unquestioned within many social accounts of change: at a local level in the backgrounding of technology as a tool for work; and in its foregrounding at a global level such that technology comes to possess an identity and momentum of its own. This seems particularly pervasive in the context of work such as in the work–life balance literature and in the modernity accounts mentioned above. Wajcman (2006) has identified the prevalence of technological determinism as an impediment to more sophisticated understandings of changing patterns of work and employment and has strongly argued that there is a conspicuous need to apply insights from the Social Shaping of Technology (SST).

Wajcman’s appeal is in many ways connected to calls by scholars in a range of disciplines concerned with the globalising tendencies of many accounts of social change. Green (2002) has noted the problems this represents for doing sociological research on transformations in the space and time of everyday life:

Abstract statements are made about how, for example, time is “compressed” or space is “distanciated” via the politics, institutions, and telecommunications infrastructures of new technologies of information and communication. These theories make little or no reference to the empirically specificities through which time and space are framed and apprehended on an everyday basis. (281)

On this subject, Barley and Kunda (2001) have suggested that organisational scholars studying new organisational forms have tended to accept and adopt carte blanche the abstract metaphors modernity theorists use to describe global forms of organising such as ‘virtual’, ‘network’ and ‘boundaryless’. This leads to a distortion of what is taking place within organisations, a problem they describe as ‘conceptual inversion’. They point to a steady drift away from detailed studies of work as largely responsible, identifying this a fundamental problem that needs to be addressed (77).
Recent research cited on organisational space and work-related use of mobile and wireless ICT does go some way towards re-instituting the material aspects of work and developing a more complex account of the interactions of space, time and technology. Similarly, fields with a more practical orientation such as Computer Supported Collaborative Work (CSCW) and Workplace Studies identify new work practices and their contribution to emerging constructs of space and time. In these, detailed and naturalistic investigations of the work process are undertaken, and commonsense and taken-for-granted terms and categories in cooperative work settings are challenged with the aim of critically informing the design of new technologies. A number of ideas and insights from across these research areas are taken up in the development of the account of Officing detailed in Chapter 3 and in the analysis of professionals’ daily ICT use at Innertown and Worldcom in Chapters 4 and 5.

However, even with the recent growth of detailed studies of work, many of these continue to assume that models of space, time and technology set in train by modernity theorists represent a given reality. A traditional Marxist derived sociological approach, with its focus on social relations of production and the struggle at the centre of work relations, does provide a way to critically assess these models. But, by giving undue emphasis to space or technology as a mechanism of labour control, this can also unintentionally reinforce a deterministic approach to the material culture of work. As both Halford (2004; 2008) and Wacjman (2006) have separately remarked, there is a need to go beyond the idea that space or technology is done once and for all and that this leads to certain inevitable social outcomes or effects. Halford’s (2008) sums up this up in her appeal to focus instead on ‘processes of…construction’ (936-937). Meanwhile, practical studies of work aimed at informing design processes provide the basis for a more emergent and processual approach to the material culture of work. However, by focusing primarily on new and usually singular technologies, their relevance for informing broader social issues related to the work experience is limited.

All of these approaches have merit for addressing the changing space and time of work but they also risk reinforcing assumptions about what change should be taking place rather than questioning and exploring what might be taking place in less
predictable corners that may contradict these ideas and models. This is the gist of Barley and Kunda’s (2001) criticism and concern about ‘conceptual inversion’ but I see this as a larger problem associated with the production of the new in culture. This is one of the ways that trajectories of change are established, in the process excluding some accounts and prioritising others. This can result in important trends and patterns being missed and the further marginalisation of groups that may already subsist on the fringes (as a subject of study and geographically). Moreover, it can result in the exclusion of certain kinds of workplaces and work situations, particularly when these become associated with ‘old’ forms so that, despite ongoing changes to these forms in daily practice, these are ignored for the very reason that they have become normalised, taken for granted and ripe for replacement.

Windows into the office: centering materiality in the culture of work

A central aim of this thesis is to describe the daily interactions of professional workers with their ICT to identify its significance for the experience work–life interaction, time pressure and overwork and to the changing space and time of work. This approach is intended to centre materiality in the culture of work and to contribute to efforts to counter the globalising tendency of social accounts of change. As other researchers have suggested, this calls for an approach that is committed to the detailed study of work in specific local contexts and the careful selection of cases to avoid the problem of ‘conceptual inversion’ (Barley 1996; Barley and Kunda 2001). It also means incorporating recognition of the reciprocal, contingent and co-constitutive relationship between the technical and the social (Wajcman 2006) and taking into account the practical and symbolic dimensions of this relationship.

The starting point for my investigation is that technologies in use usually encompass a large and diverse collection of devices, media and software; are of varying ages; and fulfil one or more uses of information and communication storage, retrieval, delivery and organisation. These objects are allocated and organised individually and collectively as part of an organisation-wide IT system that includes policies that regulate their use. This doesn’t mean that this system is singular or unified, but it
does suggest that these are usually organisational goals. Included in this system are a myriad of objects like desks, chairs, sticky notes, stationery, paper, storage solutions and space dividers like partitions. These might not be considered technology or officially part of the IT system and are often handled by different sections of the organisation, yet they nevertheless perform information and communication functions and are used in combination with a wide range of technologies in the process of work.

ICT cannot be separated from the organisation of the space and time of work nor can electronic and physical spaces be treated independently of one another (Schwarz 2003; Felstead, Jewson et al. 2005). Furthermore, these are dependent on other office-like settings in the public domain, in the home and in interstitial zones like stairwells, elevators and corridors (Down and Taylor 2003; Halford 2004). In addition, ICT is tied into and supports the regulation of labour, and individual employees may have little say in the selection or organisation of the technologies and environments of work (Baldry 1997; Noble and Lupton 1998; Noble and Lupton 2002). Yet the make up of the office workplace, how it is officially marked out and defined, and how this shapes and controls behaviour rarely becomes the subject of comment, let alone analysis, retreating into the background of daily work to become infrastructure or what Giddens (1984) called our ‘practical consciousness’, to refer to the shared cultural knowledge that structures our ways of acting in the world without reflection. For this reason alone, it is important to study materiality, as captured in Miller’s (2005) comment:

Objects are important not because they are evident and physically constrain or enable, but often precisely because we do not “see” them. The less we are aware of them, the more powerfully they can determine our expectations by setting the scene and ensuring normative behaviour, without being open to challenge. They determine what takes place to the extent that we are unconscious of their capacity to do so. (5)

Nevertheless, even though much of the materiality of the office is taken for granted and retreats to the background, there are regular circumstances when objects become the focus of attention of individuals, groups and occasionally the entire workforce of an organisation, even though these quickly retreat into regular routines and habit. It
is this dynamic of the normal to be estranged and the strange to be normalised in the daily flow of work life, that reveals the complexity of the ongoing interactions between technology, space and time as well as the potential for change in taken-for-granted settings. Investigating ICT at work is therefore more than a simple matter of adding more technologies to the mix and one of my additional aims is to develop a more sophisticated account of these complex dynamics and patterns.

This brings us to a final point that sets my approach apart from previous research. Identifying and asserting the problematic nature of technological determinism is important, but the productive function and cultural relevance of this position needs to be addressed rather than discounted outright. Firstly, because as Lally (2000) has pointed out, ideas about technological change are encountered by people as a given and must be made sense of within the domain of everyday life (16-18) and secondly, because these ideas maintain their currency for a reason. As du Gay (2004) has said of the universalising tendencies of modernity accounts, ‘it is not enough simply to show how empirically “wrong” epochal analyses might be. Rather, it is important to show what work a particular “epochalist” discourse might be performing in any given context’ (152-153). Likewise, narratives of technology can be seen as performances and need to be understood in terms of what they are performing and how. For this reason, this study of professionals’ daily ICT use is situated within an analysis of technological discourse with the purpose of understanding its past and present role in the conceptualisation and organisation of office work, and to find out whether and how this discourse relies on the exclusion of some forms of work and identities based on an ongoing and gendered distinction between productive and non-productive work.

These aims and issues draw attention to a core problem of this thesis: how can the form of the office be identified and studied when a pre-conceived notion of its make up is challenged from the very start? In the context of changes to the location, activity and meaning of work, how is it possible to draw the boundaries and determine the scope of the office? This difficulty runs parallel with representations of the mobile and flexible office challenging the notion that the office is by necessity located anywhere at all. In the context of the shifting ground of work and claims that place and time no longer matter, for the purposes of its definition, measurement and
observation, exactly where, when or what is the office? This demands a conceptual as well as a methodological shift—one that can maintain a critical distance from the construction of the new in technological discourse—while acknowledging its productive role in culture and recognise that the form of the office is always to some extent in a process of formation.

I propose a material processual account of the office as a way to engage with this problem and to facilitate the central aim of identifying the changing space and time of work through the daily interactions of office workers with their ICT and its significance for the experience of work. To summarise: the office platform is never completed or finalised and the office is better understood as a series of processes that fold into one another in space and time. These processes are composed of strategies directed to the production of stable forms of the office. Two of the defining characteristics of these processes are firstly, the extent to which resources are able to be mobilised towards the stabilisation of forms and, secondly, the politics to which this time, space and effort is subject; together these determine whether or not these efforts and the spatialities and temporalities they produce are recognised. This new account of the office as material and processual is captured in the term Officing. As I restate in Chapter 3, this term is not adopted because it identifies a new mobile, interactive and flexible form of office work (as in the Alternative Officing movement discussed in the following chapter) but because it is suggestive of a more contingent, ongoing processual understanding of the form of the office, and to highlight the work that takes place towards its support. In the remaining pages of this chapter I provide details of the fieldwork conducted and explain the rationale behind the choice of the case study as a research strategy and the selection of cases. I explain how the methodological approach addresses the core problem of the thesis and elaborate on the methods used, recruitment process, terminology and the location of the research.

**Fieldwork and Methodology**

There is a long history of utilising the case study as a research strategy for understanding detailed aspects of the work experience (Smith 2001:229). Case studies offer a window into work at the level of everyday practice as well as providing a rich, situated and contextualised account. They can also provide a link
from the detail of the micro world of work to broader social, political or economic issues. For this reason and to support my goal of highlighting the detail of staff’s daily interactions with their ICT and environments of work, I adopted the case study approach. As a supplement to this approach, I selected methods that would help to expose how work is done and the taken-for-granted and commonsense notions of work. This methodological orientation has parallels with the approach within Workplace Studies and Computer Supported Collaborative Work (CSCW); however, my approach is not exclusively concerned with the practical aspects of work in order to inform design processes and I regard meaning making as interwoven in the practicalities of work. To support this combination, I used qualitative methods to highlight the work process as well as the phenomenological and cultural dimensions of work.

**Methods**

Guided by my aim to reveal the daily interactions of office workers with their ICT and to understand how professional workers make sense of their technology interactions, the research methods consisted of one-hour face-to-face interviews, participant observation and an office technology diary that was kept by participants for two weeks. One of the main problems with this kind of research, as Sofoulis (2005) observed in relation to studying water practices, is the very ‘everydayness’ of interactions with the objects around us, especially those that constitute infrastructure (448). This represents a unique challenge to those wishing to study the daily practices that users have with all kinds of infrastructure. Desktop computers, phone handsets, network hardware, cables, filing cabinets, desks and chairs exist as unarticulated features of work and are often given no more direct attention than taps, drains and sewerage pipes. This also extends to the virtual infrastructure despite office workers spending a large proportion of their working day sitting in front of, interacting with and surrounded by graphical user interfaces, operating systems and software applications.

While one of my key analytical goals was to subject this very phenomenon to further scrutiny, this also presented a methodological challenge. The office technology diary provided a way to access some of these otherwise hidden interactions with ICT and,
as it did for Sofoulis (2005), acted as a tool for de-routinising normal habits and routines (448). It also provided a place for recording those occasions and circumstances when ICT was foregrounded, sometimes irritatingly so. As well as noting what ICT was used and the problems encountered, staff were asked to reflect on these through personal comments, drawings or notations. An extract from an office technology diary is included in the Appendixes to show how these were designed to provide a sense of how they were used. The participant observation provided a similar function and enabled me to probe further into some of the issues raised in the diaries as well as adding a visual understanding of how individual workspaces were organised in relation to the IT system, their work colleagues and other material arrangements of work.

**Case selection**

While one of the great strengths of case studies is their situatedness, one of their biggest criticisms is how to take the results beyond the specificity of the case (Yin 2003:22). Since my objective was to make generalised conclusions about emerging office forms and the experience of work based on the organisation and use of ICT in the workplace, the selection of case studies was crucial. To address this issue I sought two cases that would enable me to synthesise the findings to support a more general discussion of their implications. Through this selection I also hoped to address the problem identified by Barley and Kunda as ‘conceptual inversion’ mentioned earlier in this chapter and to avoid singling out cases that only represented a pre-determined notion of the new. The selection of the council and the telecommunications company was intended to offset this problem. On the surface, these organisations represented two contrasting types of organisations; a classic bureaucracy with a physically fixed and hierarchically structured form of organising office work, and a so-called post-bureaucratic organisation consciously experimenting with new organisational work forms. In this way, these cases acted as a counterpoint to one another and opened up the possibility of finding change in unexpected places.
Recruitment

One of the challenges of doing organisational case studies is gaining access to organisations to undertake qualitative research. In Smith’s (2001) extensive review she underlines just how difficult this can be, recounting some examples that are so extreme as to be comic. One researcher took a full year to gain access to an organisation and another was rejected thirty-six times by different corporations before he found a company that agreed to participate (226). The demands of qualitative research on workers are not insignificant and the support of a variety of groups must be enlisted. Smith (2001) makes the point that in considering whether to grant access, staff members approached by researchers inevitably act as organisational gatekeepers, weighing up the benefits of the research against concerns about how the research will be put to use, how much staff time will be taken up and whether there will be some legal liability (226).

I found that recruiting organisations was challenging and time-consuming and received my fair share of rejections, but I was heartened by the keen interest expressed in my research. For many I spoke to, the idea of delving into staff’s daily ICT use touched a nerve, confirming a suspicion I had prior to undertaking my research. So many business and government agencies in Australia have invested in ICT over a relatively short period of time, rapidly deploying these and committing to new acquisitions and projects5 but without a good understanding of what this actually means for individual staff. How are these technologies received and integrated into personal work processes, what are the ongoing problems and issues associated with their use and what are the outcomes, and ongoing changes both expected and unexpected?

5Australian Bureau of Statistics (ABS) reports that the use of computers by Australian businesses climbed from 49 per cent to 76 per cent and the Internet from 29 per cent to 56 per cent between 1994 and 2000. By 2007 this had risen to 88 per cent of computer use and 81 per cent of Internet use. The figures on government use and expenditure on ICT is even higher and shows faster growth patterns. By 1998 an estimated 97 per cent of all government organisations in Australia used personal computers (PCs) and 73 per cent had access to the Internet. (combined statistics from 8119.0, Government Use of Information Technology, Australia, 1997-2000 and 8199.0, Government Technology Australia, 2002-2003)
All of these questions are rarely asked or investigated by organisations. Although it was less uncommon to undertake organisational research on technology use in the early period of computerisation in the 1970s, 1980s and even in the 1990s with the advent of personal computing, relatively little research is undertaken today. This suggests that the expectation of upgrading, purchasing and implementing ICT has either become so normalised to no longer warrant examination or scrutiny, or it is precisely this scrutiny that organisations wish to avoid or can’t afford. This results in little sense of the kinds of qualitative and emergent changes that take place within workplaces that are an outcome of the ongoing negotiations and modifications of multiple technologies in use.

When discussing my research, staff in many of the organisations I approached could see the practical benefits of my approach. Indeed, for the two organisations I did recruit, their involvement was motivated in large part by the possibility of discovering more about their staff’s daily interactions with ICT. One of the outcomes of this was a series of presentations given to Innertown reporting on the research findings; once to the IT Manager, once to the staff of IT services and another time to a joint sitting of the council’s managers. This interest in the findings turned out to be an ongoing feature of the research and reflections on this and the recruitment process could have become central to the thesis. While I chose not to give methodology this much precedence, I do revisit some of the issues raised in this report in the Conclusion and concur with those other researchers of work who have pointed out that recruitment stories are worthy of further analysis in themselves and speak to broader social issues (Burawoy and Lukas 1992; Smith 2001).

Although my thesis is ultimately centred on the stories and practices that resulted from the fieldwork, rather than from the fieldwork process per se, it is important to note that my research approach was indeed influenced by the recruitment, especially in regard to the issue of time. How I designed and undertook my research was shaped by what I deemed was a reasonable demand to make on staff time, based on guesswork and feedback during recruitment. Moreover, I was also aware that the time that individual staff contributed to the research was not necessarily neutral and free of judgment, especially within an organisational and social context where time was perceived to be scarce. Participating in qualitative research has the potential to
impact on workload and workflow in concrete ways and could be seen in a negative light by others. For this reason, I did not attempt to undertake the kind of detailed study that would constitute a full ethnographic immersion into the working and non-working lives of staff in these two organisations. Instead, I focused on gaining a comprehensive snapshot of daily ICT use: the diary, observation and one-hour interview enabled me to explore this in a fair degree of depth while minimising the disruptions to work. As it turned out, my own sense of time as scarce, and how this consequently shaped my work practice, was echoed in the experiences of the study participants and this did become an issue that is explored further in the thesis.

**Terminology**

I have applied pseudonyms throughout this thesis to individual participants and to each organisation. These pseudonyms are used to ensure that their privacy is protected and to minimise the risk of identification. The council has been given the fictitious name *Innertown* to indicate its location in the inner ring of suburbs of Sydney, while the telecommunications company has been called *Worldcom* to denote that it is a global business specialising in telecommunication services. For the same reason, in reproducing photographs of personal office workspaces to illustrate specific uses of ICT, I have made all efforts to erase identifying features. I have also given a fictitious name to the smart phone that was being trialled, referring to it as Mobile Organiser Virtual Environment (MOVE). However, I have not mixed up the occupations of any of the staff or their gender, since in a number of cases these were important to correlate according to the different ways that individuals approached and incorporated technologies into the spaces and times of work. A chart summarising the demographic information collected, the main ICT allocated to staff, their technology experience and length of time in the organisation, is included in the Appendixes.

Although the term ‘ICT’ supports the investigation of the use of multiple technologies in use, it also raised some significant problems. This grouping can mask the distinctiveness of a wide range of technologies and assumes that what is defined within this collection is clear and uncontroversial. In addition, ‘ICT’ doesn’t capture the sense in which technology produces or is constitutive of the space and time of
work and this is one of the main issues taken up in Chapter 3. To address this problem, I focused on the ICT that staff identified as their main information and communication technologies. While this was a way to limit the range of objects under study, I took their response as one of the issues to be explained rather than simply accepted on face value. I also paid attention to objects that were not identified as ICT but which were nevertheless used in this way such as post-it notes, the desk, partitions, cables and so on.

Location

The dislocation of the office is one of the main issues investigated in this study but it also presented a methodological challenge, both in the selection of the study ‘sites’ and in the methodological approach. For, just as the case study offered a grounded approach to the daily interactions of office workers with their ICT, this ‘ground’ was destabilised by shifting forms of the office and how its boundaries were defined for the purpose of research. This pointed to a broader issue that has been articulated from within a variety of disciplines but most of all within anthropology, where fieldwork plays such a critical role in defining the anthropological project (Clifford 1997). Gupta and Ferguson (1997) have argued that in a postcolonial world characterised by mobility, change and globalisation, a commonsense notion of the field as a clearly demarcated, spatially bounded territory containing the anthropological object is no longer sustainable (3). These problems associated with identifying the field intersect with the issue of ‘conceptual inversion’ (Barley and Kunda 2001) raised above. If the boundaries of the office are being re-mapped or even removed—as many of the visions of the Anytime, Anywhere Office imply—then the very act of identifying the setting of research and its boundaries (or the lack of them) is implicated in the project of defining new boundaries.

There is no simple solution to this dilemma, either practically or conceptually, but in identifying and selecting the physical setting for the research, I tried to balance the twin goals of accounting for the shifting boundaries of the office while at the same time recognising that it is exactly this re-drawing of the space and time of the office that is at stake in current visions of the mobile and flexible office. For this reason, while the field work was largely limited to face-to-face interviews and participant
observation in the formal office workplace, I questioned staff and undertook observations of some Worldcom staff and their technologies while they travelled for business and requested that staff note in their diaries their location and times of work throughout the day, on the weekend and when away from the official work premises.

Since one of my aims was to understand the experience of office work and emerging forms of work in the context of current technological discourse, the research undertaken includes historical research with a focus on the development of the modern office in early twentieth century and on notable movements in visions of the office up to the present. This research was done from 2004 to 2008 through searches on the Web, in Sydney’s main newspaper publications, The Sydney Morning Herald, the Australian and the Age, in historical archives at the NSW State Library and by searching for articles in Australian and international business and technology magazines. I also undertook important background research on the Ericsson Files at the Stockholm Business History Centre in Sweden (Föreningen Stockholms Företagsminnen), the archives of one of the oldest telecommunication companies in the world dating back to the late nineteenth century. 6

Conclusion

This chapter outlined the broad context for research on the office with a focus on daily ICT use by professional workers. As part of this overview, it considered how the topic of work has been re-positioned in the last two decades in the context of changing work patterns and global discourses of modernity and capitalism. Work–life interaction, time pressure and overwork are some key social issues that have emerged in this context and are considered to especially effect white-collar workers. Accompanying these changes is the re-conceptualisation of the office challenging the very idea of a workplace, an idea that is inextricably bound up in the promise of ICT to make both place and time irrelevant. Yet, because of the tendency to reduce relations between technology, space and time to simplistic and deterministic models,

6This research was conducted in October and November 2005 as part of a CCR Postgraduate International Scholarship supported jointly by the Centre for Cultural Research at the University of Western Sydney and the Advanced Cultural Institute of Sweden (ACSIS) at Linköping University.
much writing on social change either ignores materiality completely or foregrounds it in terms of *impacts* in support of globalising narratives of change.

My research is put forward as a way to offer a new angle on these issues. Recent research across a range of fields has initiated the task of developing a more complex understanding of the interactions of space, time and technology. I build on these in several ways. My research on professionals’ daily use of ICT concentrates on the ongoing interactions of arrays of technology in use rather than early phase of adoption of a (usually single) technology. I select cases as a way to avoid the problem of ‘conceptual inversion’ and pay attention to objects not readily thought of as technology. Finally, I do not simply reject impact accounts outright and examine these as part of technological discourse that mediates the organisation and use of ICT and a sense of space and time. These foci set my research apart from previous approaches. They also draw attention to a central problem of the thesis: how to identify and describe the technology, time and space of work when the form of the office workplace cannot be assumed or located; when many of these ongoing interactions are not recognised; and when the office is being re-conceptualised as a mobile and flexible form. To address this problem I argue for the need for a new conceptual and methodological approach that can recognise the form of the office as an outcome of a series of processes. *Officing* is the term I use to refer to this account set out in Chapter 2 and developed more fully in Chapter 3.

Although the main focus of my account is the local practices of staff in the two workplaces *Innertown* and *Worldcom*, the organisation of the space and time of work is an important part of this overall account. Technological discourse, and in particular the appearance of new forms of the office are also analysed and historically situated within the development of the modern office and visions of the office of the future. This discursive and historical analysis is an important step in the elaboration of *Officing*. It lays the groundwork for explaining how the office is produced at multiple scales, it highlights the discursive strategies of this production and it shows how one of the outcomes of these strategies is the ‘forgetting’ of the ongoing production of the office.
Chapter 2  The Myth of the ‘Office of the Future’

Figure 1 ‘Now, you could do your business anywhere, anytime’

Introduction

Going beyond common understandings of myth as false, absurd or fictitious, I argue in this chapter that visions of the office of the future have the productive power of myth. Taking up Malinowski’s (1954) definition of myth as a kind of map or ‘charter’, I show how these visions play a strategic role as a symbol and medium through which technology producers, furniture and design companies, architects and a host of other intermediaries (Wit, Ende, Schot and Oost 2002) envisage new forms and identities of work. I trace the origins of these visions to Scientific Management as a project of labour control and examine several past and current visions, showing how the office is discursively constructed through this myth, reproducing ideals of work, gendered divisions of labour and a rational economy of space and time through a discourse of efficiency and productivity. I conclude by situating this argument within the account of Officing developed in the subsequent chapter to argue that the myth of the office of the future is one of the three intersecting material and discursive processes through which the form of the office is produced. These visions maintain their currency today for the very reason that they mediate a complex set of social, technological, organisational and economic changes that they simultaneously
help to create. In their present form, these visions help to create a discursive space for the *dislocated office* to emerge. However, because forms of the office come to appear as external and complete through these visions, their conditions of support are obscured as are changes that take place in practice and implications for the experience of work.

**The origins of the myth**

A review of the founding years of the modern office is important for laying the groundwork for examining current visions of the office and for answering a number of questions: How did the modern office become an object of scientific and technical inquiry and a target for the introduction of new technologies? How has this established a framework for future mobilisations of the office? How do these developments relate to current visions of the office? And how does this help to explain the currency of visions of the office of the future today? The history of the modern office is intimately connected to the development of capitalism. Weber (1978) finds examples of bureaucratic structures with common characteristics in ancient Egypt, Rome and Persia but grants special status to the rise of the modern office as a Western phenomenon (956). The history of the office in Australia is especially influenced by Western trends due to it being a former colony of the British Empire. Since the following account privileges an Australian perspective, I concentrate primarily on movements occurring in Australia, the United States and Western Europe, starting from the turn of the twentieth century when the modern office went through a period of intense development.

**Scientific Management and the systematisation of the office workplace**

In the early 1900s, organisational work processes in several industrialised nations became the target of scientific studies in a movement known as Taylorism. This movement drew on the written works and ideas of Frederick W. Taylor, who along with proponents of his approach, mainly engineers, owners and managers of private industry, saw the potential of technology to make large scale labour processes more efficient. This involved the breaking down of jobs into their smallest units—functions—and then re-distributing those functions across human workers and the
then new machines (Taylor 1911; Barley and Kunda 1992; Yehouda 1995). It was no coincidence that Taylor adopted a system approach to organising work. Scientific management intersected with the emergence of the profession of engineering and attempts to extend technical principles into the realm of organisations. Taylor himself was highly influenced by this movement, adopting much of the rhetoric of engineers and applying it directly to the ‘re-engineering’ of organisations (Yehouda 1995). On this Barley and Kunda (1992) wrote:

The question of how to organize work properly was viewed as a technical problem whose solution could be obtained by following the canons of science, by applying the criterion of efficiency, and by offering a fair day’s pay for a fair day’s work. (371)

By the early 1920s, Taylor’s Scientific Management principles crossed over from manufacturing, where they were initially applied, to other institutional settings such as hospitals, schools and offices. In Australia, there were signs of interest in Scientific Management in the business sector as early as 1917 with the Melbourne Chamber of Commerce offering special midday lectures to accounting students and mercantile traders⁷. In the same year, Sydney University ran a series of lectures on Scientific Management titled Lectures in Industrial Psychology (Cochrane 1985 cited in Mitchell (1998)). Following these popular lectures, the Melbourne Chamber of Commerce gathered these into a collection published as Commercial Lectures (1918).

One essay, Office Organisation and Management, translates Taylor’s system approach into the context of the office workplace. In it, the author J.C. Blair highlights the key principles and techniques for systematically modernising the office. He advocates the selection of an ‘Organiser’, assumed to be male, to be commissioned to conduct the impartial analysis of work in all departments and to re-organise duties of existing employees to remove inefficiencies. The application of new technologies at the time was another cornerstone of this approach and Blair gives special attention to the purchase of the most up-to-date ‘labor-saving devices’,

⁷ The Incorporated Accountants' Student's Society Lectures in 1917 referred to in Commercial Lectures (1918) a publication of the Melbourne Chamber of Commerce.
including billing machines, a loose-leaf ledger, adding machines and even a female operator:

The adding of ledgers should be carried out with the aid of non-listing adding machines. I have found a girl with an adding machine can add a 200-page, four-column ledger in about two hours; it takes a man by the ordinary method of addition one and a quarter days. Here is a factor which makes for efficiency, speed and economy. (145)

These changes were also accompanied by suggestions for how to implement these new measures to minimise disruption and resistance by employees. Blair (1918) suggests that all modifications should be undertaken as quietly and thoroughly as possible, a bonus system should be introduced to provide incentives for employees to be more productive, standardised rules of punctuality should be instituted and a permanent Office Manager recruited and hired to regularly supervise and monitor staff under his control. In sum, the introduction of new technologies, the re-distribution of functions in and around these technologies and the management of their implementation made up a methodology that supported the basic premise that the office workplace could be ‘re-engineered’ just like factories and manual workshops to maximise efficiency and productivity.

**The office as machine and the gendering of office work**

By the 1920s, with the introduction of the typewriter and the increasing numbers of female typists, the system approach had become established in the office workplace in Australia and other industrialised nations. In this model, administrative functions were distributed across a pool of office workers with the typewriter and typist as the central node of the organisational structure (Wit, Ende et al. 2002:4). The office workplace was spatially re-arranged to support this new distribution of work with the typist, desk and machine treated as individual functional units in a central typing pool. This machinic vision of the office is reflected in advertisements of the day. One advertisement from a British office supply company in 1921 offers a ready to run central typing pool that comes complete with desks, chairs and typewriters. Only the typists were not included.
One of the significant outcomes of these early Taylorist re-organisations of the office was that new technologies at the time, though central to the principles of Scientific Management, were not the sole focus or means by which these projects of re-organisation took place. Rather, the system approach meant that the focus was the office in its entirety conceived of as a collection of parts, which included individual technologies and workers and the flow of work in, through and around these parts. In this machinic vision, humans were not given any privileged status over and above the machines they worked. As Yehouda (1995) remarked in his work on the origins of organisation theory in the United States:

The extension of technical principles to social and commercial endeavors was based on the assumption that human and nonhuman entities are interchangeable and can be equally subjected to engineering manipulation. (561)
Yet, to what extent was this interchangeability equally applied? On closer inspection, it seemed that some parts of the office machine were more likely to be subjected to ‘engineering manipulation’ than others. The growing numbers of female office workers, in particular, were prone to being confused with the machines they operated. This is illustrated in Blair’s quote above where virtually no distinction is made between the adding machine and its ‘girl operator’. Later, with the introduction of typewriters, women clerks were identified as ‘girl typewriters’ and colloquially referred to as ‘calculating machines’ (Delgado 1979).

A number of historians have examined the entry of women into white-collar occupations, arguing that female workers were identified more closely with machinery as a way to mark them out as lower status, differentiating them from those who were ‘autonomous’ from machines and higher up in the organisational hierarchy (Zimmeck 1986; Boyer 2004). The re-distribution of information functions in and around the typewriter served to establish this conceptual and gendered division at the same time as it physically linked female office workers to the typewriter. As Boyer (2004) observed in her study of early twentieth century female clerical workers in Canada, this bond was reinforced through the spatial organisation of the office in tight rows in an open floor plan. In combination with workplace rules about not straying from one’s ‘station’, this physical link functioned to subject women to intensive visual and auditory surveillance.

Historical accounts such as these have shown that far from being politically neutral, these projects of re-organisation based on Scientific Management were projects of labour control, operating within the larger social and economic context of the time. Indeed, with the entry of women into the workforce in large numbers and the shortage of male labour during and immediately after World War I, Scientific Management was in many ways geared towards addressing specific issues or perceived ‘problems’ relating to these changes; offering new strategies for the control of certain groups by an emerging management class, a class that these projects of ‘re-engineering’ helped to create. Barley and Kunda (1992) have identified this political aspect of Taylorism as one of the strengths and reasons for its uptake, arguing that Scientific Management provided both a means and an ideology through which a project of labour control could be carried out.
Partly because these projects of re-organisation were grounded in the logic and instruments of a ‘scientific’ approach, it was assumed that these would be accepted, and indeed welcomed by employees. Workers, after all, were thought to be rational beings who shared an interest and investment in working in the most efficient way possible, particularly if their self-interest was appealed to through increased pay, as typified in the bonus system proposed by J.C. Blair. Within this framework, female office workers, whose rational capacities were depicted as being less developed, were subjected to additional mechanisms of control. Indeed, the division in status between those who could be controlled through remuneration versus those who required more explicit means of regulation formed another basis for distinctions to be made between ‘manual’ clerical workers from a new class of ‘knowledge’ professionals. In this way, the Taylorist machinic vision of the office, while framed as an endeavour based on scientific and technical principles alone, helped to re-inscribe a social order within the workplace that mirrored the assumed ‘stations’ of specific groups within society at large.

*Figure 3* Nineteenth century cartoon depicting the employment of women as a chaotic affair
The discourse of efficiency and productivity

In assessments of the long-term impact of Scientific Management, the control of labour has received the most attention (Yehouda 1995). Braverman evaluated its impact stating that, ‘it is impossible to overestimate its importance in shaping the contemporary labour process’ (quoted in Shilling 2005). A large body of work has developed around the identification of Taylorist mechanisms in current organisational forms, with a focus on technology as the tool through which management instigates strategies of control resulting in deskilling, surveillance and alienation. Others have focused on the spatial and temporal organisation of work through Scientific Management, stressing how this functioned as a social technology or ‘system’ of control (Baldry 1997; Baldry, Bain et al. 1998; Baldry 1999; Felstead, Jewson et al. 2005). There is also a significant body of work that counters the importance of Taylorism, recording its failures as a project of labour control (Haaken 1999).

These issues are important and they intersect with debates about the politics of technology. On this subject Wajcman (2006) has argued this literature has traditionally taken an overly determinist position assuming that technology is simply a reflection of the interests of capital heading inexorably towards skilling or deskilling. However, of equal importance and just as implicated in these issues is the role of Scientific Management in providing the foundations for a discourse of efficiency and productivity with far-reaching and long lasting cultural ramifications. New technologies, day time lectures, books and papers, the annual meeting of the congress of Scientific Management and specialist management journals promoted the logic of efficiency and productivity, producing it as a discourse in its own right and legitimising the profession of managers as well as the model of Scientific Management in the process. This discourse identified and marked out groups of workers to be the target of management regardless of whether these techniques were applied or not, or the degree of their success.

Cultural understandings of time and space were also shaped through this discourse, formulated as economic resources to be managed and accounted for. It was nothing new to equate space and time with money, and a number of theorists of modernity
see this as part of a long-term process of ‘commodification’ (Lash and Urry 1994; Nowotny 1994). Nevertheless, the discourse of efficiency and productivity initiated in Scientific Management brought time and space together within a unified system of production. Nowotny referred to this period as the historical moment when the relationship between time and space and the speed of production was fully realised in an ‘economy of time’:

The newly invented ‘economy of time, in which all time becomes economy’ consisted in the fact that more was produced within the same unit, or the same volume could be produced within a shorter time unit. (47)

Basing an assessment of the impact of Scientific Management on whether or not individual applications of it were successful thus misses the point. Scientific Management established a discourse of efficiency and productivity that many groups maintained an investment in. This discourse was reproduced in the repeated targeting of the office as a site or object to be ‘re-engineered’, which established a new management class and groups of workers and technologies to be the focus of management. On top of this, the discourse reinforced the centralised model of the office workplace and the rationalisation and organisation of time and space within the larger culture.

It is important to note that summoning a rational systems ideology was not limited to Scientific Management or even to this historical period. As Mitchell (1998) noted about the Prussian administration system and Weber (1978) on the origins of bureaucracy, rational methods pre-existed Taylorism. Taking a wide historical sweep, the ideas of Scientific Management can be seen to be grounded in general claims within Western thinking about the superiority of scientific reasoning over other sense-making activities such as belief, ritual and myth, and on the mind over the body. Nevertheless, with its combination of both a theoretical and practical methodology, Scientific Management was especially significant in relation to the early development of the office. It offered a powerful rationale and discourse grounded in the truth claims of scientific thought and technique, a practical guide for its implementation and was underpinned by a theory that gave new groups legitimacy, authority and professional status. Outside of an immediate organisational
milieu, a host of other professional groups stood to gain from this discourse. These groups also targeted the office as a site for ‘re-engineering’ based on new methods of rational control, forming an extended support apparatus for the office.

**New philosophies of organisation and the office industry**

In his social history of the office, Delgado (1979) claimed ‘the office is an industry’. Multiple groups have targeted the office as a site for re-organisation on the grounds of maximising efficiency and productivity. Management consultants and efficiency experts, sales and technical staff, furniture companies and office stationers have offered assistance to make sense of technologies and other products designed for the office, feeding back knowledge gained through these projects into the development of new products and services. Danish historians (Wit, Ende et al. 2002) identified a similar pattern in the early development of the modern office in the Netherlands. In their view, the intermingling of multiple technologies at co-located sites and the need to make sense of and organise these by outside groups, or ‘intermediaries’, formed a dynamic that produced its own momentum of change.

This dynamic helps to answer a question that has puzzled organisational historians for many years. Why wasn’t Scientific Management replaced by philosophies of management such as the Human Relations School, and instead appeared to come and go throughout the twentieth century? On this issue, Barley and Kunda (1992) argue against the widely held view that management discourse progressed in a linear and successive course. In their analysis of management history in the United States, they proposed that from 1880 to the contemporary period, rational systems control and normative control alternated in ‘surges’ as the dominant management ideologies. This ‘surge’ account does offer an explanation for why concepts and techniques of Scientific Management re-appeared in later periods. For example, in Australia, similar ideas and techniques were evident in the Office Automation movement of the 1940s and 1950s as represented in journals such as *Manufacturing and Management, Rydges* and *Personnel Practices Bulletin*. In the mid 1960s these ideas and practices were again invoked in the early use of mainframe computers and in the late 1970s and early 1980s with dedicated work processors (see also Mitchell 1998). While the idea of ‘surges’ accounts for these ebbs and flows of a rational systems approach, I
suggest that by taking a broader cultural perspective, another case can be made that a rational systems approach maintained its currency throughout this entire period while running alongside newer and even contradictory philosophies of organisation.

In this view, it is critical to recognise the role of the discourse of efficiency and productivity, its importance for professional groups, its reproduction in the design of new technologies and systems, and the dynamic formed between the office workplace and industry. Together these reproduced the office as a site and object to be ‘re-engineered’ as well as the web of relations and meaning systems in which this object was embedded. In this way, the modern office was captured within a rational systems frame. Seen through this frame, rather than being understood as a product of its conceptualisation and treatment, the modern office appeared to be the natural and inevitable result of the advance of history and progress. The seemingly natural connection between the office and the future acted as a powerful medium for later attempts to mobilise the office, through which a rational systems approach was reproduced. The pattern is illustrated in the table below. Though only indicative, it provides an insight into the number of attempts to transform the office from 1880 to the present, the sheer volume of ICT introduced into the office, the targeting of certain groups, the multiple discourses of work and accompanying visions of the office of the future. These visions acted as a medium through which these technologies and discourses were mobilised, thereby reproducing a rational systems frame.
<table>
<thead>
<tr>
<th>Era</th>
<th>ICTs for automating office work</th>
<th>Target groups</th>
<th>Applied methods and discourse</th>
<th>Visions of the office of the future</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-history</td>
<td>Early copying machines, card index files, adding and calculating machines</td>
<td>Clerks Copyists</td>
<td>Paternalism</td>
<td>The Machinic Office</td>
</tr>
<tr>
<td>1880–1900</td>
<td></td>
<td>Predominantly male</td>
<td>Introduction of mechanical engineering systems and standards Increasingly applied to office workplace</td>
<td></td>
</tr>
<tr>
<td>1903–1930</td>
<td>Early typewriters, typing pools, bookkeeping machines, copying machines, early dial phone handsets</td>
<td>Clerks Copyists Typists</td>
<td>Early mechanisation, Taylorism/Scientific Management - efficiency movement in 1920’s</td>
<td>Vannevar Bush’s ‘Memex’ Nelson’s ‘Xanadu’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Increasingly female</td>
<td></td>
<td>The Open Planned Office</td>
</tr>
<tr>
<td>1930s–1950s</td>
<td>Bookkeeping machines, copying machines, dictating and early electric calculating machines, paper based filing, ball point pen, punched cards</td>
<td>Clerks Typing pools</td>
<td>Taylorism/Scientific management Reactions to Taylorism Human Relations Industrial Psychology, (Hawthorne Experiments)</td>
<td>Burolandshaft ‘Office landscaping’</td>
</tr>
<tr>
<td>1990s–2008</td>
<td>Networks, email, Internet, group and large-scale system software, mobile and wireless devices, private Intranets wireless broadband, personal portables, ubiquitous computing, IRC, SMS and blogs</td>
<td>Administrative Support Professionals Entrepreneurs Freelancers Contractors Call centre workers ‘Knowledge Workers’ Managers</td>
<td>Business Process Management Virtual organisations Distributed work and flexibilisation Work–Life Balance Mobility and Flexibility</td>
<td>The Virtual office Alternative Officing The Anywhere, Anytime office</td>
</tr>
</tbody>
</table>
Past visions of the office of the future

The office of the future is a powerful symbol and medium through which new ideas about office work have been articulated and a product of the framing of the office initiated in Scientific Management. Through these visions, how work is conducted, when and where work takes place and ideas about workers have been revised and reconfigured. In addition, the office of the future acts as a platform for technology producers, furniture and design companies, architects and host of other ‘intermediaries’ (Wit, Ende et al. 2002) to give their ideas material form and experiment with ‘real life’ scenarios. In this sense, the office of the future can be seen to be an important mechanism or strategy for the materialisation of these attempts to transform work in and through the office: in texts, technologies, office buildings, interior designs and workplace experiments.

The Memex

Early documented examples of visions of the office of the future tend to revolve around new technologies designed for work dating back to the mid 1940s. Vannevar Bush’s imagined ‘Memex’ introduced in his article As We May Think was one such office of the future. Widely circulated and promoted in Life Magazine in November 1945 after its initial publication in Atlantic Monthly a few months earlier, the Memex was presented as a desk-based, electro-magnetic machine that operated as an advanced information retrieval system. Bush himself described it as:

A device in which an individual stores his books, records and communications and which is mechanized so that it may be consulted with exceeding speed and flexibility. It is an enlarged intimate supplement to his memory. (6)

The initial appearance of the Memex and its association with the newly coined phrase of the office of the future can be situated within a post World War II discourse and aesthetic of futurism. As Bush himself explains, the Memex was designed as a technological response to a rapidly changing world and the problems of ‘grasping’ such a world:
There is a growing mountain of research. But there is increased evidence that we are being bogged down today as specialization extends. The investigator is staggered by the findings and conclusions of thousands of other workers—conclusions which he cannot find time to grasp, much less to remember, as they appear. Yet specialization becomes increasingly necessary for progress, and the effort to bridge between disciplines is correspondingly superficial. (3)

The Memex today, however, is frequently referred today, alongside Theodor Nelson’s ‘Xanadu’ project, as the theoretical prototype of the World Wide Web. Kitzmann (2001) has suggested that this retrospective arrangement of the Memex as the prophetic office of the future to explain the appearance of the Web today can be seen as part of a larger attempt to historicise the Internet based on an evolutionary account of technological change. Contrary to this account of history, the argument I am making here is that the Memex was the product of a discourse founded much earlier and reproduced through the targeting of the office as a site to be ‘re-engineered’. This alternate reading brings to the foreground remnants of earlier Taylorist machinic visions in the Memex. It also reveals a number of discursive strategies established in Scientific Management and deployed in this and later visions of the office of the future.

Figure 4 Drawing of Memex for publication of ‘As We May Think’, Life Magazine, 19 Nov, 1945
In the design of Bush’s Memex, the work of research was broken down into functions, such as ‘information’, ‘storage’, ‘access’, then re-distributed across human researcher and machine. The office was the target of this functional re-distribution and, like past Taylorist visions, was centred on the desk. Indeed, the Memex was literally melded into the desk, offering a kind of augmented memory environment. Because of the by now close cultural association between machines and desk-based clerical work, desk work was subject to a gender re-coding to lift its status from an activity associated with female typists to a male activity of knowledge gathering and production. Meanwhile, women were relegated to the ‘simple’ work of ‘keyboard punches’. Bush explains their new role,

Such machines will have enormous appetites. One of them will take instructions and data from a whole roomful of girls armed with simple keyboard punches, and will deliver sheets of computed results every few minutes…(3)

References to ‘exceeding speed’, ‘great economy of effort’ and ‘great reliability’, ground the rationale for and claims of this device in the familiar and ‘commonsense’ discourse of efficiency and productivity. This same discourse reproduced certain connotations and perceptions of space and time in terms of money. Yet, despite being framed as having purely technical objectives, the vision of the Memex did address the flux of the social world at the end of World War II. Through it, this flux was reduced to a technological problem of too much information, a problem that the Memex conveniently solved. ‘There will always be plenty of things to compute in the detailed affairs of millions of people doing complicated things’, writes Bush (1945:3).

When analysed in light of the discursive strategies employed to express this vision, the Memex can be seen to reproduce a number of earlier impulses founded in Scientific Management. At the same time, this example demonstrates how these strategies had by this stage become severed from their origins in Scientific Management and were now attached to the symbol of the office of the future. The productive power of this symbol lies in its capacity to act as a medium for discursive strategies established in another context, to be connected, disconnected and re-
connected to new mobilisations of the office, to symbolise new meanings and take new forms.

*Bürolandschaft* (‘Office Landscaping’)

One vision of the office that appeared in 1950s to 1960s shows how the symbol of the office of the future can be disconnected and re-used in another, quite different context. *Bürolandschaft*, which translates as ‘office-landscape’, was a German movement that emerged in the context of the office design industry. Laing (1997) explains how it came about as a result of workplace studies conducted by the Quickborner team in 1959 with the aim of improving communication flows in the office from a design perspective (28-29). This movement, which gained some currency in Australia in the early 1970s, was supported by groups wishing to challenge the organisation of office work along Taylorist lines and was closely associated with the management philosophy of Human Relations. It was modelled against the grain of the machinic vision of Scientific Management and offered instead a ‘landscape’ of fashionably placed pot plants and planned spaces that deliberately avoided rows and corridors.

![Figure 5 Bürolandschaft layout, Osram Offices, Munich, Walter Henn, 1963](image)

---

8The Office Landscaping Symposium was a national conference held in Sydney and Melbourne in September 1970 promoting *Bürolandschaft* to a wider Australian audience. It included a number of Australian business case studies including Qantas and AMP.
What was noteworthy about Bürolandschaft was that it was a movement that emerged in opposition to Scientific Management, promoting an aesthetically domesticated vision of the office workplace distanced from the image of the office machine. Yet, this movement similarly relied on the symbol of the office of the future as a vehicle of expression and like Scientific Management, grounded its claims of legitimacy in science, and the rationale of efficiency and productivity. In this way, while set up in opposition to Scientific Management, Bürolandschaft simultaneously reproduced a rational systems approach and helped to cement the seemingly natural understanding that the modern office was the inevitable result of the advance of history and scientific and technological progress.

Word Processing

In the 1970s and 1980s, Word Processing was a new vision of the office of the future. At the time, Word Processing did not refer to what is now commonly known as the generic name for text manipulation software but to an idea about automating and centralising office work through stand-alone typewriters, dictating machines and mini computers. Unlike Bürolandschaft, which was promoted as an architectural and design solution, Word Processing represented the voice of the growing computer
industry. Haigh (2006) traced the origins of this idea to a project initiated by sales staff within the Office Products Division of IBM (formerly the Electric Typewriter Division) to raise the status of this Division to that of Data Processing (7).

Much of the inspiration for IBM’s Word Processing vision came from Scientific Management framed as a project yet to be completed. The idea that many secretaries had gained significant power within firms and had become a source of crucial business knowledge was identified as a problem and ‘inefficiency’ that could be solved through the re-systematisation of the office in and around new computing products. In this way, although oriented around the introduction of new office technologies, the initial aim of Word Processing was the re-organisation of work focusing on the relationship between individual managers, small groups and their secretaries. Iacano and Kling (1996) note this agenda stating that, ‘In its most rigid form, the [IBM Word Processing] plan projected that individual secretaries for managers would be eliminated in the office of 1995. Instead, several managers would share services from a secretarial pool’ (309). Haigh (2006) cites an article in the American journal Administrative Management in 1970, claiming it to be one of the first media outlets to promote this agenda outside of IBM:

“Word processing,” a concept that combines the dictating and typing functions into a centralized system, is replacing the one-man, one-secretary, one-typewriter idea in a growing number of firms. By organizing the flow of office correspondence on a more efficient basis, word processing is becoming to typing what Henry Ford’s assembly line was to the original methods used for automobile making. (8)

Like Scientific Management, Word Processing proved to be a lasting vision that was taken up by other groups in the office industry and replayed and modified through later versions of the office of the future. As it was popularised and modified, it became an integral part of a broader re-envisioning of clerical work through the concept of ‘Office Automation’. Some have noted that by the 1980s there were a number of competing visions that emerged in and around the shifting ground of Word Processing. One of these visions was the prediction by the U.S. photocopier company Xerox that the office would soon be a series of networked stand-alone computers with graphic user interfaces on every desk. A computer workstation in development at their research laboratories in Palo Alto, California (PARC), the
Xerox Alto, followed by the Xerox Star, acted as a prototype machine for this vision of the office of the future.

Xerox Alto and Xerox Star are machines often credited as stepping-stones to what is now commonly associated with word processing and personal computing. Haigh (2006) saw the Xerox vision as a major break from the earlier Word Processing movement, arguing that it was realised many years later in the development of personal computers, an ‘inevitable result of dozens of minor and largely anonymous advances in the packaging and application of existing technologies’ (12). Jeanette Hofmann (1999) also identified the Xerox Star as significantly divergent from earlier visions of Word Processing. Concentrating on the gendering of user images, she suggested that the imagined user of the Xerox Star was not the female secretary performing routine activities of transcribing, typing up and laying out text created by someone else, but instead was the male professional ‘dilettante’ (233). In her view, the Xerox Star did not stem from the same origin as earlier Word Processing visions and was influenced by Doug Englebart’s imagined system Augment.
These points are important for explaining how individual technological objects do not simply appear out of the blue, formed complete in the minds of those who invent them. They highlight how technologies, including the ‘configuration’ of their imagined users (Woolgar 1991) rarely follow the trajectories predicted of them and are socially shaped, often over long periods of time. At the same time, even though this approach explains technological change in a more sophisticated and complex manner, it also tends to reinforce an evolutionary account and is ultimately directed towards explaining successful technologies in the present. From this perspective, the role of the office of the future is obscured, including how it supports the targeting of the modern office as an object to be ‘re-engineered’ through the introduction of new work forms and new identities of work.

For, even in more supposedly user-friendly visions of Office Automation where opportunities for creativity and play are highlighted (such as by the Xerox Star) these are characterised by a number of impulses found in past mobilisations of the office. These include the re-organisation of clerical work around new technologies, the gender re-coding of deskwork and a masked engagement with the wider social and economic context through reference to a discourse of efficiency and productivity. From this perspective, visions of the office of the future opposing a machinic vision do not necessarily challenge the underlying framing of the modern office founded in
Scientific Management. Indeed, problematising current or recent visions is one of the key ways that a space is opened up for the articulation of new visions through the same frame. Contradictions are therefore significant for they demonstrate the extent to which the office of the future operates as a symbol removed from its origins, supporting contradictory or competing images of the future (including different images of users). Paradoxically, the logic of this symbol excludes alternative futures, leaving room for only one, uncontested version.

**Re-imagining Myth**

Many visions of work expressed through the office of the future are considered failures at the time and are remembered as rather quaint, faddish and eccentric experiments gone wrong. The Paperless office, which became associated with Xerox’s vision, is one of the most celebrated of these and is sometimes invoked as an iconic myth of modernity. Revealing the mythical status of visions of the office of the future has been a political method adopted to expose the ideological impulses of these visions and to counter attempts to re-organise work around new technologies. For example, the understanding of Scientific Management as a project of labour control demonstrated by revealing its basis in scientific and technical objectivity as mythical and ‘untrue’, was important for challenging attempts to re-systematise office work during Office Automation. Exposing the mythical status of visions of the office of the future, or ‘myth-busting’, has formed the basis for a long history of anti-visions in popular culture especially with the use of satire. In the first example below, imagery and language from business and computer press of the day have been recombined in the two illustrated covers of *Processed World*, a San Francisco-based magazine started in the early 1980s, to expose the drudgery and exploitative nature of modern office work (Carlsson, Cornford and Williamson 1989-1991).
‘Myth-busting’ continues to act as an important strategy for exposing the unrealistic expectations and underlying agendas that accompany visions of the office of the future. This second example of working life in a contemporary ‘modern office’ by British cartoonist Andrew Riley uses satire to expose the cost saving measures in new office layouts (left) and the nonsensical ‘option’ to personalise work environments to deal with stressful work conditions (right).
This practice of myth-busting, however, has traditionally relied on the understanding of myth as an untruth, an absurdity, or a fiction that lies outside of reality. I argue that it is crucial to not only recognise the ideological underpinnings of visions of the office of the future but also their ongoing currency and productive role in culture, especially in reproducing the office within a technological frame. The anthropologist Malinowski (1954) recognised the productive capacity of myth, seeing it as a kind of map or ‘charter’ for the way that society is ordered in the present:

Myth…supplies a retrospective pattern of moral values, sociological order, and magical belief. The function of myth, briefly, is to strengthen tradition and endow it with a greater value and prestige by tracing it back to a higher, better, more supernatural reality of initial events. (146)

Ricouer (1967) also saw a need to go beyond what he understood as a modern definition of myth as false explanation and to recognise its ‘exploratory significance’:

For us, moderns, a myth is only a myth because we can no longer connect that time with the time of history as we write it…But in losing its explanatory pretensions the myth reveals its exploratory significance and its contributions to understanding…its power of discovering and revealing the bond between man and what he considers sacred. (5)

More recently but in a similar vein, Mosco (2004) warns against a conception of myth as falsehood. Referring to the narratives associated with cyberspace, he suggests the power of myth lies in the ‘promise of the sublime’—its capacity to ‘lift people out of the banality of everyday life [and]…offer an entrance to another reality’ (3). Arguing for the need to include an analysis of the productive role of myth in any examination of present trends in technologies Mosco suggests:

To understand a myth involves more than proving it to be false. It means figuring out why the myth exists, why it is so important to people, what it means, and what it tells us about people’s hopes and dreams. (29)
These multiple meanings of myth: as ‘false explanation’, as ‘map’, as ‘possibility of discovery’ and as the ‘promise of the sublime’, are all present in visions of the office of the future. Current visions do display ideological impulses that are present in past mobilisations of the office, and draw on discursive strategies founded in Scientific Management. Yet, because of the capacity of this symbol to act independently of its origins and to express multiple and even competing discourses of work, these visions act as a powerful mechanism for re-defining the office in relation to large scale social and economic changes. Visions are not limited to abstract concepts either, despite their association with the mind/thoughts of heroic inventors. They take on material form in textual and visual representations, in the design and trialling of new technologies, in showcase buildings and in workplace experiments, with very real implications for office workers. These visions maintain their cultural currency for the very reason that they mediate a larger context of change, providing a site or ‘frame’ through which these changes can be negotiated through re-conceptualisations of ‘the office’.

**Shifting the ground of the modern office**

In the 1980s and 1990s, since the vision of the Paperless office was debunked, not only has this particular vision re-appeared but so too have a number of new visions of the office. Telecommuting, Telework, Flexible Working and the Virtual Office are all visions that have waxed and waned in support and interest since the 1970s, and today, these tend to be thought of as less than visionary. The swinging careers of these visions can be seen to be a result of their sustained criticism over the last two decades, with many of their central claims exposed as false, exploitative or unattainable. Yet, from a perspective that takes into account the multiple meanings of myth, these visions can be seen to have lost some of their hold as symbols of the future for the very reason that they have become integrated into policy and work arrangements (in varying degrees) to become, quite simply, banal. Renewed interest in these as symbols of the future have tended to be a response to their re-

---

9Web Searches reveal that one of the more recent incarnations of the Paperless office is the idea of a sustainable and environmentally-friendly ‘Green office’.
conceptualisation in some way, such as a shift in their setting, a change of priorities, a new technology or a new group targeted.

In the mid 1970s, when the vision of Telecommuting was put forward by Nilles (1976), it was framed as a response to the then energy crisis (Huws, Korte et al. 1990; Jackson and Van der Wielen 1998). Huws (1990) notes that the main focus of this vision was the replacement of the daily physical commute with an ‘electronic commute’ facilitated by telecommunications (2). A familiar discourse of efficiency and productivity was deployed in these early visions based on the rationale that significant business and social gains could be made by shifting employees from business headquarters to the home. In the 1980s, Toffler (1980) popularised a more romantic vision based on the idea of ‘Telework’ set in opposition to a pragmatic concern to replace the daily commute. Instead, Toffler invoked the image of the ‘knowledge worker’, an implicitly male intellectual performing creative endeavours hooked up to an information society from his country cottage. Ironically, despite the implicitly masculine focus of these early visions, the initial conceptualisation of electronic mediated work as home-based and the subsequent targeting of female clerical workers in telework and telecommuting initiatives meant these visions became associated with the feminine and pre-modern connotations of ‘homeworking’.

Like past visions of the office of the future, and despite their appearance, Telework and Telecommuting were not singular or unified visions. How these concepts were taken up and promoted by organisations, governments and the technology industry in different parts of the world has varied considerably. There is now a substantial body of literature that debates the successes and failures of telecommuting and teleworking initiatives. Problems with how to define, classify and measure this phenomenon also make up a sizeable proportion of this literature. Huws (2003) has suggested that these difficulties reflect the changing political context to which these visions were responding at the time, and the values and agendas of their proponents. Yet, it could also be said that the process of envisaging and implementing telework and telecommuting further challenged attempts to define and measure this phenomenon by making the boundaries and definitions of work a moving ‘target’. In this way, the visions of Telecommuting, Telework and subsequently the Virtual
office can all be seen as forerunners of the mobile and flexible office. What they had in common was a shift away from a centralised model of the office workplace as a setting for the re-organisation of work and as a locus of change and development.

One well-publicised example of these precursors of the mobile and flexible office was the Virtual office of Chiat Day, a work experiment undertaken by an advertising company in Los Angeles in 1994. In this experiment, the private offices or cubicles of approximately three hundred Chiat Day employees were removed and staff told to work wherever they wanted. Day, the owner of the firm, is purported to have described his vision in this way, ‘Take away employees' cubicles and desks, equip them all with portable phones and Powerbooks, and turn them into wandering nomads who could perform their tasks wherever they liked’ (Berger 1999). According to reports of this experiment, if workers came into the office they would need to report to a concierge in order to have a desk, phone and laptop temporarily assigned. Settling in a place for anything longer than a day or ‘nesting’ as Day referred to it, was strictly against policy. Keeping and storing paper, files and other objects was forbidden. The only private spaces that staff were allocated were school style lockers (Berger 1999).

The Chiat Day experiment was far from a success story. The sudden transformation of the workplace and the physical displacement of the staff resulted in what Wired journalist Berger vividly described as, ‘turf wars, kindergarten-variety subterfuge, incessant griping, management bullying, employee insurrections, internal chaos, and plummeting productivity’ (Berger 1999). Yet, despite the reported and in some cases spectacular failures of this and similar experiments, the idea of flexible, non-office based and mobile work has continued to flourish and develop in the context of an ongoing global discourse on the changing nature of capitalism and work. Within this context, new visions of the office have emerged and the Virtual office, Telework and Telecommuting re-appear in new guises. For example, in Australia Telework received a new lease of life in 2005 when the Commonwealth government at the time set up a task force to consult and advise on how to ‘accelerate’ its development to all businesses and employees (Australian Telework Advisory Committee (ATAC) 2005). The shift away from a centralised model of the office workplace as a setting for work and site of development continues to be a central theme of visions of the
office of the future today. In addition to contributing to a larger discourse of mobility and flexibility, this shift stimulates the question: does this represent a significant break from the technological framing of the office initiated in Scientific Management, or is this merely the same expression of the office extended beyond its previously defined boundaries?

The Anywhere, Anytime office

Just prior to commencing my research in 2005 I started noticing advertisements for mobile phone and computing technologies that promoted the idea that professional workers could have the office with them anywhere and anytime. The listed benefits included enhanced efficiency and productivity, maximising business opportunities by being in continuous contact, more flexible work practices and a better work–life balance. The Anywhere, Anytime office continues to be a key concept through which mobile and wireless ICT services and products are sold. For example, in early 2009, Australia’s largest telecommunication carrier, Telstra, drew on this concept in the marketing of their mobile broadband network. On their official web blog ‘Now We Are Talking’ it was claimed that, ‘Mobile broadband is rapidly proving its value to the community and business by allowing Australians to communicate anywhere, anytime on any device across any network’ (Editor (unnamed) 2009). Increasingly, the Anywhere, Anytime Office vision is being extended to the marketing of a wide range of professional services such as banking, insurance and credit card services to connote the idea of global geographical coverage, twenty-four hour operation and access via any portable network-enabled device.

In itself, the idea of being able to connect to a remote location using a computer with a network connection to perform work is not new. Decentralised office work was the main focus of visions of Teleworking, Telecommuting and the Virtual office. The phrase ‘anywhere, anytime’ itself dates to at least 1996 when Leonard Kleinrock, a computer scientist from the United States, spelled out his vision of ‘nomadicity’ to a like-minded audience:

The combination of portable computing with portable communications is changing the way we think about information processing. We now recognize that access to computing and communications is necessary
not only from one’s ‘home base’, but also while one is in transit and/or when one reaches one’s destination. Indeed anytime, anywhere access. (351)

The Anywhere, Anytime office vision continues the shift away from the office workplace initiated in earlier visions and like past mobilisations of the office, is centred on the re-organisation of office work in and around the desk. However, what sets this vision apart from earlier models of the decentralised office is that it is the desk that has become the problem of organisation, or rather, working at a desk using a networked desktop computer in an office-like environment. In this case, one is in the office not by virtue of being connected to a remote location while working at a desk using a desktop computer, but by virtue of being connected to a networked site or service using a mobile and wireless ICT device whenever and wherever you happen to be, whether it is in an elevator, at the beach or in a field.

Figure 13 Mobile ‘knowledge worker’ ‘in the field’ with laptop

The trope of the desktop

As we have seen, the problematisation of past and current visions of the office is a discursive strategy that supports the articulation of a new vision of the office of the future. The vision of the Anywhere, Anytime office is no different in this respect, but
by turning to George Hersey’s (1988) account of the *trope*, it is possible to see how this is related to the expression of the new in culture in general. Hersey suggests that all new objects and meanings come about through the sacrifice of a figure that allows for the twisting of meaning and form (Hersey 1988). Based on this understanding Hersey argues that ‘trope’ from the Greek *trepein*, ‘to turn’, which is itself a *figure* of speech, reveals the lost origins of classical architecture as a record of sacrifice. This account of trope as a means to recollect the mythological origins of new forms can be applied to visions of the Anywhere, Anytime office. In these visions the idea of an individual working at a desk using a networked desktop computer in an office-like environment operates as a sacrificial ‘figure’, or rather ‘configuration’, since it covers not just an individual but also the immediate work environment including any allocated space. The *trope of the desktop* (to use a shorthand) stands for this configuration as an old and problematic form of work, one that is figuratively ‘dead’, in this way creating a space for the construction of a new vision of the office of the future on its remains.

One of the main ways the trope of the desktop is achieved is through the construction of a binary system such as the one below:

<table>
<thead>
<tr>
<th>Desktop</th>
<th>Mobile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old</td>
<td>New</td>
</tr>
<tr>
<td>Stationary</td>
<td>Flexible</td>
</tr>
<tr>
<td>Fixed</td>
<td>Free</td>
</tr>
<tr>
<td>Heavy</td>
<td>Light</td>
</tr>
</tbody>
</table>

This binary puts into play a series of meanings in relation to forms and is an important support for the tropic effect. It is evident in many advertising campaigns for new mobile and wireless ICT, especially those directed at the professional

---

10Hersey (1988) builds on the accepted usage of ‘trope’ referring to a word or phrase applied in a sense other than its usual literal meaning such as metaphor, metonymy, synecdoche, and irony. Hersey expands upon this usage to develop the trope as an analytical tool for reconstructing the mythological origins of Classical Architecture. Based on this, he traces the forgotten history of ornamental aspects to ancient rituals of sacrifice such as those performed in war, where trophies of the dead were erected on the battlefield by soldiers as markers of the *turning* of the tide in their favour (9).
market. As one online magazine journalist puts it, ‘The days of being tethered to a desk computer are over, so get mobile’ (Stoddard 2006). In a web advertisement for Toshiba’s laptop range, the idea of a ‘mobile lifestyle’ gains its meaning as a free, flexible and playful style of living (not really working at all) in opposition to the absent figure of the desktop computer:

Gain the freedom that only mobile technologies can provide. Just like a mobile phone, the mobile notebook personal computer delivers the versatility to work and play anywhere—and anytime.(Toshiba 2008)

Weight is another meaning mobilised in this binary system and is used to create a hierarchy of value as well as an opposition between the figure of the desktop and mobility. In this way, mobile technology is differentiated from other forms of computing, like a desktop computer, based on its ‘lightness’. The billboard advertisement below captures the idea of a technology that is promoted at the top of this hierarchy, combined with the pun that we no longer need to wait/weight to purchase such a light product.

The binary of the desktop and mobility and the hierarchy of value are signifying practices (Du Gay, Hall and Janes 1997) that help manufacturers to differentiate their products from others and to communicate what mobile computing is and what it will
do for potential consumers. This applies to their formal as well as to their symbolic properties. Weight, for example, is a decision taken early in the design phase and influences the materials of a product, its aesthetic qualities and what functions are included and excluded.

These signifying practices support and are part of the broader process that Silverstone (2006) called ‘commodification’ to explain the process by which meanings are inscribed into the design of new technologies to prepare the ground for their initial appropriation by consumers (234). Yet, it is important to understand that these practices also support the articulation of new visions of the office of the future through the trope of the desktop. In this way, the trope of the desktop provides a framework for the commodification of these products and services in relation to a larger discursive entity, that of the office. It grants usually individual and *individualised* products and services an identity and place within a collection or system of objects, preparing the ground for their appropriation as well as the appropriation of the office as an object of system to be consumed.

---

11 For Silverstone, commodification is incorporated into the model of domestication as a key dimension of the designer/consumer interface in the development cycle of products. Lash and Urry (1994) refer to commodification as a long-term cultural process of modernisation turning ‘nature’ into objects to be consumed also described it as an ‘emptying out’ and abstraction of objects (13-15).
Competing visions and the discourse of mobility and flexibility

The Anywhere, Anytime office is a vision primarily promoted by the computer and telecommunication industries. However, this is not the only vision of the office of the future in currency today. I’ve referred to several visions such as the Paperless office, Telework and the Virtual office, all of which persist in a contemporary context. Alternative Officing is another vision that has gained prominence in the last two decades and vies with the vision of the Anywhere, Anytime office to be the office of the future.

Unlike the Anywhere, Anytime vision, which extends a shift away from the office workplace, Alternative Officing re-directs attention to the workplace and office buildings in particular, as a site of organisational change and development. In actuality, this vision is not one but a number of related visions promoted by the design and building industry. Schwarz (2003) described Alternative Officing as an office design movement with the aim of altering the spatial and technological arrangements of work to improve productivity. He traced the origins of this movement to workplace experiments undertaken by pioneering organisations like Chiat Day (93). Felstead, Jewson and Walters (2005) suggest that some of the differences within this movement are superficial and that the fundamental idea behind them is to create social interactions in the workplace to make it more varied, less predictable and fluid (38).

Despite having what may seem to be an incompatible approach to the Anywhere, Anytime office, Alternative Officing shares a number of similarities. Particularly notable is the deployment of the trope of the desktop. In design and architecture magazines featuring show case offices, not only is it rare to see signs of dedicated office-like spaces but there is also little likelihood of spotting a desktop computer much less any cables or plugs. This is not to say that technology is absent in workplaces modelled on Alternative Officing. Indeed, as Schwarz (2003) observed in his studies, technology, especially portable technology and an advanced computer network infrastructure, are indispensable elements of these workplace designs (106). What is significant is that this technology is designed to be out of view. Its invisibility, particularly of the figure of the desktop, is an aesthetic feature of these
designs that helps to mark out a vision of the future office as distinct to that of the powerful telecommunication and computer industries.

While the invisibility of technology helps to differentiate Alternative Officing from the vision of the Anywhere, Anytime office, this vision is similarly grounded in a discourse of mobility supported by the trope of the desktop. But, unlike the Anywhere, Anytime office where mobility is envisaged as something that happens outside of the office workplace, in Alternative Officing, mobility is located squarely within the office workplace (although this goes with an assumption that workers will be put on the move outside as well as inside the building). This is evident in the design and representation of these products, as illustrated in the image of the offices of Australian health insurer MBF in Bridge Street, Sydney below. Here, the office workplace is presented as a living and moving organism that has its own ‘circulation’ and ‘pulse’, where employees move about like ghosts, creating a sense of a fast-moving and fluid organisation. In this way, the trope of the desktop supports the articulation of multiple visions of the Office of the Future while simultaneously drawing on and developing a discourse of mobility that provides the rationale and means through which these visions can literally, and discursively, be mobilised.

---

**Figure 16** MBF’s new offices on Bridge Street Sydney (2005) by Geyer Designs, BOSS Magazine, Issue 8, Aug. 2005

*Caption reads: ‘The glass-panelled stairwell connecting three floors in MBF’s new Sydney offices helps staff circulate freely’. This image was accompanied by an article with intext caption: ‘With more scope for circulation, this workplace has a pulse’.*
Scripting user identities and the gender coding of deskwork

We’ve seen in the past that the Office of the Future has acted as a symbol and medium that supports competing visions and that these share a number of discursive strategies. Problematising the organisation of work in and around the desk is one of these. Another is the gender re-coding of deskwork. From the early stages of the modern office, deskwork has been a contested territory and the meaning, location and activity of working at a desk has been at the centre of struggles over power relations in the workplace, access to employment, opportunities for promotion and professional status. The gender coding of deskwork played out through visions of the Office of the Future has intersected with these struggles, providing the impetus and rationale for many past mobilisations of the office.

Some would argue that as a result of these struggles and changes in work over a long period of time, including the greater numbers of women in professional fields, deskwork is no longer a contested zone and any distinction based on gender is meaningless or irrelevant. Nevertheless, one of the most noticeable features of the vision of current visions of the ‘Office of the Future’ is the ‘scripting’ (Akrich 1994) or ‘configuring’ (Woolgar 1991) of a number of new user-identities that rely on the gender re-coding of deskwork. Take for example the following advertisement featured in an issue of Wired in 2006.

Figure 17 Advertisement for Hyatt Gold Passport, inside back cover of Wired Magazine, Oct 2006

Extracts from caption: ‘As a Hyatt Gold Passport member, you can use your PDA, or any web-enabled device, to check into Hyatt Hotels & Resorts from anywhere... You can stay productive on the road by receiving phone messages, packages and faxes prior to your arrival...’
A male businessman in a suit stands in the centre of a busy Chicago street in the midst of a blur of traffic and people. Despite the hubbub, he focuses intently on a small but unidentifiable object in his hand. It could be a ‘PDA, or any web-enabled device’, suggests the image caption. The caption goes on to invite him to become a Hyatt Gold Passport member, the privilege of which will let him electronically check into a Hyatt hotel from anywhere, anytime—request a bed and room type, including smoking preference, have a key waiting and receive phone messages, packages and faxes prior to his arrival. In this representation, the identity of the worker is linked to the ideas that mobile workers are the kind of people that frequent expensive hotels more often than your average hotel guests, that they are male, and that the furnishing of extra services and being given ‘gold’ status should be part and parcel of this experience to reflect their identity as professionals in high demand.

This advertisement is not for a mobile computing or phone product but for a Hotel service and is typical of the marketing efforts of a large range of professional services that reference the Anywhere, Anytime office. These depict, or configure a specific kind of user of these services, that of a (usually) male professional who is engaged in frequent business travel and who uses the latest mobile and wireless ICT to coordinate his travel activities and to perform his ‘knowledge work’ with a high degree of autonomy and status (yet who is not high enough in the corporate hierarchy for these arrangements to be taken care of by a Personal Assistant). It might be surprising to find that this male-coded figure is so prevalent especially when trends in work suggest that one of the fastest-growing groups in the economy are female professionals. Moreover, since in recent cultural memory the idea of having a desk is associated with the precise list of working conditions these advertisements identify with mobile work, this figure is even more puzzling. Yet this binary is effective for the very reason that it speaks to a large group of white-collar workers in lower level information services who probably do work at a desk, who do not presently enjoy the

---

12 Australian Bureau of Statistics (ABS) figures on labour force trends show that the percentage of female professionals rose by 38 per cent from 1996 to 2009 compared to the percentage of male professionals which grew by just over 10 per cent. However, it is notable that the growth in part-time work among female professionals is much greater than among males. In addition, the growth in numbers of male managers has stayed on a par with females so that the total number is almost three times more than female managers (6291.0.55.003 Labour Force, Australia, Detailed, Quarterly).
kinds of working conditions depicted in these advertisements, and who lack the kind of security that desk work has symbolised, at least in the recent past.

The figure of a male/mobile/knowledge professional, then, is designed to convey a mobile working life with conditions and privileges gained through these products and services worth aspiring to. At the same time, this figure is intended to offset any of the negative connotations that might be associated with no longer having a desk and the prospect of losing any existing conditions and privileges as part of this shift to mobility. These meanings, however, are not in any way intrinsic to the products and services being marketed in these advertisements. For this reason advertisers rely heavily on the use of a range of signifying practices to generate and support the ‘correct’ reading of mobility.

One of these is the deployment of an oppositional schema between the desktop and mobility from a past that lies just beyond cultural memory. In this case, a time early in the twentieth century when female workers were identified more closely with machinery as a way to mark them out as lower status, differentiating them from those who were perceived as autonomous from machines and thus higher up in the organisational hierarchy. This explains the exaggerated masculinity of the central figure in many of these advertisements such as in the Hyatt advertisement above. It also explains the absence of female figures in the same representational space. In this way, the male/mobile/knowledge professional is set in silent opposition to the absent female/administrative/desk worker whose conditions may resemble that of the target group.

Another signifying practice is the use of highly utopian settings. In her analysis of several Australian campaigns for new wireless media products, Melissa Gregg (2007) makes a special note about this ‘purely utopian’ imagery, identifying it as particularly resilient form of advertising. She notes that one of the most recurrent settings in an Australian context is the beach, which she explains as part of the broader construction of the ‘mythologised lifestyle of the cosmopolitan frequent flyer’ (63). Gregg goes on to suggest that the representation of the mobile wireless laptop in an exotic setting has become a ‘primordial signifier of freedom’ (63)—a kind of shorthand used to market a wide range of professional services to workers in
lower-level information service industries who are still very much located in the office workplace.

This utopian imagery in the marketing of a wide range of mobile and wireless ICT and associated professional services is resilient, as Gregg (2007) suggests, for the very reason that it delivers an automatic link to a culturally inflected idea of freedom. The coding of mobile work as a masculine activity set in opposition to a historicised image of deskwork as a feminine activity serves to establish a similar link. In this way, the figure of the male, mobile knowledge professional and his mobile working life become decipherable and desirable to those workers who are engaged in an expanding but highly stratified knowledge economy. At the same time, meanings put in play are remote enough to avoid the implication that office work is being downgraded through its feminisation, a trend that many have argued has indeed come about and accompanies the development of conditions of ‘precarious work’ (Fudge and Owens 2006).

Another standout figure in current visions of the office of the future is the female knowledge professional who balances her work and home life through the use of mobile and wireless ICT. Like that of the male and mobile knowledge professional, this figure speaks to the large and growing number of workers with caring
responsibilities who might not be in a position to negotiate a flexible work arrangement. For this very reason, this figure and her working life are presented as a potential solution to the competing demands and expectations that many of these workers experience in their current working lives. Gregg (2007) makes a similar observation of the depiction of women in these advertisements pointing out that, ‘women can “have it all” by using new media technologies to participate in the paid labour force while also attending to unpaid child rearing and home-based activities’ (57). This idea is encapsulated in the caption of the photo reproduced below from a Life & Style segment of a Melbourne newspaper: ‘Work–Life Balance: Kristine Slawinsky, with four-year-old son Arch, says doing work for her interior design business from home allows her “to do the kiddie pick-up and juggle”’. The re-coding of the meaning of deskwork, this time as a feminine and flexible activity, is at the centre of such representations and is supported by a range of signifying practices such as the use of utopian settings and a variety of cultural motifs to convey a sense of balance, flexibility and a stress-free life.

Malinowski (1954) identified the productive capacity of myth in culture as related to its role as a charter for the present day through reference to a ‘retrospective pattern’ and ‘supernatural reality’. This role can be seen in current visions of the office of the
future. The vision of the Anywhere, Anytime office provides a discursive and mythological space for creating new figures/user-identities and for drawing these into a coherent narrative of a working life that works in with contemporary processes of commodification. This not only supports the marketing of a range of associated products and professional services, but also directly addresses a number of new groups that might aspire to such a lifestyle to be realised through the purchase and use of these products. What makes these figures and their working lives desirable and decipherable is that they speak directly to the kinds of fears and problems that these groups face in their daily working lives. That these are seen to exist outside of work and can be solved in and through the introduction of new work forms makes them all the more meaningful and effective.

Framing change in technological terms

We’ve seen how visions of the office of the future provide a cultural space for drawing new figures into a coherent narrative of a working life. These visions also function as cultural narratives of change, whereby complex social, technological, organisational and economic changes are reduced to a problem that can be solved technologically, while at the same time identifying these as external to and independent of this solution. In the case of current visions of the office of the future, this narrative is one of scarcity—of not enough space and time. This story forms the basis for a wide range of professional products and services that promise to address this problem by making more efficient and productive use of space and time. As an industry report on the productivity of mobile phones states:

If all mobile workers were able to use 5% more of their time out of the office productively, this would be the equivalent of an extra 180 million hours of work every year. This is around one third of the total productivity impact we estimate from mobiles. (2005:5)

Visions of Alternative Officing similarly focus on savings to be made in the cost of space and time by increasing the availability of staff outside as well as within the office workplace and by reducing the necessity for allocating permanent office space. Re-structuring labour relations to increase organisational flexibility intersects and
overlaps with these technological and design solutions aimed at reducing the amount of labour and material resources (including space and time) required.

The narrative of spatial and temporal scarcity articulated through visions of the office of the future intersects with key narratives circulating at a global scale. The narratives of ‘time-space compression’ and the ‘end of geography’, touched on in the last chapter, tell the story of information and communication technology making time instantaneous and space irrelevant, completing a project of transcending spatial and temporal constraints that started with industrialisation. These narratives provide the foundation for new theorisations of modernity and capitalism that help to explain transformations in work and the rise of new organisational forms. At the same time, they also reinforce the framing of the world in technological terms. This tale forms the basis for the rationale of a wide-range of technological solutions grounded in a discourse of efficiency and productivity. As Mosco (2004) points out in relation to the myth of the end of geography, within this rhetoric place is conceived as a barrier, ponderous, restrictive weights producing gross inefficiencies across societies everywhere. Rid of these harnesses, the world can enjoy what might best be described as the incredible lightness of being, in this case, of being global in cyberspace. (88)

Myths have a performative function, forming the rationale for a response to changes perceived to be external and separate, a status that is enabled and reinforced by these myths. Since myths intersect with and act as a resource for making sense of and negotiating these changes, myths also contribute to how these changes come about. In this way, visions of the Office of the Future and myths in general can be seen to mediate a connection between an inside and an outside that is partially created through this connection. For example, mobility, so far elaborated on as a product of the discursive strategies of the Anywhere, Anytime office and Alternative Officing visions, is more usually taken to be an objective condition that is addressed by the products and services articulated through these visions. The inevitability and externality of the mobile condition is captured in this advertisement by the Swedish telecommunications company Ericsson in an information brochure for a new range of smart phones titled Mobilizing the Enterprise (2006):
There is a clear trend for enterprise workforces to become more mobile. In Western Europe and the US, there are now 180 million mobile workers, and at least 86 percent of enterprises have personnel that spend at least one day per week outside the office, but not at home. (2)

Similarly, flexibility, a concept closely related to mobility, is conceived as a contemporary condition, which includes the flexibilisation of labour\(^\text{13}\) at an organisational level and a flexible working life at an individual scale. New mobile and wireless ICT and office design solutions articulated through visions of the office of the future are conceptualised as a response to an inevitable shift towards this condition of flexibility.

Paul Du Gay’s (1996) concept of ‘dislocation’ can further an understanding of the performative function of the myth of the office of the future and its effects. In *Consumption and Identity at Work*, Du Gay takes up the work of Laclau (1990) and applies it to the formation of work identities during Thatcher’s regime in the United Kingdom. Du Gay argues that all identities are dislocated, in that each relies on an ‘outside’ that creates the conditions for that identity and at the same time denies it (3). Dislocation helps to explain how new subjectivities and disciplinary mechanisms emerge as *contingent* achievements in relation to perceived macro-economic changes. In Du Gay’s usage, dislocation is limited to the formation of the self to explain the rise of the ‘enterprising self’ but this figure tends to be divorced from its symbolic and practical material environment of work. However, this concept can be extended to cover the *configuration* in which this figure of the self emerges. In this way, by drawing on and developing a global condition of mobility and flexibility and reducing this condition to a problem of efficiency and productivity, visions of the office of the future create a discursive space for the *dislocated office* to emerge.

\(^{13}\)Odih (2003) describes flexibilisation as operating along two main fronts: functional flexibility is the breaking down of functional boundaries within organisations through the use of existing sources of labour; numerical flexibility is the increase in the employment of temporary staff to call on labour only when it is needed (just-in-time labour).
Conclusion

The relationship between the future and technology is one that many authors have commented on. David Morley (2006) writes:

Questions of the future and of technology are, of course, inextricably intertwined with each other, not least because the future (and increasingly the present) is defined so much in technological terms. If the future represents, for many people, a troublesome realm of constant change, much of this trouble comes to be symbolized by (and in) technological terms. (31)

I have suggested that the office acts a technological symbol of the future and that its symbolism is maintained, in part, through the ongoing framing of the office as a site or object to be ‘re-engineered’. I argued that this laid the foundations for the development of the office based on a centralised model where workers and technologies were co-located at specific sites. This had implications for the regulation of labour and beyond this, for developing the web of relations and meaning systems in which the office workplace was embedded. Visions of the office of the future have played a crucial role in reproducing this frame.

In turning to visions of a decentralised model of the office the question is raised: whether this shift represents a significant break from past mobilisations of the office, or is this merely another expression of its development through the frame initiated in Scientific Management? In examining current visions of the Anywhere, Anytime office and Alternative Officing, it becomes evident that these visions do draw on a familiar set of discursive strategies as well as a discourse of efficiency and productivity. There are resonances of Scientific Management here, pointing to the role of the office of the future as a medium for management and the office industry to regulate labour and define the direction of the office. On the other hand, this symbol has become detached from its roots as an instrument purely of management control. It now supports multiple visions and discourses of work and works in with contemporary processes of commodification. Current visions of the office of the future can therefore be seen to be both an outcome of discursive strategies and a strategy in itself. Through these, new mobile and wireless ICT (usually singular devices and/or services) and office designs are given a place and identity within a
larger collection or system of objects. At the same time, they develop a new
discourse of work based on mobility and flexibility, which creates a space for the
emergence of the dislocated office.

The first step of the account of Officing exposing the material and discursive
processes of the office has been initiated in this chapter, that is, to locate how changes to the form of the office are produced and negotiated from inside culture. Exposing the narrative strategies and ideological impulses of these visions is one
way of identifying the multiple ways that the office is produced. This demonstrates
that visions of the office of the future are in flux, exposes competing visions and
shows that these are always in the process of production. At the same time it is easy
to lose sight that visions are not only textual but also material: in technological
designs, showcase workplaces, packaging, product trials and even workplace
experiments. In Australia, this trend is apparent in the development of campus style
buildings that act as a showcase for new forms of office work such as Melbourne’s
Dockland district New Quay office developments and in Sydney’s Central Business
district (O’Neill and McGuirk 2003). Telecommunication companies also set up
showcase sites or trials to promote their solutions and one of these is the main focus
of the case study in Chapter 4.

As well as influencing expectations of work, these visions have very real
implications for workers and the aim of Officing, as developed and applied in the rest
of this thesis, is to address these implications. This means exposing other ways that
the office is produced in the present and recognising the time, space and effort
consumed in these productions. It also means questioning the ongoing currency of
these myths: how are visions of the office of the future used as a resource for
individuals and organisations in negotiating large-scale changes in the meaning,
location and activity of work and how are these negotiations connected to the
construction of a sense of self, space and time in relation to work?
Chapter 3  *Officing*: a material processual account of the office

Taylorism must conceal its materiality, its grounding in corporeal knowledge, by appropriating bodily knowledge for the managerial mind, in order to conceal and elide its production as a knowledge (Grosz 1995)

Tissue, textile and fabric provide excellent models of knowledge, excellent quasi-abstract objects, primal varieties: the world is a mass of laundry (Serres cited in Connor 1999).

*Introduction*

In this chapter I develop the material processual account of the office initiated in the last chapter. I reiterate why this account is necessary for identifying new forms of the office and for providing new insights on the issues of work–life interaction, time pressure and overwork. In doing this, I return to the need to build on recent efforts to develop a more sophisticated and relevant model of the complex interactions of technology, space and time in relation to work. I highlight the key issues taken up and explored in the following case studies and explain how these relate to current visions of the office of the future. I then review approaches to user/technology relations developed in a range of fields including Science and Technology Studies (STS), Cultural Studies, Phenomenology, Computer Supported Collaborative Work (CSCW) and Workplace Studies. I argue that these can contribute to an expanded understanding of the form of the office as a series of intertwined processes based on the concept of *stabilisation*. The final part of the chapter extrapolates two of these processes in more detail: *setting up the office* and *making the office workable*.

*From forms to processes*

Sofia (1984; 1996) offers the term the ‘collapsed future tense’ to describe the way that language is used to talk about the future in certain terms. She identifies this as a
‘linguistic habit, an ideological effect of late capitalism reflecting the sense that technologies “arrive” or “impact” upon ordinary people at speeds and from directions beyond our control’ (1996:59). The concept of the ‘collapsed future tense’ helps to locate visions of the office of the future within the general form of technological determinism. By narrating the future as a set of pre-determined scripts and making the path to it appear to be inevitable and irreversible, these visions act as a mechanism for producing the office as a form that seems to have an identity and momentum of its own.

The use of the collapsed future tense is evident in the wording of many advertisements and product descriptions including but not restricted to new mobile and wireless ICTs and office design solutions discussed in the previous chapter. Through its usage, the symbolism of futurity is reinforced while simultaneously collapsing the future into a present that demands to be realised. Paradoxically, the ‘collapsed future tense’ also marks a collapse of the present, since time as well as space is made irrelevant. On this dilemma Sofia (1984) remarks, ‘Trouble is, the collapse of the future leaves the present with no time, and we live with the sense of the pre-apocalyptic moment, the inevitability of everything happening at once’ (57).

The sense of urgency and inevitability of change produced by the ‘collapsed future tense’ creates a productive tension that supports the commodification and technological framing of new products and services. In the case of the office and its global support industry, it facilitates and legitimates the ongoing targeting of the office as a site to be ‘re-engineered’. Thus, in a world conceived as mobile, flexible and accelerating (running out of time), the office is identified as a waste of space and time, a cost that can be eliminated by turning it into an instant form. As the U.S. Head of Operations of Regus Business Centres explains to a journalist of online magazine Fast Capitalism, of their new line of twenty-four hour a day, furnished, equipped and staffed ‘instant’ office platforms,

We've made property a fast-moving commodity, just like a can of Coke, there's no capital expenditure, the office is completely furnished, and customers decide how long they'll stay. (1)
There is a flip side to this productive tension. When it comes to a sense of not having enough time, of feeling behind and not on top of things, many people make an almost immediate and automatic connection to technology. So, it is perhaps not surprising that this sense was pronounced amongst the staff of Innertown and Worldcom, though there were important variations in how this was expressed and how much it mattered. Reflecting on her approach to technology, Betty, the Human Resource Advisor at Innertown said to me,

I feel that I have to know because I’ll be lagging behind if I don’t keep learning and making sure that I am able to transfer that into some good outcome. It’s scary sometimes... I don’t want to be left behind.

Betty’s anxiety of being left behind reflects a wider cultural perception that technological readiness is a pre-condition not only for employment but also for participating in society in general. Therese, a Citizens’ Service Officer in the Citizens’ Service Centre at Innertown summed this up: ‘I feel like yeah, I’m not left out. I become part of the society. I know the technology. I know how to operate.’

As Lally (2002) suggested in her study on personal computers in the home, the sense of being short of time or pressured in relation to technology connects back to the role that technology plays as a symbol of futurity. For many, technology functions as a kind of key, or ‘handle’ to the future and way that ordinary people participate in narratives of technological progress (68). On this point Lally says, ‘There is both promise and fear in these technologies, and they therefore hold out not just the threat of being left behind but also the promise of privileged access to the future through them’ (68). For others, for whom technology has become ‘second nature’, a part of their sense of self, or embodied, to use an expression from phenomenology, technology no longer acts as key or ‘handle’ because the technology concerned isn’t perceived as external to one’s sense of self as Ernie, a long-time computer user from Innertown, explained to me:

It’s hard for me to imagine how I would work without the technology, or even wanting to work without the technology. I wouldn’t want to go back… but in terms of how I feel about myself, it’s quite difficult to answer because I don’t know how I would feel otherwise.
Of course, with the sudden collapse of the future into the present, there is no time to waste for those who feel left behind. It is precisely this ‘promise of privileged access’ in the context of no time that makes way for visions of the office of the future and drives the sense that these changes are inevitable and must be responded to urgently by individuals and organisations alike.

This highlights some important issues that are taken up and explored further in the case studies that follow. One of these is the ongoing currency of the office in mediating employees’ relationship to time, since just like a personal computer or mobile phone, the office operates as a symbol and ‘handle’ to the future. The office also performs a similar role in space, acting as a bridge to different physical and cultural domains. This may not always be a welcome connection, as a number of studies in Australia and abroad have shown, and can be experienced as an intrusion and uninvited extension of work (Lowry and Moskos 2005; Towers, Duxbury et al. 2005; Townsend and Batchelor 2005; Lowry and Moskos 2006). At the same time, it needs to be recognised that the office can also separate as well as connect spaces and cultural domains, including, in some cases, the boundary between ‘work’ and ‘life’. For example, at Innertown some of the staff who were the longest users of ICT took active steps to limit their use of technology at home and to contain their technology in a single area of the house; in a dedicated ‘office’, as Danielle explained:

I don’t spend much time in front of computers anymore, compared to the student years…I don’t have this desire to want to be in front of a computer after work, whether for leisure or work.

Compare this to Lillian from Worldcom. Her house had been transformed into a kind of ubiquitous office:

I come from a house that has two computers, three offices. My mother has hers, I have mine. We all have offices set up within the household. It’s just part of everyday life for me now…I’m on 24/7.

Neither of these responses can be explained as a straightforward response to work-extension understood as pressure to work outside of work hours or as the physical penetration of work into space and time by technology. First of all, turning to Innertown, the official policy at the council was to actively discourage working
outside of the workplace and to limit IT access to all but a few staff. Moreover, the overall trend at Innertown suggested that staff who tried to contain work were the exception and most were likely to try to get around this policy to work at home in an unofficial capacity. At Worldcom, though there were minor variations, Lillian’s approach was a generally representative one amongst staff in the smart phone trial. Here, the set up of ‘home offices’ including a networked ICT environment, helped staff to maintain an ‘always on’ connection to the world and to minimise boundaries between their ‘work’ and ‘life’. These two examples hint at a more complex relationship between time, space and technology than a straightforward issue of increased working hours. In both cases, the capacity of the office to mediate space and time depended on the personal and cultural associations of technology and the role of the office as a container and bridge of these objects and meanings, as well as a technological symbol in itself.

For the very reason that boundaries between cultural domains are not completely fixed and require ongoing ‘boundary work’ (Nippert-Eng 1996), the mediation of space and time by the office is experienced with high levels of ambivalence, not only by its users, but also by those who inhabit and share the spaces and times in which the office is embedded. This is both a reflexive and embodied mediation, taking place through working in, on and through the office. This points to another issue taken up in the following studies: what this means for emerging forms of the office since these mediations reveal that the shape and meaning of the office is not fixed; can take multiple forms; and be incorporated into diverse formations like the home, cafés, warehouses, airport terminals, hotel lobbies or vehicles. The office moves in and out of these formations with varying degrees of permanence and requires ongoing work, including but not restricted to ‘boundary work’. Recognising the mediating role of the office therefore foregrounds the office as a process and whether it ever achieves the status of a completed platform for work.

One of the paradoxical consequences of visions of the office of the future is that this processual quality of the office is exposed, albeit temporarily, revealing the office as an achievement rather than a given. As Laurier (2002) writes of the usually taken-for-granted features of an office workplace when seen though the lens of mobile work:
These normally unnoticed features are rendered not just visible but bothersome when some of the “bits and pieces” so long associated with “the office”, or rather that are the very stuff of associating the office, are used to assemble the office elsewhere. (46)

Similarly, one of the pre-requisites of development, as in Regus Business Centres’ ‘instant office’ platform solution above, is identifying and defining what are the ongoing processes of the office that constitute its ‘cost’ (Salter 2007). Nevertheless, with the scoping out, delimiting, and transformation of these processes into an apparently complete and instantly useable product, these processes once again disappear to become seemingly automatic and instantaneous, as summed up in the company’s slogan, ‘Walk in, Sit down, Start work’ (2007:2). At this point, the recognition of the office as process and knowledge of its production is ‘black-boxed’, to borrow a phrase from Science and Technology Studies, to refer to the concealment and closure of the inner workings of an artefact or scientific fact. This not only involves a ‘deletion’14 (Star 1983) of any work left out of the ‘box’ in the process of its production, but also any prior and subsequent embodied negotiations of its form and meaning.

Any additional work performed on the office by organisations and individuals and the lack of recognition of this work has implications for how work and forms of the office are changing. Yet, for the very reason that visions of the office of the future support the capturing of the office within a technological frame, there is a risk that the office will come to appear, yet again, as the natural and inevitable result of the advance of history and progress rather than as an outcome of its production in culture. From within this frame, its ongoing production and real world negotiations are left out and the time, space and effort involved are deleted. This is one of my main criticisms of modernity theorists who speak in broad terms about changing organisational forms, referring to and often describing these in the same terms as visions of the office of the future and seeing in them a model for a new paradigm of modernity and capitalism.

14Star (1995) cites one of the earliest known uses of the term ‘deletion’ in science and technology studies by Latour and Woolgar in their book, Laboratory Life in which the phrase ‘deletion of modalities’ was used to refer to the paring away of contextual information in the production of a biological fact.
Researchers of work and technology from several disciplines have identified this as a problem, arguing that by treating the material world as an independent and external force, material relations are displaced from the world, obscuring and negating local experiences and practices that may contradict or complicate these models and the causes and effects they describe. These calls intersect with a similar set of concerns within phenomenology and feminist philosophy to expose the disembodying tendencies of technological discourse and of rationality in general, as captured in the opening quote by philosopher Grosz. This critique of disembodiment has most recently been applied to the discourse of cyberspace and virtuality (Stone 1994; Richardson and Harper 1996; Richardson 2003) but it is just as pertinent in relation to a discourse of mobility and flexibility and to the re-conceptualisation of the office in and through this discourse.

A shift in method is required to reinstate the material and embodied relations of work, one that I hope to contribute to in the development of a material processual account of the office. One of the main contributions of recent practice-based or ‘interactionist’ research as it is sometimes referred to, is that it highlights the difficulties encountered by workers performing work through mobile and wireless technologies. Brown and O’Hara (2003), for example, have demonstrated that place is a practical concern for mobile professionals where it can be taken for granted by their office-based counterparts. Sherry and Salvador (2002) have revealed the challenges of negotiating action that is local and remote at the same time. Laurier and Philo (1999) and Laurier (2002; 2004) have highlighted the work of mobile professionals in assembling the car as a place of work or ‘office’. Much of this practice-based research is situated within the broader field of Computer Supported Collaborative Work (CSCW) and is an important addition to cognitive-based human-computer interaction models. It not only has the potential to lead to the design of technologies that better support work but, by drawing attention to the labour, including physical efforts involved in making mobile work forms viable, it also acts

as an important counter-narrative to claims of limitless ‘anytime, anywhere’ work. Nevertheless, with the primary focus on contributing to better design and with a focus on new technologies, this research runs the risk of limiting its reach and relevance to design communities and of inadvertently reinforcing the invisibility of some kinds of support work.

Making adjustments to work practices, which leads to local modifications of individual technologies and to ensembles of technologies and objects like the office, is an ongoing process. This is all the more so in the case of the office because of its history as a site and target for information and communication technologies and the complexity of its interactions. The field of Workplace Studies goes some way towards engaging with these ongoing processes with its focus on a diverse range of workplace settings and its object-oriented approach. For example, Hindmarsh and Heath (2000) trace the constitution of objects in information and communication intensive sites through common referential practices. There is also a body of literature on ‘centers of coordination’ focusing on the ongoing orientation to problems of space and time (Suchman 1997)\(^{16}\). Nevertheless, by prioritising the design of better technologies and systems, these approaches, like the research on mobile work mentioned above, can lead to the snap freezing of ongoing processes for the purpose of defining engineering requirements. This may reinforce a dichotomy between ‘old’ and ‘new’ forms of the office and make this division seem inevitable rather than a product of its discursive production.\(^{17}\)

---


\(^{17}\)This raises an interesting question about the ethics of ethnographic research and how best to contribute to design processes—a topic for further research. This is even more pertinent with the growth in the use of ethnographies of work in corporate development processes such as design, adapting products for specific markets, representing best practice cases and probing markets for the development of new products and services (Fisher and Downey 2006). The growth in professional conferences on ‘Corporate Ethnography’ further supports this development, lending it academic legitimacy. The Ethnographic Praxis in Industry Conference (EPIC), an annual conference for practitioners of corporate ethnography has met annually since 2005. In 2008, there were 320 registered participants and the conference was presented by The National Association for the Practice of Anthropology, a section of The American Anthropological Association.
Moreover, questions of meaning are largely neglected in these practice-oriented studies, yet meaning making is an important aspect of the practical accomplishment of work. I’ve already suggested that the office acts as a symbol and physical object that mediates employees’ sense of time and space. This extends to a sense of self too, including the negotiation and maintenance of multiple senses of self. What is the connection between a sense of self and the ongoing processes of the office? How do professional user-identities featured in visions of the office of the future inform a sense of self and how does this relate to gender relations? These are all questions of meaning. Importantly, this dimension is inseparable from how employees practically orient themselves to their work, since one of the main ways that a sense of self is achieved is through the ongoing embodied interactions with the office in going about daily work.

In developing a material processual account of the office, therefore, I continue the project of identifying and describing the practices of individual employees in negotiating and coordinating the technology, space and time of the office in their daily work. My approach is based on the understanding that the office is always, to some extent, in a process of physical and symbolic configuration. I stress, however, that this does not assume constant instability or an equal capacity to make change, points I return to shortly and elaborate on in the following case studies. As I initially put forward in Chapter 1, the scope of this account includes the taken-for-granted suites of technologies and diverse material objects that go into the make up of the office platform. I also extend this practice-oriented approach to include the dimension of meaning. Finally, the account I develop takes seriously the consequences of the deletion of work, including the space and time that this work entails. These consequences fold into the ongoing production of the office and shape the shared meaning systems and discourses that define expectations and values, the perception of space and time and the possibilities for and constraints on identity formation.

*Officing* is the term adopted for this account because it is suggestive of a shift away from thinking about the office as a form or site to a more contingent, ongoing process. In contrast to indicating similarities with the Alternative Officing movement referred to in the previous chapter, *Officing* is here injected with a completely
different, one could say almost converse set of meanings. Instead of identifying a new mobile, interactive and flexible form of office work, Officing is deployed to identify and describe the work that takes place on the office; both in support of the work produced in and through it, and in making forms of the office appear to be stable entities. In practice, this labour is often indistinguishable from the work and forms it supports and moreover, takes place in many different organisational arrangements. Through Officing, it becomes possible to evaluate claims that accompany visions of the office of the future including the replacement of ‘old’ forms of office work, improved efficiency and productivity, enhanced freedom and better work–life balance. It also provides a way to assess in what way these usually obscured processes and their ‘deletion’, contribute to the experience of work and life interaction, time pressure and overwork.

Re-thinking stabilisation

Officing hinges on the concept of stabilisation, a focus of much debate in Science and Technology Studies (STS). Hess (1997) notes that stabilisation is closely related to the idea of ‘closure’ used to explain the way that scientists smooth over problems and controversies in generating new knowledge or facts to preserve the perception of science as an objective method of discovery. According to Hess, in making the design of technological artefacts the focus of analysis, Bijker and Pinch replaced ‘closure’ with ‘stabilisation’ to show how design could take place over an extended period and involve multiple, sometimes competing groups. The safety bicycle was put forward as an example of stabilisation, taking nineteen years to stabilise and engaging many social groups in its interpretation and use. This concept of stabilisation was formally incorporated into Bijker, Hughes and Pinch’s (1989) model of the Social Construction of Technology (SCOT) (1997:95).

The value of stabilisation is that this concept allows stories of invention to be told as processes over time rather than as sudden events, so that the struggle over meaning at the interface of design and use can be exposed with the hope of influencing the process of innovation. From this perspective, adoption does not occur immediately after a product is purchased but includes multiple points of adoption as technologies come in contact with different groups. Unlike diffusion theories (Rogers 1983;
Davis, Bagozzi and Warshaw 1989), which limit use to a rational decision of acceptance or rejection, the Social Construction of Technology (SCOT) and Social Shaping of Technology (SST) schools have drawn attention to users’ role in changing the technological artefact and highlighted adoption as a highly contested process.

Nevertheless, this perspective also means that users’ capacity to intervene and influence the direction of development is framed as a chronologically limited affair. Stabilisation, as an inherent characteristic of all innovation processes, means that technologies eventually arrive at concrete objects with ‘built-in’ properties even though technology itself is defined as the result of social processes. Stabilisation, therefore, puts emphasis on the early encounters that users have with technology as the time that counts. So, while many users might encounter a technology multiple times in its life, initial contact is prioritised as the special time when actors can influence its future trajectory. Orlikowski and Gash (1994) capture this understanding in their study of the groupware software Lotus Notes18:

Early interpretations of a technology are particularly influential because they get established rapidly as the technology is assimilated into work practices and becomes built into organizational routines and work habits. Such embedded understandings and assessments of a technology are particularly difficult to change later. (183)

A common view that developed from this STS and SCOT literature is that as technologies are adopted by their users, their functions and meanings become less negotiable over time, arriving at a point of stability where they become part of the social and material substrate on which we perform our roles, jobs, gender and identities. Though the definition of a technology may vary, there is a sense in which instability and uncertainty is associated with a novel technology and stability and certainty with a familiar and more mature technology, though there are differing views on how rapidly or slowly this occurs.

18Lotus Notes is a proprietary groupware Notes system developed by Lotus Development Corporation
However, this approach is too narrow for understanding the daily use of ICT in organisational settings: firstly, because this fails to address the multiplicity and diversity of technology; and secondly, because it puts too much emphasis on closure and the eventual arrival at order. Some researchers of ICT have attempted to tackle these issues. Fleck’s (1988) concept of ‘innofusion’, for example, is an early attempt to account for the ongoing efforts directed towards working configurations of technology, although his focus is not on ordinary workers but on the work of system developers and the opportunities this represents for coming up with new solutions (Williams and Edge 1996). Ciborra’s (2000) concept of ‘technological drift’ also captures the never-ending process of implementation and how, paradoxically, attempts to control and standardise ICT in organisations leads to less control:

Technologies and processes drift, so what one obtains at the end of the implementation process is not only corrupted, but is in a permanent state of redefinition. Implementation never ends. (2007:39)

McLaughlin, Rosen, Skinner and Webster (1999) found the existence of ‘plural forms of stabilisation’ in their three case studies of the retail, health and higher education sectors. Based on their findings, they argued found that the closure of the meanings and form of a newly introduced technology or system was not established through reaching a single consensus but on the fragile accommodation of multiple understandings (198).

The development and use of the concept of stabilisation in STS intersects with the concept of ‘appropriation’ employed mainly in Cultural Studies and Material Culture Studies. In approaches that draw on this concept (see, for example, DeSanctis and Poole (1990) on adaptive structuration and Silverstone, Mansell and Haddon (1996) on domestication), appropriation is referred to as both a process and as evidence of seemingly passive users or consumers exerting their agency by taking some unfamiliar object (like something given by others or purchased) and making it their own. In these accounts, innovation is also viewed as a social process but much more priority is given to the active participation of users in shaping the meaning and form of a technology. Research drawing on the concept of appropriation has also, in the main, located this process within the larger process of consumption. This laid the groundwork for explaining ‘use’ as a special kind of production through which
individuals and collectives gain a sense of self and belonging. It is in this sense, that Miller (1987), drawing on Marx’s concept of alienation, has argued that objects and our own selves, become de-alienated through the process of consumption (190).

However, perhaps inadvertently, these approaches have reinforced the assumed focus on a single technological artefact and the understanding that the form and meaning of a technology eventually arrives at a point of stability. In domestication, for example, the core idea that a technology starts off as wild and is ‘tamed’ over time like a wild animal, implies a course towards stability and the eventual arrival at order, even when the point is to expose the ongoing and mutually negotiated nature of this process. Moreover, these approaches have granted individuals and collectives too much power to transform technology to their own ends to a point of fixity or stability without addressing the contexts in which control is provisional, and stability is only temporary (sometimes even momentary) and only ever partially achieved. In a recent review of the concept of domestication, one of its founders, Roger Silverstone (2006), identified this as a possible error in its early formulation, suggesting that it might have worked against the project of challenging the view of adoption as ‘uncomplicated, linear and without its contradictions’ (232-235).

Rather than reinforcing the story of how individual technological artefacts and their users arrive at a relatively stable state, identity and form, I am seeking the basis for a processual account that recognises that in use, technologies and systems are contingent and fluctuating processes. In this way, a material processual account challenges a drift towards what Graham and Thrift (2007) dubbed the ‘myth of order’, the sense that infrastructures that we encounter in our daily lives are a,

material and utterly fixed assemblage of hard technologies embedded stably in place, which is characterized by perfect order, completeness, immanence and internal homogeneity rather than leaky, partial and heterogeneous entities (10).

**From orders to ordering**

Actor-network theory (ANT) is a good place to find a re-reading of stability as an ongoing accomplishment, a state that is achieved rather than something that is settled
once and for all. Many of the early contributions to ANT engaged in debates about how scientific knowledge came about, adding to the conception of knowledge as a social process, shot through with contingency and uncertainty (Star 1983). ANT adopted many of the concepts from the SCOT but differentiated itself through a critique of what constitutes knowledge. Knowledge became understood as a material effect of the variety of forms that knowledge takes, such as people, machines, organisations and institutions (Law 1992). This reinterpretation of knowledge and the granting of agency to non-human entities are ideas at the heart of the ANT claim that society is a heterogeneous network. Law (2003) states, ‘this, then, is the crucial analytical move made by actor-network writers: the suggestion that the social is nothing other than patterned networks of heterogeneous materials’ (2).

This reinterpretation of knowledge had major implications for theorising the user/technology relationship. For ANT, humans and non-humans are all grist for the mill in the process of producing and reproducing patterns of order. In other words, technology is not an outcome of society, or vice versa, but rather together they make up an ongoing process of heterogeneous ordering, or ‘engineering’ actor-networks. ANT shifts the narratives of innovation to an emphasis on describing the particular strategies that are most successful at mobilising actor-networks over time. Thus, the final outcome of an innovation process is no longer seen as a product of social processes or ever final, but instead an actor-network of heterogeneous materials that has achieved durability.

ANT, therefore, counteracts the tendency of SCOT to limit the influence of actors to certain occasions early in the innovation process, since actors (both human and non-human) can enter into this process at any time in a range of material forms. This produces a new reading of stability, which is no longer seen as an end point of social processes embodied in a technology, but a temporary and often fragile performance of an actor-network. This reading also explains how entities come to appear as stable forms. Not because they have reached a point of completion or closure but because stability or durability is performed through the network of relations in which these are embedded. On this Law (1999) writes,
entities achieve their form as a consequence of the relations in which they are located. But this means that it also tells us that they are performed in, by, through those relations. A consequence is that everything is uncertain and reversible, at least in principle. It is never given in the order of things. (4)

This understanding of stability as a performance has much in common with Garfinkel’s view of social order as an emergent phenomenon and social accomplishment that arises in everyday interactions (Gubrium and Holstein 2000:490). It is in this sense that Law (1992) suggests that a better way of describing order is as a verb rather than a noun (5). Orders, then, are an ongoing performance of actors constituted of networks of relations, and actors can include unmotivated actions and accidental events as well as humans and non-humans (Law and Bijker 1992:300).

This shift from orders to ordering, the identification of stabilisation strategies and their heterogeneity, the performativity of actor-networks, and following on from this the idea that stability is a performance, all inform a material processual account of the office. Based on this account, the office is understood as not one but multiple orderings (one could replace this with actor-networks). Orderings do not take place in a vacuum nor are they singular. Rather, they are made up of multiple and interacting stabilisation strategies that fold into one another in space and time, a bit like Serres’ metaphor of the tissue in one of the opening quotes of this chapter. These strategies collaborate and compete towards the performance of stability, manifesting greater or lesser powers to produce effective and persuasive performances. In the context of multiple, sometimes competing stabilisation strategies, ordering requires significant effort and resources, and it is the different levels of access and power to mobilise resources, as well as whether or not these are recognised, that defines their scale.

Clarifications

In adopting these concepts from ANT a few clarifications need to be made. The refusal to treat non-humans as different to or separate to humans has been a conundrum for many social scientists that might otherwise adopt ANT but for an expectation that these be treated symmetrically. In the account developed here, it is
not deemed controversial that non-humans have agency. Nevertheless, accepting that humans and non-humans are embroiled in heterogeneous arrangements does not presuppose a commitment to symmetry nor exclude the possibility of referring separately to humans and non-humans. Indeed, acting separately or ‘autonomously’ is one of the powerful outcomes of ordering. On this point Law (1999) writes, ‘it is not, in this semiotic world-view, that there are no divisions. It is rather that such divisions or distinctions are understood as effects or outcomes. They are not given in the order of things’ (3).

A further clarification needs to be made in relation to stabilisation strategies. With the emphasis on identifying and tracing stabilisation as a process, there is a risk of reinforcing the notion that the natural path of this process is towards stability, or conversely, that instability is the condition that frames all interactions. Neither of these positions allows the full range of stories to be told. The aim of an account directed towards exposing strategies of stabilisation is to recognise that stability and instability are always possible and that these are better understood as performances rather than an essential or natural condition. In this case, just as Law stated, processes of stabilisation are in principle, reversible (1999:4). Think of old equipment sitting virtually forgotten on the upper shelves of a workstation at work, folders inherited from predecessors, documents circulated for comment and manuals for obsolete software. All of these could potentially come back into circulation and begin their lives, including their meanings and uses, anew.

This approach provides the basis for many more stories to be told, and is one that Michael (2000) puts to work in his collection of autobiographies of mundane artefacts in everyday life. In his tales of shoes, cars, dog leads and the TV remote control, Michael is concerned with disorderings rather than orderings, described in terms of things moving from an inside out, rather than from an outside in (10). As Michael points out, this is never a story about technological artefacts alone, since technology is social from the very start. Rather it is about the various trajectories or courses taken by these “‘co-habiting”, co-extensive little societies, technologies and natures, operating on the symbolic, practical and material level together’ (10). Like Michael, I too start with the already (partially) ordered taken-for-granted suites of technologies that individual employees encounter in everyday working life, and am
sensitive to disorderings as well as the orderings that come about in the formation of the office. However, the material and processual account developed here is primarily concerned with exposing the different levels of access and power to mobilise resources (including technologies, space, time, people and skills) in processes of ordering or disordering and to show how these are recognised (or not).

**Deleting work, invisible work and forgetting**

While ANT provides a sophisticated framework and terminology for tracing and describing strategies of stabilisation, it can also be criticised for becoming an end in itself, characterised by a lack of concern about consequences. By turning to labour process analysis and the ‘sociology of the invisible’ (Star 1991) an account can be developed with a more explicit concern about the consequences of stabilisation strategies. In the 1980s and 90s a substantial body of writing emerged concerned with exposing various forms of hidden, tacit, or invisible labour necessary for the production apparatus but not recognised as skilled or productive work (Smith 2001). This writing was Marxist inspired in that it exposed the ideological status of claims of productivity and efficiency, revealing these to be the interests of capital camouflaged as the interests of all (Althusser 2009). As noted in the last chapter, this writing acted as a powerful counter-narrative to visions of the office of the future during the Office Automation movement, and was part of a much broader critique of the definition of work and the exclusion of many kinds of unpaid work such as domestic, care and voluntary work.

One strand of research that emerged at this time focused on exposing the invisible skills involved in the introduction of computers into the office workplace. This research involved in-depth naturalistic investigations and included studies of software design (Clement 1991), due process (Gerson and Star 1986), photocopier repair (Suchman 1987) and paralegal coding (Suchman 2000)\(^{19}\). From its inception this research had a practical as well as a political orientation. One main area of focus—the examination of group processes, laid the groundwork for applied fields

---

\(^{19}\) For a comprehensive survey of this literature see the special issue of Computer Supported Cooperative Work, Issue 8, 1999 and the editorial in this issue by Star and Strauss (1999).
such as Computer Supported Collaborative Work (CSCW) and Workplace Studies\textsuperscript{20}. Several researchers working in this area also highlighted political implications including the inequalities of divisions of labour reproduced through projects of re-structuring and the introduction of new computer technologies (Clement 1991; Clement 1993; Suchman 2000).

*Officing* incorporates some key concepts and political concerns from this literature to address the *consequences* of stabilisation strategies. One of these concepts is the idea that work in rational systems models is subject to a politics of visibility, such that some work is more readily captured and officially recognised while other work, which is necessary to support this work is discounted, remaining ‘invisible’ to official accounts (Star 1991; Suchman 1995; Star and Strauss 1999). In *Officing*, this understanding is adopted to explain how strategies of stabilisation are subject to a politics of visibility, both in terms of the effort directed towards stabilising forms and the capacity to mobilise resources towards performances of stability. To stress that what is at stake is the recognition of the corporeal aspects of this work as a form of knowledge, I shift the language away from visibility and invisibility to that of ‘remembering’ and ‘forgetting’. In doing this, I draw on a phenomenological tradition that includes Heidegger, Merleau-Ponty, Ihde and a range of other recent writers who concentrate on embodiment in the context of work.

The remaining part of this chapter elaborates on the processes that are the focus of the following case studies and, along with the myth of the office of the future, make up the three processes of *Officing*. In detailing ‘setting up’ and ‘making the office workable’, I concentrate on their key constitutive stabilisation strategies and effects or performances. Prior to initiating this, one final point needs to be made about my own process. While *Officing* is presented in this chapter as a relatively complete and hopefully coherent theoretical framework, this has been at the expense of ‘deleting’ its own production. *Officing* did not exist complete before commencing the writing of the following case studies or develop in a smooth and unproblematic fashion, and

\textsuperscript{20} For more on this see Bannon and Schmidt (1992) in which they give some background history to the field of CSCW and put forward their suggestion that the main agenda of CSCW should be extended from supporting group processes to supporting ‘requirements of cooperative work arrangements’ (7).
is in most part a result of the analysis and writing up of the case studies. Some of the key moments of its formation were those occasions when the task of identifying what was most significant in the vast horizon of detail generated seemed impossible. It was in reflecting on these moments and becoming familiar with the cases through reading, writing, mulling and presenting the findings that Officing developed into a more fully-fledged approach. This production process is brought to the surface in a limited way through the inclusion of some key examples in outlining the two processes of Officing below, and will perhaps be apparent in reading the case studies, which were both the media for the development of this account and the subject of its application.

Setting up the office: space, time and technology

We have become accustomed to think of the office as the physical setting in which information and communication activities occur, and the tools of the office as merely instruments for supporting an already defined role. This is certainly the understanding of the office I brought to my research project. However, in the process of collecting advertisements and cut-outs that challenged the idea of the office as located in place and time, I started to question this commonsense view. This was further reinforced by difficulties in selecting and recruiting research sites I encountered ‘locating the field’. In the search for definitions I turned to the etymology of the word ‘office’ and to Weber’s voluminous writings on the origins of bureaucracy. In so doing, I started to develop a different understanding of the office as the materialisation of agency and authority granted to a person in their role.

The word ‘office’ comes from the Latin officium meaning ‘service’ or ‘duty’ to mean a proxy form of authority. Weber has suggested that prior to the Middle Ages there was no distinction made between authority and the form of rule—rules had a much more direct relationship to the figure that issued them. Sovereigns made orders, sometimes from the throne or on horseback and increasingly, in the form of written messages scribed by church clergy. Clerics, who could read and write, accompanied the sovereign wherever he went and made up his staff (the forerunner of clerks). The idea of the office as a duty or service therefore developed over an extended period as the link slowly loosened between rules and how these were issued, facilitated by the
development of writing, writing technologies and a literate class. The association of the office with a place emerged much later, in the seventeenth century, with the French *bureau* meaning ‘desk’. The word *office* and *bureau* became increasingly interchangeable as the duties performed by public officers became associated with the place of their performance—at a desk. In his review of the origins of the word *bureau*, Kilcullen (1996) draws attention to the forms of modern organise in his suggestion that bureaucracy can be understood as rule conducted from a desk or office.

Weber (1978) viewed the emergence of an abstracted relationship between rules and their execution as foundational to modern bureaucracy. He referred to this relationship as ‘calculable rules’ or ‘rationalisation’ and claimed this development was unique to Western societies. In his view, the investment of authority in an office depended on the emptying out of the full range of capacities and actions of a person:

> Bureaucracy develops the more perfectly, the more it is “dehumanized”, the more completely it succeeds in eliminating from official business love, hatred, and all purely personal, irrational, and emotional elements which escape calculation. (975)

From this perspective, the role or office is a depersonalised person, so to speak, so that what is left is a prescribed set of functions that can be captured, calculated and measured. Weber underlines this understanding in his claim that, ‘entrance into an office…does not establish a relationship to a person, like the vassal’s or disciple’s faith under feudal or patrimonial authority, but rather is devoted to *impersonal* and *functional* purposes’ (959). Although Weber did consider some of the pre-requisites for obtaining an office (such as the necessary qualifications achieved through extensive specialised training and the appointment process) he did not elaborate on the strategies by which organisations establish this abstracted relationship. Moreover, by focusing purely on social aspects, Weber reinforced the dominant view that technology and other kinds of objects played no part in this relationship and were simply the necessary and neutral equipment supplied for the job.

Material resources, however, are not randomly or neutrally allocated to new employees upon entry to an office but rather, form an integral part of the overall
induction of newly appointed staff. Trowler and Knight (1999) define an induction as ‘professional practices designed to facilitate the entry of new recruits to an organization and to equip them to operate effectively within it’ (178). Inductions are often divided into a socialisation dimension that involves learning the tasks of the job and the rules and codes of behaviour and a material dimension that involves being equipped, or set up. Setting up, however, is not a neutral process set against socialisation. In addition to carrying wider social meanings that express the value of the organisation, setting up helps to mark the passage from person to role, establishes boundaries between inside and outside, and prescribes the capacities for action—what can be done within those boundaries. Setting up is thus ‘strategic’ in the sense suggested by de Certeau (1984). Its objective is to delineate a formal and ‘proper’ territory distinguished from an outside: ‘every “strategic” rationalization seeks first of all to distinguish its “own” place, that is, the place of its own power and will, from an “environment”’, writes de Certeau (36).

By materialising authority in the role or office and delineating the office as a ‘place’, setting up can be understood as an organisational strategy for realising the abstracted relationship identified by Weber and for defining membership more broadly. It is a process common to many organisations and to other kinds of groupings, including households, and can thus be seen as an aspect of organising in general. Setting up, however, is not some kind of universal and unchanging process. It goes hand-in-hand with the development of the modern office and is shaped by large-scale social changes including new patterns of employment, commercial trends, and labour and management movements. Such was the case with Scientific Management, which strengthened setting up as a strategy through its formalisation as a scientific method and the development of a unified system centred on the desk. At the same time, Scientific Management was also responsible for effacing this strategy, reinforcing the idea that equipping workers was a purely neutral process of supplying tools necessary for the job. This instrumental understanding is still prevalent in society despite its sustained critique and is ingrained in the discourse of business and management, which reflects a long history of equating technology with its potential to bring about improved operational efficiencies.
The understanding that objects of work are encoded with meanings in the process of setting up resonates with many insights from STS and Cultural Studies. In the development of new technological objects, designers anticipate the preferences, motives, competencies and tastes of potential users and ‘script’ (Akrich 1994) or ‘configure’ (Woolgar 1991) these understandings into the design of the object. In the last chapter this was analysed at the level of the discursive production of the office through visions of the office of the future. Here, we saw how a set of new meanings about mobility, flexibility and freedom form the basis for the development of new forms and identities of the office through a kind of ‘sacrifice’ of previous forms summed up in the figure of the desktop. Organisations are both targets of this production (they are considered to be a special kind of consumer often labelled ‘enterprises’) and producers in their own right. This production takes place in the process of being equipped or set up and the resulting configuration is the materialisation of authority in the ‘role’ or ‘office’.

The understanding of the office as a production also parallels a line of thinking in Organisation Studies on the built environment and its relationship to the regulation of labour. In their analysis of the organisation of space in the office workplace, Baldry, Bain and Taylor (1998) argue that, ‘work buildings are structures of control—they both house the labour process and, in so doing, facilitate control over it by the way that space is organised’ (164). One of the strengths of this spatial approach initiated by Baldry (1997; 1999) is that through it, it is possible to expose the meanings inscribed into the work environment, countering the perception that the office merely exists as a neutral shell housing the labour process. Baldry proposed a typology of the kinds of spatial organisations in the workplace: the fixed, semi-fixed and ambient environments. Through these he shows how hierarchy and authority are produced through the organisation of space. Baldry’s typology draws together many aspects of the materiality that constitutes the work environment and shows how, through its systematic organisation, certain kinds of working relations are produced. Because of the long history of the systematisation of office work this typology is applicable across many different organisations, despite the presence of different and sometimes multiple discourses of work and work arrangements.
However, one of the limitations of Baldry’s approach is that it does not include technology in its typology of the built environment. Because of this, it fails to address how spatial constructions of the office blend or fuse built and electronic spaces in such a way that they are, as Schwarz (2003) has suggested, ‘logically interlinked’ (22). With these fusions constituting a significant proportion of the space of the organisation, the need to develop a sense of the built environment that includes technology is more important than ever. Ironically, this coincides with visions of the office (promoted by the telecommunication industry) that technology now frees work (and workers) from built environments. It is precisely this inattentiveness to the linkages between physical and electronic spaces of work that enables such claims to be made, adding to the need to include technology in a definition of the built environment.

This need was particularly highlighted in the Worldcom case, where it became increasingly clear that the dislocation of work from the central office was not a straightforward substitute of the located office workplace with the dislocated mobile/virtual office platform, but an entirely new set of dynamics and dependencies between these. At Innertown, the relationship between the electronic and physical workplace was similarly enmeshed and it soon became evident just how much of this blended environment was connected to ‘outside’ physical and electronic infrastructures such as homes, cars and portable storage devices. This draws attention to another limitation in Baldry’s typology: an overemphasis on internal aspects of built environments, making it difficult to address spaces of work not contained in a building site. Down and Taylor (2003) point out this limitation and extend Baldry’s typology through the concept of ‘proximate space’ to include locales outside of the bounds of the office workplace such as the local pub and the home of the boss.

I suggest an alternative typology to describe the material arrangements of employees that incorporates technology, space and time. This typology preserves the insight that functional and symbolic meanings are produced through material relations and that these meanings contribute to the structuring of power. It also recognises that space, time and technology are interwoven and often operate beyond the boundaries of the workplace. This does not mean that these material arrangements alone define the space of the organisation or of work. Several researchers have shown how
organisational space and work can be evoked from talk or even a mental frame of mind. Indeed, this becomes an important point of difference between organisational and individual processes of *Officing*. What it does mean is that these weavings of space, time and technology and the logics that inform them are important because they constitute the *official* space and time of work.

This typology is based on the variables of *allocation, access* and *location* that manifest spatially and temporally as a *material configuration* through the process of setting up resulting in an ‘office setup’. The meaning of configuration refers at its most literal level to a purposeful arrangement but it also refers to the shape given to these arrangements through its origins in the ‘con’ of ‘figuration’ coming from the latin *configurāre* to mold, shape.\(^{21}\) In this sense, material configurations can be understood as delimiting a ‘domain of equipmentality’ (2000) as initially suggested by Heidegger in his concept of an ‘equipment structure’ or ‘total equipmentality’, to refer to those sites that contain equipment and constitute (or co-constitute) environments in themselves. In so doing, configurations define a territory or *location*. ICT must be treated as part of these configurations and not as a separate layer independent of other objects. ICT, such as desktop computers, displays, keyboards, laptops, mobile phones are physical objects layered in and over other material forms such as desks, chairs, paper files, filing cabinets, walls, floors, ceilings and lights. In addition, digital devices are incorporated in and at the same time extend the physical work environment since they operate as interfaces to the organisation’s IT system and potentially to other kinds of private or public computer networks like the Internet.

These strategies can be analysed separately but as Baldry (1999) observed in relation to the real world application of his typology, conceptual categories are separable for the purpose of explanation but experienced holistically by workers (540). Strategies are relational and it is through their mutual elaboration that the meanings and shape of the ‘office setup’ materialises. In summary, then, these three operations can be understood as:

- **Location:** is one of the main organisational strategies for identifying, positioning and representing offices in relation to one another and in relation to an ‘outside’. It is also the main mechanism through which the macro-environmental conditions of work are controlled and standardised including lighting, sound, movement and climate such as air temperature and ventilation.

- **Allocation:** of material resources is one of the main strategies for defining and materialising individual work spaces in relation to the overall place of work. Like location, allocation entails variations between material configurations, specified through the quantity, capacity, type of equipment and degree of participation and control by employees or users of allocated resources.

- **Access:** is a strategy whereby organisations prescribe when, where and how material resources are to be used. One again, access also defines differences between material configurations in the form of levels of access expressed as access privileges. Access is also tied into how work time is defined since it is through access that the presence of an individual employee at work can be identified and recorded.

At the point that a staff member occupies their office setup, they are positioned in relation to material configurations with a status of pseudo ownership even though they are not recognised as owners in a legal sense. This status is akin to occupancy, in that individuals have a degree of control over their allocated material configurations while they are in use. Control, here, is conceived in a programmatic sense of having the language and know-how to decode the built-in symbolic and functional significance of office setups in order to perform the tasks of the job. This control is also provisional, since it can be withdrawn under a host of conditions ranging from an assessment of inappropriate use through to more regular occasions such as the need to update software, replace or update furniture or to vacate the workspace for use by another member of staff. In addition to limits placed on the control of these material configurations, employees have limited choice about the selection and make up of their work setup. It is within this dynamic and complex context that staff members occupy their office setups as users. So, while the office setup can be understood as a production that establishes the official agency and
identity of individuals through material configurations, this nevertheless does not occur in any automatic sense. This is accomplished through the ongoing efforts to turn the office setup into a productive platform, a process that can be understood through the concept of *workability*.

**Making the office workable**

Workability is the concept developed in this thesis to examine use in terms of strategies of stabilisation. Workability brings together two different concepts, that of ‘bricolage’ and ‘articulation work’, to explain the creative and improvisational work performed by individuals in getting work done and making sense of their world. Turning to the first of these, the concept of ‘bricolage’ from the French ‘*bricole*’ meaning something small and handmade like a piece of craftwork, was initially developed by Levi-Strauss (1966) and de Certeau (1984) to refer to the ways that individuals and small groups borrow from existing cultural forms and meanings to create new uses, meanings and identities. Chandler (2007) cites Levi-Strauss, noting that for him, ‘mythical thought’ was itself ‘a kind of bricolage’, a product and reification of language in its everyday use (205). Now an established concept in Cultural Studies, bricolage is an important concept for understanding how meanings and uses inscribed into all sorts of forms, including technology, are not simply read or activated but are transformed in use through their *appropriation*. Users gain a sense of control and ‘ownership’ through this process, which is dialectical, leaving neither the technology nor the person untouched. It is in this sense that some authors have argued a relational definition of ownership that goes beyond occupancy (Noble and Lupton 1998; Noble and Lupton 2002) and beyond its legalistic status as an attribute of possession (Lally 2002:25). The concept of bricolage also points to the improvisational qualities of appropriation and its status as work. A *bricoleur* is thus a person who constructs new meanings and forms by drawing on and assembling a wide range of resources at hand, sourced from multiple spheres of life.

---

22 In cultural studies, ‘bricolage’ has also been applied to work on subcultures and lifestyles with a particular emphasis on the juxtaposition and improvisation of signs and meaning systems in processes of identity formation (O'Sullivan, Hartley, Saunders, Montgomery and Fiske 1994).
As previously explained, there is a tendency within accounts of appropriation to reinforce the drift towards stability of technology and to grant individuals and collectives too much control. This is especially highlighted in an organisational context where multiple and competing ends are negotiated on a daily basis and many competing strategies of stabilisation are in play. Working as an IT systems consultant gave me a sense of just how provisional and temporary this control could be, and this was reinforced through reading the technology diaries of the research participants. The volume of problems staff faced in their daily work and the accompanying sense of frustration and loss was clearly not a minor or trivial aspect of daily work, confirming to me that the daily limits to agency and attempts to overcome these are defining features of our relationship to the material world. Recognising the productive aspects of these limits required a move away from the reliance on the explanatory power of the dialectic with its fixed structures on the one hand and the exercise of agency through appropriation on the other. It meant developing an account that identified these limits as points at which meanings and uses are re-articulated and the significance of the material world is once again re-invented.

The concept of articulation work facilitates identification of the ongoing limits to agency and attempts to overcome these as transforming agents in themselves. Initially put forward by Anselm Strauss (1985), this concept has been developed by several authors (see for example Star 1991; Schmidt and Bannon 1992; Suchman 1995; Star and Strauss 1999; Schmidt and Simone 2000) to become an established analytical tool for informing design processes in fields such as CSCW and Workplace Studies. In this context, articulation work is quite narrowly defined to refer to the ‘real time’ activities that enable cooperative work to take place with the support of technology. It includes dealing with contingencies, keeping technologies and systems working and making adjustments to accommodate for problems. Suchman described articulation work (1995) as,

> various forms of professional configuration and customization work, as well as an open horizon of mundane activities involved in incorporating technologies into everyday working practices, and keeping them working. (407)
In combination with naturalistic investigations of work, articulation work has facilitated an engagement with the increasingly complex technological arrangements and environments of work. It has been a powerful tool for highlighting practices deemed unimportant or even completely ignored but which are nevertheless crucial for accomplishing work. It has also been used to review commonsense categories like ‘group’, ‘task’ and ‘team’ that, if incorporated without question into new technological designs, can potentially reinforce inequalities at work. Articulation work, however, has the potential to be applied in a broader sense to help explain the significance of daily limits to agency and attempts to overcome these as part of the ongoing process of appropriation. In its initial formulation, Strauss (1985) described articulation work as:

First, the meshing of the often numerous tasks, clusters of tasks, and segments of the total arc. Second, the meshing of efforts of various unit-workers (individuals, departments, etc.). Third, the meshing of actors with their various types of work and implicated tasks.

What is important about this definition is that articulation work is explained in relation to the way that work is organised, providing a way to expose formal work arrangements and procedures as contingent accomplishments of everyday, local work practices. Moreover, these practices are shown by Strauss and others (Suchman 1995; Star and Strauss 1999) to be subject to a politics of visibility that reproduces the way labour is divided up and valued in modern societies. By exposing work as relationally defined through the denial of the conditions that makes work possible, this definition of articulation work offers a way to critique the rationalisation of work in its broadest sense. This definition also has parallels with the meaning of dislocation developed by du Gay (1996; 1997) in which identities have a similarly reciprocal and contingent relationship to an ‘outside’ or ‘exterior’ through which these are both formed and denied.

Read alongside Weber, this expanded definition of articulation work (and its connection to dislocation) provides the basis for a new understanding of the office as a formal mechanism for investing agency, authority and identity into a material configuration that is dependent on and inextricably bound up in its ongoing articulation. Some of this sense is preserved in current uses of the concept. However,
I suggest that in the context of the current discourse of mobility and flexibility and large-scale transformations in the meaning, location and activity of work, the need for an expanded definition of articulation work comes to the fore: to address how work is being organised and rationalised through its dislocation, and to identify the ongoing articulations and re-articulations that this entails. This expanded definition is achieved by combining ‘articulation work’ with ‘bricolage’ in the concept of workability.

Workability refers to the daily efforts of individual workers to bring together and pull apart resources to support their work through their office setup. Workability is also the term for the temporary and provisional condition of stability achieved through these efforts. Efforts towards workability are primarily directed towards the production of work but are also performed to meet demands and expectations that exceed work. In either case, in making the office workable resources from inside and outside the official office setup are drawn on. These efforts can be understood as personal stabilisation strategies made up of numerous daily activities. The three main types of daily activities are: connecting, synchronising and configuring. These activities have been grouped separately to highlight their relation to the underlying constructions of space and time that make up the office setup, that is, the variables of allocation, access and location. In practice these activities and categories overlap and blur, taking place continuously as part of the ongoing stabilisation of the office. Nevertheless, through connecting, configuring and synchronising the space and time of the office as defined through the office setup comes to appear as a somewhat separate and mostly invisible structure or ‘infrastructure’ and it is through these activities that the office and the office worker are prepared and repaired for work.

Preparation and repair can be understood as two dimensions of workability that apply to all activities of connecting, configuring and synchronising. Repair is a subject of study in its own right and has historically intersected with research mentioned on forms of hidden, tacit, or invisible labour (see Orr (1996) on photocopy technicians, Barley (1996) on workplace technicians and Henke (2000) on building mechanics). In a similar vein, Dant (2004) has taken up repair to expose the embodied and material aspects of car mechanics’ work. It is only relatively recently, though, that this term has been applied in the context of contemporary office work. Laurier and
Philo (1999), for instance, and Laurier separately (2002; 2004) have highlighted the repair work of mobile professionals in assembling the car as a place of work or office. Felstead, Jewson and Walters (2005) build repair work into their model of ‘plural worksapes’ to show how the space and time of professionals’ work requires ongoing responses to unplanned interruptions and disruptions in the execution of work tasks:

The best-laid plans go astray—the car gets stuck in traffic, trains are delayed, baggage is lost, an unexpected visitor has to be entertained, the data projector bulb blows, coffee is spilt on the keyboard. Processes of assembly are unravelled by a myriad of contingencies, urgencies and emergencies that frustrate predictability and certainty. (19)

Clearly there are similarities between these concepts of repair and articulation work. Their distinctive treatment in the past, I suggest, has more to do with their associations with class and gender than essential differences between them. Earlier studies of repair work reveal a primary concern with the labours of blue-collar workers and an emerging class of technicians (in both cases usually male) whereas the work of female clerks and secretaries was the focus of the initial application of ‘articulation work’. Nevertheless, both types of work convey the key idea that in order to function at all, complex and heterogeneous systems of all kinds require the attention and activity of individuals and groups in the flow of work and that this is an ongoing process.

This basic understanding underpins the concept of workability and to the activities of connecting, configuring and synchronising performed to achieve it. Any remaining associations with gender and class that might set repair apart from articulation are done away with in Officing. Repair is, however, retained as a distinct category, just not as a category of work. Rather, repair is used to indicate a relationship to time. I suggest that every act of connecting, configuring and synchronising has a temporal orientation defined as either repair or preparation. Thus, if repair is understood as a plan of action or steps taken in reference to the past, that is, towards return to a projected pre-existing state then preparation refers to a plan of action or steps taken in reference to a projected state that is not yet apprehended. These distinctions are necessarily subjective and relative, since there is no way of getting outside of time to
 perceive an objective orientation to it. Nevertheless, they are significant to consider in analysing the activities performed by workers towards workability, since the temporal orientation of these activities and indeed, the very capacity to orient activities to time is one of the main ways that individuals organise and make sense of time and change in their everyday work lives.

The work that goes into making the office workable takes place around the boundary of work and has implications for how this boundary is constituted. In the case of *Innertown*, activities of connecting, configuring and synchronising are clustered loosely around the beginning and end of the standard 9–5 workday. In the case of *Worldcom*, these activities were not concentrated in a single place or at certain times of the day. Instead they took place in multiple places and times based on two standards of working time: a global workday based on continuous production, and a local workday based on production during set times of a day. In this case, there was little if no separation between work and non-work efforts towards workability, and making a distinction usually involved marking a new boundary between them. These efforts, therefore, do not cluster around boundaries in any simple sense but become part of the process of boundary making. This is explored in more detail in the following two case studies drawing on the concept of ‘boundary work’ developed by Nippert-Eng (1996) to understand how efforts towards workability contribute to the construction of boundaries of the office and between ‘work’ and ‘life’.

Activities of connecting, configuring and synchronising take place in, through and on objects and the body producing some sort of change. In this way, efforts towards workability involve an embodied transformation. In the tradition of phenomenology, most notably in the works of Heidegger, Merleau-Ponty and more recently Ihde, ‘embodiment’ is a key concept used to explain the relationship between subjects and objects. In large part stimulated by this tradition, writers have elaborated on embodiment as better understood as not contained in the body but as spread or distributed through social, material and discursive arrangements of which they form a part (Haraway 1988; Haraway 1991; Henke 2000; Suchman 2004). In a similar vein, Henke (2000), in his study of mechanics conducting repair work, develops a performative and networked account of embodied skills. He suggests that *skill* is not contained within the body of the worker (as a traditional account of embodiment
would suggest), but is instead ‘distributed among a variety of bodies and things, this “dissolving of the skin” embeds the worker’s body within a web of techniques and technologies.’ (63)

Dant (2004) also focuses on embodiment of skill or ‘know-how’ in his study of car repair and maintenance work. He provides another way of thinking about skill as contained in the body and in culture, as a kind of literacy of techniques that have been acquired over a long period, enabling members of a culture to read and respond to the intentions embedded in objects (134). Finally, Goodwin (1994) expands on the definition of skill as a set of acquired manual or cognitive techniques to include a way of being and seeing the world, what he calls ‘professional vision’ to explain the way that professional membership is constituted through sensory activity. The concept of skill deployed in Officing draws on these additions and is underpinned by an understanding of the body as part of a larger material, social and discursive site or topology that supports multiple absorptions and distributions. Tracing efforts towards workability is thus a way of uncovering how the body, as a constitutive part of the office, is formed through embodiment, how it gains its competencies, social meanings and ultimately, how workers gain access to and a sense of what it means to be a professional.

**Conclusion**

*Officing* is the material processual account of the office developed in this chapter to initiate a shift away from thinking about office forms to a more contingent, ongoing process. I have reiterated the importance of this shift and introduced a number of key terms and concepts that appear in the following case studies. The concept of stabilisation, which refers to the contingent, ongoing process of negotiating the meaning and shape of technologies and systems, provides the foundation for this account. Stabilisation strategies, I have suggested, operate at different scales of power that intersect in space and time, conjuring Serres’s metaphor of the tissue. I introduced the concept of the office setup to describe how the material and social arrangements of work are constituted in a material configuration made up of the variables of allocation, location and access. Workability was another other major concept introduced, to refer to the temporary and provisional state of stability.
accomplished by individual employees in their daily work, which enables them to perform their role or office, complete specific tasks, and negotiate the demands and expectations that exceed those programmed into the office setup.

In the following case studies I describe the office setups of the staff at Innertown and Worldcom, highlighting the differences between these and how they are shaped by current technological discourse. The substantive portion of these cases studies is the tracing of the process of making the office workable to identify and describe the work that takes place in, on and through the office. Officing provides a more nuanced approach to the interactions between technology, space and time. Together with the selection of cases and research methods, this account enables an investigation of new office forms as an emergent phenomenon arising from the effort, space and time invested in making the office a productive platform of work. This approach also helps to avoid the problem of ‘conceptual inversion’ as described by Barley and Kunda. Thus, rather than reinforce metaphors that stand in for abstractions of the new such as ‘boundaryless’, ‘virtual’, ‘mobile’ and ‘flexible’, Officing provides a way to assess the specificity of organisational responses to technological discourse and the potential for change in a range of work settings including those considered old or traditional.
Chapter 4  Innertown: a municipal council in Sydney

Introduction

This case study of a municipal council in Sydney facilitates the investigation of changes in the space and time of work in a work setting representative of a traditional ‘bureaucratic’ form of the office. By bureaucratic, I mean a centralised model of the office workplace forged through the abstracted or rationalised relationship between the individual and organisation identified by Weber (1978), and the systematisation of this model since Scientific Management. The main focus of the study is on the daily use of ICT by staff but the study begins with a description of the work arrangements at Innertown based on the typology of the ‘office setup’ developed in the previous chapter. Through the framework of Officing, the ongoing
modifications to the office setup that are often hidden are identified and described and the following questions addressed: how is the space, time and technology of work organised at Innertown? What kind of model of the office is materialised and how does this define the culture and power relations of the organisation? How is the space and time of work negotiated in the daily activities of connecting, synchronising and configuring? What are the kinds of problems that staff encounter on a daily basis and how do staff respond to these? How are efforts towards workability related to the definition of the boundary between ‘work’ and ‘life’ and finally, how is the body engaged in these negotiations and in the construction of a sense of space and time in relation to work? In addition to addressing these questions, this study lays the groundwork for a general assessment of the applicability of Officing for identifying patterns of change across different organisations and settings, taken up in Chapter 6.

The office setup at Innertown

My first impression of the office workplace at Innertown was of uniformity. The majority of the three hundred full-time and part-time staff were located in a grey, three-storey concrete building known as the main administrative centre. The main
work areas in this building were ‘open-planned’, with individual workstations divided into rows and separated by shoulder-height, semi-permanent fabric and wood-panelled partitions. The artificial cooling generated a constant background hum. One level of the building had been recently painted a bright coat of orange, making the space feel hot in the afternoon sun even with the air artificially cooled. Vertical blinds covered the tinted and sealed windows and wrapped around the room, set at angles to cut out the glare and radiant heat. Nearby, a shared printer and a fax machine huddled in a corner of a room off the main corridor, next to the tearoom and toilet.

We can recall from the elaboration of *Officing* in the last chapter that the scope and capacity for action, authority and even the identities of workers are partly defined through the process of setting up—made up of strategies of location, allocation and access. The office setup is a product of this process and can be understood as the materialisation of the role in the office. Partly because of the history of the systematisation of the modern office, this process is detectable in many organisations and is dominated by an instrumental logic of efficiency and productivity. From this perspective, the main administrative centre at *Innertown* did not simply locate or accommodate workers and their tools. It put to work relations between multiple office setups in space and time, drawing these together to produce a stabilised form off the office workplace defined in relation to an ‘outside’.

Within this working environment, locations were designated to individual employees in the form of a workstation, which consisted of an allocation of material resources including space, and access to these and other individual and shared resources. Employees were also allocated several virtual identifiers, such as a telephone extension number, email address, computer profile, security pass and business card. It was through virtual identifiers that work could, at least technically, be dislocated from specified workstations and relocated elsewhere, allowing staff to move around within the workplace. This was enabled by a portable user profile, which provided access to the organisation-wide IT system from any networked computer set up at *Innertown*. These locations were recorded and represented in a variety of forms: as an office floorplan, network diagram, organisational chart, internal phone directory
and email list. It was through location and its representation that individual employees could be identified in their position.

The definition and organisation of locations at Innertown helped to establish a centralised model of the office workplace and instituted a culture of segmentation. Segmentation refers here to the way life activities and subjectivity are divided into, in Nippert-Eng’s (1996) description, ‘two entirely different matrices of order and meaning, each associated with a particular place and time’ (22-23). By barring access to the building outside of work times, discouraging movement of data between the workplace and the outside world and allowing remote access to the IT system to but a few ‘privileged’ staff, office setups at Innertown marked a distinct boundary around the official space and time of work and defended against crossovers from outside this territory. This was also one of the ways that Innertown set opportunities and constraints for individual staff to establish their own boundaries between ‘work’ and ‘life’. But if location was one of the main strategies for marking the boundaries of the workplace in relation to an ‘outside’, it was also a strategy for delineating boundaries within the organisation by organising individual ‘offices’ in relation to one another based on differences and similarities of location.

For, although on first impression the workplace suggested regularity and uniformity of arrangement, on closer inspection there were a number of differences expressed through the size of workstation, the degree of privacy, visibility of or by other staff and proximity to natural light. For example, several council staff worked in enclosed offices including Betty, the Human Resources Officer and Ulga, the Team Leader of Building Development Assessments. Some staff, like Samantha, the Waste Services Coordinator, had better access to natural light and more privacy than other staff by being located next to a window and/or in a corner of the room. In other parts of the building, similar differences were apparent. The Information Technology (IT) Manager, for example, has an enclosed office and sat next to a window but the rest of the staff in IT Services were located in the room outside his office within his sight.

Differences were also defined through the location of sections within the administrative centre and in relation to outreach services ‘outside’ the building but still within the local municipality. IT Services and the Geographic Information Space
(GIS) Analysts were located in the basement next to the central print room, computer server room and underground car park. This room was divided into two separate work areas to distinguish them but there was regular traffic between these sections as they shared an entrance and tea and coffee making facilities. Both rooms were small and a large portion had been dedicated to accommodating council’s computer servers, which were located in a separate room enclosed by glass walls and a heavy door. The environmental conditions necessary for the servers meant this room was cooler than other areas of the building and when the door was opened, it gave off a loud drone.

One of the most noticeable differences in locations of staff applied to the Citizens’ Service Officers (CSOs) who provided a front-line information service to residents of the municipality, developers, suppliers and other customers. These staff were not allocated permanent workstations and instead, divided their time between the ‘front-desk’ service counter and the call centre at the back of the building next to the Records Department. At the front-desk service counter, officers were seated on raised stools along a long, l-shaped desk facing the desktop computers. Beyond the counter was the public waiting area where members of the public or ‘citizens’ visited

Figure 22 IT Services and GIS Analysts share an area in the basement with the computer servers.
in person to pay bills and rates, submit development applications and access information about local services. In the call centre, workstations were arranged in rows with workers seated back to back in cramped quarters in ‘bullpen’ style—a stark contrast to the more spacious cubicles of other Innertown staff.

Innertown has a number of outreach centres that provide direct services to the public such as the library, childcare centres, home and community care, the service depot and cultural development centres. Location plays a major role in setting the material configurations of staff in outreach centres apart from those working in the main administrative centre. One example of this was the speed of the network connection to the computer servers. This connection was the same link used to access the Internet, so outreach centres often had patchy and interrupted access to online services and web sites. Additionally, because of the limited speed of the link, outreach centres did not receive the same standard installation of required software packages. Trim, a data storage program that council implemented in 1999, was one of these. All staff at Innertown were required to enter documents and updates made daily into this program. At the outreach centres, however, staff did not have this program installed on their computers due to the slow speed of their network connection.

Many aspects of the allocation of material resources at Innertown were highly standardised. Each workstation was set up with a desk and an ergonomically designed chair. All of the desks were a generic grey with a drawer unit. Some of these had built-in shelves or paper filing trays elevated above the desk for storing internal correspondence. A fixed phone sat on every desk next to a black desktop computer with flat-screen display. Computers were networked to the IT system and the desk phone to a stand-alone internal phone system. There was a footstool under many of the desks and a cluster of cables fed down from the back of the computer into network points positioned at various intervals along the wall. All staff had a selection of stationery including post-it notes, pens, pencils and paper, rulers, paper clips, staplers and replacement staples and an annual flip page calendar. There was a shared printer, photocopier and a fax machine and a set of commercial printers in the basement that could be used for more complex print and copying jobs.
All the desktop computers were initially set up with what technical officers commonly referred to as a ‘standard build’. The standard build included the installation of a current version of the Windows Operating System, a selection of software programs and a user profile providing access to a personal desktop area with document storage (My Documents folder), an email account and access to shared printers. A current version of the Microsoft Office suite composed of Word, Outlook, Powerpoint and Excel was also installed as part of this build. A number of council specific programs included Trim; a data storage program, Merit; a customer relations management system, Proclaim; a property access system and the corporate directory. All the general staff had access to the web via Internet Explorer and to email through Outlook.

Just as there were variations in the location of office setups, so too were there differences in the allocation of material resources. Mike, the Landscape Coordinator, was set up with a large computer display, a digital drafting tablet and a desktop computer with enough capacity to run a wide range of graphic software and display three-dimensional visuals. He also had specialist software including CAD, for architectural drawing and Benchmark, a project-estimating program. The Environmental Officer and Waste Services Coordinator both had work-allocated mobile phones to coordinate with council staff and volunteers when they were away from their desks. Beatrice, the Cultural Development Coordinator had a work allocated digital camera and an array of photographic and video editing programs installed on her computer. The Geographic Information System (GIS) Analyst was allocated several mobile handheld computers, which were prepared daily for the property development officers who used them to record and collect data while visiting building sites in the municipality. The Team Leader of Building Development Assessments had a large wrap-around desk.

The allocation of material resources also varied between different sections of the council. The IT and GIS staff were allocated similar equipment to other staff. However, they had larger displays and more powerful computer processors. In addition to no permanent location, the CSOs did not have a dedicated computer, phone, desk or chair. Instead they were expected to find a new workstation at the beginning of each weekly shift, depending on whether they were working at the
service counter or the call centre. When in the call centre, officers selected a workstation at which was set up permanently a fixed phone and desktop computer with two flat screen computer displays and a wireless headphone set. Similarly, when working at the service counter, these same officers selected one of the workstations arranged along the counter facing the public. There were a number of shared utilities in both locations including a printer, photocopier and fax.

Access was an organisationally defined set of policies, technologies and settings widely applied to the resources of the organisation, including the physical buildings owned by council and the IT system. Like allocation and location, access was subject to standardisation. Access was assigned to individual employees and recorded in a variety of ways: as a security ID card, ‘user’ profile on the central IT server, electronic file in human resources and as a hard copy file in the Records Department. Most council staff had an ID card that enabled them to access the main building. They were allocated individual usernames and passwords to access their computer profiles, which were designed to be accessible from any computer on the IT network.

Access was assigned to material resources as well as to individual staff. So for example, the IT Department was planning on introducing a mechanism for preventing digital storage devices such as USB’s to be connected to desktop computers. Similarly, the council’s central mail server was set up to prevent access to emails considered to be spam. By limiting access to material resources, the assignment of access could also act to limit access to other people. This applied to staff and to people outside of council. For example, by publicising a single phone number that connects to the CSOs, the public’s access to individual staff members was limited. The CSOs had the role, then, to determine whether to connect a call to an individual staff member or not. Access was monitored through devices that recorded access times. This included both physical and electronic access, so that each time a staff member logged on to the IT system this was recorded as a session on the central server, and each time an ID card was swiped at the time of entering or leaving the building.

While access rules and policies are highly standardised, access is also one of the main expressions of variations between material configurations, specified through
levels of access in the form of ‘access privileges’. These privileges were attached to a staff member’s official ‘identity’. So, for example, the Cultural Development officer had access to video editing suite as mentioned previously, set up through the initial software installation on her computer. Human Resources staff and a number of Managers had access to the Payroll system. These privileges of access were initially established through installations on individual desktop computers but continued throughout the employment contract. Access privileges also applied to the IT network from ‘outside’. The IT staff and GIS Analysts, for example, had special access to the central server. The Landscape Coordinator was one of a small group of executive management with access to the council’s IT system from home.

It was in the access arrangements of Innertown staff that some of the tensions of a discourse of mobility and flexibility were starting to be expressed. A new flexible work framework in development at the level of the state government operated as a kind of macro-organisational process of setting up. Drawing on a discourse of mobility and flexibility, this framework represented a challenge to the process of setting up within individual councils. Voicing this tension, the IT Manager mentioned to me that implementing the flexibility framework was going to be the toughest challenge that he expected their department to face in the next five years.

The process of setting up marks a ‘forgetting’ of the office as a process in the present and a forgetting of the work (and time and space) involved in this process. In other words, to use an expression established in Actor Network Theory, these processes are ‘black-boxed’. In this state, it is not just the processes that are forgotten but also knowledge of the rationalities and contradictions that are inscribed in the process of setting up. In the case of Innertown, these office setups put into material form a centralised model of the office in and through a discourse of efficiency and productivity and even though a flexible framework was in development at a meta-council level, this had little influence on the process of setting up at a local level. This, in turn, instituted expectations that staff perform as ‘efficient’ selves, manage their workloads in the times and spaces dedicated to work and maintain a high degree of separation between their ‘personal’ and ‘professional’ lives. It was this stabilised form that employees encountered in their daily work. Yet, while the office setup may inform and direct the experience of use (and continue to do so over time through its
regulation, maintenance and development) it by no means dictates it. A creative and productive tension emerges in use for the very reason that the office is not fixed or stabilised and its appearance as a stable form must be worked on continuously for it to be maintained.

**Making the office workable at Innertown**

*Innertown* staff carried out a number of activities to get their office setup ready for work each day and some of these preparations involved work on themselves. Of course, preparing for work starts long before officers arrive at the workplace. Waking up to an alarm set for 7am, ironing work clothes and speedily chomping down a piece of toast before showering and getting dressed, making sure kids are fed, washed and off to child care, rushing out the door to drive to work or catch a bus or train, thinking about what must be done during the day ahead while manoeuvring heavy traffic; all of these activities constitute efforts that go into preparing for work. These are not considered ‘work time’ though, which, at *Innertown*, is officially defined as the agreed time that staff will be present at their assigned work areas to log on to their computers to sign in to their time sheets. Work time, then, is partly defined through the legal contract underlying the job agreement and partly defined through ‘use’, in that, evidence of a workers’ presence is established at the point that they connect to their material configurations of work.

**Connecting**

One of the main preparations for work undertaken by *Innertown* staff is the act of connecting. Connecting can be thought of as a way of marking a temporal event, since it indicates when a staff member makes themselves present at work, and it involves the bringing together of things and people in a specific manner. In this sense, connecting can be understood as preparing technical and social relations for the performance of work at a set time. Danielle, a Citizens’ Service Officer (CSO) described her morning in the call centre as,

> My day: get in, sit down, turn on the computer and then slowly open each software program that I will need to use…turn on the phone, key
in my password, turn on the headphones and sit there and wait for the
calls!

Even though we are accustomed to think of connecting as happening immediately, or
at least we expect it to, connecting is not instantaneous. Connecting usually involves
a number of steps and a specific sequence. At Innertown, computers must be turned
on and starting up takes time as Danielle noted in one entry of her technology diary,
‘start up computer at front counter, took forever to load as usual.’ When the
computer has started to the point of log in, staff must click on a button to confirm
they have accepted and read Innertown’s Internet usage guidelines. Once the
computer has loaded the user profile stored on the central server, staff must then sign
in to their time sheets. In addition, at least five or six software programs that staff
rotate between during the day must be opened. One of these is the email program
Outlook, which on opening initiates a connection to the mail server to retrieve
messages stored in individual mailboxes overnight.

The majority of connections take place on and through desktop computers but other
objects that make up individual material configurations also involve acts of
connecting. For example, the majority of staff at Innertown checked their voice
messages by ringing an extension number on their desk phones. They then connected
to their voice mailbox, which recorded back to them the stored messages from the
day before. Connecting also includes setting desktop items such as the page-by-page
calendar to the correct day and to turning on collective utilities such as the
photocopier and printer and in some cases switching on ambient technologies such as
lighting and air-conditioning. By bringing into alignment the multitudinous links that
make up a working office configuration, acts of connecting are aimed at producing a
mode of readiness for the day’s work to proceed.

Connecting can also be seen as a way of preparing interactions with others, and in
this sense it is as much a social process as a material one. For example, it is not
uncommon for council staff to connect with each other first thing in the morning
over a cup of tea or coffee as their computers are starting up, since this is the first
and possibly only opportunity of the day to greet colleagues and share information in
person. In combination with location, acts of connecting prepare for different kinds
of social interactions. The act of connecting at the call centre, for instance, is oriented towards preparing for continuous phone calls from customers, whereas connecting at the front service counter is oriented towards face to face encounters with the public.

Connecting is a bodily activity. Whether it is to machines or to people, the body moves and acts in certain ways. Staff must display their security labels on their bodies to be able to enter the building. To turn on a light they extend their arms and reach to the wall, their fingers making contact with the switch. At their computers, they bend down to turn it on, sit and face the display to type in their login details and cup their hand over the mouse to click to accept the conditions of use. They double click on icons on their desktop to open their software programs. These bodily movements can be understood as ‘techniques of the body’ in the sense proposed by Mauss (1973) in his lecture to the Psychological Association in 1934, as a way the body learns to move and act and does so in ways that varies between cultures and to the available instruments of a culture. Stressing the role of technologies in this process, writers such as Foucault (1977) and Latour (1988) have demonstrated how technological artefacts shape and even ‘discipline’ human behaviour.

Bodily techniques are produced and reproduced through acts of connecting and at Innertown these are highly standardised. However, connections are not straightforward mechanisms of institutional control or discipline acted on passive and/or unwilling bodies. Even though variations are minimised through the strategy of standardisation, individuals still exercise their own personal agency through these acts. Staff take pleasure from the accumulation of bodily performances and their translation into techniques. One council officer, Oscar, remarked that it feels good to turn the page on his calendar each morning to set it to the right day, it feels like time is passing and he is making progress. The process of starting up desktop computers each morning is another expression of personal agency, stimulating feelings of pleasure. By selecting which software programs to open and the opening sequence, each staff member creates their own order of programs lined up along the bottom of the desktop, which makes them more visible and accessible throughout the day. These small but considered acts endow staff with feelings of mastery and readiness for the day ahead.
As some have argued, conformity of workers to institutionally defined paths of action is not completely explained by accounts of managerial control (Burawoy 1979; Du Gay 1996; Noble and Lupton 1998). Labour processes are able to be standardised and reproduced through daily practices because of the powerful investment of our ‘selves’ in these processes. ‘Professionalism’ is a dominant discourse that underscores this personal investment (Noble and Lupton 1998). Since technological competence is a significant aspect of the discourse of professionalism, mastering the equipment of work becomes a means through which professionalism can be achieved. These are necessarily embodied acts of mastery, since they involve the incorporation of institutionally defined paths of action into our physical schema of bodily skills. Acts of connecting, therefore, can be seen not only as a way that council workers prepare the office setup for work, but as a way they themselves are prepared as professional workers.

Many paths of action, however, lie beyond those institutionally defined, either because they escape or exceed standardisation or simply because they cannot be determined in advance. Changes in location are one of the ways that acts of connecting vary within the council. CSOs must change locations each week, moving between the front service counter and the call centre. Danielle explained to me the different steps she takes when she is at the front service counter:

If I’m at the front counter, then come in, turn on the light, turn on the computer, turn on all the software programs, turn on the ticket queuing system. That’s one thing that’s outside. Then just sit here and wait for customers!

CSOs and staff who work away from a desk for large parts of the day and staff who work in other locations such as outreach centres encounter different requirements of connecting and must develop skills in negotiating these demands. Similarly, staff who have additional or non-standard allocation of material resources, such as specific software programs and other kinds of machines that must be turned on or activated, have different demands of connecting. Staff also bring different levels of expertise to connecting based on their technological experience and even more importantly, their familiarity with the council setup. Moreover, while connecting
usually happens in the morning, in accordance with the beginning of the workday, there is also preparation involved in disconnecting, which for the majority of staff, happens in the late afternoon. For staff who move about regularly, and for those with non-standard configurations, connections and disconnections may need to be negotiated multiple times in a day. These additional negotiations tend to go unrecognised in the workplace and it is not uncommon for staff themselves to ‘forget’ about the work involved. In reflecting on this phenomenon, one council officer drew an analogy with driving,

Some things I do as standard I don’t consider to be tech use as it is now common practice, much like driving a car doesn’t warrant special comment any more…

As acts of connecting are incorporated into the body through daily preparation routines, they become normalised, standardised and ‘automatic’. The body, then, operating as the central site through which connections are performed is also the site through which connections are ‘forgotten’. Ihde (1990), in writing on human-technology relations suggests that embodiment is an ambiguous activity that involves a forgetting or ‘transparency’ of technology as the initial focus of bodily activity:

Embodying as an activity, too, has an initial ambiguity. It must be learned or, in phenomenological terms, constituted…Once learned, the embodiment relation can be more precisely described as one in which the technology becomes maximally “transparent”. It is, as it were, taken into my own perceptual-bodily self experience thus…my glasses become part of the way I ordinarily experience my surroundings; they “withdraw” and are barely noticed, if at all. I have then actively embodied the technics of vision. (73)

From a phenomenological perspective, embodiment is necessarily dependent on ‘forgetting’, to enable the synthesis of technology into our own bodies but this ‘forgetting’ is also one of the main ways that differences in technological practices become invisible in the workplace to our selves as well as to others.

Acts of connecting also vary according to other changes that staff encounter on a daily basis at Innertown. Therese, another CSO, entered in her diary that the machine used to process credit card transactions for residential rates and other council payments was broken one morning:
Credit card reader machine not working this morning, it says “Online disconnect”. We can’t do transactions until midday and before we use the machine we have to turn it off and on, log in name, and then it worked.

In a similar vein, Beatrice, the Cultural Development Officer recounted a day when she set up a portable lectern for an exhibition in a room full of people but had trouble finding a power outlet to plug in the lectern. These examples underscore how connections, to be performed successfully, rely on many other connections to be working at the same time. Connecting, which appears to be a solitary act performed by individuals, is better understood as a shared or distributed act spread over a network of connections. In these situations it becomes difficult to distinguish just who is doing the connecting and in what amount.

Actor-Network Theory (ANT) accounts have demonstrated how agency is always spread in what they describe as heterogeneous networks. Similarly, these accounts have demonstrated how networks or mixtures can be made up of objects as well as people. In turning on lights, starting up the computer, opening up email and voice mail and countless other acts, connections are established with technologies in tandem with action by humans. Making connections, therefore, relies not just on individual bodily skill but on a host of connections being enacted at the same time. Organisations are made up countless dynamic links that must be sustained for successful connections to occur. Because of this, it is not just uncommon for connections to become broken but rather, as Perrow (1984) has pointed out, these unanticipated disconnections are better understood as a normal aspect of organisational life and of systems in general.

Because acts of connecting are embodied performances, disconnections evoke an embodied response and may result in feelings of frustration, anger and sometimes incompetence just as successful connections induce a feeling of readiness and competence. This was captured in one diary entry by Samantha, the Waste Services Coordinator:
Spent my morning at the depot to be trained using Asset Master to generate work orders. Could not access the system (AssetMaster) down at the Depot. Had to call IT who logged onto my PC as an administrator and fixed the problem. Did not take long to fix but felt frustrated that it didn’t work in the first place. Supposed to be able to successfully log onto any computer within councils buildings. System at depot is slow!

These unanticipated disconnections demand to be repaired just as anticipated connections require preparation. Repair is generally thought of as directed towards fixing technical connections and is performed by technical staff. However, repair is as much about fixing social relations as technical ones and is a regular feature of professional workers daily work. Henke (2000), in his ethnography of the repair work of building mechanics, outlined that repairing people is a regular feature of the daily work of mechanics:

Repair work goes beyond service of the built environment for work and extends to other people who inhabit the same work setting. In fact, a very large portion of mechanics’ repair work involves re-normalizing this understanding of the work setting for other people-what I term “repairing the customer” or “people repair.”

Similarly, restoring connections to council staff also involves restoring ‘faith’ in technology: a belief that these human and non-human alliances or ‘networks’ will work as they are supposed to. An example of repair work is found in the diary of Oscar, the GIS Coordinator. Spanning several diary entries, Oscar provided a detailed account of the steps he took to re-establish connection to Exponare, one of council’s customised software programs, after the server crashed one day. Similarly, Mary, a Technical and User Support Officer, described how, over a number of days, she worked on re-connecting the childcare management system, Starcare, used by staff in council’s childcare centres. The two sides of repair—technical and social—are crucial for making and sustaining successful connections.

Repair and preparation are both dimensions of connecting directed towards making the office workable. Partly because it is difficult to separate this labour from the work of others (including machines) and because much of what keeps these connections working is incorporated into working bodies and technologies, connections are taken to be autonomous acts when they are more accurately
understood as distributed and shared. The belief in the immediacy and autonomy of connections means that the effort involved in making connections work tends to go unnoticed. When it is noticed, it is either because one of these hidden connections is not connected and has not yet been restored or because the effort put into preparing a connection is no longer effective.

**Synchronising**

Preparation does not end at a clear point once connected. Connecting is a starting point for council staff in preparing for the work of the day. As Schwarz, Nardi and Whittaker (1999) remarked in their study of virtual workers, ‘technology may help to connect from and to remote places, but once the connection is made, the real work only starts’ (28). If connecting is the alignment of social and technical relations at a set time, *synchronising* is the process of organising and making sense of these relations, speeding up access to information and releasing time for work. Synchronising also describes the bringing together and coordination of different times, for example, the time of ‘work’ with ‘life’, time ‘out in the field’ with time ‘in the workplace’, or time ‘away from the desk’ with time ‘at the desk’.

Synchronising describes the temporal adjustments made by individuals to negotiate the information and communication demands that come about in and through the use of technology and the ‘time’ and ‘skill’ that these adjustments involve. Through acts of synchronising, both the time of the office and the office worker are prepared and repaired for what is considered productive work. In other words, synchronising helps to produce the temporality of the office as well as the work time of the subject of work.

Connecting and synchronising are activities that in practice overlap and though they are performed at all times of the day, at *Innertown*, they are more intensively performed at the beginning and end of a 9–5 workday. As Samantha explained:

> I’m a very routine person! I get in in the morning, which is exactly what I did this morning and every morning since I don’t know when—I basically go through and check the four programs that will send me work, and I do that at the end of the day as well.
Information and communication is both the source and product of the work of council, and information request and messaging systems are the main media through which this work is generated. These systems include the technology and associated procedures used to generate and handle information and communication requests including *Merit, Trim, Proclaim*, email, phone, fax, SMS, paper and face-to-face contact. While the majority of these are computerised, a number of paper-based systems operate in tandem with these computer-based ones. Most staff move between a minimum of five or six electronic systems a day and this does not include their paper or personal systems such as calendars, diaries, to do lists, PDAs and mobile phones.

**Clearing**

Once connected, one of the first and main systems that the majority of *Innertown* staff target for synchronising is the email mailbox. The majority of the participating staff reported that messages and requests take up too much of their time and recounted an intense pressure to ‘keep up’ and ‘stay on top of it’ when referring to their daily information and communication demands. To alleviate this pressure, staff stressed the importance of clearing their messaging systems first thing in the morning. Beatrice, the Cultural Development Officer, described her morning as:

I turn my computer on as soon as I sit down. I try and answer what I think are the urgent emails immediately, and then, if I’m having a good day and all of that’s done by 9:30am, I’ll check my messages from the night before…I’ll try and do all of that before 9:30am, then I’ll do little bits in the afternoon.

Beatrice’s morning routine represents an approach widespread amongst *Innertown* staff. After connecting, checking messages to clear them is one of the first synchronisation tasks of the day, performed again later in the afternoon. In this context, ‘clear’ signifies both an action taken on the messages and the state of the inbox once acted on and is one of the main strategies for releasing time in the workday for other activities.
Checking messages and requests is actually not a single task but is interwoven with several tasks such as scanning, reading, selecting, sorting, deleting and prioritising. Ulga, Team Leader of Building Development Assessments, listed deleting emails as her first morning task:

The first one is to go into my inbox and see my emails and try to get rid of them, but that’s a never-ending task. I don’t think I ever really get rid of them. There’s hundreds in there now that I still need to go back and just delete.

Rose, the Communication and Cultural Services Officer, explained how she initially scans her email for what’s urgent:

I guess I start with my emails, so my first thing would be to load my emails and quickly scan those for what’s urgent. It’s not a ritual but otherwise I get lost in them.

Selecting, sorting and prioritising are also integrated into checking; for making a judgement between ‘junk’ and ‘non-junk’, for sorting messages into different mail folders and for prioritising what messages need to be acted on more urgently than others.

In their study of email use by academics, administrative staff and post-graduate students, Smith, Rogers and Underwood (2003) describe these tasks as ‘housekeeping activities’ to emphasise the organisational and administrative work involved in maintaining individual email systems (2). These organisational tasks help ‘clear’ the mailbox by reducing the accumulation of messages and requests but they also make sense of information by putting it in context. It is in the wider sense of reading that requests and messages become meaningful and useful. For example, many staff use their email inbox not just as a container for storing messages but also as an active ‘to do’ list. In this case, ‘housekeeping’ keeps the inbox ‘clear’ of messages to support its function as an up-to-date list of tasks. Housekeeping also helps keep track of work that has been done and several staff relied on this as a project management tool and as evidence of work completed to show to their supervisors. These organisational tasks also facilitate fast access to information. By creating folders to store information, naming them to provide a cue of their content
and indexing them in a variety of ways, staff could speed up access to information that was regularly referred to or frequently requested. Checking is therefore a powerful expression for bundling up a number of interrelated tasks with multiple purposes into a single figure. And though it is commonly thought to be almost instantaneous, checking takes time and skill to perform.

Besides email, Trim is another system that staff targetted first thing in the morning for housekeeping. Trim was a recently implemented centralised data storage system that all council officers were required to use. It also acted as a workflow program, project and time management tool. Staff explained that every document produced considered to be ‘official council business’ must be copied into Trim for long-term storage. This covers all files such as word documents, spreadsheets and even emails and faxes. A number of staff reported feeling anxious about the time Trim took up and were overwhelmed by the volume of work that had to be ‘booked in’ to this system as David, a new employee remarked:

We’re supposed to throw everything across to Trim, which is our archive system, and it’s impossible! [My predecessor] has got stuff sitting there from 2003. So there’s all that that I need to go back over and back up and burn and I don’t have time to do it. I’m barely getting through my own projects.

Identifying what documents and messages to be copied into Trim does not happen automatically and requires making a decision about whether or not work constitutes ‘official council business’ and the activity of ‘booking it’ into Trim. It was common for staff to refer to this process as ‘Trimming’, which like ‘checking’ was a shorthand term for what in actuality was an assortment of tasks that took time and skill.

Checking and Trimming are activities that make up a significant proportion of the housekeeping activities of Innertown staff. This organisational and administrative work performed a number of critical functions such as making sense of messages and requests, managing projects, speeding up access to information, reducing the accumulation of messages and complying with the centralised document storage system at council. All of these tasks take up time and require skill. However, there
was a common perception amongst staff that though this work was necessary because it *cleared the way* for other kinds of work, it was not given the same level of importance as implied in Oscar, the GIS Coordinator’s comment, ‘I try to get all my correspondence out of the way when I start. It overlaps with my work.’ Nevertheless, even though synchronising was not generally considered ‘real work’, it still takes up time and skill. As part of a successful strategy for releasing time, then, *Innertown* staff had to balance the time they spent on synchronising with the time that synchronising released for ‘real work’.

*Bridging times*

In addition to releasing time, synchronising is aimed at bridging times. The word synchronisation comes from the Greek *sunkhronos* meaning contemporaneous. Thus synchronising, as well as releasing time for the future, can be understood as a temporal adjustment for bringing together and coordinating different times in the present. One of the main acts of synchronising made by staff at *Innertown* is to check for new messages and requests just after and before an absence. Samantha explained it in this way:

> I log into *Trim* and I check if I’ve got any actions. I would have done that last night before I left, and this morning. I do that with *Merit* too… A lot of my day’s work is generated through email so I clear those three systems first before I get to my diary to go through all the stuff that I have to do on the day and I do that at the end of the day as well, just to make sure there’s nothing outstanding there, and more on a personal level I also check my Yahoo mail in the morning.

Samantha’s actions here are taken in anticipation of a delay in responding to messages and requests after a time away, a common practice shared by other staff. Generally, this adjustment is made in the morning and afternoon, after being away from the desk, from the office or after attending to other tasks. It is also commonly performed after a longer absence such as a holiday or leave from work as Ulga noted in her diary one day, ‘Back from leave—a mass of non-eventful emails to respond to.’
In addition to reducing the build up of messages arising from time delays, bridging helps to reconcile a widely held expectation of virtually instant reply. Many staff commented on this expectation and the difficulties of meeting it. Betty wrote about this in her diary:

[There is] an expectation of people to get things they requested almost instantly, not knowing how busy I might be at any point in time of the day—tires me out sometimes.

Even as Betty indicates that instant reply is an unrealistic expectation, she herself expects others to respond quickly. In her diary a few days earlier she anxiously noted, ‘This person has taken three days to respond—wish they’d speed up! I have a deadline.’

There are measurable increases in the speed of electronic communication and these provide some basis for expectations of almost immediate reply. Nevertheless, there are also daily limitations to speed that make instant communication impossible. These limitations are both technical and social, for example, at Innertown the majority of the messaging and request systems are asynchronous. This means a message can appear to be sent immediately but doesn’t go directly to the recipient, and instead, is stored until checked. An asynchronous communication system, therefore, has delay built into it though this remains unapparent to the user. There are social limitations to speed as well. Immediate response assumes that a person is present, connected and available at all times. Most Innertown staff, however, worked a five-day working week, move between multiple systems during the day and worked away from their desk for a range of tasks. There were, therefore, delays built into the way that work practices and work time was organisationally structured and materialised in the office setup. Social and technical limitations are in practice thoroughly entangled in one another. Is a delay the cause of the postponed delivery of a message from an asynchronous messaging system or because the recipient is asleep, busy or indisposed, and therefore hasn’t checked their messages? The answer is circular because it is both.

Speed limitations similarly apply to checking and sending. While they appear to be instantaneous acts, it has been shown that checking is not a single task but is, in
actuality, a series of interrelated tasks taking time and skill to perform. Likewise, sending is not just a matter of hitting the send button. Messages need to be composed and drafted. Decisions need to be made. Other staff may need to be consulted. So while messages and requests appear to be sent and received immediately, delay is a normal feature of information and communication systems, even electronic ones, and awareness of these delays can invoke a sense of anxiety and frustration. Realising this in one of his diary entries, Ernie, a CSO currently seconded to work on the implementation of the software Merit wrote:

I have the frustration of having to:
1. Respond to other's errors
2. Rely on others to fix problems
3. Wait for people to get back to you
Is this a symptom of our raised expectations of greater speed of communication?

Bridging times is an attempt to resolve this contradiction in relation to the speed of communication and the accompanying sense of anxiety.

Another aspect of bridging times is the bringing together of different life realms such as ‘work’ and ‘life’. Oscar highlighted this when he described his morning email routine:

I can check my work emails, and also my personal one with the Yahoo one as well, so I’m always in phase [my emphasis]. There’s no pending communication or emails left.

By bringing together the different realms of their life at the same time, synchronising was a way that staff at Innertown met the information and communication demands related to their life beyond work. Just as importantly, this was a way that staff negotiated and managed the boundaries between these realms. As Nippert-Eng (1996) has pointed out, even when it seems as though boundaries are fixed and immovable, there is always some potential for modification and individuals ‘create, maintain and modify’ their own boundaries to varying degrees (5-6). In Nippert-Eng’s model, individual’s ‘boundary work’ places them on a continuum from segmentation through to integration. At the far end of segmentation, realms are
mutually exclusive with no overlap of their contents, places and times while extreme integration is the complete merging of these elements into one ‘all-purpose’ world. Objects play an important role in boundary negotiations because they act as ‘bridges’ between cultural categories such as ‘work’ and ‘home’, enabling transitions between them: ‘They allow us to transcend realm boundaries, including different senses of self, while also drawing our attention to what is unique to each territory’ (108).

In the account developed here, the term ‘bridge’ is used as a verb rather than as a noun, to illustrate how daily activities performed towards workability bring together times, spaces and subjective states that are otherwise held apart. There are different degrees to which the bridging of parallel times is permitted and supported within organisations and how this is handled is not static. The process of setting up at Innertown upheld a clear boundary between private and professional domains and defended against spatial and temporal crossovers. This covered the use of work resources, including time and technology, for personal reasons and the use of personal resources in the production of work. However, in practice, there was a more flexible approach to these boundaries not reflected in official policy such as the Internet usage guidelines. Innertown staff frequently used work resources for what they described as ‘life administration’ and ‘parenting’—although it was predominantly women who spoke about the use of technology and time at work for parenting responsibilities. Staff who had less technology experience and felt less confident with technology frequently drew on expertise from their own personal networks, sometimes using work resources in the process. Rose, who worked in an outreach centre, explained that she had Instant Messenger permanently open on her desktop and would ‘chat’ with her partner to get tips and assistance throughout the day.

Most of this coordination took place through a range of communication media, including email, phone, SMS and to a lesser degree Chat services such as Instant Messenger (IM). This coordination also involved ongoing ‘housekeeping activities’: creating separate folders and subfolders to store work and personal messages, selecting what messages are personal or work related, sorting messages, deciding which messages to keep or delete and prioritising messages. While the diversity and variety of available media facilitated coordination by providing staff with different
ways to respond to coordination needs, it also made coordinating times more complex and time-consuming because housekeeping had to be performed on multiple information sets. Indeed, the risk of a clash occurring increased the greater the quantity of media used for coordination. In addition, a selection had to be made to decide the media to use according to the context. As Schwarz, Nardi and Whittaker (1999) observed in their study of multiple media use amongst virtual workers, this selection is not a trivial task,

desired degrees of synchronicity, interactivity, urgency, social presence, convenience, and cost have to be—and often are—reconciled when any kind of communication and collaboration medium or environment is being chosen. (23)

Bridging times helped staff to reduce the accumulation of messages resulting from a delay, to reconcile expectations of speed, coordinate information and communication from different ‘times’ and to prevent information clashes from occurring. Some of these acts were ad hoc responses to immediate problems or more permanent solutions to longer-term problems. For example, for Ulga, a major and embarrassing clash of appointments had led to a realisation that the time saved through maintaining a single electronic diary was outweighed by the inconvenience and risk of not having access to this diary outside of work. In response, she reverted from using a single electronic diary to record and coordinate all her personal and work activities to using a combination of her electronic diary and a paper-based personal diary in which she recorded some of her work appointments. In this way, bridging times performed a number of critical functions to prepare the time of the office and staff for the performance of work. It also contributed to the maintenance and ongoing negotiation of boundaries between ‘work’ and ‘personal’ life. However, bridging consumed time and had to be balanced against the time taken from what was considered ‘real work’ and the time that was officially considered an acceptable balance. As Samantha, the Waste Services Coordinator pointed out:

It’s one of those things where you balance it yourself…I mean, obviously I know you’re not supposed to be spending your time emailing on a personal level…and obviously you’re there to work, you’re not there to use email and Internet for personal use. Even though people do. But there’s that level—and I mean, you get to a
stage and you just know—you don’t even have the time to do that, anyway. So yeah, that’s my general understanding of it.

Routines

One of the main ways Innertown staff achieved a balance between multiple and sometimes competing demands was by incorporating the work of synchronising into daily routines. Most of these routines were performed in the morning or afternoon at work to release the maximum uninterrupted time for what was considered ‘real work’. However, these routines also took place at intervals throughout the day, especially after an absence from the desk or workplace. In his theory of domestication, Silverstone (1996) relates the incorporation of activities into domestic time to the control of and release of time,

incorporation may release time for other activities. It may facilitate control of time, for example, in the shift capabilities of the video or the microwave. Or it may simply enable some times to be better spent, for example in the use of the radio as a companion for the tea-break, or as part of the routine of getting up in the morning. (64)

For Silverstone, incorporation of new routines into the home in the use of technology is a way that household members gain a sense of control over time and comes across as a matter of personal choice. For staff at Innertown, however, the development and incorporation of synchronising routines into their workday was more of a compulsion than a choice, undertaken to alleviate time pressures. This compulsion, however, is not synonymous with enforced routinisation. Researchers of work, mainly analysing factory and assembly line arrangements, have interpreted routines as a form of forced control over the labour process (Garson 1975). At Innertown, routines showed a degree of variety and individuality but more importantly, they were voluntarily adopted. Staff went out of their way to incorporate effective routines into their workday to deal with their information and communication demands and to manage temporal boundaries between their ‘work’ and ‘life’. In this way, acts of filing, moving and sorting objects, which applied as much to their virtual as to their physical environment, were tasks that helped staff to ‘clear’ the way for ‘life’ in much the same way as they ‘cleared’ the way for other work activities. Routines enabled a sense of mastery and control over time and were
associated with feelings of pleasure and of being ‘in balance’. The expression ‘in phase’, offered by Oscar, elegantly captures this sense of control achieved through the temporal union of different domains of his life and the accompanying sensation of being ‘in sync’.

**Being in sync**

Like connecting, synchronising involves the incorporation of these acts into the sensory apparatus of the body as well as into the workday and this results in a sense of self that is linked to a sense of control over time as Beatrice, the Cultural Development Officer, captured in a diary entry:

> I tidied up my emails and desktop and deleted many messages; I feel clearer somehow. I am my computer.

In clearing her email and desktop, Beatrice sees herself as having undergone a similar process of transformation to her computer. Explanations for the transferral of perceived qualities of an object to the self (and vice versa) have concentrated on the symbolic exchange of meanings (Belk 1988; Noble and Lupton 2002). Beyond the capacity of objects to symbolise qualities or aspects of self, it is also important to consider the capacity to transform our self as well as our sense of self through physical incorporation. Warnier (2001), building on the work of Mauss, suggests that ‘motricity’—the motor habits developed in given materialities—needs to be reworked into an understanding of how subjects are formed including their sense of self. This approach concentrates on material culture as not an exterior means through which subjects are formed but as Warnier proposes, ‘a mediation embodied in the subject’ (11),

> we know that incorporated material culture reaches deep into the psyche of the subject because it reaches it not through abstract knowledge, but through sensori-motor experience. (10)

Synchronising is one such motor habit or technique by which technologies of work are physically incorporated into the self, including a sense of self. For Beatrice, the act of clearing transformed her state of mind and emotional state, making her clearer like her computer. This transformation is connected to a sense of mastery over time:
I like to manage what I do; like how I go about sorting out my daily workload, my weekly and my monthly. I just like to be organised and I like to be on top of things [my emphasis].

It is notable that, just as for Mary in this quote above, other Innertown staff expressed a sense of mastery over time in terms of being ‘on top of things’. ‘Things’, used in this way, signify the mass of tasks that make up a workload, the equipment that manifests this load and the time it takes to perform them. In addition, it was common to describe control over time in terms of minimising waste as in Ulga’s comment:

There’s far more people switched on to computers in here than I am, but I still really enjoy doing it. It’s because of my continual drive for efficiency. I do like to seek that out. I hate waste, I hate wasting time - I hate it!

Through routines of synchronising, staff gained a sense of personal agency and mastery over time but in so doing they also incorporated a culturally specific perception of time based on the idea of time as an exchangeable resource and mastery over time as control over and efficient use of this resource. This was apparent at the case of Innertown in the plethora of references to ‘saving’, ‘wasting’ and ‘consuming’ time. This perception of time is a significant element of a discourse of efficiency and productivity and, as we saw in Chapter 2, it is a perception that is historically linked to the rationale for and formation of a wide range of professional groups. Achieving mastery over time is one of the key means through which professional workers enact and demonstrate their professionalism. This perception of time is not simply imposed from above through enforced routines, nor is it completely determined in advance through the design or process of setting up the office. Rather, this perception is constituted as embodied skills and self-imposed time disciplines through daily acts of synchronising. Synchronising is therefore a ‘mediation embodied in the subject’ in the sense proposed by Warnier (2001) to describe materially how subjects of work are formed, or in this case, how their sense of time is constructed.
Forgetting

The incorporation of synchronising into the workday and into the body through routines is the main strategy employed by Innertown staff to achieve an embodied mastery over time. This process, however, is characterised by a ‘forgetting’, much like connecting, so that there is little conscious reflection or consideration of these practices once incorporated since these have become normalised and transparent. This forgetting also includes the incorporation of a perception of time, which is then sensed as natural and universal. Significantly, it is not simply that these practices are forgotten through incorporation into bodily-perception, but that their production disappears or is ‘deleted’ from individual and official organisational accounts of work. Law (1992) describes this in terms simplification:

If a network acts as a single block, then it disappears, to be replaced by the action itself and the seemingly simple author of that action. At the same time, the way in which the effects is generated is also effaced: for the time being it is neither visible, nor relevant. So it is that something much simpler—a working television, a well-managed bank or a healthy body—comes, for a time, to mask the networks that produce it. (5)

Simplification or ‘forgetting’ has a strategic role. It enables sets of relations to be acted on in unison as a network without recourse to all of the heterogeneous parts that sustain them. In other words, combinations of practices, objects, people, times and spaces that are both complex and irreducible can be treated as singular resources, for example, the computer, autonomous individuals or time itself. Routines like checking and Trimming also operate as resources on a smaller scale, and in this way complex social and technical processes are bundled together into simplified figures or ‘network packages’,

they are network packages—routines—that can, if precariously, be more or less taken for granted in the process of heterogeneous engineering. In other words, they can be counted as resources, resources which may come in a variety of forms: agents, devices, texts, relatively standardised sets of organisational relations, social technologies, boundary protocols, organisational forms—any or all of these. (5)
Simplification, therefore, is a necessary feature of any stabilisation strategy, since by reducing complex relations to resources it enables mastery and control over them. However, in deleting the production of resources, the time it takes as well as its complexity is hidden. Some aspects of this complexity and the time it takes to synchronise has already been revealed: the plurality of housekeeping tasks, the contradictions associated with the speed of information, the existence of parallel times, and the embodiment of skill and a sense of time.

Differences are also masked through simplification and this can have political implications, especially for those staff who must adjust their synchronising more than others or perform additional synchronising. For example, CSOs spend more time managing their information than most other staff. As the first point of contact in the organisation, they are expected to provide information quickly and have access to information at all times. In addition, since of the main measures of performance is the number of enquiries they process in a day, entered into Merit, the customer relations management system, there is even greater emphasis on speed. In response to these demands, CSOs have developed elaborate personal systems for organising and speeding up access to information. One CSO, Danielle, described to me the personal system she developed for managing her information and communication demands.

Starting with her email program, Danielle pointed out the multiple email folders she had created to provide fast prompts to information. To sort and identify information into frequently asked questions, she had labelled and colour coded all her mail folders. She used short cuts and folders on her desktop in a similar way. Danielle also flagged individual emails containing valuable information with the built-in prioritising feature in Outlook. This practice also doubled as a method for identifying and sorting her to-do list. Keeping this personal system working required regular housekeeping however. She had to delete, sort and file her emails as quickly and as frequently as possible, so that the sense-making and search functions she had developed were not hindered by the daily accumulation of messages in her inbox. This personal system was also adjusted and added to daily and so, was always in development. Moreover, although the desktop computer was the central object for managing information and communication, a plethora of other objects participated in
Danielle’s efforts to provide quick answers to questions. Post it notes, print outs, torn off bits of paper were attached to available surfaces, especially to those within easy reach such as desks, walls, the sides of furniture and the frames of computer displays.

Since synchronising is an embodied skill incorporated over time, CSOs build up their knowledge and expertise in accessing information quickly. Amongst other CSOs these skills were highly valued. Many shared tips with each other on how to organise their information and communication and some performed the role of an information resource to others. Danielle explained to me how she is often called on to help others:

They do regularly come to me and ask for help with different programmes and I mean, they know where the information is but they just have a difficult time finding it…I’m able to go through different possibilities of searching and am able to find them the information straight away.

Within her immediate team, Danielle receives informal recognition of her expertise in managing information and communication but officially these skills and practices were not formally remunerated or represented in her job description. Her case exemplifies one of the implications of simplification: the tendency for the complexity of certain types of work to be discounted, particularly work considered to be routine such as the organisational and administrative housekeeping of information and communication. This means there is a danger that staff performing more of this work than others may be subject to a similar assessment of their skill and relative worth, receiving less official recognition than staff who perform less of this type of routine work.

Suchman (2000) has suggested that this dichotomy of ‘routine’ and ‘knowledge’, which has historically formed the basis for distinctions of the relative worth and value of work performed by different groups, persists and is even widened in the context of a global discourse of ‘knowledge work’. Suchman’s main concern is that foregrounding and backgrounding certain aspects of work in everyday practice may lead to the re-inscription of inequalities in the design of new technologies and forms
of work. In her investigation of the work of coders in a legal firm she identified the downgrading of the work of coding, a job predominantly performed by women, through its construction as ‘routine’, while the interpretative work of lawyers was upgraded to ‘knowledge’. By disrupting this dichotomy, Suchman shows that inequality is sustained not so much through some essential difference between the skills of these two groups of workers but through the way in which ‘working orders’ and ‘organisational discourse’ obscures the actual work of these two groups so that simple oppositions and divisions of labour are able to be maintained (44).

A similar argument can be made in the case of CSOs and the additional synchronising routines they perform as part of their daily work. By simplifying the complexity of the work involved in synchronising, especially the decision and sense-making aspects of this work, the work of this group comes to be regarded as requiring less skill than other council staff who are seen to perform less of these ‘routine’ activities. The amount of ‘visible’ routine work performed rather than the ‘invisible’ skill involved in producing and performing these routines thus becomes the measure for how this work is ascribed value in economic and social terms. Council staff who perform more ‘routine work’ are considered to have less skill and be less valuable than workers who perform more ‘knowledge work’, as signified by their lower position in the organisational hierarchy.

New organisational members and employees with less technological expertise also have additional work in synchronising. Since skill is embodied and distributed in and through multiple objects and people, when a worker leaves a job, some skill is left behind. Skill in synchronising is dependent on and intertwined with gaining an understanding of the demands of the role, which includes the information and communication demands and expectations and its associated technologies. At Innertown this means becoming familiar with the volume and speed of messaging as well as the intermeshing of multiple messaging systems. This takes time and requires regular, if not daily adjustments. David, the Environmental Officer, had been in his position for a short time when this research commenced. He explained to me that as soon as he started he had to set up a system to handle his daily information demands, spending three to four hours categorising his emails and creating strategies for managing his email folders:
Yes it’s early days. I’m really wanting to focus on sorting out my time management because I’m very aware that I could lose a lot of time to answering emails to whatever comes in and grabs my attention…So I’m working towards really getting vigilant about my time management because of the volume of emails…and the amount of data that comes in. I’m changing my work practice to deal with that.

The demands of synchronising are not distributed evenly across different roles or offices and some staff spend more time developing skill in synchronising than others. The process of simplification means that the time and skill involved in producing successful synchronising routines is deleted in official accounts of work. This can form the basis of hierarchical distinctions based on a dichotomy between ‘routine work’ and ‘knowledge work’ and can lead to reproducing inequalities based on this dichotomy. It can also mean that the responsibility for learning becomes concentrated on individuals and the time involved in developing new techniques is not formally recognised. This can lead to anxiety amongst staff who must perform more synchronising, since the additional time required may make it more difficult to gain mastery and a sense of control over time, and it also foregrounds the ‘routine’ aspects of their professional work.

Synchronising is a fragile balance and relies on the successful incorporation of daily synchronising routines into the body and into the workday. The work involved in achieving this balance is neither evenly distributed nor achieved and settled once and for all. Changes to daily circumstances and conflicting demands mean that synchronising is a temporary, unstable and sometimes impossible balancing act, and incorporation is frequently incomplete, partial and on the verge of disintegration. Just as successful acts of synchronising induce feelings of mastery and control over time, not being able to release time for work or bridge times leads to feeling controlled by time and submerged by things. This is an ever present concern for Innertown staff apparent in the frequent references to the need to stay on top of things, the fear of ‘getting lost’ in information, the ‘never-ending task’ of clearing messages, and not being efficient workers.

Although daily routines are the main way that staff achieve this balance, there are many circumstances where adjustments to routines need to be made or additional
synchronising must be performed because existing routines are no longer effective. In response, staff perform repair work to reinforce, adjust or compliment their morning and afternoon routines. For example, a number of staff set special reminders in their email program or mobile phone to institute and strengthen synchronising routines as Ernie explained:

I do have a recurring reminder for Friday afternoons to check and clear my Trim document tray, just to make sure that I don’t get caught out with stuff being overdue and that sort of thing…

In some cases a conflict between personal and organisational strategies for managing information and communication creates additional demands of synchronising. For example, many staff mentioned the difficulty of maintaining their mailboxes below the size limit set by IT Services. This quota clashed with personal strategies of storing messages as a record of valuable information. Betty wrote in her diary that she had to dedicate extra time to repair her mailbox in response to the daily automatic messages she was receiving:

My mailbox size is in excess of its size limits—3 reminders from system. System administrator sends reminders to make more space available. In fact, I get the message daily so need to do something.

Repair work is performed to redress an imbalance in time and skill that comes about through a breakdown in the existing preparation strategies for managing information and communication demands, namely synchronising routines. Through repair, staff can regain a sense of mastery and control over time but in so doing their attention is drawn to at least some of the complexity and the time and skill of synchronising. By bringing this complexity to the level of conscious reflection, repair work provides opportunities for innovation and skill development. It also represents an opportunity for challenging hierarchical distinctions based on an existing dichotomy between ‘routine work’ and ‘knowledge work’. Repair is not always transformational though. Henke (2007) demonstrated this in his investigation of the responses of local authorities to the risk of major flooding leading up to Hurricane Katrina. He suggested that their approach to repairing so-called minor problems in and around New Orleans before Katrina simply reproduced the status quo. In this way, Henke
(2007) writes, ‘the repair of sociomaterial ecologies is also often the maintenance of power’ (138).

Any account of the contemporary experience of time, especially working time, must take into account the complexity of the many new relations that come about in and through the daily use of ICT and the time and skill required to achieve a workable balance. Synchronising is a strategy performed by council staff to organise these relations and to prepare their time for what is considered productive work. This alleviates the time pressures experienced in relation to information and communication demands and enables a sense of embodied mastery over time. However, this mastery is dependent on the incorporation of routines into the body including a rationalised conception of time and the forgetting, or simplification, of the actual time and skill involved in this process. Simplification occurs at the scale of the body and the organisation and has political implications. It can disguise the construction of divisions of labour based on the dichotomy of ‘routine work’ and ‘knowledge work’ and the full extent of the learning and support needs of others. It also has far reaching implications for understanding the contemporary experience of time. In the case of staff at Innertown, simplification produces a time sense haunted by an awareness that time is never fully accounted for, heightening an anxiety about time and concentrating the sense of a ‘time squeeze’.

**Configuring**

If synchronising can be seen as the preparation of the time of work, then configuring can be seen as preparing a space for work. Many aspects of configuring and synchronising are in practice indistinguishable from each other. ‘Housekeeping activities’, for example, referred to as a set of administrative and organisational tasks performed on messaging and request systems, are as much about preparing the space of work as they are about preparing the time of work. A distinction is made between synchronising and configuring for the purpose of highlighting that workability, which describes the process of turning the office setup into a ‘productive platform’, also helps to constitute a perception and experience of time and space. So, where synchronising is a term adopted to reveal the temporal adjustments made by workers in their efforts towards workability and the perception of time that is incorporated
through this process, *configuring* is a term adopted to highlight the spatial adjustments and the sense of space that is embodied through these acts. Much configuring is performed in the service of time, however, and this relationship is important for understanding distinctions that are made between different categories of configuring.

The organisation of *Innertown* is dependent on the geography that it inhabits and in a very concrete sense, helps to define that geography through its work of planning and development, provision of infrastructure and community services and political representation. This also includes the technologies used in the process of delivering these services and in mapping the municipality, which brings into view some features that become a focus for council’s work while leaving others unmapped and overlooked. Likewise, council staff are dependent on the geography they work in, not just because it is the subject of their work but also because the geography they inhabit must be able to support their work, whether physically moving through the municipality in the process of performing services, or whether located in the administrative centre, delivering services. These locations are inseparable from the technologies used in them.

The close relationship between the location of work and technology was considered in outlining the process of setting up in the last chapter, where it was suggested that ICT is not a separate layer that is somehow superimposed on a landscape but is co-constitutive of the work environment. Moreover, it was suggested that location is a dynamic process rather than a neutral and stable form. Organisations *locate* through the creation of material configurations in an effort to demarcate and stabilise the space and time of work; this does not cease once individual employees take over these configurations as users. For, although at *Innertown* staff are supplied with material configurations designed and put together to meet the requirements of each individual ‘office’ (and this includes its location within a larger schema of offices), the office becomes workable only through ongoing efforts towards its stabilisation. Configuring is one of a number of activities, along with connecting and synchronising, performed by individual staff to demarcate and stabilise the space and time of work. Running alongside and intersecting with organisational stabilisation
strategies and visions of the office of the future, configuring prepares the office spatially for the performance of ‘productive work’.

Configuring is generally used as a generic label to describe a range of practices and categories including customising, meshing, display, decoration, tailoring, gardening, tinkering and artful integrations. What these designations have in common and capture to varying degrees is the bricolage-like quality of this work to show how individuals or relatively small groups go about piecing together and assembling a diverse range of existing resources, usually mass manufactured, in order to make a technology work to some planned action or existing pattern of activity. In this context, configurations are cited as evidence of appropriation strategies or the design work performed by ‘end users’. In most of these studies, single technological devices or pieces of software are analysed as the target of these configurations. Space itself, however, has received little attention. Lally (2002) invokes the image of the home as a ‘machine for living’ to capture the sense that inhabited space is also a target for this kind of work. Indeed, not only is it a target but it should also be seen as actively involved,

space is not a passive stage, but itself preserves the potential for interaction and particularly for flexibility in interaction. When the space between subject and object itself is filled, there can be no activity, no interaction: the existence of the space between objects (and humans and objects) establishes a productive relation between them and allows them to interact. (170)

Configuring, as it is used here, preserves the sense of this activity as bricolage and incorporates an extended meaning of configuring as an activity focused not only on individual objects but encompassing the totality of the office setup—as an ecology or ensemble of objects and subjects in productive interaction. In examining individual acts of configuring, then, some of the complex relations of space that lie behind the myth of the end of geography can be revealed: the spatial adjustments in the process of navigating the information and communication demands in and through the use of ICT and the space and skill that this process requires.
**Configuring the electronic desktop**

The materiality of the office encompasses a vast array of objects but the computer has a central position in terms of its physical location and status. When asked to list their most important ICT, staff identified their desktop computer first and foremost followed by a pause, before other technologies were mentioned. In addition to how staff spoke of the computer, its centrality was further indicated by the way it was ‘seen’. In sketching out his office, Oscar specifies the computer and its ‘peripherals’ including mouse, keyboard, speakers and even chair but provides little detail of the other objects in his work environment.

In this drawing, it is what is absent as much as what is present that reveals Oscar’s perception of his work environment, visually pointing to an underlying politics of visibility that informs how he and many other staff understand and ascribe degrees of importance to their technologies of work.

The identity of the computer is not simply a reflection of the amount of time staff spend using it and social norms around gender and other intersecting cultural processes feed into the identity of objects. The allocation of material resources
within a workplace is one of these. It includes selections about what is installed and made accessible from the computer as well as choices about its aesthetics and location. Through this process at *Innertown*, which included the selection of a standard black desktop computer with a 17 inch flat screen display, these computers are clearly coded as ‘masculine’ work machines in contrast to the more ‘decorative’ multi-coloured and multi-shaped models designed for home and personal use. The physical placement of the computer within the ‘office setup’ is another way that its status and identity is established. Normally placed in the centre of the desk facing the user, its bulk and positioning displaces other objects to the periphery whether or not these are of peripheral importance in the process of work. Finally, the concentration of key organisation-wide systems on the desktop computer further reinforces its central role, a result of the gradual migration from a diverse range of paper-based to centrally managed computerised systems accessible only from a networked desktop computer.

Recurring acts of configuring are crucial for achieving workability of the computer as well as the overall workability of the office setup. At the same time, these acts also reinforce the desktop computer’s identity as the principle information and communication tool of work. Organising the electronic desktop constitutes one of the main acts of configuring performed by *Innertown* staff. Samantha, for example, explained that in the organisation of her desktop, she likes to line up her icons on and put related programs like *Word* and *Powerpoint* close together on the left hand side of the screen. She also recalled that when she first started at the council, the icons on the desktop were ‘really big and spread out’. After taking some time trying to change this setting, a staff member close by showed her how she could change the icons’ appearance. Recently, Samantha had downloaded the software *Google Earth* and left a short cut on her desktop to remind herself to look at the program when she had time.

---

23Du Gay, Hall, Janes, Mackay and Negus (1997) suggest a cultural circuit including representation, identity, production, consumption and regulation. Within a workplace it is possible to identify a number of these processes happening simultaneously.
Organising the electronic desktop is performed to fulfil multiple purposes: as a ‘to do list’, a sorting palette, a link to regularly used programs and information and a surface for notes and reminders. In this way the electronic desktop functions as a dynamic surface for organising and making sense of information. Although often performed more intensively by new staff, configuring the desktop is an ongoing process and is crucial for staff to make sense of information spatially. Programs like Outlook and Trim support this spatial sense-making method because they incorporate and build on the underlying metaphor of the Graphic User Interface (GUI), that of the desktop. Using icons, windows, menus and a pointing device (like a mouse/cursor), the electronic desktop extends the space of the office by approximating the range of actions performed in a (pre-computerised) office environment to produce a simulated desktop environment.

In addition to the arrangement of icons, acts of configuring also consist of setting the background picture or desktop wallpaper. This involves modifying the picture defined as the screen default either in the operating system or re-set in the organisational process of setting up. While this is assumed to be a one-off modification, at Innertown staff frequently changed their wallpaper. Beatrice told me that she changes her wallpaper once a month and others, like Ernie below, indicated that certain personal events might lead to a reconfiguration:

Well, basically, my wallpaper is usually the latest photo of my niece, who is now five, and my nephew, who is now about a month old. (laughs)…I don’t like the set up they had for the standard sets of icons on the desktop, so I just rearrange it the way I want it…And I’d do a screensaver as well, but we can’t access that.

Elaborating on his wallpaper setting, Ernie explained how this is one of a number changes he makes on his desktop, including the spatial arrangement of icons. While for Ernie, his choice of wallpaper is symbolic of his life beyond the office and a way to assert its significance in the space of work, Ulga stressed the sense of comfort and relaxation she gets from configuring her wallpaper, ‘I know it’s only a little touch but sometimes it’s nice just to have something personal up there, or something pretty, or something to make you laugh. So, that can be soothing…’
In some cases, the personalisation of wallpaper involves a kind of de-personalisation. Mike, the Landscape Coordinator, described his desktop configuring in terms of stripping out unnecessary stuff:

Yeah. I like to strip out a lot of the unnecessary graphic stuff. Things like…I know there’s standard deployments that they do for things, but I like to format my desktop in a certain way, remove as many icons as possible, a nice clean desktop, always black. Remove all the Microsoft colours. I also like very high resolution screens with small fonts, because you get more ‘real estate’ on the screen that way.

For Mike, configuring was a way to enhance the tool-like capacities of his computer, ‘I think computers are tools. I don’t like to use them for my entertainment and leisure.’ For him, the value of the desktop derived from its productive capacity, which could be maximised by removing ‘decorative’ features and getting better utility of his screen space. Despite his allegiance to the instrumentality of technology, symbolism was as important to Mike as it was to other staff. For Mike, the machinic qualities of neutrality and efficiency were better signified by the absence of ‘decoration’ (echoing the coding of the computer itself). It is significant that Mike describes his actions in terms of returning the computer to its essential tool-like state, as if any act of personalisation was on top of what was ‘necessary’. Yet ironically, de-personalising the desktop required just as much effort as so-called decoration.

Because the installed software was integrated into the overall space of the desktop, configuring also extended to setting program preferences. Staff altered preferences to make better sense of and speed up access to information. Samantha, for example, explained how she had set the preferences in *Merit* to enhance the management of her work and personal contacts. Other times, staff adjusted their program preferences because of the feelings these changes invoked. Rose explained to me how she had recently discovered how to order her favourites alphabetically in her web browser, remarking, ‘I like them to be a nice, neat order.’ Configuring program preferences also covered personal signatures such as in *Outlook*, a setting that had up until now escaped standardisation in the process of setting up. These signatures varied stylistically, with some emphasising simplicity and constancy while others were more whimsical. While setting personal signatures was a common practice amongst
Innertown staff, some staff were unaware of this feature and, upon its discovery through the interview process, expressed surprise and a desire to find out more.

These examples show how acts of configuring the electronic desktop involve a number of interrelated acts performed to fulfil a diversity of meanings and functions, including making sense of and speeding up access to information and stimulating a feeling or a change of mood in oneself or in others. These configurations were made within the access limits placed on configuring through the formal setting up, and were dependent on knowledge of the options as well as the know-how to go about making changes. Nevertheless, despite these limits, staff expressed pleasure about the changes they were able to make to their desktops and gained a sense of personal control over their workspace through these acts.

While the limitations placed on configuring are highly standardised, there are circumstances when these are varied, usually by IT Services. For instance, staff recruited to perform configuring on behalf of the organisation were granted extra access privileges to IT resources and with this access, could perform more extensive configuring. As previously mentioned, Ernie, who normally worked as a CSO, had been recruited by IT Services to work on a project implementing the software Merit. Similarly, Ulga had spent a number of months working with IT Services to develop the in-house property management system Proclaim and Mike mentioned that he was frequently called on to help with testing and purchasing software. For those staff whose configuring was officially recognised and given extra access privileges, a sense of agency and control was enhanced, invoking quite powerful feelings of achievement and a sense of ownership. Ernie described how he felt working on the Merit project:

I really enjoy it when it all comes together, because in particular with the Merit project, we had the base programme from Merit Technologies, but basically a lot of data had to be input and a lot of it had to be built, and that’s what I built, so when I see people using it now, it’s like: “That’s mine! I did that!” and tweaking it and fixing it and that sort of thing, now, that’s probably the enjoyable part of it. It’s just getting it to work better every time I go to it.
As a form of work, configuring the electronic desktop has an ambiguous status and, like synchronising, was generally held to be an extra activity that could potentially interfere with ‘real work’. Having said that, certain acts of configuring were considered to be a more valid use of time than others. A clear distinction was made between configuring for pleasure and configuring for work, a distinction that correlates with the way configuring tends to be categorised in the wider culture. In their study of academics’ use of computers in a university workplace, Noble and Lupton (1998; 2002) identified a similar division in types of configuring and noted that these divisions corresponded to dominant gender norms. At Innertown, I observed a similar correspondence. Decoration was in general more likely to be performed by women, while men were more likely to perform customisation. This distinction and how it is implicated in gender impacts on whether and how configuring is recognised as ‘real work’.

At Innertown, the categorisation of configuring into decoration and customisation operated as as dichotomy that formed the basis for inequalities in how the work of different groups was valued. Staff who demonstrated a high level of technological expertise and efficiency gains through customising were enrolled into configuring on behalf of the organisation, granted extra access privileges, and received formal recognition of their work, which provided opportunities for promotion and movement within the organisation. However, configuring associated with decoration and directed towards improving feelings and social interactions was permitted only within tight limits and tolerated rather than encouraged, even though informally this activity might lead to a range of benefits for work such as better communication with colleagues, the preparedness of others to help out on their behalf and a more pleasurable work environment.

In this sense, the distinction made between types of configuring is not unlike the constructed binary of ‘knowledge’ versus ‘routine’ work. The work and skills involved in customising over decoration is not so much an expression of their essential value or difference but how this work is recognised in organisational discourse and in its usage in culture. In some instances, this binary forms the basis for the performance of gender and is not simply grounds for unequal treatment. At the same time, it is important to draw attention to those moments when this dualism
is invoked and reproduced in practice and in so doing, recognise the work for what it is. For, despite the extra value accorded to customising, decoration was just as necessary for making the office function. Decoration can be seen, much like customising, as a way that staff improved the overall workability of the office setup, including the electronic desktop by preparing it for social interactions, making it more comfortable and pleasurable and in this way producing a sense of embodied familiarity with the workplace. These issues are highlighted further in examining acts of configuring performed on other objects in the office besides the electronic desktop.

**Framing**

So far, we have concentrated on acts of configuring directed at the computer. Recurring acts of configuring the electronic desktop reinforce the identity of the computer as a central and privileged object of the office and are crucial for making the desktop interface work as an extension of the space of the office. The workability of the electronic desktop is also realised through framing, which is one of the ways that the electronic desktop is established as a simultaneously distinct and extendable territory. Writing about televisual technologies, Richardson (2003) points out that the frame as ‘window-onto-the-world’ is a dominant trope in western culture, emerging from a long tradition of privileging vision over other senses as the source of knowledge and agency (181-182). Like the frame of a television set display, the computer display delineates two spaces or ‘worlds’, providing a window through which it can be visually accessed. The electronic desktop provides more than visual access, however, and in combination with the Graphic User Interface (GUI), keyboard and mouse (or other pointing device); users can make a tactile connection to this other ‘world’.

The frame as window-onto-the-world is a powerful trope for extending space and through its bodily incorporation in use, the frame and entire apparatus of the computer becomes ‘ready-to-hand’ in the sense proposed by Heidegger (1962). Thus, instead of mediating work and appearing as a distinct object, the frame ‘withdraws’ in use to become a direct means through which work is performed. The frame as window-onto-the-world, however, is not a permanent or fixed state but rather, an
ongoing achievement of embodiment, and through its disruption, a host of new meanings and uses can be generated such as a surface for signage or as a boundary marker. Bijker (1997) introduces the idea of the technological frame in his book *Of Bicycles, Bakelites, and Bulbs* as a metaphor to describe how groups of people understand a technology based on what they already know about similar technologies. But in a more literal sense the frame is a way that the space of the office is configured as a window, surface for signage or boundary marker to help staff meet their daily information and communication demands and thus achieve workability. In the close up of the desk belonging to Mary below, the frame of her computer display is used as a surface for attaching numerous sticky notes, personal photos, cartoons and newspaper cut outs. Since Mary’s work as a Technical and User Support Officer requiref her to provide technical troubleshooting support over the phone to other council staff and answer questions often under significant time pressure, the frame of the display played an important role in finding and recalling information and increasing her control over the speed of access to information.

![Figure 24 Close up of Mary’s desktop computer, computer display and surrounding objects](image)

The role of work surfaces (especially the desk) as a key tool for organising information came to the attention of researchers as far back as the early 1980s and
contributed to the early development of the desktop GUI. But it came as some surprise that one of the main uses of the desktop was as a memory aid, as Malone (1983), a researcher working for Xerox PARC, discovered in his study of how people organise their desks,

perhaps the most important insight from this study of desk organization was that, in addition to this finding function, an equally important function of most desk organizations is reminding. Much of the information that is visible on top of the desks and tables in most offices is there to remind the user of the office to do something, not just to be available when the person looks for it. (106)

In a moment of prescience summing up his findings, Malone suggested that using the electronic desktop as a surface for reminding, ‘may be one of the unexpected benefits of simulated desktops: documents can be left exposed on the desktop so that they serve as visible reminders’ (110). Just as Malone predicted, one of the main uses of the electronic desktop today is to provide a surface for storing visible reminders. However, the incorporation of the desk into the electronic desktop has not done away with the use of desks as a surface for organising and making sense of information. The central positioning of the computer and display on the desk makes these objects optimally located as a surface for making information highly visible and within reach while working at a desk. The desk, therefore, continues to be used as an organisational tool to quickly store, find, sort and recall information on and around the computer. Ironically, the desktop computer has reinforced the traditional role of the desk and new methods for spatially organising information have emerged through their combination. So, just as the desktop has been incorporated into the computer, the computer has, in turn, been incorporated into the desk.

Significantly, some of the objects that Mary attached to her computer display had uses besides organising information. Since the computer display was visible to staff who visited or worked in close proximity, its frame also provided an effective surface for broadcasting messages. One addition on Mary’s computer display was two small blue flower stickers fixed on either side of the IBM logo stamped in the centre top of the frame. Working as the only female technician in IT Services meant Mary was surrounded by male colleagues as well as by objects heavily coded as masculine (such as the black matte colour and boxy design). In this context,
configuring her display with flowers was a powerful strategy for re-coding and feminising her technology, making a space for her identity as a technician that did not deny her identity as also a woman. This strategy both relies on and mixes up the gendered dichotomy between decoration and customisation, elegantly captured in a remark Mary made about using pink highlighters to mark up documents because it ‘gets at the boys’.

![Image of Mary’s shelves for filing and storing her hard copy documentation and pink labels for identifying folders.](image)

While the playful subversion of norms through decoration was clearly an important identity strategy for Mary, these decorations had another purpose: to prepare the social space of work. In commenting on her decorations, Mary explained that she liked to bring funny things into the workplace and the cartoons were a ‘discussion starter’, especially for staff visiting from upstairs. The photo of her dogs, she told me, was a code recalling a reassuring private message that only she could decrypt and was therefore ‘safe’ to have on public display. By inscribing meanings on her computer display that draw on aspects of her self from outside the workplace, these decorations invoked pleasurable feelings in herself and in others, reduced the alienating atmosphere for visitors and facilitated ‘talk’, which, as Boden (1994) demonstrated, is the social glue that defines and holds organisations together. Mary’s
decorations, therefore, contributed to the overall workability of the office and the recognition of this urges us to collapse the privileging of customisation over decoration as a productive form of work.

Framing is not limited to attaching objects to the computer display. Framing can be performed around all sorts of objects in the unfolding of daily work. A document, for example, might be framed in relation to other objects on the desk such as a pen, sharpener, notebook or, increasingly, a range of portable devices such as PDAs, digital cameras and mobile phones. It is in this sense that framing can be understood as a technique for backgrounding and foregrounding objects, otherwise known as ‘highlighting’ (Goodwin 1994), to make relevant information stand out, speed up access to information and communication and expand the range of potential meanings generated through the selection and arrangement of objects. Nevertheless, despite the flexible application of framing to many different kinds of objects in the office, the computer remains the main focus and it is on and around it that staff at Innertown directed most of their framing efforts.

At Innertown, a plethora of objects were framed in relation to the desktop computer. Filing cabinets, surrounding walls, partitions, windows, shelves, sides of bookshelves and drawer units were all utilised as surfaces for organising and storing information. These became meaningful and useful, in large part, because of their position in relation to the computer. The computer case, for example, typically set up as a stand for the computer display, raised the height of the display to eye level to reduce the incidence of back and arm injuries from repetitive use. This same case also doubled as a ‘shelf’ for storing, finding, displaying and recalling information. On Mary’s ‘shelf’, a flip-page annual calendar was strategically placed just to the left of the case blending into the frame of the computer display. Mary explained to me that she uses this calendar for ‘immediate things’, jotting down notes when on the phone or when using her computer. Significantly, the spent pages of the calendar had been artfully reshaped in an origami-style pattern, so, in addition to speeding up access to information notation and recall, the calendar’s tool-like appearance had been transformed into a more decorative object, one that, Mary explained, gives her a feeling of pleasure when she looks at it and a sense of time passing. Its prominent location, however, also suggested she had arranged the transformed object to be
noticed by her male colleagues as a sign of the feminine re-inscription of her masculine coded ‘tools’ of work. The arrangement of objects on either side of the computer extended the function of the frame in much the same way as the ‘shelf’ of the desktop computer. In this way, Innertown staff expanded the range of possible uses and meanings of objects by combining their proximity to the computer with the different spatial relations established through framing.

_Bridging and containing spaces_

As well as being used as a window and as a surface, framing also acts as a way to keep apart and straddle spaces including electronic spaces, physical spaces and cultural domains that represent different aspects of a person’s life. In this way, framing can be understood as a form of ‘boundary work’ (Nippert-Eng 1996). So, for instance, a photo of Mary’s dog, attached to the frame of her computer display is a constant reminder of a secret and private aspect of her life as she simultaneously works at her desk flipping between programs on her electronic desktop. Just as objects are configured to bridge spaces through framing, so too are objects configured to separate or contain spaces. So, for example, Mike set his desktop pattern to ‘black’ and did not display any personal items in his work area. Asked further about this he said:

I like to format my desktop in a certain way, remove as many icons as possible, a nice clean desktop, always black…a lot of people like to put pictures of their family or whatever on their desktop, but I always think it’s offensive to whack a Word document over pictures of your children or family! (laughs) Yeah! Separate them. Work is work, and the computer’s a tool.

As mentioned previously, Mike’s approach to configuring was to remove signs of personalisation, putting in practice his understanding of technology as a tool. This approach to technology is equally tied into how Mike negotiates boundaries between ‘work’ and ‘life’. Reconfiguring his technology to look impersonal and more like a ‘tool’ and ensuring there were no traces of his life beyond work was a way to keep aspects of his self and personal life separate.
The arrangement of objects around the computer marked boundaries in a similar way, providing a way to bridge or contain spaces and their meanings. When showing me his work environment, Oscar pointed to the left hand side of his desk, which was decorated with a photo of his fiancée, a squishy foam ‘stress reliever’ in the shape of a light bulb and a MP3 player connected to a re-charger. Pointing to the right hand side of his desk, Oscar indicated the area set aside for working, his work diary and his self-customised filing system for storing his paper files. In this way how Oscar divided his desk materialised the way that he divided his personal and professional life. For Oscar, the personal items on the left hand of his desk acted as a bridge, extending the environment and meaning of ‘home’ into the workplace. At the same time, this division provided a means to limit or contain his personal life to a dedicated portion of his office and to value it in relation to and in a subordinate position to objects placed on his ‘right side’ (with its traditional connotations of reason and social correctness). Other staff at Innertown divided their desks around their computer into portions that represent their ‘personal’ and ‘professional’ lives in a surprisingly consistent manner, though there were important variations that I’ll touch on in a moment. Desk divisions, as an act of framing, are therefore a strategy through which workers create and maintain their own boundaries through configuring their office setup within the limits established through the formal process of setting up.

The arrangement of objects around the computer also marks boundaries between office setups within the workplace, and is one of the underlying mechanisms used in establishing the space and time of the office through the process of setting up. Although at Innertown, partitions and semi-permanent office walls (along with an array of electronic barriers) were set up to formally establish divisions between individual office spaces, staff modified these boundaries with an assortment of objects, including filing cabinets, bookshelves, piles of documents and plants. In some cases, space was configured to reinforce official divisions when the markers used to delimit the space were not deemed sufficient. For example, Samantha mentioned that the workplace had recently undergone a fit out to make it a more open-planned layout. In this process, the partitions that had previously surrounded her workspace had been removed. Instead, divisions between offices were established by subtle clues such as shifts in lighting and the colour schemes of walls.
Samantha referred to these boundary strategies as ineffective when she wanted to carry out a private conversation and in response re-oriented her desk and chairs and brought in plants from home as a way to reproduce the sense of privacy she felt she had lost.

In other cases, the workplace was configured to overcome official divisions, for example, one common practice amongst staff was to relocate and arrange objects on their desk to share resources between one another. This was especially practiced by groups of staff that collaborated frequently for their work. The GIS Coordinator and GIS Analyst, for example, worked together on the development and management of council’s spatial management systems. In addition, the GIS Coordinator was responsible for training the GIS Analyst and considered him his ‘apprentice’. Although their office setups supported collaboration more than many other setups (these two officers shared a separate room next to IT Services) these two staff members had further configured their workspace to foster a closer working relationship. The desks had been oriented to make easy eye contact and to carry out conversations without craning their necks, and so they could sit together and watch online training seminars together.

The proximity of objects to the computer was another aspect of configuring that was an important strategy for negotiating boundaries between ‘work’ and ‘life’. For example, many Innertown staff had integrated workstations with shelving built-in above the desktop computer. These shelves were often crammed with objects like folders and broken equipment though some staff kept their shelves conspicuously empty. Several staff referred to these shelves and recesses as places for collecting ‘garbage’. Sitting high on the upper shelf of the storage unit next to Mary’s computer was an odd assortment of objects, including a faulty wireless Mouse, external CDROM player and a ZIP drive. Pointing up, Mary remarked in passing that she no longer used most of these items but one day they might come in handy. The distance of these objects from her computer indicated that these objects no longer had currency for Mary and their status as ‘garbage’ (the flotsam and jetsom of past upgrades), but these were not completely without value either, since they could potentially move back into circulation at any time. In this way, Mary had created an
adjustable hierarchy of value based on the proximity of objects in relation to her desktop computer.

Neither the identity nor value of objects is fixed. Desk divisions and proximity to the computer represent a snapshot of how objects are valued by staff, since this is in actuality a highly dynamic process. Since one of the ways the value of objects is formed is in and through configuring, configuring is also one of the ways that the value of objects can be modified—as in the example above of ‘garbage’ being brought back into circulation. This potential for re-negotiating value also applies to the status of categories such as ‘work’ and ‘life’. This can be seen in the way that Beatrice, the Cultural Development Officer, arranged and framed her mobile phone in relation to her desktop computer. As can be seen in the photo below, Beatrice’s mobile phone had a semi-permanent ‘home’ on the shelf of her computer along with a photo of her daughter, some noodles and a box of peaches. By placing her mobile phone in such a prominent position by her computer, the status of this object is upgraded, subtly challenging the role that personal life is normally granted at work (reflected in the way that the majority of staff allocated personal items to the left and ‘subordinate’ side of their desk). Configuring, therefore, in addition to marking out boundaries, is a way that staff challenge and re-negotiate culturally accepted or organisationally established boundaries.

*Figure 26 Beatrice’s ‘shelf’ with the personal mobile phone kept in view while working*
This was also evident outside of the workplace. At *Innertown*, working times were highly standardised around a 9–5 workday and there was no official policy covering working from home. A small group of managers, directors, IT staff and contractors had access to the council’s IT system from outside of the workplace. Thus, the norm at *Innertown* was a segmentist approach to the relationship between ‘work’ and ‘life’; and remote access operated as a privilege of being high up in the organisational hierarchy or of having proven technological expertise. Nevertheless, there were many examples of staff unsettling this officially defined relationship. Many of the staff I interviewed performed work from home either frequently or occasionally and, as shown in relation to synchronising, staff blended personal activities such as ‘life administration’ and contact with friends and family into their daily work.

In one example, Rose, a Communications and Cultural Services Officer located in one Council’s ‘outreach centres’, mentioned that though she wasn’t meant to, she often worked from home. She explained that this was, in part, a response to her location. Located several kilometres from the main administration centre, Rose experienced frequent problems accessing the IT system and slow response times to her support requests. She said that a recent upgrade of her Internet connection had improved the situation but in the past there were times when she had relied on her ICT setup at home simply to get work done with some frustration on her part, as summed up in one of her diary entries:

**FRUSTRATION!**
Lots of problems today causing me to feel irritated + breaking up my day as I have to make time at home to do things I can't do at work...

In all her accounts of home work, it was clear that Rose didn’t work from home because she felt pressured to, to signal her commitment to her job, or as a result of new workplace policies that encouraged and supported home working. On the contrary, there was a sense that her actions might not be approved of. Rose worked from home primarily as a way to overcome problems accessing or using ICT in the workplace. To a large degree, this was a function of not receiving the level of access and support she needed to be able to perform her job as a result of being distanced and isolated from the main administration centre. By using her own resources,
including access to technological expertise at home in the form of her ‘technologically savvy’ partner, she could get things done at home that she couldn’t get done at work.

Norman, a Social Support Program Officer working in Community Services, was another officer who worked from home. Like Rose, Norman worked in an outreach centre. All of the workers in this centre were situated in an open space and shared their work area with large groups from the local community who visited the centre on a daily basis. Because of this, the work environment was often very noisy. Management had been informed of the difficulties associated with doing concentrated work in these conditions and Innertown was in the process of building a wing to relocate staff some distance from the community centre. In the meantime, workers had to make do with the current circumstances. In response, Norman sometimes took his work-allocated laptop home to do work that required concentration:

I do take some of the work home. It is not compulsory, I’m not required to do that, but, I have great difficulties in writing letters, so I prefer to take the laptop home and just type them at home where I’m not, you know, I’m not being interrupted by the phone or other people... So for me it’s been extremely valuable to have the portability of the computer.

For Rose and Norman, ‘home’, acted as an extension of the office setup facilitating a different experience or quality that was not readily available in the workplace. This quality may have been a space or time for concentration, access to technological expertise or it may have been a place to experiment and learn new things as it was for Mary, who described her home as a ‘test environment’ that gave her a ‘head start’ at work. Though there were staff members that were more likely to keep a clear separation between ‘work’ and ‘life’, as in Mike’s case, the majority of those researched adopted a more integrated approach, unsettling the official boundaries of the council materialised in their office setups.

Configuring brings together multiple objects into a series of movements or flows, where objects of the office collaborate to form a type of stage or space of interaction. These dynamic collections help staff to meet their daily information and
communication demands by making relevant information stand out, speeding up access to information and expanding the range of meanings and uses of objects and collections of objects through their arrangement. Acts of configuring also prepare the space of work for social interactions, enhance personal and collective comfort and provide a means through which staff create and maintain their own boundaries within the office workplace and between work and personal life. In some cases, acts of configuring are deliberately performed to subvert or challenge norms such as technical work being heavily coded as masculine, or the boundary norms between ‘work’ and ‘life’. Through configuring, the identity of the computer as a central and privileged object of the office is reinforced. Yet, even when configuring appears to be targeted at individual objects, it is always performed in relation to other objects and in the context of the overall workability of the office.

Placement

Configuring is a way that Innertown staff prepared their workspace for the performance of work by mobilising multiple objects and putting them in relation as meaningful and useful configurations. Although these configurations have the appearance of solidity and completeness when they are encountered in the workplace, they are not in any sense solid or complete. Rather, they are better understood as highly dynamic and precarious networks in continual formation. Nevertheless, all of this configuring and re-reconfiguring takes time and skill to perform and this is not always counted as productive work. This is especially the case if configuring is classified as decoration or if configuring takes place outside of the official space and time of work. One of the main strategies that Innertown staff employed to minimise this time was to incorporate configuring into the workplace through placement. Through placement parts of configurations can be set in place in advance. In this way, staff can anticipate and control, to a degree, whether or not the sets of relations and objects that constitute these configurations will be present when called upon. Placement does not preclude the need to perform acts of configuring in daily work. However, through placement, workers are able to reduce configuring and the time it takes.
As a strategy, placement relies on a number of pre-conditions. It may seem like an obvious point but in the example of sticking notes to a computer display, this act depends on: a space that the computer can occupy relatively permanently, access to the space, a degree of surety that this space (and the computer display) will still be there tomorrow and a reasonable expectation that it will not have been tampered with. This simple example draws attention to a point that has been raised a number of times: space is not an empty shell, ready to receive an imprint of meaning. Space already carries meanings and must preserve the potential for interaction (Lally 2002). In the case of Innertown, placement is made possible for the very reason that the office workplace has been produced to preserve this potential for interaction through the allocation of material resources, designation of control and access and the assignment of location. In this way, through the formal process of setting up, the office is prepared to support (within limits) the incorporation of objects and bodies into it.

The home provided a similar kind of pre-configured or ‘domesticated’ (Mansell and Silverstone 1996) information and communication environment, with less uncertainty, difficulties and rules than the official office setup. For many staff at Innertown, the inevitability of the occurrence of problems and the potential for their work setup to become suddenly unworkable was a source of much anxiety and frustration, particularly for those staff that possessed less skills or access to problem-solving support. Staff members were able to make the office setup workable through a process of bridging and leveraging resources and support from other places, and this was often (but not always) the home. Through this, they extended their own capacity and performance and addressed some of the feelings of alienation at work that resulted from the potential of their official work environment going ‘wild’ from time to time. Conversely, the personal use of work-related time, technology, people and space counteracted the shortage of these resources in other life realms. Ironically, these practices unsettled the official space and time of work and extended the reach of the office platform but, for the very reason that they took place without formal recognition, they sustained and supported an official division between ‘work’ and life’.
Some objects have a semi-permanent relationship to the workplace and to the home and are never fully incorporated into either. The mobile phone, for instance, is not officially part of the office setup and becomes part of it as an additional feature. Many staff at Innertown used the mobile during the workday: as a task reminder; to take calls from friends; family and work colleagues; as a diary and calendar; and as a music recorder. As displayed object, the mobile phone also conveys a number of meanings and is often used as a sign of ‘home’ as in the example of Beatrice above. These semi-permanent configurations relied as much on time and the capacity to create routines, as they did on space. At Innertown, the mobile phone, for example, was usually placed in the office at the beginning of each working day and removed at the end of the day. Placing the mobile phone appears to be such a minute act as to not warrant any attention but this act prepares both the phone and the office setup for certain kinds of practical and symbolic work for the day ahead. When Innertown staff arrived in their ‘office’, the phone was usually transferred from a pocket or bag and connected to a docking station or power charger on the desk. This act put the phone in view and within reach and made the phone quickly accessible, ready to be answered or retrieved. Setting the mobile phone on the desk each morning gathers the object into the overall fold of the office, placing it in relation to the desk, the service provider, other objects and other people and in doing so, prepares for certain kinds of interactions to take place.

Being configured: the ‘Post-It note girl’ and the ‘Mouser’

Acts of configuring are bodily activities. Over time, these acts come to be embodied physically as skills or techniques and through them staff gain a sense of personal control and agency over the space of work. Our sense of self is also fashioned through this process. Yet, exactly how this manifests is not easily or readily accessible to observers or to ourselves. In a comment by Ernie cited in Chapter 3, it is made clear just how difficult this relation to the self can be, not so much because of a lack of words but because of the difficulty of recalling a sense of self prior to computers.

As Ihde (1990) and other phenomenologists have demonstrated, the incorporation of technologies into our self-experience involves a process of forgetting. The difficulty
in accessing this connection between technology and the self is particularly apparent when the process of incorporation has taken place over a long period of time and is continuing in the present. Many Innertown staff had worked for a number of years in the council or similar office environments and had a high level of familiarity with the materials they worked with daily, including the computer. For these staff, how their sense of self was fashioned through the incorporation of their work technologies was a process not easily retrieved from memory.

The use of metaphor in everyday speech is one way that the process of incorporation can be uncovered. Metaphor, according to Lakoff and Johnson (1980) is a window into experience because metaphors embody everyday realities. The important distinction that Lakoff and Johnson make is that metaphor does more than simply reflect our lived realities. It also anchors these realities to tangible ‘figures’, which provide the building blocks for new perceptual experiences. This understanding of metaphor offers a way to join the symbolic with the material dimensions of language. From this perspective, configurations do not just stand in for the self. They are at some tangible and material level what we are. Latour (1988) goes further in collapsing the symbolic and the material by suggesting that ‘figures’ always involve a transfer of some kind, an exchange of properties. He encourages us to ask, is it for social scientists to say when these are ‘actual’ and when they are merely ‘projections’? Some of the ways that metaphor elucidates the incorporation of technology into our sense of self can be illustrated in the following examples of the ‘Post-It note girl’ and the ‘Mouser’.

For Beatrice, a long-term user of computers and other office technologies, how she uses the computer and how she sees herself are thoroughly intertwined. Beatrice described herself as a ‘visual person’ and this self-perception was made apparent in a comment about how she configured her computer:

And the computer itself—I’m not one of these people that fix things. I am a Post-It note girl, definitely. Anyone reading this would start laughing! “She’s a Post-It note girl!”

The figure of the ‘Post-It note girl’ does not simply symbolise Beatrice’s sense of self. It also materialises this self in the configuration of her computer, which was
densely plastered with an array of Post-It notes. This figure can also be seen to anchor and provide a foundation for Beatrice’s perception of the world as a ‘visual person’, which once again is realised in her use of visual reminders to organise her information and communication. Moreover, the figure of the ‘Post-It note girl’ plays an important role in the performance of gender and Beatrice’s identity as a woman. As Foucault suggested in his writings on madness, sexuality and discipline and du Gay (1996) builds on in the concept of ‘dislocation’, the notion of ‘the self’ implies a process of exclusion, emerging out of what it does not include. This can be seen in the example of the ‘Post-it note girl’. In the quote above, this figure is effectively set in opposition to another technological self, one that fixes things and is socially coded as male.

Mike is another staff member who had used computer technology, especially specialist graphical software, over a long time. In recalling his first use of computers, a sense of self manifested in the technological figure of the ‘Mouser’:

It was actually a Microbee at school but that was a black screen, green text, and you had to know programming, which I was never really very good at, and I suppose the breakthrough for me for liking and using computers was when Windows 3.1 came out and everything was GUI based. You could click on stuff. Even now, a lot of people like to use things like keyboard shortcuts. I hate it. I’m a Mouser.

Once again, this figure of the ‘Mouser’ does in a very material sense realise an aspect of Mike, since much of his day is spent using the mouse to manipulate graphics in his role as Landscape Coordinator. This figure also provides an anchor to his perception of the world as graphical and interactive, which emerges in opposition to what Mike sees as a more technical approach, one that involves entering program commands via the keyboard. Both the ‘Mouser’ and the ‘Post-It note girl’ reveal aspects of the professional self that emerge in daily acts of configuring and their translation into techniques of the body. We can recall from Goodwin (1994) that skill is more than a set of acquired manual or cognitive techniques gained through formal and informal training and then applied on the job. Skill constitutes a way of being in and seeing the world—a ‘professional vision’ through which groups maintain their distinctiveness and define professional membership. Therefore, gaining skill through
the incorporation of acts of configuring can be understood as a way that staff at *Innertown* secured their professional selves.

The skill that *Innertown* staff gained through incorporation included a culturally specific perception of space. This sense of space is connected to the two distinctive ways in which control over space is predominantly expressed in Western societies: as mastery of space in the service of time and as mastery of space in the service of comfort and well-being. Significantly, these two perceptions correspond to the way that configuring is classified and valued. *Customisation*, performed to gain control over and efficient use of time is considered productive, whereas, *decoration*, performed to enhance comfort, sociability and a sense of homeliness in the office, is relegated a lower status. So while incorporation of acts of configuring into the body is a process through which staff gain a sense of embodied mastery over the space of work, this same process feeds into how ‘work’ is itself defined and valued, setting official limits on the way that professional membership and a sense of the professional self can be secured.

*Forgetting*

An embodied mastery over space relies on the incorporation of configuring into the workplace and into the body through placement and daily routines. Through incorporation, this embodied mastery or skill comes to be experienced and thought of as contained in the body of the individual, when it is more accurately understood as distributed through dynamic formations of object-subject relations. Likewise, the networks of materials that make up configurations tend to be seen as singular objects that operate autonomously. This can be illustrated by returning once again to the example of sticky notes used as reminders. Sticky notes are not simply memory aids operating independently of memory but are part of an arrangement that draws in sticky notes, the computer display, the desk, the chair and the body into a configuration that constitutes memory. The act of configuring sticky notes, however, and the relations that support this performance, tend to be forgotten or taken for granted through their incorporation, leaving only their products: the notes and the enhanced memory of the individual.
To reiterate, incorporation is characterised by a ‘forgetting’ or simplification. This forgetting is not an indication of an individual or systemic failure that needs to be remedied but is a necessary feature of stabilisation. By enabling sets of relations to be acted on in unison without recourse to the sets of relations that sustain them, networks can be treated as resources that support embodied performances. Nevertheless, forgetting or simplification has consequences. Through this process, much of the complexity that lies behind configuring is concealed. This includes the work of configuring, the time and space that configuring consumes and the perceptions of time, space and self that are generated through this process. This also means that the way in which configuring is classified and valued becomes seen as natural rather than an outcome of the acting out of social norms. It also means that variations in the amount of configuring performed by staff go undetected and unrecognised.

Some of these variations in the amount of configuring are related to whether a staff member is new or not, whether or not their location of work varies and how much technological expertise they bring to their office setup. A number of Innertown staff recalled spending significant time configuring their office when they first started. In many cases this did not just involve modifying the standard setup but also reconfiguring adjustments made by their predecessors. Samantha, for example, mentioned that she had to spend time going through her predecessor’s paper files to organise them into ring bound folders. She proudly pointed to a bookshelf of folders that were labelled and colour coded. She described the state of the office prior to filling it as, ‘male dominated, with everything just thrown in’. This example draws attention once again to how the underlying gender dichotomy that associates women with organisational and administrative work and men with more instrumental goals is reinforced through acts of configuring and is invoked as a demonstration of gender difference. It also highlights how, through placement, space can hold the traces of multiple stabilisation strategies including strategies instigated by former staff members. Workers must negotiate these ‘legacies’ in their efforts to make their workspace workable.

Some workers must undertake more configuring than others because of variations in their location of work as in the example of CSOs. These workers alternated their
location weekly between the service counter and the call centre, they didn’t have permanent workstations and were instead allocated mobile drawer units for storing all their objects and a roaming user profile which centrally stored modifications made to their electronic desktop over time. Nevertheless, while these measures went some way towards providing continuity of their work environment, CSOs still had to perform extra configuring at the beginning and end of each week. Moreover, because CSOs relocated frequently, they tended not to use personalised visual reminders on surrounding surfaces, and instead attached more generic information oriented towards collective rather than individual use.

To compensate for the limits placed on making permanent and personalised changes to their workspace, CSOs relied heavily on roaming profiles. However, according to staff this feature frequently didn’t work. One CSO, Danielle, mentioned to me there was a glitch that meant that parts of the desktop didn’t appear every time you logged on. Because of this problem, even though the office setup was designed to support the personalisation of desktops (up to a point) and the continuity of the desktop environment from one location to another, it was often the case that staff had to reconfigure their electronic desktops each time they moved. Encountering glitches with roaming profiles was not specific to CSOs but in their case the amount of additional configuring it required was increased because of their regular change of location.

The placement and routinisation of acts of configuring are the main preparation strategies employed by workers to stabilise the space of work, enabling them to secure in advance parts of the networks that make up configurations. Through these strategies workers gain a sense of mastery and control over the space of work. However, there are circumstances where additional configuring must be performed. Contradictions, clashes, glitches, outages and breakdowns are a normal feature of organisational life and are not always possible to prepare for ahead of time. In compensation, workers perform repair work. Repair work reinforces, adjusts, compliments and adds to preparation strategies when these are no longer effective. In some cases, repair work is performed to overcome new limits that are inadvertently created through configuring. For example, although the desk may be specifically configured to speed up access to information and communication through the use of
folders, piles, folder racks, sorting trays and visual reminders, repair work needs to be performed to reduce the amount of ‘desk litter’ that threatens to undermine its functionality. On the other hand, for workers who are not required to access and recall information on demand, or who have workers to assist them to do this, configuring a desk for speed may not be as necessary and thus having an accumulation of paper correspondence or a ‘messy desk’ becomes a ‘luxury’ and status symbol since it marks out these workers as not subject to the same demands on their time.

Through repair, staff can regain a sense of mastery and control over space but this also brings to the surface at least some of the complexity that is concealed through simplification. By bringing this complexity to a point of conscious reflection, repair represents an opportunity to re-negotiate and challenge existing preparation strategies at either a personal or organisational level. Douglas (2003), in her seminal work on pollution and taboo, *Purity and Danger*, introduced the concept of ‘matter out of place’. Referring to the example of dirt, she demonstrated how the existence of social classification systems can be disrupted through the movement of material across the boundaries of cultural categories and that this potential for disruption is necessary for the functioning of such systems. Based on this observation, it is possible to see that repair represents the potential to both disrupt and reinstate existing modes of ordering by drawing attention to these classificatory boundaries. In the process, boundaries that form the basis for the value ascribed to objects and the work associated with them may be challenged. Repair can also bring about innovations and new skills. There is slippage between repair and preparation and it is not unusual for impromptu responses and improvisations to find a more permanent place in the workplace and to be incorporated into the body as a new skill or technique.

**Conclusion**

In opening this chapter, I presented the office setups of staff at *Innertown* as a product of the process of setting up outlined in the last chapter. As part of this presentation, I considered how the visions and claims associated with the discourse of mobility and flexibility inform this organisational process. By closely scrutinising
the daily work of Innertown council workers in meeting their information and communication demands, it is now possible to re-situate the relevance and importance of place and space. Acts of connecting, configuring and synchronising are crucial for making the office setup function and this also includes the electronic spaces that are incorporated into the office setup. Through these efforts, different spaces collaborate to produce arrangements that help staff to meet their daily information and communication demands. The meanings and uses of these configurations may appear to be competing or contradictory but they can all be seen to contribute in different ways to the overall workability of the office.

Skill, time and space are necessary to support efforts towards workability. These efforts demand skills in navigating complex spatial and temporal relations and in combining complex relations to form meaningful and useful assemblages. These skills are gained through the incorporation of objects into our bodies over time. These efforts also require space. This space, however, is not an empty and neutral shell in which efforts towards workability take place, but is always already meaningful. In the case of Innertown, the space that staff encountered had been converted into a resource in the form of the office setup designed to support the incorporation of objects into it through acts of connecting, configuring and synchronising. Council staff encountered this resource daily and modified and reshaped it to support their work and life.

The incorporation of objects into the body and the workplace is accompanied by a process of forgetting or ‘simplification’ through which the networks of materials that make up configurations recede from active consciousness, leaving singular objects that look for all intents and purposes like autonomous bodies and technological devices. Some of the implications of this forgetting have been foregrounded, including the naturalisation of the classification and valuing of forms of work and variations in the amount of configuring. Simplification also has consequences for our sense of space and time, resulting in a rationalised and emptied out conception. Space and time become resources. While this enables mastery and control over these resources, this mastery is also predicated on a reduction of its complexity. Through the concealment of the complexity that is actually involved in getting work done, the need for or relevance of place and time seems to disappear and the privileging of the
computer as the central work object is reinforced and reified. In this context it becomes easy to argue that information and communication replaces the need for an office at all.
Chapter 5  Worldcom: the trial of a smart phone

Introduction

The following case study examines the daily use of ICT by staff in the Enterprise Division of a global telecommunications company (Worldcom) partaking in a trial of a smart phone. This study lies at the intersection of multiple material and discursive processes of the office put forward in the account of Officing. On the one hand it represents an example of a current vision of the office of the future articulated through a workplace trial of a smart phone. This smart phone was, at the time or research, being developed for Worldcom’s line of mobile and wireless telecommunication products aimed at the ‘enterprise market’. On the other hand, this case provides an opportunity to examine the process of making this model of the mobile and flexible office workable within the immediate and practical context of its use by Worldcom staff. The analytical framework of Officing has been applied to take into account the wide array of technologies, objects, people, places, times that make up the office setup of staff and the ongoing efforts required to make this setup workable. This also lays the foundation for assessing the applicability of Officing across different organisational settings. A number of issues are taken up in this study: How is a discourse of mobility and flexibility materialised in staff’s office setup? What changes can be detected in staff’s work practices and their organisation of space and time in the process of making this setup workable? What is the sense of space and time that emerges in this process and how does this relate to their identities as professionals?

At the time I approached Worldcom to participate in this research, the company was in the process of developing a smart phone to market and sell to its worldwide base of corporate customers. This product, referred to here as Mobile Organiser Virtual Environment (MOVE)\(^2\), in addition to being part of their line of Worldcom’s telecommunication products, also played a central role in the daily work of a group

\(^2\)The smart phone has been given a fictitious name to protect the privacy of the individuals and the organisation that participated in this research.
of employees at the company. For eighteen months leading up to October 2006 when the fieldwork for this research took place, a group of staff in the marketing and sales division servicing the Australia/New Zealand and South Pacific region participated in an informal trial of MOVE using this prototype of a smart phone in their daily work and providing feedback on its development. These staff travelled extensively in their sales and marketing capacity and were frequently away from the regional headquarters or ‘central office’. These staff were encouraged to use MOVE as their main work tool while travelling and even when located at the central office. MOVE was, nevertheless, still one of a variety of ICTs that made up their office setup during the trial. In Chapter 1 and more fully in Chapter 3, I proposed that the material arrangements of work could be understood as a production in its own right and one of the main strategies by which organisations stabilise the space and time of work. MOVE can be situated within the context of this production using the typology developed to take into account the spatial, temporal and technological aspects of the office setups of employees.

The office setup at Worldcom

The central office of Worldcom typified the Weberian ideal of a bureaucracy in more ways than one and the similarities with the main administrative centre at Innertown were striking. Each ‘office’ consisted of a collection of individual and shared equipment, a designated space for work and access to these resources including the physical workspace and IT system. These configurations were highly standardised around individual workstations ordered in relation to one another and co-located in a building that staff were required to attend during set work hours. However, the arrangements at Worldcom differed from Innertown in crucial ways and it was through these differences that a new model of office work founded on a discourse of mobility and flexibility was materialised.

The central office of Worldcom was located on the top floors of a recently built city tower block in the Central Business District (CBD) of Melbourne. A large open-planned room divided into a number of cubicles was the main work area for staff. The majority of staff accommodated here were middle management and had been assigned individual workstations. Running alongside the outside wall were a number
of larger cubicles with sweeping city views stretching from the city to the sea, occupied by executive management. In addition to a workstation, individual staff members were assigned virtual locations or identifiers in the form of an email address, electronically coded security pass and office phone number. These identifiers provided access to the floor and other material resources and were a means for locating and accessing staff within and beyond the physical workplace.

The allocation of material resources, along with location, is another of the main ways that organisations define and materialise the space of work. At Worldcom, office equipment was structured around single workstations and much like Innertown, included a chair, desk, desktop computer with mouse and keyboard, work phone, storage for paper correspondence and a supply of stationery. Instead of a desk phone wired to each office workspace, however, at Worldcom staff were assigned a wireless handset each day that was carried with them wherever they worked within the building. One staff member explained this setup as: ‘You come in, you pick up a handset and you log in and that’s your handset for the day.’ The electronic setup at Worldcom was also similar to Innertown; with a Windows desktop environment, user profile and selection of software allocated to each employee but unlike Innertown, there were relatively few organisation-wide and customised software systems and Microsoft Office and the Customer Relationship Management (CRM) database were the main programs installed.

Arrangements of access are one of the key ways that organisations record and regulate official working time and access is also a means for prescribing when, where and how material resources are to be used. At Worldcom, staff accessed the central office with an electronically coded security pass, and were entrusted to enter their own work times into personal time sheets. The wireless handset assigned upon arrival also required that staff enter a username and password at a login prompt. The same username and password granted access to each individual’s user profile, which, as at Innertown, was designed to be accessible from any workstation. These access arrangements helped to give material form to the official working time, which at Worldcom, was based on a standard working week of 5 days and a (more-or-less) 9–5 workday. Employees were required to attend the central office during these hours although for some this policy was relaxed, as we will see in the case of staff in the
MOVE trial. Although in many ways the working times at Worldcom paralleled those at Innertown, there was one major difference. Since the company had regional centres located all over the world and staff working at these were connected to the company’s information and communication network, work was produced continuously over a twenty-four hour period even though within each time zone, local business hours applied. In this way, Worldcom operated with a 24/7 and 9–5 workday in tandem.

**The office setups of staff in the MOVE trial**

The office setups of staff in the trial differed from others in one crucial respect—the allocation of the prototype smart phone, MOVE. Members of the Enterprise Division had been given MOVE eighteen months prior to the research and were encouraged to incorporate this technology into their daily work. MOVE itself was a smart phone with a sleek and silver-bodied case, a large touch screen display, numerical pad and stylus. Through MOVE, staff in the trial had continuous remote access to the company’s IT system via a wireless network with national and international coverage. MOVE was set up to enable access to all the company’s electronic resources including email and calendaring, the Web and a mobile version of Microsoft Office. Because of the feature of continuous connectivity, messages were delivered immediately to MOVE. Zina, the Business Development Manager, described this feature as ‘real time communication’. Staff in the MOVE trial also had caller ID profiles set up through their voice mail so that calls could be automatically or manually re-directed to MOVE. This meant that staff effectively had a single phone number for all their work calls.

Accompanying the allocation of MOVE were a number of arrangements that were less apparent. Although MOVE was in many ways designed to replace the need for a dedicated office workspace particularly when travelling for business, staff in the trial retained their former office setup and were provided with additional financial and technical support. At the time the research was conducted, the company paid for the cost of all calls made from MOVE, including personal calls. Staff were also able to access a support service for troubleshooting problems with MOVE, which extended to access issues using their personal laptops and home computers. Finally, staff in the
trial had official support for working away from the central office. Indeed, they were actively encouraged to and were granted a level of autonomy that other staff did not receive. In one diary entry, Zina expressed her surprise upon realising that the Enterprise Division had been given special privileges for working at home:

I noticed today that people on the same floor as me but in another department are not given remote access rights to be able to work from home, while my department can. These people are putting in long hours and on PC’s all day. I found that to be quite inequitable and feel a little guilty that I could work whenever/wherever I want, but not everyone in the company can do that.

The MOVE trial was not formally conceived as a strategy for instituting a mobile and flexible model of work and to some extent, the office setups of Worldcom staff already materialised such a philosophy. Technology such as MOVE was not entirely unique or unfamiliar to staff in the trial. Mobile phones, laptops and PDAs had been in use by staff for some time prior to initiating the trial. Working at the forefront of telecommunication development meant that staff here were expected to be familiar with all kinds of information and communication technology and were encouraged to incorporate these into their work practice. Moreover, even before the trial, Enterprise Division staff were used to making their own decisions about where and when they worked (up to a point) and this was accompanied by additional demands of availability and connectedness. Lillian, the Enterprise Marketing Manager, mentioned to me that when she first started at Worldcom she was shocked to be told that she was expected to have her laptop and mobile phone on her at all times:

The biggest surprise I ever had, I’ve never worked in an office where this was requested of me, but when I first started I was told very clearly that I would be expected to have my laptop and mobile phone on me all the time. And I guess, it surprised me a little bit. Just that expectation of “You will be available 24/7”.

In this sense, rather than being an outcome of a top down plan, mobile and flexible work arrangements could be seen as an ad hoc response to specific projects and events such as the trial and pre-existing expectations of availability and connectedness, such that staff were expected to be contactable via some kind of communication media and to respond to urgent work demands. Nevertheless, as Jan,
the Business Development Manager and main instigator of the MOVE trial explained, the trial had added momentum to this development, ‘That has just happened on its own anyway. Using the technology has just allowed that to happen easier.’ Continuing, Jan explained that Worldcom was now moving towards mobile and flexible working arrangements as part of an overall cost cutting initiative, which involved moving staff to new premises and allocating desk space to only eighty per cent of employees at any one time. What was different about the way in that staff in the trial were set up was firstly, that MOVE was clearly identified as a work technology that included technical and financial support, secondly, the unique combination of functions and services on a single device, and finally, the expectation that work would be conducted away from the central office and that staff would be available and connected at all times.

**Making the office workable at Worldcom**

**Continuous Connectivity**

Connecting, it can be recalled, can be understood as the interactions that go into supporting the alignment of multiple objects to produce a change or shift in spatial relations at a set time. Connecting is a bodily activity performed in interaction with other objects and with other people and involves aligning ourselves, since we too are part of these configurations. In so doing, connecting prepares the space and time of the office and the office worker for interactions to take place. Although MOVE could theoretically stay connected to the company’s IT system twenty-four hours a day, in actuality there were a number of limitations to continuous connectivity. First and foremost, Worldcom staff needed to attend to a range of bodily demands. While some of these could be and often were flexibly scheduled around work, there were some that were not so flexible. Sleep was one of these, as Ned, the Channel Manager, conceded, ‘OK, there’s bedtime, obviously…’ For at least some hours of each day, even with MOVE, staff were effectively disconnected from the office. Yet after waking up, connecting was one of the first, if not the very first activity performed. Lillian, the Marketing Manager, explained her morning as:

> I wake up in the morning, my phone is on 24/7, but the first thing I do is go into my MOVE organiser, checking emails that have come
through... and what have you throughout the night. Make sure that there’s nothing urgent that I need to start on before I have a shower. Once I’m in the clear as far as that goes, I usually get my messages that have been in my head throughout the night, I’ll send those messages out usually by text at the hour of the morning. I usually switch on my email on my laptop as well before I leave the house. Just to check, and to check my diary and whatever for the day. And then I pack up and head off to work.

For staff in the trial, connecting to MOVE first thing in the morning was a way to overcome a disconnection from work resulting from sleep—a physical need that seemed to conflict with the assumption and expectation of continuous connectivity. Continuous connectivity was a built-in feature of MOVE, and in Lillian’s case, of her mind as well, which also seemed to maintain a connection to work throughout the night as revealed in the account above. For Lillian, connecting first thing in the morning facilitated a transition from her non-work ‘self’ to her work ‘self’, bringing her mind, body, technology and information and communication into practical alignment. By establishing a connection through MOVE, Lillian was able to access her email, SMS and voice mail—the main media through which her work was generated. This connection took place during and around other preparations for work—showering, eating, dressing and packing up—were all activities interwoven with connecting. On this routine, Lillian remarked, ‘It certainly makes that a more fluid transition in the morning.’ For other staff, connecting around existing domestic activities was carried out less smoothly, requiring additional and ongoing negotiations with other household members.

With the exception of Lillian, when staff in the trial described their use of MOVE and other ICT at home for work-related purposes, they reported conflicts with family members and said they were in the process of working out how to deal with these. Ned also checked MOVE first thing in the morning and just before going to bed at night. On his use of MOVE at home he told me:

My wife doesn’t like it! (laughs). It’s intruding, in a way, into your life. It is, yes... Well I suppose that’s the way it is. It’s got advantages and disadvantages. I haven’t really managed it fully.
Because connecting was performed in what was considered by other household members as non-work time, these acts became the subject of conflicting schedules and understandings over the use of time. Efforts had to be directed towards ‘fixing’ or repairing these conflicts. In this way, repairing connections covered the practical work of dealing with equipment breakdowns and outages with service providers and also included negotiating connections around other people’s activities and schedules, and conflicting understandings of the use of the time. These connection breakdowns were accompanied by a physical response. In Lillian’s words:

> Anger, frustration, computer aggression. Yeah, obviously you just go through the process of trying to get it sorted. You turn the computer off and on, unplugging the cable, plugging it back in. All that sort of jazz…

Connecting, it has been suggested, is an embodied activity. It is not simply that the body moves in order to make connections, but over time connections are incorporated into the body, so that the body itself is constituted in and from the connections it makes. Connecting, however, involves a ‘forgetting’ or a simplification so that once incorporated, the body appears, for all intents and purposes, as autonomous and separate from the connections it makes. Connection breakdowns interrupt this sense of autonomy, producing a *sensori-affectivo-motor* (Warnier 2001) response in our bodies as our dependence on others and other object networks to support and sustain agency is corporeally remembered. Repair work calls on a shift in analytical approach and skill; a kind of ‘reverse engineering’ that involves a pulling apart and putting back together again of parts of the network. This work demands a level of conscious reflection and expertise that goes beyond habituated acts of connecting, requiring extra time and, in many cases, the recruitment of others.

**Connecting on the move**

The need for sleep and negotiations over scheduling and the use of time in the household were not the only limitations to continuous connectivity staff in the trial encountered. Limitations were also apparent when staff travelled for business. Many sites marketed to and visited by professionals—such as hotels, conference centres, airports club lounges, airplanes and cafes—claim to support Internet access and a
range of professional services, but there is significant variation in these services and how they are set up. Although Worldcom staff reported that the wireless connection was reliable within Australia and overseas, staff encountered a great deal of difficulties in connecting. Lillian commented on these difficulties, ‘Every day is different, quite often it will take 20-30 minutes to get connected.’

Numerous components interact to achieve a successful connection and without dedicated staff and maintenance systems to keep these connections ‘up’, any one of these components can fail, go missing, be incompatible or simply be unavailable. The complexity of the interactions was captured in a comment by Jan:

I think it’s become more complex. There’s a lot more to absorb now, lot more interaction, lots more complexities in the way things work. And if things go wrong then, it’s no longer a simple matter of turning it off and turning it on, and hoping for the best…”

Since MOVE was commonly used with a laptop and in a variety of settings, the number of parts involved in a connection was significantly increased. In these situations, connection breakdowns were commonplace. During an observation conducted in a Sydney hotel suite, Lillian pointed to the network cable she used to connect her laptop to the hotel’s IT network. She told me that she didn’t know why but these cables were often broken. She pulled out a cable from her laptop bag and explained how she now carries a spare one with her wherever she goes. In the same session, Lillian demonstrated another ‘trick’ for dealing with anticipated connection problems. Before leaving to travel for business, she saves copies of all the documents she anticipates using on her laptop and prints out hard copies of any presentations and supporting notes.

Worldcom staff were very resourceful at dealing with variations they encountered during travel and finding alternative ways to make a connection or ‘work around’ around a connection problem. In one of the early entries in Lillian’s diary, she noted that the ADSL service in the hotel was down, which meant she was unable to connect her laptop to the company IT system. Over a period of four days she recorded the progress of this outage and her reactions to it, her frustration noticeably escalating: ‘Why did I bring the laptop? Completely useless without service of
ADSL to me!’ At the same time, she also expressed relief that she could still connect MOVE over the wireless network: ‘Apart from documents that are too large to download via MOVE, I had not need for my laptop—very refreshing!’

After finding alternative ways of doing her work without her laptop, she was struck by a sense of freedom at being released from the laptop altogether:

Now I know I don’t need a laptop! In fact questioning if I ever did need to carry one around! Must admit, I did print off all my event docs before departing Melbourne office. I prefer paper, its tangible and takes less time to pull out and set up than a laptop (weighs less too!)

Building on a variety of theories of subjectivity, Warnier (2001) cites psychoanalyst Tisseron to explain how disturbing events, such as technology breakdowns, must be transformed by being taken into the skin, understood as the ‘anatomo-physiological experience’ of the psychic envelope. Warnier names three media by which the skin takes in or *internalises* an event: sensori-motricity, words and images (15-16). From this perspective, emotion, which falls into the first medium, is not secondary or symptomatic to the experience of a breakdown. Emotion, along with language, images and bodily movement, is intrinsic to the way that breakdowns are processed and repaired, that is, how the event is internalised through its domestication into an ‘acceptable, tamed and meaningful version’ (16). In the example of Lillian’s breakdown, this process is apparent in the progression of her entries as she modifies her work practice and emotional responses over a series of days. By substituting MOVE for her laptop, resorting to the use of paper as her main ICT and re-framing the event to restore the ideal of ‘lightness’ and ‘independence’ associated with mobile office work, Lillian transformed the breakdown from a disturbing and disruptive event to one that she can internalise into her sense of self as a mobile professional.

While some places staff trialling MOVE encountered in their business travel did provide some of the social and material resources that enabled successful connections to be made, in the vast majority of places, connections were not readily achievable. It was exactly in these *in between* places or liminal zones that staff reported the main benefit of MOVE since a connection to *Worldcom* could still be
made via the wireless connection. Because staff relied so heavily on this connection when moving from place to place, they developed ways to check that it was up and running. Zina, the Business Development Manager, explained that she repeatedly checked for messages on MOVE, not only to discover if she had received any new messages, but also to ensure that she was still connected:

I’ll check that the email is working and if it’s not working I’ll be a little bit stressed because I want to understand why it’s not working and what I’m missing out on.

In some cases, the efforts of staff were not directed towards connecting but towards disconnecting. Ned wrote in his diary that on one occasion he could not turn MOVE into flight mode during a flight. To comply with the on-board flight rules he resorted to removing the batteries on his device. On another occasion, Zina turned MOVE off at night against her usual practice of using it as a morning alarm to wake her up because the incoming messages she received during the night interrupted her sleep. In an entry in her diary she wrote:

Left phone on all night so alarm could go off in morning but someone kept texting me until 2.45am so I had to switch it off. Invasive and annoying.

These disconnections exposed a contradiction in the underlying premise of continuous connectivity and the programming into MOVE of this premise or ‘script’ (Akrich 1994). Although continuous connectivity enabled staff to stay connected to the office, there were numerous occasions when being connected was not possible, desirable or acceptable in the various settings and times that Worldcom staff moved through and occupied. In encountering these conflicts staff in the trial responded with a range of improvisations to work around and thwart the built-in functionality of continuous connectivity. Discovering similar practices of disconnecting in his study of car-based office workers, Laurier (2002) made the observation that,

Remarks about technologies such as cars, mobile phones and WAP [Wireless Application Protocol] somehow causing work to be faster, more mobile and more connected-up tend to misrepresent the technologies and their users, glossing over how their spatio-temporal arrangement in use is just as much about slowing down, holding things in place and disconnecting. (59)
Laurier makes the important point that acts of disconnecting are a normal aspect of the daily technology practices of mobile workers. However, I suggest that these acts do not balance out acts of connecting as his comment implies. In the case of the MOVE trial, staff disconnected as a last resort to resolve conflicts that could not be resolved any other way. Staff directed most of their efforts towards staying connected for as long as possible, disconnecting as little as possible and re-connecting as quickly as possible. Staff felt compelled to be connected because performing as mobile professionals depended on their ability to be contacted, which itself depended on being connected. Since this was also how most of their work contacts, friends and family now communicated with them, staff had an additional personal investment in being connected. The compulsion to connect was intensified by the operation of the global workday, the concentration of contact onto a single device and the built-in connectivity features of MOVE. Through these multiple processes, disconnections were experienced as abnormal and staff felt compelled to re-connect in order to re-establish their sense of normality. Connecting, however, could not always be continuous, not just because of technical difficulties but also because in many circumstances it was not the ‘correct’ response. Situations when connections are made were highly variable and demanded an awareness of what was socially acceptable. As Jan explained:

Well, I mean, you’re certainly conscious of how people are going to react to you, then you adjust the way you use the technology according to that. So putting it onto silent mode, or not taking the device out, or not playing with it like I am at the moment (laughs)…

By making reference to an incident during our discussion, Jan illustrates here just how dynamic this ‘correct’ response can be and how it is often negotiated on the fly. In this example, Jan’s laughter doubled as a tactful testing of the boundaries of appropriate use by acting as a means to gauge my response. Making connections workable, therefore, requires ongoing efforts to be directed towards re-connections, disconnections, negotiating conflicts of continuous connectivity, gauging the highly dynamic social rules of connecting and repairing connections.
Connecting in the office

Connecting in the Worldcom central office allowed for little variation, much like the setups at Innertown, and involved different sequences and combinations of objects and people. Nevertheless, connecting was more than just a matter of turning the computer on. At Worldcom, connecting involved a host of movements including swiping the electronic security pass through the code reader, physically entering the work space, signing into a wireless handset for the day, connecting to the voice mail to retrieve voice messages, sitting down in front of the computer, switching the computer on, waiting for the computer to boot up, logging on with a username and password at the log in prompt and selecting software to launch. While this process of connecting was highly standardised and regulated, as it was at Innertown, staff made a number of adjustments in negotiating these connections to make them workable in the context of their daily work.

Staff in the MOVE trial did not necessarily connect at 9am or even in the morning like many other staff at Worldcom. Partly due to the regular practice of working back later hours and the special arrangements granted to them during the trial, these staff had a high degree of control over when they worked in the office. Since working time could be flexibly scheduled around work and other demands, connecting could take place at any time of the day. Zina provided an example of how she might schedule her workday:

Sometimes if I’m feeling a bit off colour and I don’t want to go in and I need a bit of extra rest in the morning I’ll get up later, work later during the day. So...you’d find me online at, like, eight, nine, ten o’clock at night because I’m just in a different thinking mode then and then I can have the morning a bit more relaxed.

When staff arrived in the office, one of their first actions would be to connect their laptops to the company’s IT system. Many of the staff at Worldcom used laptops instead of or in addition to their desktop computers allocated as part of the standard office setup. While these laptops facilitated mobility, they also required additional work in negotiating connections in the different places worked. Even in the central office, connecting the laptop involved a number of extra steps such as connecting to
the network, computer display and keyboard, and checking the connections to see if they were up and working.

Once the computer was turned on, a sequence of automatic connections was initiated, including connecting to the IT network, launching software programs such as security and virus protection and a myriad of other steps that were not immediately apparent. This process of connecting took time, up to half an hour in some instances. Ned mentioned that the slowness of the computers starting up was one of his main dislikes, taking a minimum of fifteen minutes each time. His main concern was about losing work time and estimated that on average he probably lost an hour of work a day. Zina also remarked on the slowness of the computers starting up and made a comment about this in her diary after a software update had been installed: ‘Time taken to fire up PC as a result of software update, which required reboot 30 mins!’

On the same day, Jan made the entry in his diary:

I received a Windows update. As my laptop is quite old (4 years), this took a bit of time (15-20 min). This is 15-20 min, which in some cases can be a waste of time.

The language used to describe time in these responses points to a conceptualisation of time shared amongst Worldcom and Innertown staff. Time is understood as an exchangeable resource and mastery as control over and efficient use of this resource. As previously suggested, this understanding is grounded in a wider cultural perception of time and is particularly dominant in the discourse of professionalism. For staff in both organisations, slowness in connecting was considered an aberration and an unproductive use of this resource. For staff in the trial, however, for whom continuous connectivity was the expectation and norm, slow connections were especially disturbing. As Zina noted in her diary:

Today was about frustration with using my laptop in the sense that it powers down when power cord is removed (even if battery is full) and how long it takes to fire up. Productivity killer!

Like a connection breakdown, delays in connecting draw attention to the inability to have complete control over this activity (and therefore time itself) and the reliance on others (including other objects) for successful connections to be made. Since there
was little staff could do to speed up the computer, this stimulated an embodied response of frustration and anxiety similar to the reaction that accompanied a connection breakdown.

In experiencing this slowness (and the accompanying emotional reaction), staff in the trial were very resourceful at making the most of their time, using this time to get a cup of tea and connecting with work colleagues. After all, like Lillian below, one of the main reasons why staff trialling MOVE came into the office was to meet with others:

The only reason that I come into the office is when I have a meeting. Or to see the colleagues on that day and find out what’s going on. It’s purely for people contact that I would even bother coming to the office.

In the last study of *Innertown* it was suggested that connecting is as much about making social connections as it is about making material connections. For staff in the trial, not having regular face-to-face contact was one of the main limitations of their new work arrangements. While their mobilised office setups significantly enhanced their capacity to make electronic connections to work colleagues and to access electronic resources of the organisation, it was no substitute for physical contact with work colleagues. Jan and other staff in the trial reported that a lack of face-to-face contact during the trial had been detrimental to their work relationships:

There is a negative impact….I think there’s less interaction now within the group. So I’m actually less aware of what people are doing, which is - I mean, you need that interaction to be able to see what you’re doing is appropriate, or you should be taking action. I’d say there’s less of that…so…you’re more flexible and you can [work] anywhere, but it removes that team bonding component…”

Studies of teleworkers and virtual workers have repeatedly confirmed that working away from a collective office environment is perceived to have negative implications for work relationships and career progression. More recently, Halford (2005) reported on similar issues in her study of professionals in the UK who worked part of the week at home and part of the week in an organisational workplace. In Halford’s study, travel to the workplace with the specific purpose of meeting up was one way that staff compensated for the negative effects of having less face-to-face contact
with work colleagues. Similarly, Brown and O’Hara (2003) found that in their study of mobile professionals, individuals deliberately sought out unplanned social contact by going into the office headquarters or client’s premises.

Social theorist Urry (2003) has made some important contributions to understanding this phenomenon. Concentrating on broad social trends in travel and technology, he argues that new ways to meet up with people through travel emerge to counterbalance the growth in remote forms of communication. Within this context, face-to-face encounters and a variety of forms of transport and travel take on a new level of importance and are logically interconnected with communication ‘at-a-distance’:

These moments of physical co-presence are crucial to patterns of social life that occur ‘at-a-distance’, whether for business, leisure, family life, politics, pleasure or friendship. So life is networked but it also involves specific co-present encounters within certain times and places. ‘Meetingness’, and thus different forms and modes of travel, are central to much social life, a life involving strange combinations of increasing distance and intermittent co-presence. (156)

For staff in the MOVE trial, travelling to achieve ‘moments of physical co-presence’ was already an established part of their work process. All of these staff frequently travelled to conferences, suppliers, potential customers and work colleagues. Meeting in person was not just an aspect of this travel experience but in many instances was the reason for travel. Ned, the Channel Manager, spent more time in the central office than other staff in the Enterprise Division and because of this, he felt a need to put extra work into his ‘distant’ relationships:

It’s very convenient to be in the office and handle everything by the phone. On the other hand, sometimes it reduces the face-to-face contact, which can be detrimental to some relationships with customers. But it’s very convenient. I haven’t done anything about it, but I’m thinking about it, actually. To write a list of people I need to see personally! I’ve thought about it. I’ve thought it’s an issue…

For staff who travelled extensively and combined travel with working from home, making face-to-face connections with their work colleagues was one of the primary reasons for coming in to the office. Thus, in the same way that a networked and
mobile sociality relies on co-present encounters (2003), the workability of the mobile office relies on regular face-to-face connections made by staff in visits to the central office. Making these connections, however, was not generally considered a productive use of time. Staff in the trial were concerned to emphasise that these visits were for formal meetings and appointments only and any informal interactions were incidental, even suggesting that they got in the way of ‘real work’. Zina captures this in her statement:

If I had a meeting I’ll come in. If I’ve got deliveries, things to send out—I do prefer to work in the office because I like to come in. I like the social aspect to it. If I really need to focus, to concentrate on something I’ll probably work from home. There are a lot of distractions in the office and it can be drive me nuts. People want to come up and talk to you and chat and things and it can be rude if you ignore them—you can’t ignore them.

In the same way that equipment connections are assessed on their use of time so that the time it takes for computers to start up is labelled a ‘waste’ of time, social connections are similarly subject to a process of being classified as non-productive. Informal social connections fall into this category despite individual staff recognising their importance and despite an increasing recognition within management and organisational discourses that the sociality of the workplace helps the overall productivity of an organisation (Duffy 1992; Boden 1994). This relatively new recognition is contradicted by the way that certain kinds of work are valued at the level of everyday practice, so that, though necessary for the overall workability of the mobile office, face-to-face connections, particularly informal connections, are not considered a productive use of time.

**Always Already Synchronised**

MOVE included a feature known as automatic synchronisation designed to work with continuous connectivity to enhance access to current information and communication. Prior to MOVE and similar smart phone products, information and communication had to be synchronised by manually connecting to a network connection. At this point messages stored on a mail server and other information
updates to the calendar, task list and contacts would be automatically synchronised.\textsuperscript{25} The relatively newly applied feature of automatic synchronisation (at the time of research) enabled staff to eliminate the intervals between network connections and reduce the need to re-synchronise. In the words of Zina, this supported her to communicate in ‘real time’. In the case of the MOVE trial, however, this had some hidden limitations. Firstly, automatic synchronisation was narrowly defined within programmable parameters and did not include many of the synchronising activities that were actually performed by staff in going about their daily work. Secondly, many delays were not simply a result of a shortage of or not having access to a network connection and were often necessary or unavoidable.

Synchronising can be broadly defined to mean the temporal adjustments performed in negotiating the information and communication demands that come about in and through the use of technology and the ‘time’ and ‘skill’ that these adjustments involve. Checking for new messages is one of these. Worldcom staff checked their messages first thing in the morning to re-synchronise with their information and communication from the night before. Synchronising in the morning also included checking the electronic calendar to identify new appointments and tasks. These synchronising activities helped staff to prepare themselves for the day ahead by taking action on urgent messages and gaining knowledge of issues prior to arriving at their destination. In addition to preparing for the day, staff checked and replied to messages as early as possible to make up for a ‘time gap’ resulting from a disconnection during sleep. In this way, staff brought together or \textit{bridged} times.

‘Bridging’ is a term introduced in the last chapter, adapted from Nippert-Eng’s (1996) analysis of boundaries in everyday life, to illustrate how daily activities performed towards workability bring together times, spaces and subjective states that are otherwise held apart. It can be recalled that at Innertown, bridging times referred to bringing together and coordinating different times in the present resulting from an absence of some kind and alleviated time pressures associated with the accumulation

\textsuperscript{25}With the popularity and growth in use of Blackberry devices this feature of being able to access emails and ‘live’ changes to programs such as calendars and event software has become normalised as a standard feature of smart phones.
of information and general expectations of a fast or immediate response. In the case of staff in the trial this expectation of responsiveness was intensified. Since *Worldcom* operated on a twenty-four hour schedule of continuous production, employees located in other regional centres in different time zones continued to generate work throughout the night. Consequently, *Worldcom* staff often woke up to a full day’s worth of messages, demanding their attention. As Jan said:

> Usually first thing in the morning, whether it’s on this device or on my laptop, I’ll check my emails…things happen overnight which I have to be across when I get in the office in the morning.

Within this context, any long intervals without contact could potentially be interpreted as a sign of unavailability. This equating of availability with responsiveness was further strengthened by the design and functionality of MOVE, which was carried close to the body, supported continuous connectivity and ‘real time’ information and communication updates. This ‘ever-presence’, taken from Ned’s description of MOVE, created an expectation, even a compulsion, to be contactable and in contact all of the time:

> Well…It’s ever-present, because you can’t avoid it…even if you go on holidays, people still keep calling you and [you] are expected to take the call.

This expectation of availability and responsiveness was not confined to work. Since MOVE was the primary mobile communication media staff used for both work and personal communication, it also extended to their friends and family. As Jan explained:

> Well, people now can be in contact at anytime, and therefore do so. Whereas in the previous times, you know, they might to try to contact you and leave you a voicemail and that’s it. But now they’ll contact you on the mobile because they know that they’re going to get you anywhere, anytime.

One of the ways that staff attempted to reconcile this expectation was to reduce the length of time delays and re-synchronise on either side of a disconnection. Since
sleeping was one of the longest of these, it was common for staff to check and reply to messages first thing in the morning and just before bed. As Ned recalled:

I do check emails in the morning in case there’s something urgent. I check my emails around 8 am, when I’m perhaps driving and sitting at a red light I can check them quickly. Are there emails? Quickly scan, is there something important? When I have breakfast... And then I would look at them before I go to sleep, which is around 10 pm. That’s the last time I would check.

This approach to checking was most effective in combination with immediate reply, which was how staff in the trial preferred to handle incoming messages. Immediate reply meant staff met their information and communication demands as the need arose, eliminating the need for bridging times in the future. As Lillian said, ‘I much prefer to be able to act on the spot and just get things done.’ Immediate reply also demonstrated that staff were indeed available and responsive, qualities that were not only crucial to meet their stipulated obligations but also to secure their sense of self as professionals. As Noble and Lupton (1998) have pointed out, central to many acts that contribute to a sense of self is the ‘effort we engage in to ensure the positive judgement by others of our social value’ (812). Immediate replies acted as proof to others of the presence of staff ‘in the office’, their active participation in the work process and their relevance and importance to the organisation.

_Synchronising intermittently throughout the day and on the move_

While sleep was one of the longest time gaps targeted for synchronising, there were other daily events such as meetings, lunch and commuting that also produced time gaps. Staff synchronised intermittently throughout the day to bridge these gaps. In Jan’s words:

If I’m in a meeting or offsite, obviously I’ll check my emails intermittently all day. They’re on the laptop or on the phone, one or the other. But apart from that, that’s really all that I do religiously I guess.

Synchronising, like connecting, takes place in and around other activities and because synchronising was interspersed throughout the day, time gaps between activities became shorter. In Zina’s case, these gaps were so minute that they seemed to disappear altogether:
Just, say, if I’m walking from here to get some lunch. If I’m waiting for an email—even if I’m not waiting for an email, I’ll be checking my emails anyway and I’ll just scroll through, open it, see what’s happening…So, it’s just constantly being able to access my email.

By integrating their work and non-work activities and synchronising frequently throughout the day, staff in the trial shortened time gaps in their ‘personal’ as well as their ‘work’ life. Records of paying bills, booking airline flights, communicating with friends and family, organising holidays and entertainment, coordinating schooling arrangements and shopping were interspersed throughout their diaries. These personal entries were often embedded within lists of work-related tasks. One example extracted from Zina’s diary was characteristic of this approach:

- Used laptop for general work including emails and Internet access
- Used home broadband connection for logging into corporate network
- MOVE for calls and text messages
- Instant messaging to correspond with a friend in Afghanistan

The blending of personal and work related activities in combination with the shortening of time gaps produced in staff a perception of control over time and a sense that they were always up-to-date and in sync with all aspects of their lives, but it was also accompanied by a shift in their sense of time. As Jan explained:

Yeah. I think there is no more this business hours and home hours, or personal time and business time anymore. I think it’s just all melted into one…especially with our interactions overseas.

This shift was not just identified in the context of work. It was also apparent in the way friends and family contacted them as Jan continues:

So, you know, people might’ve tried to contact you after hours, or during business hours. Now they will do vice-versa. Work people can be at home and personal friends will ring me at work…
The shortening of time gaps through synchronising was one of the main ways that staff in the MOVE trial met expectations of continuous connectivity and responsiveness. At the same time, this strategy displaced a pre-existing temporal strategy that relied on time gaps to segment the day into distinct times such as ‘work’ and ‘life’. With the shortening of time gaps and the blending of work and personal activities, staff’s understanding of what was a normal experience of time also changed. Ned described it as:

In the past, you would have: this is the worktime, this is your hometime, this your bedtime. Now it’s like, OK, there’s bedtime, obviously, but the private life and company work merged into one chunk of time. So you have, let’s say sixteen hours per day. Eight hours to sleep. During that time, you do everything. In the past, it would be very structured. You’d work for eight hours but after that, that’s it. That’s your time. Now it’s all cluttered together. So now I would do private things in my work hours but then I come home and work, so in this case it’s quite a large chunk of time.

Daily acts of synchronising alone did not produce this altered sense of time. The continuous production made possible by the global workday, increased expectations of contactability and responsiveness, a general cultural shift in the perception of the speed of communication and a discourse of mobility and flexibility realised in the design and representation of new mobile and wireless ICT all facilitated this time sense. All of these contributed to a construction of time that produced in staff a compulsion to eliminate time gaps. This did not mean, however, that these gaps ceased to exist but rather, these gaps diminished into ever-shorter durations so that staff felt as if they were always already synchronised.

Always already synchronised

The normalisation of a time sense based on continuous ‘real time’ communication supports the time philosopher Nowotny’s (1994) argument that in a postmodern period, time takes on a new structure and meaning. She described this time as the ‘extended present’. In an extended present, micro increments of time become the basis for the structuring of time, taking over longer temporal divisions as the normal or ‘proper time’ of industrialised societies. For this time sense to become perceived as normal, however, it must be successfully incorporated into the places and times of
a society as well as into daily practices. However, for staff in the trial, time gaps continued to be a regular feature of working time even with the support of MOVE. This was because there were many occasions when continuous synchronising was not possible, desirable or acceptable.

This was apparent during travel and travel between locations such as hotels, conference centres, cafes, airports and airplanes. Even though staff were more contactable than ever in these liminal zones, they were frequently not in a position to carefully check their messages or respond immediately. At this point, it is important to recall that checking and replying to messages are more complex activities than they are usually taken to be. Scanning, reading, deleting and sorting messages are all performed in the process of checking. These ‘housekeeping activities’ help to make messages meaningful by putting them in spatial context with each other and in relation to the specific and contingent demands of daily work. These activities have to be accommodated in and around other activities as well as the times and places in which synchronising is performed. For example, workers need to settle somewhere to compose an immediate response to an email message. For staff in the trial this did not just require a place to sit and type (although this was indeed necessary) it also required the correct lighting conditions to be able see the text on an LCD screen, the correct sound conditions to be able to concentrate and the correct ‘social’ conditions to be able to ‘disengage’ (Ling 2004) from the situated encounter and engage instead in checking or responding to messages. Moreover, staff sometimes simply did not have the time to check messages and respond immediately. For, even though staff schedules were not dictated by having to attend the central office at a set time, they were dictated by other people’s schedules and travel itineraries, the need to coordinate with others and the availability of those they planned to meet.

In encountering these situations, staff in the trial were resourceful at coming up with ways to modify their synchronising. Synchronising activities became fragmented, that is, broken down and re-distributed across time and space. For example, staff modified checking and responding to messages by splitting tasks, using MOVE to read and scan messages and respond only to those that required a quick response or to those that were identified as urgent. In these cases staff might use SMS to text a response or make a phone call. Other messages would be left for a later time when
staff were back in the office, at home or at a location with access to their laptop, a desk and network connection, a place to sit, concentrate and be stationary.

Staff also made decisions about the type of communication media they would use in responding. So, for example, voice would be selected over email for a quick response, and SMS would be selected over voice in a meeting because it could be done unobtrusively under the desk. In making these selections, staff took into account both the physical and social limitations to determine the most ‘correct’ response in each situation. This decision also involved an awareness of what each medium symbolically signified. So that, SMS might be selected if it was too early in the morning for a more formal response by phone or email, or staff would take into account the symbolism of the medium to try to shape the responses of others. Lillian explained it this way:

If I wanted to get in touch with somebody, I would mainly try to call them, or send an email. It depends on the situation. Quite often, though, you send an email and you follow-up with a phone call to make sure you get their attention. SMS is very important, actually, because if people are in a meeting it creates kind of like an urgency, “There is an SMS message!” and they feel compelled to act on it. It’s now not so much cluttered by emails. It’s quite powerful, actually to send something like, “I sent you an email”, or “call me!”

By adjusting how they synchronised, especially while travelling, Worldcom staff made up for the difficulties and variability encountered in their daily work. In the process they incorporated a construction of time based on ‘real time’ communication and a sense of their own time as being always already synchronised.

*Repairing synchronisation breakdowns*

Automatic synchronisation was a feature that staff relied on in their synchronising efforts. Although many aspects of synchronising were not taken into account in the programming of automatic synchronisation, this feature did reduce the time consumed by manually synchronising and meant that staff could access their current information and communication in ‘real time’, particularly in those *in between* places while travelling. Breakdowns in automatic synchronisation disrupted not only this feature but also the control over time that staff gained through synchronising. Since
all contacts, appointments and messages relating to work and personal life were
concentrated on this single device, this meant that breakdowns in automatic
synchronisation could have serious ramifications on any or all aspects of their life.
This was illustrated in one breakdown recorded by Zina during a business trip. In her
diary she noted:

> Noticed that my calendar synchronisation wasn’t working. Only some
> appointments in calendar while others weren’t there. As a result, I
> missed a friend’s birthday over the weekend. Not happy!

As Zina found to her dismay, when the automatic synchronisation feature failed to
work, the information she had access to through MOVE was no longer current. Since
all of her personal and work contacts, appointments and messages were concentrated
on this device, this meant that without any other form of reminder, Zina accidentally
missed her friend’s birthday. In her reflections of the incident that day, she wrote:

> With many appointments missing in my calendar (and being unsure
> of which ones) I realised how dependent I am on my phone and when
> I can’t fully rely on this it causes me anxiety.

Like a breakdown in a connection, synchronisation breakdowns stimulate a bodily
response. Anxiety is a physical reminder of the impossibility of fully controlling time
(expressed here as a memory lapse). It is also a physical reminder of our reliance on
others to perform skills or abilities such as ‘remembering’; the consequences of a
memory lapse; the difficulty of isolating causes and apportioning blame (since
memory is distributed, who is at fault?); and the demand to repair the breakdown to
prevent future memory failures. This anxiety is heightened when all information and
communication is concentrated in a single form. In Zina’s case, a ‘fix’ may involve
contacting her friend and apologising for missing her birthday and it will almost
certainly involve taking steps to repair automatic synchronisation. In both cases,
repair involves the transformation of the breakdown into an ‘acceptable, tamed and
meaningful version’ (Warnier 2001:16). However, when all information and
communication is concentrated in a single ‘black-boxed’ form, the possible routes
for repair are severely curtailed. Since our sense of self and how we connect and
separate our multiple selves is enmeshed in the workings of technology, not being
able to take action to repair a breakdown can instigate as much of an existential crisis as the moment of the breakdown itself. In Zina’s case, by the third day of her automatic synchronisation not working, the diary entries hint at her desperation, ‘Calendar sync still not working—I am trying to re-synchronise but taking a loooong time.’

On the seventh day, after Zina has made a number of attempts to repair the problem and after seeking assistance from another colleague, she finally re-synchronised successfully. This example is interesting on a number of levels. In addition to illustrating the immediate crisis produced by a synchronisation breakdown and the shift in her approach during the process of repair, Zina’s account demonstrates the more pragmatic concerns about the time and effort consumed in fixing a breakdown and the anxiety associated with ‘losing’ time:

Spending time trying to fix my technology wastes time and destroys productivity. When I don’t know if what we’re trying will fix it, [it] frustrates me even further.

This concern about wasting time performing a repair indicates that the emergence of a new time sense based on a state of always already synchronised is not accompanied by a shift in the understanding of time as a resource. This understanding still structures the perception of the meaning and value of time, so that control over time continues to be predicated on its efficient use. For staff in the trial, for whom the normal experience of time was based on the virtual elimination of all time delays through immediate response and continuous connectivity, any time lost in repair was particularly disturbing, stimulating feelings of being out of sync and inefficient. Since with MOVE, the organisation of many aspects of life was now concentrated in a single technological form, these feelings were not confined to ‘work’ and cascaded through any or all aspects of life.

Like other kinds of breakdowns, synchronisation breakdowns might generate conflicts with family, friends or strangers because these acts were the subject of conflicting schedules and different understandings of time use. In these cases, repair was not so much directed towards fixing individual components or the interaction of objects that were called on in synchronising, but towards repairing relationships with
other people. In one example, Zina described how she had taken MOVE with her on holidays but during the trip had discovered that her email wasn’t working:

I didn’t realise it was because I’d paused it—I should have reset it. So, I was constantly checking to see if it was working and that then annoyed [my husband]. I kind of have this thing now; if I’m on holidays I’ll check them at the end of the day to see if there’s any emergencies but I’ll leave it off because I don’t want to be contactable.

Although staff in the trial identified with a new sense of time, they were also aware that this time-sense was not universally shared. The interaction and daily negotiation of multiple time-senses required significant effort by staff, their friends, family and even strangers. Staff were actively engaged in inventing new practices for embedding their acts of synchronisation into contexts that still largely relied on a time-sense grounded in a separation of work and non-work and the rules and practices that had evolved with them. As in acts of connecting, therefore, staff in the trial often had to adjust their synchronising to conform to what they considered the ‘correct’ response in that situation. These adjustments required not only being highly responsive but also involved placing a new temporal boundary between their personal and work lives in such a way that allowed them to still meet their information and communication demands.

Synchronising both consumes and saves time. While checking and replying to messages takes time and skill, performing these activities around time gaps or bridging, was one of the main ways that staff in the enterprise division alleviated pressures on their time. Moreover by enabling and demonstrating their availability and responsiveness through frequent synchronising, staff also secured their sense of professional self. In this way, synchronising was crucial to how staff gained mastery over time, expressed in terms of being up to date and in sync. This was accompanied by a new sense of time, which was experienced by staff as a single ‘chunk’. While this provided staff with a sense of being always already synchronised this did not mean that synchronising ceased. Paradoxically, with the shortening of time gaps, the need to synchronise shifted towards finding opportunities to synchronise, modifying how synchronising was performed and repairing synchronisation breakdowns. This produced its own kind of time pressure. Because the underlying understanding of
time as a resource was still applicable and the time these adjustments consumed was not officially recognised, even though these daily adjustments were necessary and a regular feature of daily work, they were also identified as a ‘waste’ of time, thus adding to an existing sense of a shortage of time.

**Configuring the ‘as if’ office**

Configuring is another stabilisation activity, along with synchronising and connecting, that is performed by workers to achieve workability. While synchronising defines the temporal adjustments made by individual employees in going about their daily work, configuring refers to the daily spatial adjustments performed to create a more-or-less stable or *workable* space. It should be recalled that in the account of *Officing* these activities have been separated into distinct categories correlating with space and time, but in practice there is a great deal of slippage between them. These categories are therefore provisional and illustrative, deployed to highlight how workers’ experience of space and time is mediated and shaped through the interplay between constructions of space and time (such as in visions of the office of the future and the office setup) and daily work activity. In daily work different aspects of these constructions are manifested, exploited, reproduced and in some cases transformed. Through this perpetual re-working, our experience of space and time is also constituted.

MOVE was designed to be able to be used in any place. It was small, portable and could be carried on the body in a pocket, in a handbag or briefcase, from a lanyard or clipped to a belt. Any place that staff could go, MOVE could go with them. In combination with continuous connectivity and automatic synchronisation, the portability of MOVE meant that no matter the location, Worldcom staff could access their information and communication and appear to others *as if they were in their office*. This capacity to be dislocated from any place (not just the central office) and at the same time appear *as if* located in the office was foundational to the re-definition of the space and time of work through the dual and related concepts of mobility and flexibility. It was also seen as the main benefit of MOVE by staff in the trial. To recall Jan’s words:
In the olden times location dictated what you were able to do and what you couldn’t do. Now that’s no longer true. I can do whatever I like, anywhere I like.

Identification can be understood at a basic level as a process of ascribing qualities and characteristics and recognising these in oneself or in others. It is a process that features in the shaping of professional identities and as Sedgewick (1993) stresses, involves processes of identifying with as well as against (338). Identification also informs the larger process of commodification and the way that meanings are mapped onto and become identified with products. In the case of MOVE, staff strongly associated a sense of freedom with the capacity to be dislocated and both of these fed into their sense of self as mobile professionals. As Zina said, ‘[MOVE] gives me the freedom to work the way that I want to work…I do feel much more flexible and free…’ This association is accomplished through a series of interlocking signifying processes through which a range of meanings and features are inscribed into the design and representation of MOVE. In analysing current visions of the mobile and flexible office in Chapter 2, one of the main signifying processes put into play was the destabilisation of the desktop computer from its privileged position as the principle means for conducting information and communication work through the trope of the desktop.

The trope of the desktop is evident in many of the advertising materials of MOVE and other similar products. In these, ‘new’ forms of work in the image of mobile and wireless ICTs are set up in opposition to ‘old’ forms of work represented as working at a desktop computer at a desk. These ‘old’ forms are negatively associated with being ‘fixed’ in place, ‘tethered’, powerless, under the gaze of others and without personal control over one’s movements or actions. Through the sacrifice of desktop computing as the principle instrument of office work, a space is created for the emergence of a ‘new’ mobile and flexible form of the office and its identification with freedom (of movement and action) and the future.

The process of identification, however, does not occur in any automatic sense or through these signifying processes alone. Identification relies on making resources workable through their bodily incorporation as well as their incorporation into the places and times of use. This is a daily and ongoing accomplishment and, in the case
of MOVE, proved to be a complex matter. Within the central office, the desktop computer and desk phone remained the primary technologies through which office work was formally organised and in many places, the use of MOVE was either not readily supported or actively resisted. Moreover, staff did not use MOVE in isolation. Both inside and outside of the central office MOVE was used in combination with other ICT.

**A complete sensorium**

Although MOVE enabled office work to be dislocated from the central office, staff encountered limitations in the use of MOVE when it was used on its own. It was found that combining MOVE with a range of other ICT created a more complete platform that enabled all of the senses to be drawn on in the performance of work. Ned explained it in these terms:

I think it’s a combination of mobile phone and email…so it’s an equal combination of both. The mobile phone is good, but it’s like—you know, you can hear it, but if you close your eyes you can’t see it, so the email and computer is the second part. You need that to have all your senses, all the stuff for your work. Voice is only part of it.

MOVE was designed in the context of the long-term development of telephones and more recently mobile phones. As a result, even though MOVE had more information and communication features than previous mobile phone products, these features still revolved around sound, speech and portability. While this focus facilitated the dislocation of staff from the office workplace, it also meant that work requiring vision and concentration was not supported by MOVE alone. This mismatch of the senses was not an outcome of a failure in design *per se* but rather of its history. In a classic example of path dependence, the tasks that make up work in the office can be understood as having evolved to depend on the technologies and environmental conditions designed to support these tasks. In the process, the specific sense schemas required to perform these tasks have also been constituted. For this reason, desktop computers, desks and chairs, filing cabinets, printers, stationery, large monitors, cubicles and all the other objects that make up an archetypal office workplace today are ‘necessary’ for the kind of tasks that are associated with office work. However, this sensory rich environment, which has been described as a kind of ‘command
centre’ (Brown, Green et al. 2002; Sherry and Salvador 2002) and ‘centre of coordination’ (Suchman 1997) is not necessary because it meets some pre-existing ‘need’ or because it is essentially better or problem-free. Rather, it is necessary because these arrays of objects have become thoroughly incorporated into the work that is conducted there, and into the bodily sensory schemas through which this work is performed.

When it came to doing many of the information and communication tasks that prioritised vision, concentration and a specific set of keyboard oriented physical movements or motor algorithms (Warnier 2001), MOVE wasn’t up to the task. Pointing to the small interface and keypad Jan explained:

As long as there’s a broadband connection...I can connect my PC and can be connected to the network and do whatever I need to do. With this device I still can do it, but it’s a lot more limiting and a lot more time consuming, because of the size of the screen and the ability to input information. It’s just more immediate reaction time with me, and being able to read things.

All of the staff of the division shared a similar view of the spatial limitations of MOVE and overcame this through configuring. It is worth recalling at this point that configuring, as used here, refers to the work directed not only towards individual objects but to the entire array of objects that make up the office including the space in which work is performed. In configuring, staff in the trial called on other objects to assemble a platform that would support all of their senses. In most cases this platform drew on resources such as a desktop computer or a laptop, network cables, a desk and chair, access such as a fast Internet connection and a Virtual Private Network (VPN) card for remote access to the company’s IT system, location which included environmental conditions such as power, lighting, sound, temperature and vibration and social rules about acceptable use and privacy. In short, through configuring staff reproduced as close as possible the experience of being in an office, but the effort involved in producing this platform was not uniform in all places nor equal between staff.

It was during travel that Worldcom staff participating in the trial of MOVE experienced the most difficulty reproducing an office-like environment. This not
only confirms the findings of previous research on mobile professionals (Laurier 2002; Sherry and Salvador 2002; Brown and O’Hara 2003), it also corresponded to the experience of staff at Innertown, namely the CSOs, who were more mobile than many other council staff. When Worldcom staff travelled for work there was an enormous variability in the conditions that were necessary for their work as well as in how their use of MOVE was received. Paradoxically, this variability was compounded by the very technology that facilitated staff to be dislocated in the first place. Even though MOVE enabled staff to access the company’s full suite of information and communication services while travelling, it also meant that staff were more contactable in places where there was little or no support for their work activities.

Brown and O’Hara (2003) identified a similar phenomenon in their research on mobile professionals in the UK, describing ‘place’ as a practical concern of mobile workers. Sherry and Salvador (2002) also highlighted this tension, explaining it as the bringing together of what is physically present with what is not. However, in the case of the staff in the MOVE trial, it was apparent that there was more at stake than the practical negotiation of near and far, although this was a significant dimension of their configuring. There was also the performative work of appearing as if in a single place. This was particularly acute for Worldcom staff because of the caller re-direction feature built into MOVE, which automatically re-directed calls from their office phone to their mobile phone. Callers, emailers and texters were therefore often unaware that staff were not in the office. On top of this, staff in the trial were particularly invested in appearing successfully as if in the office since the trial itself was part of the overall marketing strategy for the company’s line of smart phone products. The effort of negotiating these performative demands and remain contactable added to the overall effort that was required to function and appear as if in a single place, that is, in the office. This aspect of configuring the simulated, or ‘as if’ office, on top of the physical office was at the core of what set apart the office setups of staff in the trial from those at Innertown and even from other setups at Worldcom.
‘Planful Opportunism’

One of the main ways that staff negotiated these aspects of using MOVE when travelling was by adjusting how they worked. In making these modifications, staff sometimes gave more weight to the practical or performative aspects of these negotiations. Of course these were intertwined, since being able to function in the near and far also facilitated the ability to present oneself as if in the office. One of the specific changes made by staff was to vary what resources they carried with them to take into account what material arrangements they would have access to when they arrived at their destination. This included carrying spare cables, print outs of presentations and copies of files on portable storage devices or in their email archive on MOVE. Brown and O’Hara (2003) refer to this type of pre-trip planning as ‘planful opportunism’, since it entails organising in advance to make the most of a situation that can’t be fully anticipated (12). As part of this strategy, objects carried often fulfil multiple purposes. For example, a USB stores copies of electronic documents to cover against lack of access to electricity or to a laptop, and additionally acted as a ‘connector’ between objects ensuring the smooth flow of information in the absence of network connections and compatible technology. MOVE was used in a similar way. In one diary entry Zina wrote:

Saved presentations to USB stick for loading onto other laptops. Someone transferred a photo via Bluetooth, then I emailed it to them using MOVE to their Blackberry. It was later used during a presentation.

These modifications did not appear to be made equally by all staff but in general corresponded to the amount of travelling performed. This was apparent in the diaries of Zina and Lillian, who spent a considerable portion of their diary time away on business and whose jobs involved regular contact with customers and suppliers. Their diaries recorded more daily issues than the other Worldcom staff but they also recorded more pre-trip measures to overcome or minimise these issues.

Configuring on the fly

Another way that staff modified how they worked was by reconfiguring tasks and the use of ICT to suit the available resources and circumstances. This is a modification
already mentioned in relation to synchronising but was practiced to manage territories as well as times. Where staff could call upon a working network connection, computer and a place to sit and settle, MOVE was used primarily as a mobile phone and the computer for word processing and responding to emails. In places where staff had no access to these resources, MOVE was primarily used for checking messages and responding immediately to urgent emails, SMS texts and phone calls. In these situations SMS played an important role because with it staff could respond instantly, with a justifiably short response and often without disrupting any co-present interactions. These changes to how staff went about their work enabled them to *configure on the fly*, producing a dynamic fit between their work activities and the shifting practicalities of ‘place’ while still remaining contactable.

Being alert to the social rules and making planned or improvised adjustments were also part of *configuring on the fly*: a way to reconcile the demand to appear and function as if in the office. Using MOVE on the street, in elevators, at client’s premises, in cafes, airports, hotel lobbies, cabs and so on, required being alert to social situations and the contextual conventions of acceptable use, although as Jan points out, this is not a concern shared by all mobile workers. Jan described the measures that he took to avoid conflict in this way:

Some people are rude and will do whatever they like. I try to tend to, understand what the people around me are trying to do and take into consideration their needs as much as mine...ask or usually there’s certain etiquette associated with, like in an elevator, I’ll try to avoid talking in the elevator. So, if I’ve got a phone call I won’t go into the elevator. Or if I receive a call while in the elevator I’ll say, ‘I’ll call you back’ and then hang up.

Ling (2004), a researcher of mobile phone use, has described the work that goes into extracting oneself from a collocated interaction such as this in terms of ‘disengagement’. Drawing on Goffman’s theory of social interaction, Ling notes that disengagement is possibly the most difficult point of a telephone call. This is because of the additional performative work that must be undertaken to withdraw, or ‘disengage’, from the social interaction in progress in order to engage with others in a virtual context without causing undue disruption of the social order: ‘We must somewhat quickly extract ourselves from the pre-existing social situation and all the
attendant front-and back-channel interactions. This is done through the use of various disengagement rituals’ (132). Ling identifies several such rituals emerging specifically to deal with these kinds of situations such as verbal cues, the use of gestures and body language and retreat from the immediate context (135).

In some cases, as in the example supplied by Jan, disengagement from the co-present interaction comes at too high a price and it is the telephone call or email that becomes the target for disengagement. This can be accompanied by a sense of anxiety prompted by the breakdown of the illusion of being in the office and a fear of the potential consequences of appearing unavailable or unprepared. Gregg (2007) identifies how technology companies exploit this fear in their advertising strategies, directly addressing the preoccupations of an existing group of professionals. She makes specific reference to one advertisement by Australian telecommunication provider Telstra for their NextG service, which depicts a male executive in an elevator presumably heading to one of the upper floors of an office tower with the accompanying text:

Say goodbye to constantly losing calls. Say hello to more opportunities…Go to the next level with unlimited e-mail.

In this example, the mobile product is represented as enabling professionals to capture those potentially missed business opportunities by being contactable in those otherwise ‘dead’ times and places travelling up and down elevators, to and from work and in between meetings. As Gregg notes (2007), the scenario of the elevator’s upward movement is an apt metaphor for conveying the idea that capturing every single business opportunity will aid the longer term aspirations of professionals getting ahead by climbing the company ladder.

However, in this and other similar advertisements, the use of mobile ICTs is also presented as completely unproblematic and always desirable, an assumption not borne out by the experience of mobile professionals. This lack of regard for the negotiations that are in actuality required to use mobile ICTs while dislocated adds to the overall configuring that must be performed to maintain the impression of being prepared and available as if in the office. In these situations, configuring is done in
advance to avoid difficulties or immediately after an incident as a form of conversational repair. To recall Jan’s words, ‘if I’ve got a phone call I won’t go into the elevator. Or if I receive a call while in the elevator I’ll say, “I’ll call you back” and then hang up.’

Increasingly, technologies are being designed to facilitate efforts to configure on the fly. In some cases these are incorporated into the stabilisation strategies of organisations. For example, it has become a standard approach of most organisations to set up staff’s email software to allow users to set an automatic ‘Out of Office’ message. The replies sent by this program operate as a sign to others that they are presently unavailable. The humble ‘Out of Office’ reply is one way that staff in the trial exercised personal control over their availability. This had a temporal and spatial dimension. By effectively slowing down the communication reaching staff, the ‘Out of Office’ message created a period free of interruptions. This reduced the complexity of negotiations and facilitated efforts to configure on the fly. It was also a way that staff could have a ‘break’ from contact while still satisfying the demands of contactability since the ‘Out of Office’ reply stood in for their absence. Staff in the trial relied heavily on configuration options such as these to control access to themselves, a finding also noted by Sherry and Salvador (2002). In their study, they discovered an array of device configurations and profiles used by mobile professionals. The reliance on these programs was made particularly apparent when they stopped working. As Zina responded to a breakdown of the ‘Out of Office’ reply feature, ‘You know, someone’s sending you an urgent email and you’re on leave and they don’t know you’re on leave, it looks unprofessional.’

An example like this reveals how both the practical and performative aspects of dislocated work are tangled in the workings of technology. A failure in the ‘Out of Office’ message program does not simply mean that no message is sent. It means that the wrong message is sent. Since being professional at Worldcom necessitated ongoing demonstrations of contactability, sending no message was akin to signalling an absence, which, as Zina pointed out, was readily interpreted as ‘unprofessional’. In these situations, staff expended additional effort to repair configuration breakdowns: to restore the program’s functionality, their appearance to others and their own sense of self as professionals.
The work involved in configuring, which includes repairing breakdowns, consumes a significant amount of time and skill. This is often not recognised in the advertising strategies of technology companies, by organisations or even by employees. However, when configuring is successful, it is often accompanied by a sense of control over space. As Lillian comments:

[MOVE] has alleviated the pressure that while I’m in the midst of an event, or a project that’s taking up a large portion of my time, I literally feel I can be in two places at once.

This sense of control over space is based on the ability to occupy two places simultaneously and to take action in these two places at the same time. Like the sense of control over time achieved through bridging time gaps, the sense of control over space is fundamentally tied to alleviating time pressure by bringing together or bridging spaces that are in some sense separate. In this way, all demands can be integrated into a unified chunk of ‘spacetime’, thereby making the available time more productive. The term ‘spacetime’ here refers not only to the understanding in physics of the relationality of time and space and more belatedly in the social sciences (Lash and Urry 1994:237-238), but also as the active elimination of markers or boundaries that keep these categories separate. Indeed, staff at Worldcom participating in the trial identified this as one of the main benefits of MOVE, enabling them to flexibly schedule their work and non-work related activities according to degrees of urgency with some demands acted on more quickly than others depending on when staff felt they needed to take action.

Being able to flexibly schedule work alleviated some of the time pressure associated with the containment of activity into distinct times and spaces. However, the sense of control over space that was achieved was precarious and temporary at best, especially during travel. In many cases it was simply not possible or desirable to straddle the near and far and maintain the illusion of being in the office, either because the negotiations were just too difficult or because these so-called dead times were valuable for other reasons. Moreover, since all activities were now fused into a single block of ‘spacetime’, even though it was possible to act on urgent actions as
they arose, this did not prevent conflicts from occurring. Inevitably, staff needed to make on-the-spot decisions about whether to prioritise work over non-work activities. This did not only involve placing a new boundary (Nippert-Eng 1996) between them but also dealing with the consequences of that placement. The amount of configuring performed also varied between staff. These efforts consumed time and yet this time was considered a ‘waste’ of time. For staff to make time ‘savings’, especially those who travelled a lot, additional modifications to their work practices were required.

**Relocating the office**

To reduce acts of configuring, staff in the trial were highly selective about where they worked, giving priority to sites that were already *partially configured*. The list of locations where staff worked away from the central office was extensive but was nevertheless limited to those places where MOVE could be used with their laptop and where some of the resources and conditions to support office work were already in place. In addition to providing these material resources, these sites fulfilled another purpose. As Brown and O’Hara (2003) noted, an important consideration of ‘place’ is the people in them and the kind of relationships that can be configured there (9). All of the sites mentioned by staff—the hotel, airport lounge, client’s premises, airplanes, conference centre, cafés and so on—offered a unique sociality (in addition to a somewhat familiar office-like environment) that couldn’t be readily gained elsewhere, such as the opportunity to meet with others, build relationships in person, expand business networks and stumble across new business opportunities. When not travelling for business, staff in the trial were similarly selective to locate work in order to reduce the need to configure even though there were few official restrictions on their movement. For this reason, staff in the trial primarily opted to work from the central office or from home. More than any other place besides the central office, the home could reproduce the experience of a working office environment. In the words of Ned, ‘It’s faster and you can just jump on it, it’s already running.’
Home: an office away from the office

Working from home provided an already established ICT setup that possessed the qualities of an office platform most difficult to achieve elsewhere, namely, speed, connectivity and a state of readiness. Jan explained it in this way:

The majority of what I do is from home because I’ve got all the capability at home. In the past when I haven’t had broadband, I might have done it over here [in the central office], in terms of downloading big files or something like that. But now I’ve got broadband at home it doesn’t make any difference.

All the staff in the trial had sophisticated ICT setups and ‘home offices’ that helped to reduce the configuring required of them in other locales. In this sense, their homes already contained the necessary resources, access and locational conditions, including a desktop computer, broadband Internet access and a dedicated work space, all of which were of ‘professional’ standard. On top of this, these resources and their use had been incorporated into the spaces and times of the household, taking place in and around domestic activities like showering, eating breakfast, having dinner and getting ready for bed. This is not to suggest that this process was ever complete (indeed, this was a daily accomplishment) but it did mean that, like the Innertown staff who worked from home, staff in the trial encountered a more ‘domesticated’ information and communication environment that allowed them to minimise configuring and thus ‘save’ time. Furthermore, while the home had become infused with meanings associated with work, it was still conducive to a different experience. The home could support activities such as experimentation, learning or other qualities not available in other places. For Worldcom staff, this could be a source of pleasure and even provided a sense that they were ‘free’ from work even when they were working. Zina made a reference to this one diary entry, ‘Freedom! Joy of being able to work from home and access all my work related tools while sitting in my PJ’s.’

On the other hand, the daily use of ICT at home for work also increased the potential for conflict with other household members. This was even more so with MOVE, since staff were no longer limited to using it within a dedicated area set aside for working. This meant that though the home offered a pre-configured and
‘domesticated’ ICT platform, configuring was still necessary to repair the new issues that emerged from the dislocation of work within the home. The majority of staff in the trial, with the exception of Lillian, mentioned that problems had come up with family members. These problems revolved around negotiations over when, where and how ICT, and MOVE in particular, was used in the home. Moreover, it was not simply the use of ICT for work that was in question. Because of the general symbolism of technology, ICT could signify ‘work’ regardless of its use. These daily disputes over the presence of ICT and its use became the focal point of the broader struggle over the relationship between ‘work’ and ‘life’, which in turn, intersected with struggles over gender, age and power.

Jan’s situation stood out in this regard because his home ICT setup appeared to be the basis for the exclusion of one household member in particular—his wife Sabrina. On several occasions Jan proudly stated that with the exception of his wife, his house was highly ‘technologised’:

Yeah. I’ve got a computer network at home, all the kids have got one. Can just about do everything on the computer at home. Other than my wife, we’re all technology literate at home. (Laughs.)

Sabrina was not ‘technology literate’ and didn’t ‘accept technology’, according to Jan, who also mentioned that he didn’t understand why she was like that. Her exclusion from the technology-related activities in the household (of which there were many), and from the ‘digital society’ in general, genuinely disturbed and mystified him. Yet, Sabrina’s stand could be explained as a powerful form of resistance against the encroachment of work into the home and an attempt to preserve other senses and qualities into its spaces and times.

In these situations, configuring was not so much directed towards preparing to work but towards repairing conflict resulting from ICT and its use in the home. It was apparent, however, that the level of concern and willingness to initiate repair was not shared equally amongst staff. Power, age and gender played a significant role in whether and how repair was performed, since it too intersected with the broader struggle over the home becoming more like work. Zina, who lived with her husband, indicated she was highly motivated to remedy conflict resulting from the use and
presence of ICT in the home, whereas Jan’s approach was not to make any changes since he believed the problem lay in his wife’s attitude. For Lillian, who shared her home with her mother, the use and presence of ICT did not appear to be a source of conflict, but then again, this was supported by the segmentation of activities and spatial divisions within the household as reflected in the allocation of individual ‘offices’ to each household member.

When staff did attempt to repair new issues emerging from the use of MOVE, it often involved placing a new boundary between ‘work’ and ‘life’. Sometimes, it was enough for staff to be highly responsive to the dynamics of the situation and to lay down a provisional boundary. In general, however, repair required a more lasting boundary to be made and doing this in such a way that allowed staff to continue to meet their daily work-related information and communication demands. Zina described one method she had come up with for turning work ‘off’ at home. When Zina didn’t want to be interrupted by new calls or messages, she placed her MOVE device in her handbag, zipped it up and stored it in her bedroom cupboard. By doing this, Zina instituted what Nippert-Eng (1996) has referred to as a ‘segmenting’ ritual. The power of this ritual lay in both its potential to both physically and symbolically ‘contain’ the potential of MOVE to bridge ‘work’ and Zina’s urge to act on it. A double barrier that shielded contact by removing the device from sight, sound and active memory, the handbag/cupboard solution was almost magical in its power to make ‘work’ disappear.

The car and plane: ‘lite’ offices on the move

For most staff in the trial at Worldcom, relocating work to the home increased conflict and demanded additional boundary work but it also alleviated time pressure by reducing the amount of configuring. The private automobile fulfilled a similar function, operating as a “‘lite’ office” (Laurier 2002). Ned, for example, used MOVE in the car on his way to and from work each morning, taking advantage of moments like sitting at a red light, to check for new messages. The airplane was used in a similar manner, supporting a wider range of information and communication tasks such as word processing, checking and replying to messages, and finalising presentations to customers.
In both cases, configuring was still required to make these ‘lite’ offices workable and staff had to modify their work practices to accommodate tasks within and around their primary activities. When driving, tasks like checking for messages and answering phone calls were split to make them shorter and to demand less attention and less physical input. These modifications enabled driving and phone tasks to be performed simultaneously. However, even with these adjustments, accident statistics and a growing volume of research shows that combining driving with mobile phone use is precarious and dangerous (Haigney and Westerman 2001). Configuring on the fly is necessary to ensure a workable interaction between these activities, requiring frequent moment-to-moment adjustments.

Using MOVE and other ICT while in a plane does not require the same degree of ‘dual task performance’ (Haigney and Westerman 2001) and it is perhaps for this reason that staff reported performing more concentrated work during flights, calling on a larger selection of objects. Nevertheless, there is still a high degree of complexity on planes: proximity to others; limited space; on-board flight rules; internal rhythms such as the scheduling of food and beverages; in-flight entertainment; and external rhythms like ascending and descending, turbulence and engine noise. All of these variations had to be taken into account when doing office work in flight. In response, staff produced a correspondingly cut-down version of office work. As Jan said:

There have been times where I’m on the plane and I work on a last minute slide before a presentation. Or dotting the i’s or crossing the t’s on the submission that you’re just about to put in, that kind of stuff.

Private cars and planes are by no means ideal places for doing office work. Nevertheless, one of the characteristics of their design is that, like certain visions of the office itself, these have developed around a specific idea of the modern subject—the mobile and usually male, private individual. The travel experience in the plane and automobile is therefore more attuned to the sensory apparatus of the office for the very reason that, at the centre of these configurations of space and time, sits a remarkably similar subject. Moreover, since a ‘private’ space is already carved out, not only is the time and effort of configuring reduced, so too is the overall ‘boundary
work’. Like the home, commercial forms of transport are increasingly being
designed to cater for the growing number of mobile professionals (often at the
expense of the comfort of other travellers\textsuperscript{26}). In the process these forms become more
office-like; a point confirmed by Lillian:

I use my laptop in the plane to do, you know, whether it’s setting up a
presentation, or refining it, or what have you. A lot of aircraft
now...they allow you to actually plug right into the Internet... I can get
everything done that I need to get done, as far as my work goes…

\textit{Back to the office}

It is almost as if we have come full circle. MOVE and a host of other social and
material arrangements enabled staff to dislocate their work from the central office
but this was accompanied by additional demands of configuring. Staff in the trial
compensated for this by modifying their work practices and relocating their work to
sites that were already partially configured as an office such as the home, car and
plane. The central office was one such place as Jan described:

At the office you’re doing things like preparing offers, preparing
presentation material, doing pricing analysis and that kind of thing. All
the sort of heavy duty Excel, Word, Powerpoint applications. Those
kinds of things are all done at the office. And then obviously then you
do email as well. I sort of do email first thing in the morning, and then
check again during different points in the day. In between that you
would be doing preparing offers or doing presentation material or
something like that.

As it was for Jan, there were some tasks or bundles of tasks that staff in the trial
found difficult to perform anywhere \textit{but} the central office. This is what Jan described
as ‘heavy duty’ work—work that involved concentration, being stationary for a time,
access to tools such as calculators, photocopiers and printers as well as to other
people; electronically and face-to-face. In response, staff organised their schedules so
that certain tasks were set-aside for future visits to \textit{Worldcom’s} central office.

\textsuperscript{26} Recently I came across a newspaper article about international and domestic airline services loosening
restrictions on the use of electronic devices during take offs and landings and facilitating the use of ICTs in-flight
with on-board battery charging facilities provided.
By relocating to the central office, staff could produce more lasting configurations, make more sustained time ‘savings’ and gain a more enduring sense of control over space and time. This did not mean, however, that configuring was no longer necessary. As demonstrated in the case of Innertown, even in a so-called typical office workplace, configuring, along with synchronising and connecting were performed as a predominantly hidden feature of everyday work. Acts of configuring at the central office continued to revolve around the electronic desktop and the surrounding objects and workspace just as they did at Innertown. So too did these acts manifest a similar set of motives and understandings. So, for example, configuring the electronic desktop to ‘save’ time was identified as economically valuable, coded as impersonal and more likely to be performed by male members of staff. In contrast, configuring the electronic desktop to facilitate interactions with others or to make the work environment more comfortable and ‘homely’ was coded as personal and was more likely to be performed by women.

These similarities pointed to gender as playing a defining role in the individual stabilisation strategies of staff at Worldcom and Innertown, and in how their efforts towards workability were recognised and valued. Nevertheless, in considering these commonalities, it is also necessary to situate acts of configuring within the context of the specific social and material arrangements of each organisation. For Worldcom staff participating in the trial, configuring was not directed solely to making their office setup in the central office workable. It was also an extension of their attempt to make their mobile office platform workable by counteracting some of the effects of dislocation. In this sense, configurations that ‘saved’ time and facilitated interactions took on a new level of importance; firstly, because configurations could make up for time and effort that was elsewhere consumed on configuring; and secondly, because configurations could make up for some of the co-present encounters lost as a result of spending less time in the central office. Zina, for example, configured her desktop computer specifically because it was visible to her colleagues when she was in the central office. For her it was both a way to engage others and to build an impression she wanted others to have of herself:

> I do have a different background on my computer desktop…It never really occurred to me to have a background on my mobile phone and I
think maybe the thing about having it on my computer is that other people see it. So, I want them to think about me the way that my computer desktop is displayed. Do you know what I mean? It’s a very peaceful…it’s a lovely picture of a leopard in a tree that we took in South Africa.

Whether configuring was performed to ‘save’ time or to facilitate interactions, with more of an emphasis on practical ends or communicated meanings, what was important was that these acts could counteract some of the limitations associated with the dislocation of work. It could also remedy the implications of their own bodily dislocation from the central office. Dressing up, commuting to work, being subjected to the stricter time regimes of a standard workday and being seen to be working was a way that staff helped to restore their sense of self as professionals. As Zina explained, she liked to be able to come in to the office because when working from home she didn’t feel as though she was working, ‘like I could stay in my pyjamas till ten o’clock’. In this sense, acts of configuring were not only aimed at overcoming the spatial limitations associated with dislocation but also at repairing the dislocated self. This suggested that, despite freedom from the office being central to the ideal of the mobile and flexible professional, maintaining a sense of professionalism was reliant on physically presence in the official workplace at set times and being seen by others to be working, at least some of the time.

*Repairing relocations and dislocations*

Relocating to sites that supported lasting configurations was one of the main ways that staff in the trial achieved workability of their mobilised office setup, and in this way supported their identities as mobile professionals. However, in so doing, these staff were once again dependent on the very strategies for stabilising the office that the model of the mobile and flexible office displaced. One area where this was particularly highlighted was in the spatial boundaries within the office. Curiously, for staff who embraced no longer being subject to the ‘fixed’ boundaries of the workplace, a high degree of value was still attached to these and was one of the main reasons for returning to the central office to work. Partitions between workstations, the orientation of the desk and chair, dedicated meeting rooms and the rules that guided behaviour around these spaces were elements of the organisation’s formal stabilisation strategies intended to minimise the boundary work performed by
individual staff. When these strategies failed to translate into a more productive work environment this was experienced by staff in the trial as a breakdown, which triggered feelings of anxiety and frustration:

Noise! Walked into work today and person in pod next to me was playing with a phone system that was beeping incessantly. People’s ring tones around me are extremely loud and annoying! Makes it very difficult to concentrate or have a phone conversation.

Here, Zina describes a situation in which she is in the very same position of someone with whom she might come in contact when she is the agent of dislocation. The auditory flows that accompanied the use of mobile phones within the office easily spilled over the spatial boundaries, exposing her to the encroachment of others onto her ‘private’ workspace. This demanded additional boundary work, which took up time. Though boundary spillovers such as these were no doubt irritating to many Worldcom staff, staff in the trial perceived these as particularly threatening. For example, Ned described the interruption of a face-to-face interaction by a telephone call:

One thing that bugs me, actually: when you go to a meeting and you have a meeting with somebody, you talk to somebody and somebody gets a call and they answer and you have to wait, and it really bugs me because it wastes my time. It’s fine that they are answering the phone and not wasting the caller’s time, but they’re wasting my time. I really don’t like that…

For Zina, Ned and other staff in the trial, feelings of anxiety and frustration triggered by these events made explicit the investment in pre-existing stabilisation strategies to counteract the effects of dislocation. Staff relied on these to create spaces to facilitate concentration, a sense of privacy and interactions such as formal and informal face-to-face encounters not readily achieved outside of the central office. These feelings also signalled the underlying constructions of time that shaped how individuals felt when not in control of time, that is, time as a resource. When these boundary strategies failed to ‘work’, that is, translate into a productive environment, it didn’t just threaten the completion of individual tasks: it threatened the entire workability of their mobile office platform and the fragile new mobile professional identities being formed in and through this platform.
Repairing boundary breakdowns was as much as about repairing these professional identities as it was about restoring agency by regaining control over time. However, this proved to be no simple matter. In the central office, with the increased use of mobile phones and other portable technologies such as the recently implemented wireless handsets, spatial boundaries were regularly destabilised. Moreover, this was not necessarily identified as a breakdown by other Worldcom staff. If anything, overcoming spatial boundaries was seen as a normal way to facilitate collaboration and to enable continuous contact (to distant work colleagues, friends and family) while at work in the central office. This did not mean that these forms of boundary control were of no use to staff who spent more time in the central office. However, for staff in the trial these boundaries took on greater significance because of their potential to counter some of the negative effects of dislocation.

Staff were resourceful at inventing methods to create new boundaries between places both within the central office and beyond, such as between ‘work’ and ‘life’ and between ‘near’ and ‘far’. These methods were aimed at marking out a private space for controlling access to themselves and limiting demands made on them by others. These included using ‘Out of Office’ messages, putting on headphones to block out sound, setting MOVE profiles to silent, vibrate or meeting mode, turning MOVE off overnight and storing MOVE in bags and cupboards to keep it out of sight. These solutions were accompanied by changes in rules of behaviour with the hope and expectation that these would be accepted and taken up by others. In some instances these adjustments were intended to be temporary solutions to support configuring on the fly. In other cases, they were designed to be more permanent modifications such as Zina’s handbag/cupboard solution.

It became evident, however, that these new methods for managing boundaries were only partially successful. In part, this was because as more and more people used mobile and wireless ICT, methods such as turning MOVE off became less and less of an option. Salvador and Sherry (2002) made a similar point in their study, suggesting that when there is near ubiquity of mobile phone use, ‘it is no longer part of the calculus of human contact that one is inaccessible by virtue of being “away from the phone”’ (115). This was particularly noticeable in the trial at Worldcom
because of the unique combination of features built into MOVE that concentrated information and communication onto a single device, the additional arrangements and privileges that accompanied the trial, the incorporation of staff’s professional identity into the overall purpose of the trial, and the altered organisation of and sense of space and time that came about through its use. These all produced a personal investment in having MOVE on that far outweighed the option of turning it off as a means of boundary control. As Jan said:

I suppose, you still can, it’s up to you, you can turn it off and move away from it. But I don’t because this device is not only [a] work device but personal as well, so I haven’t made that separation and you could say it’s my fault rather than the technology’s fault…

Over and above these large-scale changes in the standard of human contact, then, there was something else at work that diminished the power of these new methods of boundary control. Staff themselves had shifted their internal orientation to the interaction of ‘work’ and ‘life’ to one that made little or no distinction between these categories. At this point, it is important to recall from Nippert-Eng’s (1996) analysis that boundary crossing involves an internal transformation of the mind/body and that external boundaries can reduce the work involved in making this transformation. Applied to the example mentioned of Zina’s handbag/cupboard solution, the effectivity of this solution as a method of boundary control lay in its ability to turn work ‘off’ so she could transform into her ‘at-home’ self. This transformation was aided by controlling access to herself from work-related calls, texts and emails and by resisting her urge to check her messages. However, over time this urge had become so powerful that it had induced in Zina a ‘hyper-awareness’:

Noticed that I have become hyper-aware of receiving emails and text messages since the night I received lots of them. I don’t like this and want to be more relaxed about it, particularly at home.

Because of the intensity of Zina’s awareness of work, the external boundary that needed to be put in place to make an internal transformation had to be very powerful. Indeed, the handbag/cupboard solution consisted of not one but multiple boundaries. This example and Jan’s comment above are both significant because they highlight how, during the period of the trial, there was a noticeable shift in the relationship
between external boundaries and internal states. As the dislocation of work became normalised in the spaces and times outside and inside the office workplace, so too did the dislocated self become the normal and dominant self. Since the dislocated self was one that integrated work and personal activities into a single chunk of ‘spacetime’, this meant that ‘work’ was always already present. In this context, turning work off and bringing to the forefront other senses of self that had previously been linked to distinct spaces and times was either no longer desirable (as for Jan) or required more powerful methods (as for Zina). This posed a particular challenge for those staff for whom other senses of self, spaces and times were considered important to preserve—whether for remedying conflicts with family members and friends—or for providing diversity in their lives. As Zina sums up:

Just being able to draw that line…and don’t turn my phone on as soon as I wake up in the morning, maybe just wait till I walk out the door so I can still have that home time instead of constantly thinking about work things…It's the invasiveness of it and pervasiveness. You’re never separated.

**Conclusion**

The case study of the smart phone trial at *Worldcom* has provided the opportunity to investigate the efforts involved in achieving workability within the context of current attempts to re-order the office based on visions of the Anywhere, Anytime office. This workplace trial can be seen as both a medium through which this vision is articulated and as an organisational strategy for extending a discourse of mobility and flexibility into the work practices of staff through the introduction of a new work form. The focus of this examination has been on the implications of this workplace trial for staff concentrating on work practices, their sense of self as professionals and the space and time of work. The analytical framework of *Officing* has been applied to take into account the smart phone MOVE as one of a wide array of technologies, objects, people, places, times that make up the material arrangements of work, or ‘office setup’, and the ongoing efforts required to make this setup workable.

In one sense, MOVE and the arrangements surrounding its use helped staff to meet work demands and expectations that existed prior to the trial. The continuous production made possible by the 24/7 workday, a general perception of the speed of
communication, and discourse on the changing nature of work all fed into a culture of availability and responsiveness firmly ingrained in the culture of Worldcom prior to the trial. MOVE extended the capacity of staff to be connected, contactable and responsive in a host of new places and times, making it possible to meet these demands and expectations, especially when staff were travelling for business. However, a number of new limitations manifested around the unworkability of the ideals of work built into MOVE in the form of continuous connectivity, automatic synchronisation and mobility. These new limitations had implications for staff in performing certain tasks, for their work and personal relationships and for their sense of self. Although it was clear that these changes and individual responses varied, these negotiations became a foregrounded feature of the daily work of all staff in the trial, identified in their daily activities of connecting, synchronising and configuring.

By dislocating work to a host of new places and times outside of the central office, these staff no longer had recourse to the organisational stabilisation strategies that had evolved to reduce the amount of time required to make technology productive, such as the capacity to create routines, produce relatively permanent configurations and manage boundaries. As a result, staff in the trial had to appropriate a greater share of the stabilisation of the office, which translated into additional work and time spent on producing the conditions necessary for the production of work. In combination with the increased expectations and demands that accompanied greater contactability and responsiveness, this resulted in a nett loss of time. Since the idea of time as a resource and control as its efficient use continued to structure how staff valued and measured time, this loss was experienced as a ‘pressure’ on their time with repercussions for their sense of self as professionals.

It has been noted that staff were very resourceful at adapting their work practices to overcome these limitations. A host of new techniques could be identified including thwarting the in-built functions of MOVE to support disconnections, splitting tasks, allocating tasks to different times and locations, selecting media to generate specific effects, ‘planful opportunism’ and configuring on the fly. Staff also developed new skills at dealing with breakdowns. All of these modifications can be understood as personal stabilisation strategies that enabled MOVE to be incorporated into the places and times of use. However, one of the main consequences of these
stabilisations was that they consumed time, so that even as MOVE enabled more work to be performed across space and time more effectively, it also took more time to create the conditions to support this work. Moreover, these stabilisations resulted in a transformed sense of space and time and orientation to the interaction of ‘work’ and ‘life’ which required that staff perform more ‘boundary work’ to repair the juxtaposition of differing senses and discordant uses of space and time.

As an analytical method for highlighting changes that might otherwise remain undetected, this case has demonstrated the applicability of Officing across different organisational sites and confirms that, despite the different constructions of space and time encountered by workers, there are similarities in the ways that these are systematically produced and turned into productive platforms in the process of work. The following chapter takes this point up to suggest that through identifying and analysing Officing it becomes possible to make broader conclusions about trends in the changing space and time of work and address some of the questions put forward earlier: to assess claims of increased efficiency and productivity associated with mobile and flexible office forms, to understand whether these forms represent a significant break from predominant forms of office work, whether and how new professional identities associated with these forms are actualised in use and finally, to consider the implications for the experience of work and life interaction, time pressure and overwork.
Chapter 6  Embodying the office and the consequences of forgetting

Introduction

I have been arguing that to understand the relationship between the office and the work performed on it by staff, the form of the office can be better understood as a set of intertwined processes taking place at different scales of power and magnitude. In other words, rather than existing as a singular, passive and stable container of work, the office is by necessity incomplete, multiple, unfixed, always in formation, moving in and out of states of stability and instability to produce new orderings. Officing is the term adopted for this conceptualisation of the office. The last two chapters have traced the office as process in two organisations: Innertown and Worldcom. In examining the daily ICT use of staff I showed how staff undertake an array of daily practices aimed at achieving a stable form of their office setup, a condition I have called workability. In tracing these activities I also considered differences between individual staff, groups and workplaces, highlighting variations in the amount and speed of their efforts, time consumed and resources mobilised. Nevertheless, despite these differences, this work was similarly embodied (Ihde 1993) in that it was both constituted and forgotten in and through bodies, spaces and times as a form of corporeal knowledge.

It is tempting to take the position that Laurier (2002) advocates, to stay on the ethnographic ground of work, describing in detail how the office is assembled without shifting registers to the ‘god’s eye view’ (37). Like Laurier, I am committed to the description of this work for itself since it is here that the form of the office as a process can be detected and observed. Nevertheless, I am also committed to drawing out some of the implications of what has been described, not to reduce it for the purpose of some grand Theory, but for recognising how mixes of people, practices and technologies connect to and contribute to broader processes of social and technological change. Tricky maybe, flawed probably, but worth it. Worth it because one of the main issues that propelled me to this project and that was reinforced
through my research is the need to formulate new ways to participate in another process of ordering, one that I addressed in more detail in Chapter 2, that is, ‘the future’ or more specifically, the ‘office of the future’; I also wanted to insert personal accounts of work into this process. For this reason, in this chapter I step back from the close-up description and analysis of the adaptations and re-adaptations involved in making the office workable to reflect on what it is that this process says about changes in the form of the office and the experience of work. Specifically, I return to some of the questions put forward at the outset: What kinds of new spatialities and temporalities of work can be detected in daily practice? What do these say about current visions of the office of the future? And what are the implications of these changes for the experience of time pressure, overwork and the interaction of ‘work’ and ‘life’?

**Workability and ‘invisible homes’**

In a workshop paper titled *Invisible Homes and Tiny Infrastructures*, Star (2002) reflects on why it is that minor changes to the way technologies are designed can have enormous ramifications for users. She gives the example of a student in a library that, upon realising that a screen button has changed position on a computer interface, gets up and walks across campus in the middle of winter to retrieve the book from another library rather than change her use of the system to get beyond that screen. In explaining this apparently odd behaviour, she suggests that these minor changes disrupt the ‘invisible home’ of users: ‘the place where articulation work, juggling practices, notetaking, and workarounds may be safely routinized’ (4). On this Star writes:

> Small disruptions in this invisible home may ramify throughout the workflow of the user—causing the seemingly small anomaly or extra gesture to have a far greater impact than a rational user-meets-terminal (or other object) would suggest. (4)

Although Star does not elaborate further on this concept, the idea of the ‘invisible home’ is highly evocative, capturing something of the embodied nature of use and its seemingly paradoxical relationship to time and space.
The condition of workability can be likened to Star’s ‘invisible homes’. It is a condition necessary for negotiating the demands and expectations that exceed those programmed into individual technologies and even entire systems (such as the office setup). However, it goes beyond this to support meeting the wider set of expectations and demands that make up the life worlds of individual staff. Home, in this sense, does not mean a place of shelter or refuge from the outside world but a place or an ordering that supports a relationship to the outside world. This relationship is embodied, taking place through bodies in space and time, and securing and building a sense of familiarity with the world and mastery of its forms (including space and time). Returning to the example of the student above, we can understand why it is that the student goes out of her way to retrieve her library book to avoid having to learn how to change her use of the system, since this is also how she maintains her ‘invisible home’, and through this, how she meets the wider set of demands and expectations in her world. Lally (2002) captures this broader sense of home in the term ‘cultural proprioception’, which she describes as the largely habitual interaction we are able to sustain within the physical as well as the many diverse cultural environments that we navigate in our everyday lives (30-31).

Staff at Innertown and Worldcom worked towards overcoming the limitations of their office setups as part of their daily work but, like the student in the above example, in doing so they were also committed to securing their ‘invisible homes’. These ‘homes’ acted as platforms for supporting the organisational role or ‘office’ (in the old sense) as defined and materialised in their office setups as well as the wider set of demands and expectations that made up their (life)worlds. Connecting, configuring and synchronising were the categories I deployed to identify and group the activities involved in securing these ‘homes’ and which also covered the work of bridging shortfalls or gaps to produce a condition of stability assumed to be met by organisational forms. As I argued in Chapter 3, this work can be seen as ‘articulation work’ formulated by Strauss and developed by a range of researchers of work (see in particular Star 1991; Schmidt and Bannon 1992; Suchman 1995; Star and Strauss 1999). However, I also suggest the process of making the office workable covers a wider set of practices often considered outside of ‘articulation work’, such as workarounds, repair work (Orr 1996; Henke 2000), boundary work (Nippert-Eng 1996) juggling, improvisation and all manner of bricolage (De Certeau 1984).
Together, ‘bricolage’ and ‘articulation work’ help to secure an embodied relationship to the world encapsulated in the idea of ‘home’. The cases of Innertown and Worldcom have highlighted that this work on the ‘home’ or ‘housework’ that goes into supporting work platforms is a regular feature of the work experience of knowledge workers in the twenty-first century. So, while earlier Marxist and feminist critiques exposed traditional forms of ‘women’s work’ as a necessary contribution to the production apparatus, these findings indicate a new form of invisible labour excluded from definitions of productive work. This work, while performed by all, is nevertheless subject to variations, and while some workers are likely to perform more than others, others are more likely to have their efforts officially recognised.

‘Invisible homes’ and the space and time of work

Likening the condition of workability to an ‘invisible home’ also reveals the somewhat paradoxical relationship to space and time established through use, and how this relates to the changing spatialities and temporalities of the office. We can recall from the material processual account of Officing developed that these spaces and times do not begin their life as neutral or empty shells but are always in process, filled with meanings and uses that must be made personally meaningful and useful in the present. The space and time of work, therefore, cannot be simply read off the office setup, partly because the office setup is never in a solid and fixed state, and partly because the process of making the office setup workable produces an other space and time, that is, a space and time of work that exists on top of or in an addition to the office setup. Michel De Certeau (1984) captures something of this spatial multiplicity and the resulting dissonance in describing the city as it appears (from above) and as it is used (from below):

The ordinary practitioners of the city live ‘down below’, below the thresholds at which visibility begins…These practitioners make use of spaces that cannot be seen; their knowledge of them is as blind as that of lovers in each other’s arms. The paths that correspond in this intertwining, unrecognized poems in which each body is an element signed by many others, elude legibility. (93)

Like the walkers of the city, the ‘invisible homes’ produced by staff through practices of connecting, configuring and synchronising traced spaces and times that
did not correspond to those represented in the official office setup. Turning first to *Innertown* to explore this further, we saw that many of these practices took place in the house or on the way to and from work. A number of staff emailed documents to their personal accounts or copied them on to portable storage devices to work on later using their home ICT setups. Other staff used their personal mobile phones to make work calls and to send text messages to work colleagues while commuting to and from work. There were temporalities that corresponded to these spatialities. Staff at *Innertown* performed these activities outside of official work times, on weekends, evenings and mornings and during intervals of travel. Like the example of the student in the library, in performing these activities, an office landscape or, rather, *technoscape* was generated through a fusion of electronic and physical spaces and material resources that belonged to an *other* space and time, that is, a space and time of work that exists on top of or in addition to the official office setup.

For de Certeau (1984), the issue of visibility is central to the production of other spatialities. For him, the practices of city walkers ‘elude legibility’ for the very reason that they both exist in and through the spaces denied by official representations of the city. For him, the powerful perform ‘strategies’ through the production of spaces for disciplining and controlling the weak and the weak, in consuming this space, perform ‘tactics’ that subvert and resist these official spatial regimes. These forms of resistance are spatial practices in the sense that they take place in space. But they have a temporary and fleeting existence, since the weak can only use spaces controlled by the powerful and do not have the power to secure a place out of space (35-36). Based on this understanding, the essence of tactics lies in their movement, their ‘traverses’, that ‘remain heterogeneous to the systems that they infiltrate and through which they sketch out the guileful ruses of different interests and desires’ (334).

De Certeau employed a poetic style of writing to illustrate his argument and to simultaneously open up a textual space in which these ‘traverses’ can be ‘seen’. Yet, while his prose eloquently brings to life other spatialities on the page, the issue of visibility is more complex than he supposed. As Bennett (1998) points out, de Certeau’s account relies on the magnification of one pole of power as all encompassing while the other pole disappears entirely as a ‘zero power’ (177). Like
Bennett, I view power relations articulated through the politics of visibility as more complex. Recognising the complexities of these relations makes it impossible to sustain this binary of the strategies of the powerful and tactics of the weak superimposed onto the ‘seen’ and ‘unseen’ as well as onto the clear separation of ‘work’ and ‘life’.

From this perspective, activities directed towards workability at both Inertown and Worldcom reveal that while some of these could be identified as tactics, very few conformed to this precise definition. De Certeau illustrates his definition of tactics by reference to the term ‘la perruque’, a term that has the benefit of situating tactics within the context of work. By la perruque, de Certeau means the use or diversion of official work time or resources for personal benefit, for activities that are ‘free, creative, and precisely not directed toward profit’ (1984:25). Explaining this further he writes:

> It differs from absenteeism in that the worker is officially on the job. La perruque may be as simple a matter as a secretary’s writing a love letter on ‘company time’ or as complex as a cabinetmaker's 'borrowing' a lathe to make a piece of furniture for his living room. (25)

Understood in such a way, as a kind of rort or scam, there were very few acts uncovered in either workplace that strictly accorded to de Certeau’s definition of tactics. While the majority of acts of connecting, configuring and synchronising shared many of the characteristics of tactics such as being ad hoc, improvisational and taking place outside the official space and time, they did not conform to an anti-institutional logic or the expression of one’s pure and uncorrupted (by the profit motive) self-creativity. Instead, at Inertown, staff worked at home to manage their workloads and to meet demands of immediate reply not possible within the dedicated blocks of time and space set aside for work. This included making up for time ‘losses’ related to physical absences and delays, reconciling expectations of instantaneous communication and juggling competing demands arising from the use of multiple information request systems. Other employees worked at home to draw on qualities or resources that could not be readily accessed in the workplace, including access to a more familiar ICT setup and technical help from friends and family. These practices ‘eluded legibility’ not because they represented a different
logic to that represented in the office setup but because they took place beyond and on top of the officially sanctioned space and time of work.

Finding examples of connecting, configuring and synchronising corresponding to de Certeau’s definition of tactics at Worldcom was even more challenging. In the trial of MOVE, the officially sanctioned space and time of work could potentially extend to any space and time as captured in the logic of the ‘Anywhere, Anytime’ office. In this scenario, isolating pockets of purely work-related resources that staff could pilfer from was no longer possible by virtue of where and when these acts took place. With the integration of personal and work related communication into a single device (MOVE) accessed from multiple spaces and times, and the agreement that the company would pay for the cost of calls, this distinction was far from self-evident to staff in the trial. Work on the office setup became visible only when its official status as a productive use of space and time was questioned, for example, during a technology or interpersonal breakdown, adding another layer of complexity to the dynamics of ‘seen’ and ‘unseen’.

It is important to recall at this point, that while many of these acts at Innertown and Worldcom took place outside of and in addition to the official space and time, a significant proportion took place within it. Like those described above, these acts were primarily directed towards overcoming limitations in the official office setup. However, they extended beyond work-related concerns to addressing conflicts that were in part a result of how the space and time of everyday life was organised in relation to the office setup. At Innertown this involved overcoming limitations associated with the division of space and time into dedicated segments. This included addressing caring responsibilities, maintaining relationships and ‘life administration’, all activities that were not easily contained in a single space and time. Likewise at Worldcom, staff in the MOVE trial directed their efforts of workability towards resolving new limitations that arose from the disappearance of life divisions resulting from the re-organisation of space and time through the use of MOVE and the 24/7 global workday. In both cases, many of these acts ‘eluded legibility’ not because they took place outside the official times and spaces of work but for the very reason that they took place within it. In both cases, the official office setup contributed to obscuring its own internal workings. Returning to the image of the ‘black-box’ as a
simplification of complex processes, the office setup operated as a giant black-box containing multiple nested boxes so that many of its own spatialities and temporalities became invisible to itself. This could also be seen at Worldcom, only here it was further complicated by the prevailing logic that work no longer occupied a single or dedicated workplace and could occur at any time and place. So that, even though staff had to compensate for the loss of the stabilisation strategies that made up the workplace, this effort and the resources consumed, were effaced. Within this framework all places and times were potentially part of the official setup, and these were equally prone to being black-boxed.

On first impression, these responses might appear to contradict the logics built into these office setups. In the case of Innertown staff, many of the activities involved in making their office workable did *not* appear to be particularly efficient or productive, taking staff out of their way and consuming more time, space and effort than they might have within the workplace. Similarly, in the case of Worldcom, some of these acts—especially those that were performed within the central office—appeared to run counter to the logic of flexibility and mobility that staff were encouraged to put into action. Yet, all off these responses were characterised by a common undertaking to minimise the effort involved in making the office workable, to ‘save time’, and be seen by other work colleagues to be competent and efficient workers and in the case of Worldcom staff, to also be seen as mobile and flexible workers.

To account for this complexity in the practices of workers in their research, Noble and Lupton (1998; 2002) divide the work of university academics on their personal computers into ‘strategies of mastery’ and ‘tactics of domestication’. In a twist of de Certeau’s model, strategies of mastery are understood to be directed towards the internalisation of the logic of the institution to turn it to one’s advantage, while tactics of domestication are aimed at negotiating and subverting these institutional conditions through the personalisation of working relations and environments (1998:810-811). This modification of the binary of strategies and tactics goes some way towards fleshing out the complex power relations articulated through use, and identifying practices that can and do support institutional logics, and that even problematise the boundaries (such as those between ‘work’ and ‘life’) that help to secure a concept of a private and creative self outside of work (824).
In Noble and Lupton’s model, acts of appropriation are performed as part of the process of consumption, ‘to minimise or reverse threats to their well-being or assert some control in defining their working life’ (1998:824). The problem with this model, however, is that even though these acts might be made up of strategies of mastery that internalise the logic of the organisation, it does not break down this binary enough and ultimately reinforces the idea that the work of consumption is in some essential way different to the work of production. An alternative perspective and one that has been developed through this account of Officing, is to consider that the work invested by staff on their office setups makes up a process of ordering that is not unlike processes of the office at other scales. All of these are directed towards the production of a stabilised form of the office. The micro efforts of making the office workable are therefore not different in essence to other strategies taking place at grander scales. They too are directed towards the ongoing production of a temporarily stabilised form that is the outcome of strategic operations for the very reason that they do enable staff to secure a place out of space (in the sense described by de Certeau) in the form of a workable office or an ‘invisible home’.

**The dynamics and politics of visibility**

As shown in both case studies, the capacity to turn these activities into routines were key strategies staff at Innertown and Worldcom relied on to build and secure a place in the form of an ‘invisible home’. Star hints at a similar idea in pointing to the role of routinisation in the example of the student in the library. The student’s course of action, which seems to take her out of her way to borrow a book, also allows her to save time by simplifying a complex set of acts into a series of steps (a package) that doesn’t need to be invented on the fly and doesn’t involve learning a new skill. As well as routines, staff at Innertown and Worldcom created configurations from a mixture of personal and work resources, including their work allocated space, their home-based ICT setups, a room or corner at home set aside as an office and even software profiles and preferences like signatures, voice mail and call diversion profiles.
By establishing lasting changes in the form of routines and configurations, these strategies acted as spatial and temporal resources that enabled time to be put to use as a resource, and crucially, made their ‘invisible home’ a more permanent, accessible and stable feature of their lives. Through these, ‘invisible homes’ became more than fleeting, impermanent ‘guileful ruse’ (37) as de Certeau (1984) would have it, but a combination of permanent and impermanent, fixed and moving orderings. Contrary to de Certeau’s claim, these orderings enabled staff to secure a place out of space, and to make overall time savings, even though this often necessitated doing more ‘boundary work’ (Nippert-Eng 1996) within the home and in the zones to and from work. These ‘invisible homes’, therefore, were more characteristic of strategies than tactics yet remained ‘unseen’ to organisational spatial regimes, either because they took place outside it, generating spaces and times quite other to that of the office setup, or because they took place inside it and were embedded in official spaces and times.

Returning to my initial critique of the polarisation of power inherent in de Certeau’s framework of strategies and tactics, we can see that the visibility of acts of making the office workable is not a fixed state that maps neatly on to the strategies of the powerful institution versus the tactics of weak individual staff. Rather, visibility and invisibility are contingent products of a dynamic: the extent to which resources are able to be mobilised in the production of stabilised forms, and the politics that these forms are subject to that determines whether or not the efforts (and space and time) in producing them are recognised or not. Researchers of labour processes in the office workplace initiated at the height of the office automation movement identified the importance of this dynamic in the design of computer technologies. By exposing the invisible work of users on their technologies, they highlighted its political nature and consequences for how work was constructed and experienced by workers. But they also showed how these politics were contingent and contextual rather than inevitable and fixed. On this, Star and Strauss (1999) wrote:

No work is inherently either visible or invisible. We always “see” work through a selection of indicators: straining muscles, finished artefacts, a changed state of affairs. The indicators change with context, and that context becomes a negotiation about the relationship between invisible and visible work. (9)
For this reason, this dynamic of visibility and invisibility was taken up as a starting point in developing an agenda for the then nascent field of Computer Supported Collaborative Work (CSCW) to enhance recognition of and support for group work processes.\textsuperscript{27} The material processual account of the office I have developed builds on this approach to recognise the spatialities and temporalities or ‘traverses’ that emerge in the ongoing production of forms of the office both within and outside the workplace as well as the negotiations over their visibility and invisibility. There are potentially an infinite number of points at which the efforts and the time and space produced through this process can be recognised and ‘seen’ but just as equally made ‘unseen’. This includes those efforts that take place outside the official space and time of work and those that take place inside, recalling that in the case of the MOVE trial, this ‘inside’ could hypothetically be anywhere and at anytime.

Recognising these spatialities and temporalities or ‘traverses’ provides the basis for identifying forms of the office that emerge in practice. In proceeding to describe these, however, there are some limitations to keep in mind. First of all, it is problematic to propose that the findings from these two cases represent a widespread trend based on these samples alone. Secondly, in describing these spatialities and temporalities, there is a danger of reifying them, forgetting once again that these forms are always in formation, made up of a mix of fleeting and durable orderings that are ceaselessly worked on to maintain their stable appearance. Nevertheless, taking into account these limitations, the cases of Innertown and the trial of a smart phone at Worldcom provide a valuable snapshot. Together they present a more nuanced understanding of the dynamics of change in the spatialities and temporalities of the office. As mentioned in Chapter 1 and reiterated in Chapter 3, this is an important supplement to contemporary research that tracks changes in the formal arrangements of work or that focuses only on single ‘new’ technologies. Taken alone these run the risk of obscuring alternate and even opposing trajectories of change that come about in the daily use of arrays of taken-for-granted technologies, systems and objects. This approach also offers a way to evaluate claims about the office of the future, including the replacement of ‘old’ forms of office work.

\textsuperscript{27}Within the field of CSCW and the related field of Workplace Studies, group work processes are by far the main subject of work that is targeted to be recovered and supported by researchers affiliated to this area.
and predicted improvements to efficiency and productivity. This is an approach that has proved effective in the growing field of mobility research and is a relevant starting point for design, but it is also relevant for highlighting and assessing the changing experience of work with practical implications for organisations. Finally, it offers a way to contextualise these changes historically and to assess whether a shift to a decentralised model in visions of the office of the future does represent a significant break from the development of the modern office reproduced through its technological framing and rationalisation.

**Hybridities and interdependencies of the office**

In her study of British white-collar workers, Halford (2005) proposed the concept ‘hybrid workspace’, which she describes as, ‘not simply relocated or dislocated but multiply located’ (22). Through this concept, she captures the combinations of traditional organisational, domestic and virtual workspaces of the professional employees in her study who worked part of the time in the organisational workplace and part of the time at home. At Innertown and Worldcom a similar fusion of ‘old’ and ‘new’ workspaces could be detected through identifying the spatialities generated in the process of *making the office workable*. This also applied to time, and the continued reliance on pre-existing temporal rhythms. These hybridities along with the development of a web of new interdependencies of place, time, practices and techniques at a macro scale, combined together to support and sustain the emergence of the dislocated office.

In the case of Innertown, taking into account the ‘invisible homes’ of staff as part of the overall office *technoscape*, the form of the office reflected a far more mobile and flexible version than the official work arrangements suggested. Staff, however, remained heavily dependent on so-called old forms of office work, namely networked computing while seated at a desk or table with a permanent or semi-permanent workspace, and sites that could accommodate this form (like the workplace and home). Through these pre-configured ICT setups, staff could extend or contract their ‘invisible homes’ in response to demands and contingencies that didn’t fit comfortably into dedicated segments of space and time. This combination of new mobile and flexible practices enmeshed in and anchored to traditional office...
forms also facilitated the management of boundaries between work and life; giving staff more control over when and how this boundary was crossed. At the same time, the lack of recognition of these spatialities meant the centralised model of the office remained unchallenged and the work (and space and time) in overcoming its limitations was rendered invisible.

This intermeshing of ‘old’ and ‘new’ forms of the office was particularly highlighted in the trial of the smart phone at *Worldcom* where it was clear that ‘old’ office forms and the places that accommodated these were still very important to staff. For tasks that required high levels of concentration and a sense of privacy, staff depended on the bounded and individualised workspaces configured into the layout of the central office in downtown Melbourne. Being stationary at a desk with access to a fast computer processor was also necessary for ‘heavy duty’ work like producing presentations and spreadsheets. There were several other reasons for attending the central office: to seek out face-to-face connections with others, to restore a sense of membership to the organisation and to establish a distinction or line between professional and personal activities. Even when MOVE was used for travelling, individual staff organised their travel around visits to places that offered office-like features: to be able to sit for a time and gain access to a desk or table with Internet access and to meet and promote encounters with potential customers and relevant contacts. In short, making their mobile office workable relied on the synergies between their newly mobilised office setup and pre-existing office forms as well as the sites that accommodated them.

These re-combinations of spatial forms also extended to temporal regimes, creating what Green (2002) referred to as ‘flexible compartments of time’ (287). Staff blended together the coordination of their personal and work-related information and communication activities, and these were handled in real time or synchronously whenever possible. Yet, for the very reason that this couldn’t be achieved all the time, staff at both workplaces tended to cluster tasks together and incorporate these into routines to clear a block of time for decision-making and concentration. At *Innertown*, these routines tended to take place in the workplace and were usually performed first thing in the morning and in the afternoon before leaving work, though there was a noticeable trend towards stretching these routines into travel time
to and from work using mobile ICT and portable organisers like diaries and note books. For staff in the MOVE trial at Worldcom, these routines stretched to either side of sleep (and sometimes during sleep) and when not in the central office, staff relied on the home, public transport and especially the car to support these routines. Former arrangements of work and the sites that housed them were crucial for making possible and sustaining these combinations of spontaneous and planned temporal practices.

This brings us to the final point about these emerging hybrid forms of the office. They resembled the ‘mobility systems’ described by Hannam, Sheller and Urry (2006). One the one hand, they had the potential to be used on the move and in real time. On the other hand, this potential was realised through links or ‘moorings’ to immobile sites like the workplace, home and a range of other office-like sites (3). Following this line of argument, we can say that hybrid forms of the office such as these are made possible by a parallel development of new places and times on a macro social scale that supports and houses these forms and practices. Indeed, there are signs of this taking place in the trend in large cities and towns in Australia with the proliferation of office-like sites ranging from cafes and airport lounges to the increasing array of ‘hotspots’ (O’Neill and McGuirk 2003). In the domestic context, statistics on ICT expenditure and trends in architecture and design confirm a similar pattern. It is no coincidence that one of Australia’s largest and fastest growing retailers is The Officeworks Group with its one hundred and seven office supply outlets nation-wide at the time of writing. Nor is it coincidental that new housing developments targeting the professional market are increasingly designed with dedicated office spaces and built-in computer and network functionality.

In combination with the cases presented here, these trends suggest that at the very moment of its dislocation, there is a counteracting relocation of the office, confirming the argument of Brenner (2004) put again by Urry, Hannam and Sheller (2006) that, far from the disappearance of place and elimination of time, there is a dialectical movement between ‘re-territorialisation’ and ‘de-territorialisation’ necessary to support mobile and flexible forms and regimes. While these authors tend to focus on large-scale societal shifts, this dialectic helps to explain similar countervailing movements at an organisational level, where ‘old’, so-called fixed and
stationary forms of the office are simultaneously destabilised with the emergence of mobile and flexible forms and practices and yet, these are paradoxically, also reinforced. However, since these movements materialise in practice and are not recorded in the official arrangements of work, they often go unrecognised in research on organisations and changing forms of work. Consequently, crucial similarities between organisations are missed and overly simple distinctions made. A similar reduction occurs in relation to old and new forms of the office articulated in visions of the office of the future. These reductions rely on the suppression of the ongoing production of forms, but by unveiling this production through the material processual account of the office, a more complex story unfolds.

There is still a risk that in identifying and describing forms, the process of the offices’ production will once again recede into the background and its complexities and dynamics will be reduced and simplified. It is important to understand that if this web of interdependencies between hybrid office forms, practices, places and times can be said to support and sustain the emergence of the dislocated office, then this is not achieved unproblematically, synchronously or once and for all. Ongoing work is required to sustain the appearance of stable forms over time: work that is embodied, taking place in and by bodies in space and time on a daily basis. Whether these interactions and the space and times they consume are recognised or not has both positive and negative consequences for workers; for their experience and management of time and space, for their professional identities and for longer-term projects of ‘the self’.

**Bodily techniques and forgetting as a cultural resource**

Throughout this thesis I have argued that forms of the office are not pre-determined entities that float about or are fixed in place waiting to be activated in use. Rather, these forms are constituted in action, through acts of connecting, configuring and synchronising. Forms of the office only exist outside of action in so far as their stable appearance is maintained and secured over time and in place. This ongoing process requires work: work that is embodied. Central to this understanding is the relationship of the body to its physical environment as formulated within a phenomenological tradition. Merleau-Ponty illustrated this relationship in the
example of a man with his cane, Ihde with glasses and Heidegger with a hammer. In Heidegger’s oft-cited example, the hammer only becomes meaningful as a ‘tool’ within the context of its use, which includes the entire set of objects and referential practices within which the action of hammering is embedded. Paradoxically, it is also within this context that the hammer disappears or ‘withdraws’, in the very instant that the purpose or intent becomes the focus of action rather than the tool itself.

All of these authors have stressed the reciprocity of this relationship between the body and the environment in situated interaction, the transformative potential of this relationship and its significance as the seat of knowledge and experience. Within this tradition, accounts of embodiment have in the main focused on bodily encounters with single tools, although Heidegger’s concept of an ‘equipment structure’ or ‘total equipmentality’ captures a sense of the larger set of practices and objects within which individual user/technology relations take place. By extending an account of embodiment to include a domain of equipment (Sofoulis 2000) such as the office setup, bodily performances involved in the production of more complex forms can be foregrounded. This also makes possible a challenge to binaries constructed between ‘new’ and ‘old’ forms of the office in technological discourse at the expense of the body at work.

As the case of Innertown made evident, even so-called old forms of the office captured in the image of computing while sitting at a desk, engage the body in embodied interactions. In performing acts of connecting, configuring and synchronising, bodies move and act in certain ways, following actions programmed into objects and systems, and creating new sequences of actions to overcome limitations that arise through their use. Revisiting and enlarging the example of Danielle’s morning routine at Innertown illustrates this point. For Danielle, in setting up her workspace and the front counter of the Citizens’ Service Centre to make it ready to receive public visitors, she performed a number of connections; turning on lights and an array of machines, loading software, entering passwords. She also performed configurations; positioning objects such as chairs, files, her headphones and re-instating her roaming profile on her electronic desktop and finally, synchronisations; checking the multiple request systems to clear the back log from the day before and clearing her email inbox which included a combination of work
and personal queries. These routines, in addition to being a series of steps acted out in time, were bodily techniques that reflected her personal style and approach. Through the repeated performance of these acts, along with the objects to which these were directed, these acts became automatic and no longer required Danielle’s focused attention. They had become habit, a transparent means through which Danielle navigated her work environment.

Ongoing bodily performances and their conversion into techniques were also crucial for how staff at Worldcom negotiated the new expectations and demands that emerged during the trial of MOVE. These included verbal strategies for repairing interrupted conversations, thwarting the in-built connectivity of MOVE, splitting and allocating tasks to different times and locations, selecting media to generate specific effects, ‘planful opportunism’ and configuring on the fly. These bodily performances operated at both a practical and performative level since the efforts involved in appearing as if in the office to those virtually present added a layer of performance on top of the practical negotiations required to juggle situated interaction and virtual presence at the same time, also referred to as ‘near and far’ (Sherry and Salvador 2002). The incorporation of these acts into bodily techniques was one of the main strategies employed by staff in the trial to lower the burden of effort, time and space consumed through these varied and multi-levelled bodily performances.

In both cases, and as a rule of embodied interactions in general, ‘forgetting’ is necessary for bodily performances to be converted into bodily techniques. Without ‘forgetting’, which describes the withdrawal of acts and the objects into bodily memory, the physical effort (and time and space) consumed in organising, arranging, building and performing material assemblages such as the office setup would be foregrounded all of the time. ‘Forgetting’ is the element of embodiment that allows our conscious mind to focus on other activities, allowing the rest to become backgrounded and automatic. It is through ‘forgetting’, therefore, that actions are turned into resources in the form of techniques, which together with routines and configurations become the background conditions that make work possible.

The conversion of bodily performances into techniques was thus a crucial strategy for staff at Innertown and Worldcom in making the office workable, and was
inseparable from the changing spatialities and temporalities of the office. In combination with routines and configurations, these techniques helped staff to clear blocks of space and time, to ‘save time’, to reduce the effort of focusing attention on one-off acts and, in the case of staff in the MOVE trial, to perform ‘normally’ as if in the office. In short, these were crucial for securing and building a place or ordering and for sustaining these over time. In this way, orderings maintained a more or less stable and recognisable appearance not only as new ensembles of technologies, places and times but also as new gestures, movements and bodily schemas. In this way, bodily techniques formed an important element in the web of interdependencies that developed in response to and in support of the emergence of the dislocated office.

‘Forgetting’, in addition to enabling the development of new bodily techniques and hybrid office forms, was one of the key ways that staff at Innertown and Worldcom came to identify with their office. It was through the withdrawal of these many and varied objects and acts into bodily ‘memory’ in the form of techniques that emerging forms of the office were internalised and became seen as normal. This identification was both multi-dimensional and multi-sensed: as aspects of an extended physicality in terms of techniques or skills; as a ‘duty’ or ‘service’ in the performance of a role (as in the earlier usage of the office); and finally, as aspects of identity exemplified in the figures of the ‘Post-it-note girl’ and the ‘Mouser’ at Innertown. Metaphor provided the basis for identifying these internalised figures, and was one of several analytical and methodological tools employed or developed to recover or ‘remember’ processes ‘forgotten’ in the ongoing production of the office.

This understanding of identification foregrounds materiality, and in particular the embodied interactions involved in the production of the office, in an account of professional identity. Taking his cues from Marcel Mauss (1973), Bourdieu (1977) argued that the relationship between bodies and tools explains the process of socialisation. He suggested that individuals are inculcated into a culture through their interactions with tools, and through their bodily incorporation, are reproduced as members of that culture. The office can be understood as the tools of a culture in this expanded sense proposed by Bourdieu. In providing the means through which work is done, the office socialises its subjects/users, acting on them to produce a set of
behaviours, beliefs, values and bodily techniques. From this perspective, certain techniques may be the prerequisites for attaining ‘office’ and gaining professional membership (in terms of the technical expertise and skills written into job descriptions) and these may be transported from job to job (up to a point). However, it is through the ongoing adjustments and negotiations in the process of working in, on and through the office that employees gain a sense of themselves as professionals through identification with their office.

‘Forgetting’ is crucial to this process and for sustaining identification with the office over time. This is how the office comes to be incorporated into the self and to appear as natural attributes of one’s personality rather than as a series of ongoing processes or orderings. In this way, ‘forgetting’ is necessary for sustaining the articulation of identities while at the same time making those identities appear to be independent of the conditions through which they are formed. This explains how the office comes to have an ‘everydayness’ about it, retreating into the background to become infrastructure or what Giddens (1984) termed ‘practical consciousness’. It also explains how the office comes to have an identity and form of its own, as a product of the more or less collective knowledge of what an office is and is expected to do. I say more or less, because this knowledge is not fixed and is always multiple, shifting and in process for different individuals and groups. Nevertheless, an appearance of familiarity and stability is achieved through its transformation into a shared but ‘forgotten’ corporeal knowledge. Indeed, it is this collective and forgotten corporeal knowledge that enables the articulation of new visions of the office of the future. This was illustrated in Chapter 2 and the beginning of Chapter 3 where taken-for-granted office forms were destabilised through the partial ‘remembering’ of their constitutive processes and knowledges to make way for the articulation of new forms of the office.

In the case of Worldcom, it is possible to see how ‘forgetting’ provides a crucial support for the articulation of identities that accompany new office forms. MOVE was the focal point and anchor for the construction of a mobile professional identity with high status and prestige. This identity drew heavily on current visions of the Anywhere, Anytime Office, revolving around personal qualities of adaptability and flexibility and set in opposition to ‘routine’ and ‘fixed’ ways of doing and being in
the office. Being adaptable and flexible were qualities highly prized and firmly ingrained in *Worldcom’s* organisational culture prior to the trial and this extended to all company staff. Nevertheless, *Worldcom* and the division that instigated and participated in the trial were particularly invested in promoting these qualities and linking them to MOVE as part of the marketing strategy for the company’s line of smart phones. Acting as a product showcase, the MOVE trial itself formed part of this marketing strategy and the mobile and wireless device was a central and highly visible feature of the trial. Staff themselves, however, were also important to showcase: how they spoke, looked and used MOVE mattered just as much as the device itself.

The work performed by staff in making their mobile office workable therefore did not stop at MOVE or their mobile office platform. It also extended to their identities, adding another layer of performative work to the simulated presence of the office while on the move. This performance was all the more necessary for the reason that this mobile professional identity relied on a fragile and precarious distinction between ‘new’ and ‘old’ forms of work that required continuous strengthening through practice. Within this context, ‘forgetting’ was crucial because through identification this identity became incorporated into their sense of self and staff could reduce the effort of performing their identity *all of the time*. The high level of anxiety and frustration experienced during a breakdown, and the urgency to repair not just the technology but also their identification as ‘mobile professionals’ indicated the importance of ‘forgetting’ to staff for supporting and sustaining their new professional identities.

This brings us to a final point about ‘forgetting’. As the office becomes increasingly integrated into more and more aspects of life, a trend evident at *Innertown* but especially pronounced at *Worldcom*, maintaining workability and thus identification becomes increasingly necessary for ensuring membership in society, which is increasingly dependent on the capacity to navigate and negotiate complex infrastructures in order to move about and maintain a basic level of agency. This is summed up in Edward’s (2003) claim: ‘Belonging to a given culture means, in part, having fluency in its infrastructure. This is almost exactly like having fluency in a language: a pragmatic knowing-how, rather than an intellectual knowing-
that…’ (189). ‘Forgetting’ is necessary for achieving this infrastructural fluency and is often expressed in terms of a technological readiness, a sense of being up-to-date, in phase and \textit{synchronised}.

It is through the body and ‘forgetting’ that this fluency is achieved, and this in turn, enables the performance of office forms and autonomous identities. However, it is also through the body and ‘forgetting’ that the processes supporting these performances are simplified and reduced, thereby suppressing the places, times and bodily effort involved. This suppression has consequences for workers, and as Nardi, Schwarz and Whittaker (1999) found in their study of virtual workers in the Silicon Valley, comes with a ‘cost’. This cost is played out in specific ways for individuals and groups within and between workplaces. At \textit{Innertown}, this suppression was tied up in marking out and occluding differences in the work and status of individual ‘offices’, rendering a gendered division between ‘routine’ and ‘knowledge’ work, and obscuring the work involved in overcoming the organisation of space and time into dedicated blocks. In the case of \textit{Worldcom}, ‘forgetting’ was tied up in obscuring a major shift in the burden of effort in the production of the office from the organisation to the individual and in the work of maintaining their new mobile professional identities. It is to these consequences that I now turn to and examine in the remaining pages of this chapter.

\textit{Time pressure, overwork and work–life interaction}

One of the major themes of sociological and cultural investigations into work in the last decade and a half has been the issue of time pressure. As covered in Chapter 1, research has consistently found that employees are working longer hours and that there is a correlation between this trend and time pressure. It is perhaps not surprising given these persistent reports in Australia and abroad, particularly amongst white-collar workers, that staff at \textit{Worldcom} and \textit{Innertown} also reported a sense of time shortage described as not being able to keep up, feeling left behind, not being on top of things and anxious about wasting time. These findings, while confirming a general trend of a sense of time pressure, also raised a number of questions about what was contributing to this, since in both cases this did not appear to be a straightforward matter of extended working hours. Although \textit{Worldcom} staff
did work long hours compared to a standard working week, they also reported that MOVE allowed them to ‘save time’ yet strong feelings of time pressure accompanied its use. Meanwhile, staff at Innertown expressed a similar sense of being short of time but did not work longer hours based on their official paid working week.

While the amount of hours worked remains closely aligned to the experience of time pressure, it is increasingly accepted that this issue is more complex than a matter of excessive working hours. Some researchers adopting an expanded definition of work as their starting point have added a new angle to the understanding of time pressure. These have shown that unpaid domestic labour and the collision between work and life need to be included in any account of time pressure. Yet, once we take into account this expanded definition, one of the puzzles remaining is the degree of disparity between measurements of working hours and the widespread perception of not having enough time. I suggest that one of the missing keys to this debate on time pressure is firstly, the effort, time and space consumed by the ongoing production of office platforms (used for both work and life), and secondly, their exclusion from accounts of what is productive work.

In both case studies a strong correlation existed between the efforts invested in making the office workable and a sense of time pressure. In the case of Innertown, it was also clear that this sense differed between individuals and staff in different departments, suggesting a dynamic or set of dynamics that was contributing to variations in the experience of time pressure. The example of CSOs in the Citizens Service Centre stood out in this respect. These staff spent a considerable amount of time adjusting their office setup compared to other council staff as a result of their weekly relocation between the front service counter and the call centre. In addition to their extra movement, their office setup also stressed the need for speed, since one of the main measures of their work performance was the rate of turnover of public enquiries recorded in council’s main information request systems. Since these staff had to perform more of these adjustments and at a faster pace, both the volume and speed of these adjustments added to a sense of being rushed and not ‘on top of things’.
In the case of Worldcom, feelings of time pressure amongst staff in the trial were also acute but due to different circumstances. Staff in the trial had to perform more adjustments and at a faster pace because of their overall mobility, but in their case this was the result of a deliberate reconfiguration of the space and time of work to demonstrate the benefits of mobile and flexible work. As part of this reconfiguration, staff received a new work form (MOVE) and additional privileges and assistance. These were accompanied by an expectation that their work would not be negatively affected through the use of MOVE and they would continue to operate as if in the office. This expectation was driven home by current discourses of mobility and flexibility but was especially reinforced through the trial because of its added role as a marketing and promotional tool. This expectation necessitated a high degree of performative work on top of the extra practical work required of staff to make their mobile office workable, work that extended to their identities as ‘mobile professionals’. These circumstances, and the enhanced expectations of contactability and responsiveness that accompanied them, compounded the sense of being pressured for time and not on top of things. Both of these examples highlight a strong link between time pressure and the amount and speed of work necessary for the ongoing production of the office. This link was evident in both cases and applied to all participants. However, isolating and measuring feelings of time pressure against an increase in working hours and the pace of work was difficult, if not impossible, using conventional accounts of time.

In the example of the CSOs at Innertown, the majority of their connecting, configuring and synchronising took place within the workplace, meaning that most of these were included in the overall tally of work time, thus working hours was not the main issue, pointing instead to the issue of intensification. Whether and how this work was connected to intensification though was difficult to determine. The difficulty of measuring the speeding up of work relates back to what work is officially recognised, as well as what aspects of work CSOs themselves considered to be ‘real work’. As far as their official office setup was concerned, it was the number of enquiries turned over in a day that counted as work, recorded in one of the main information request systems. Within this account, bodily techniques, routines and configurations were not included and were reduced to the status of routine ‘housekeeping’ work, taking time from work that did count. Yet, paradoxically, it
was exactly this ‘housekeeping’ that provided the background conditions necessary for work to be officially recorded and measured at all. Indeed, by simplifying regular support actions into resources, these strategies enabled CSOs to ‘save’ time, clearing a time (and space) for work that could be counted. In this sense, it was impossible to determine whether these efforts contributed to a need to work faster or whether these were a *speed effect* that accelerated the performance of measurable work. ‘Forgetting’ or the withdrawal of bodily techniques, routines and configurations from active memory, reinforced the invisibility of this support work, further adding to the difficulty of measuring the link between intensification and time pressure.

Measuring time pressure against the lengthening of working hours presented similar difficulties at *Worldcom*. For staff in the MOVE trial, it would be tempting to conclude this was a straightforward matter of lengthening the workday through the extension of work into non-work time. Indeed, a similar argument could be made at *Innertown*, where temporalities of work generated in practice exceeded those of the official office setup. Quantitative studies examining the impact of new technology that adopt these standard indicators such as in the Sensis® survey (2008)\(^\text{28}\) cited in Chapter 1, provide further support for this conclusion and the argument that mobile and wireless ICT lead to the colonisation of non-work time by work, causing ‘collisions’ (Towers, Duxbury et al. 2005; Townsend and Batchelor 2005). As previously noted, some studies go so far as to re-name technology to make such tendencies explicit, as in the descriptor ‘*Work Extending Technologies*’ (WET). The opposite position holds that individual devices like PDAs, Blackberries and other smart phones, *increase* control over the boundary between work and life, and allow individual employees to make personal choices about when and how time is used for work (Golden and Geisler 2007).

Both arguments, however, discount the shift towards the integration of personal and work-related activities into a single block of ‘spacetime’—and how a sense of control over time relies on the workability of the heterogeneous sociomaterial

---

\(^{28}\) This survey reported that 62 per cent of Australians with a mobile email or BlackBerry® device never turn off their mobile email and 50 per cent reported almost always responding to work-related emails outside of office hours (Sensis® 2008).
assemblages within which these devices are embedded including the work discourses that inform them. On the one hand, a shift in the organisation of space and time towards a more mobile and flexible model does extend the total amount of time that can potentially be called ‘work time’. When this is part of the official discourse of work, as in the case at Worldcom, this means that ‘work time’ officially extended to all time, even in some cases sleep and was accompanied by an increased expectation of contactability. This required much more effort in making the office workable including ‘boundary work’ to resolve conflicts that stemmed from the juxtaposition of different senses and uses of time. At the same time, the integration of life activities in combination with enhanced mobility enabled Worldcom staff to respond to demands in their own time (or at least at a time more of their choosing) and to conduct responses across multiple locations in ‘flexible compartments of time’ (Green 2002). In this way staff were able to ‘save’ time for both personal and work activities. Because of this integration of work with their personal life, there was therefore little way of knowing whether and to what extent time associated with making their office workable resulted in either a personal or institutional ‘loss’ or ‘gain’.

This highlights the complex relationship between technology, space and time, showing that time pressure is not a straightforward product of increased formal working hours, the intensification of work by technology or the ‘collison’ of work and life. It demonstrates that though these are important, working hours and speed are intimately bound up in larger questions about time and work and how these are recognised and accounted for. Even when time is measured based on units of hours, separating out what is work from what is support work and therefore not ‘real work’ has been shown to be a highly problematic exercise. Star and Strauss (1999) sum up this problem by explaining that ‘the systematic exclusion of certain forms of work mean a displacement of that work and a distortion of the representations of that work’ (20). In the case of the trial of MOVE, this was further complicated by changes in the organisation of time and space so that contact and movement associated with all life activities became intertwined.

Nevertheless, both cases highlighted in different ways the importance of taking into account our investment in platforms for work in assessing and explaining time
pressure. For not only do these demand the ongoing mobilisation of effort, time and space; our lives are thoroughly tied up in these ‘infrastructures’, enabling us to secure a place or ordering in the form of an ‘invisible home’. The exclusion of this effort, space and time that goes into the office platform contributes to the experience of time pressure, resulting in a ‘time squeeze’. This ‘squeeze’, originally proposed by Schor (1993) to describe the pressure between working longer hours to keep up with the demands and expectations of consumption, is these days used more generally to refer to the tensions arising from the interaction of work and life. Through Officing, the term ‘time squeeze’ can be extended to the tension between work, time and space invested in infrastructures and the exclusion of this work, time and space from an account of their use (or rather, their production). Our own feelings about time, of feeling ‘pressured’ alludes to a similar exclusion in our bodies, recalling the internalisation of the discourse of efficiency and productivity that structures how time is perceived and valued, even when alternate discourses like mobility and flexibility are in play.

Taking into account the ongoing work involved in supporting ‘infrastructures’ helps to explain different experiences of time pressure. In the case of Innertown, these variations were evident among CSOs as well as other council staff who saw themselves as having a lower level of technological skill, and more mature staff (35 years and older). These staff felt most acutely a need to put additional effort into the workability of their office to ‘save’ time. This was in large part motivated by a desire to develop their technological skills to keep up with the demands of speed at work, to maintain their employability and to maintain a general state of ‘technological readiness’. Variations in the experience of time being squeezed was also tied up in the extent to which these efforts were officially recognised. So, for example, at Innertown, certain types of configuring such as decoration and display were not considered a productive use of time, while customisation (especially of software programs) was treated as economically and organisationally beneficial, more likely to lead to remuneration and promotion as well as enhanced social status (as in the example of Mike). This distinction could arguably be seen to be one of the main contributors to a heightened sense of time pressure amongst female employees and a greater sense of anxiety and concern to develop their ‘technological readiness’, drawing on resources outside of work.
At Worldcom, time pressure amongst staff in the trial stood out starkly in comparison to the majority of staff at Innertown. In the former case, the dislocation of work and the centralisation of work resources onto a single device made it virtually impossible for staff in the trial to reproduce the organisational conditions that had previously enabled staff to ‘save’ time. Lack of recognition of their efforts to achieve these conditions fuelled the sense of a squeeze on their time even though their mobile office platform facilitated a more effective use of time in a single block. That MOVE was considered first and foremost a work platform compounded this squeeze, since when conflicts between work or non-work activities did arise, there was an expectation that work would be prioritised. Staff responded with numerous, in some cases quite paradoxical strategies, to make up for this sense of loss and pressure on their time. Reducing this time ‘cost’ helped staff to restore their sense of self as efficient professional workers, and a sense of control over time in other aspects of their lives.

The issue of time pressure dovetails into claims about the productivity of new mobile and wireless technologies. Taking into account these complexities makes it impossible to assess productivity using conventional measures. Moreover, these technologies cannot be treated independently of their contexts of use, including the larger material assemblages or equipment domains and the new spatialities and temporalities that emerge in use. As Wajcman (2008) has argued, and my studies confirm, new mobile and wireless ICT like MOVE, both ‘save’ and ‘consume’ time (73). In this way, basing productivity claims on pre-existing spatial and temporal standards is inherently flawed since new conventions for managing and even sensing space and time emerge in the process of incorporating technologies into the space and time of work. This presents a more confusing picture of the interaction between work and life than suggested by the ‘collision’ thesis, since with the shift towards a more integrated approach to the management of time, it is no longer feasible to isolate time parcels that belong clearly to either one of these categories.

However, one conclusion can be put forward using a conventional measure of productivity based on the amount of work performed on a standard day per week. The Worldcom case strongly indicates that contrary to an assumed increase in
productivity, mobility is achieved at the expense of productivity. This is because making the mobile office platform workable—getting ‘instant office’ platforms up and running, keeping these working in multiple changing environments, meeting new expectations of speed and connectivity, simulating the presence of the office and performing the mobile professional—took up considerable amounts of time, resulting in an overall productivity loss. In spite of the adaptability and flexibility displayed by staff, staff tended to overwork to counteract this loss. This represented a major shift in the burden of effort in the production of office forms away from the organisation and towards the individual. It also represented a new level of what Barley and Kunda (1992) have described as ‘identity work’, to explain how organisations, especially those modelled on post-bureaucratic forms, are increasingly engaging the insides of workers in the management of the employment relationship.

With all of these issues playing out in daily work resulting in powerful feelings of time pressure, this did raise the questions: why were these distinctions not more overtly challenged by Innertown staff, and at Worldcom why was the shift to the dislocated office not strongly resisted, or at least the assumed benefits more openly questioned? Was the sense of agency, prestige and control over space and time so great when workability was achieved that this outweighed the disadvantages? Firstly, in the case of Worldcom, it would be foolhardy to ignore loyalty to the company and product it was developing as a factor in staff’s self-presentation. Staff partaking in the trial had a long history at the company, two of them having spent the large part of their careers there. Certainly, it was the case that staff were more prepared to express their ambivalence about the benefits of MOVE as the research progressed and their trust had been gained. Loyalty to the company was therefore one reason why staff in the trial were prepared to embrace their mobilised office setup.

Another explanation lies in the personal investment that staff in both workplaces had in achieving workability as a way to meet the wider expectations and demands in their lives. These practices were increasingly necessary to maintain the stability not only of their office platform but other infrastructures they relied on as well as to resolve conflicts arising from their limitations. It was also how staff managed the perceived need to be technologically ‘up-to-date’ and ‘ready’, which on one level enabled staff to participate in narratives of progress (Lally 2002), and on another
level was a pre-condition for social participation. These feelings were further magnified in the context of the *speeded up* expectations of work, space and time resulting from the prevalence of the ‘collapsed future tense’ within technological discourse, and global narratives like *time-space compression* and the *end of geography*. When this acceleration extended to the assumptions built into the features of technologies and systems, such as the ‘always-on’ connectivity, automatic synchronisation and mobility built into MOVE, this produced in staff a compulsion to be connected, configured and synchronised all the time. At *Worldcom*, this impulse was amplified further by the co-existence of global and local production times and the role of the MOVE trial as a showcase for the ‘Anywhere, Anytime’ vision of the office.

This leads to the final explanation for why staff embraced this vision and belief in its benefits, particularly at *Worldcom*. For staff in the trial, the workability and success of MOVE fed into processes of identity formation. At *Innertown*, demonstrating ‘skill’ and competence in using technologies of work was important for their sense of professional self, forming the basis for identification with their ‘office’. Moreover, efforts towards workability were grist for the mill in the performance of gender, either reinforcing or challenging gender norms based on categories imposed on them (as in the example of Mary feminising her ICT through *decoration* and *display* to make a space for the role of a female technician). All of these agents were in play at *Worldcom* but staff in the trial had an additional personal investment in making their mobile office workable. Here, their identities had become an objective in itself of the overall development and promotion of the company’s products and services. In this context, it was not just a question of using MOVE to make their work practice more adaptable and flexible. These were qualities that staff were expected to possess and present to others.

This investment was further magnified in the context of visions of the office of the future, since the desire to retain and strengthen the distinction between ‘new’ and ‘old’ forms of the office was interwoven in the creation of a new division of white-collar labour in and through the establishment of the identity of the ‘elite’ mobile, knowledge professional. Thus, regardless of whether the mobile office did or did not represent a significant break from the past, what was important for staff in the
MOVE trial was that it was seen and experienced as new and that it was firmly linked to qualities of flexibility and adaptability. The same could be said about the issue of efficiency and productivity. These continued to be important goals for staff in the MOVE trial, perhaps more so even than staff at Innertown. Being efficient was tied up in their desire to make the mobile office workable and to demonstrate to others that they were indeed being productive with their ‘new’ mobile and wireless technology and accompanying privileges of use.

**Conclusion**

Despite the complexities raised by this account, these findings do contribute to an explanation of the widespread perception, especially amongst white-collar workers, of not having enough time, providing a different angle on this persistent topic and condition. Thus, in assessing and explaining a sense of time loss and pressure, it is crucial that we take into account our investment in material infrastructures since not only is our time thoroughly tied up in these, enabling us to secure a place or ordering in the form of an ‘invisible home’, but also these infrastructures demand ongoing support in the form of effort, time and space. These findings also provide an explanation of the emergence of the dislocated office in technological discourse, in organisational setups and in practice, drawing on the double sense of dislocation: as a shift from a centralised to decentralised office form, and to the co-production of the conditions that make this form necessary, which at the same time denies the conditions that makes this form possible in the first place.

Arriving at this point invites us to contemplate once more the denial of embodied interactions in the production of forms. As discussed in Chapter 2 and 3, this denial intersects with and to a large extent continues a long history of the disavowal of the body in technological discourse. This is evident in the history of the office, as the execution of authority and agency was gradually rationalised to become a ‘duty’ or ‘service’ performed on behalf of a sovereign, and then later, the state. This was reinforced and extended through the technological framing of the office initiated in Scientific Management. The discourse of cyberspace, with its now well documented and critiqued ‘disembodying proclivities’ (Stone 1994; Richardson and Harper 1996), may not be as prevalent today. Nevertheless, the current discourse of mobility
and flexibility is tangled up in a similar denial, effacing the ongoing embodied negotiations of the shape and meaning of our material world, and a major shift in the burden of effort in the production of office forms from the organisation to the individual, the public sphere and market.

Predictions of the instantaneity of time and the irrelevance of space in global narratives of time-space compression and the end of geography further amplify feelings of being short of and not in full control of time, stimulating the perceived need to work faster, longer and harder than ever before. These predications have implications for the interaction of ‘work’ and ‘life’ too, since any distinction between these categories pre-supposes the capacity to place and maintain spatial and temporal boundaries over time, a capacity formerly distributed between individual, cultural and organisational stabilisation strategies. With the elimination of these latter forms of boundary control, there is a corresponding increase in ‘boundary work’ by individuals, expressed in the daily bridging and containing activities and repair work performed. In combination with the lack of recognition of this work, and an existing sense of time shortage, there is a sense of a squeeze on the time allocated to activities not deemed work (either because these are ‘personal’ or because they are not considered productive).

In exposing the office as a process I have argued that recognition is important and feeds into the ongoing production of forms. At the same time, technological discourse does not determine the outcome of this production alone. Lack of recognition is not black or white, and doesn’t oscillate between a total and zero sum of power as Bennett (1998) suggested. Recognition is better understood as a politics of visibility played out at multiple scales and negotiated in practice. Individuals are complicit in this politics of visibility, since the micro efforts in making the office workable are not essentially different to other strategies taking place at grander scales. They too are directed towards the ongoing production of a stabilised form for the very reason that they generate possibilities of agency, membership and formation of identities.

What is at stake, therefore, is not just how we better measure time and space used for work but how we might recognise work differently, that is, how we might identify
and value what is currently not considered to be productive as productive work. This is the crux of the matter of time, and one that feminists identified in exposing unpaid domestic work, calling for a re-evaluation of how work is socially as well as economically defined. For, even as individual technologies can be utilised to ‘save’ time and to overcome space, and even as access to resources of time and space can have similar time saving effects, the lack of recognition of these daily interactions with the material world continues to structure the perception and use of time and space. All of these issues point to the need for new methods for accounting for this work, time and space as well as recognising that people have different levels of access to resources to mobilise towards their office.

For the very reason that work is subject to a politics of visibility that is culturally and organisationally specific, the issue of accounting and recognising the ongoing work invested in the production of forms requires a plural, multi-dimensional and adjustable response. In this thesis I contribute to this response by developing a new conceptual and methodological approach to identify and describe the efforts, space and time consumed in the daily use of ICT in support of the work process. By focusing on arrays of information and communication technology in use, rather than on singular relations, this account also enables the complex relations of space, time and technology to be foregrounded. In this way, Officing has offered an alternative explanation for the experience of time shortage and a sense of pressure and for showing how the office itself becomes a recognisable form through its transformation into a collective ‘body’ of corporeal knowledge.

There are practical applications of Officing that have not been fully investigated here, but which could be part of this response. In Chapter 1, I mentioned how I gained a sense of its potential for practical use when I was asked to present my findings to one of the organisations that participated in the research. In turning to the conclusion I draw on this experience and the previous efforts of practice-based researchers of technologies and systems for work to propose Officing as a tool that could complement a design-oriented approach but with a focus on organisational processes. I suggest that as a methodology, Officing could be incorporated into formal methods for developing IT systems, for assessing longer-term organisational strategies, for enhancing participatory approaches in the workplace and for developing more
sustainable work practices, technologies and systems. I refer to some of the risks that might be associated with recognising the office as a series of processes and the need to be aware that all processes of representation are political. I conclude by reiterating that despite these risks, there are many benefits in revealing the effort, time and space involved in the production of office as a platform for work.
Conclusion Remembering Officing and future research

Over the last three decades, models of decentralised work have appeared in visions such as Homeworking, Teleworking, Telecommuting, Flexible Working and the Virtual office. Many of these visions have influenced the organisation of technology, space and time for work and, in varying degrees, have entered into daily work practice. In this sense, attempts to institute a shift from a centralised to a decentralised model of office work are not ‘new’ but very few of these have been sustained over time. A number of dynamics are currently converging to lend support to the emergence of mobile and flexible forms of the office based on visions of the Anywhere, Anytime office and Alternative Officing. The narratives of time-space compression and the end of geography play a significant part in these dynamics. Their central claims that place and time no longer matter, the increasing speed of information and communication, the rise of post-bureaucratic organisations, the complexity of technology and the need for better work–life balance all help to establish a discourse of mobility and flexibility, which underpins the ‘need’ for new mobile and flexible office forms. Thus, although these narratives reflect a pervasive technological determinism, they should not be discounted outright. By supporting and shaping shared systems of discourse and meaning and providing a rationale for change, they act as a resource for western cultures, a means for, in Crang and Thrift (2000) words,

actively producing a new sense of space which, in certain sense, are
the tropes of modernity powered up, renewing their cultural grip and
changing our spatial sensibility in the process. (18)

In this view, visions of the office of the future and global narratives they draw on are not simply fictions, exaggerations or part truths, but a media for articulating and constructing a cultural experience, sensibility or lifestyle. This is the meaning of ‘myth’ I have taken up to highlight the productive role of these visions and to capture the double sense of the dislocated office. Thus, while visions of the Anywhere, Anytime office and Alternative Officing create a discursive space for mobile and flexible forms to emerge, they simultaneously produce the conditions that make these
forms necessary while denying the conditions that support and sustain these forms over time.

**Ratchetting the dislocated office**

Writing about conventions of comfort and cleanliness, Shove (2003) offers the ‘ratchet’ (a wheel that rotates in one direction along a serrated edge) as a metaphor of path-dependency, to give a sense of how practices and technologies become locked-in to a trajectory of development. Connected to the ratchet is the construction of social standards or conventions of normality which reinforce the direction of change making it increasingly difficult to set in place, or even imagine, an alternative path (399-400). The myth of the office of the future can be understood as a ratchetting mechanism in this sense suggested by Shove. As symbols and media for creating new office forms, visions of the office of the future inform the design and representation of new mobile and wireless ICT, office buildings, workplace experiments and, in the case of *Worldcom*, the development and trial of a smart phone. However, these visions are also a powerful means through which the office industry and a range of other interests advance certain ideals in relation to work and lock these into material configurations that appear to be immutable.

Organisations can be seen to operate as ratchetting mechanisms in their own right and, while they are in some senses responding to conditions of mobility and flexibility, organisations are also a means for participating in their production. Many professional service and global technology companies such as *Worldcom* are being modelled along the lines of post-bureaucratic organisational forms. As well as instituting a mode of production based on the flexibilisation of labour, this involves reconfiguring the office setups of employees. At *Worldcom*, the smart phone, MOVE, was an important element of this reconfiguration. Not only did it help to institute an assumption of regular travel and continual virtual presence amongst staff to support a globally networked organisation on a 24/7 production schedule, it also facilitated the development of a new commercial product. New norms or standards of work and even the identities of workers were enrolled into this reconfiguration, such that, at *Worldcom*, the professional identities of staff in the trial were thoroughly tied up in the development and showcasing of this new smart phone. In this way, the
management of identity within management discourse goes hand in hand with organisational strategies for instituting post-bureaucratic organisational forms founded on a discourse of mobility and flexibility.

The basis for an extensive support apparatus for the dislocated office, however, does not come from visions of the office of the future or from organisational strategies alone. It is through making the office workable and the resulting webs of interdependencies including new places, rhythms, techniques, a spatiotemporal sense and identification with the office that the dislocated office emerges and is sustained over time. Thus even once we acknowledge the ambivalence of new forms of work and the identities being formed in and through them, there is a strong investment in making these workable. Indeed, this collusion by individual employees is necessary since not only is this necessary to get work done but just as importantly, this is how employees ‘keep up’ with new standards of what is normal. Jan from Worldcom captures this in his comment:

People expect quicker responses, they expect that because technology allows you to do things quicker, which is not always true, but that’s what their expectation is. They expect you to be more flexible, and more responsive.

At this point it is not only difficult to alter the trajectory of change but even to imagine an alternative since these forms become the basis for new social standards and, perhaps even more crucially, the basis for identification. At the same time, the ongoing rationalisation of work through its technological framing results in a denial of the conditions that support, normalise and sustain the dislocated office over time.

**Officing: its significance for the study of work and technology**

Remembering Officing is the active recovery and analysis of the effort, time and space in the production of stable forms of the office. This account has been developed to identify and describe the complex interactions of space, time and technology as material and discursive processes. In applying this account, I have concentrated on individual efforts towards workability, to explore their significance for a sense of space, time and self. The process of making the office workable has
been presented as sitting alongside and intersecting with other processes such as *envisaging the office of the future* and *setting up the office*. Although these processes are not restricted to a particular period, *Officing* has been specifically applied in the context of the appearance of visions of the Anywhere, Anytime office and Alternative Officing to identify those conditions that support the emergence of the *dislocated office* but which are not taken into account. With the ratchetting effects described above, the increasing polarisation of work in a so-called knowledge economy and the sense of time pressure and overwork amongst many workers, the project of remembering *Officing* becomes more important than ever.

In addition to being a timely critical response to current commercial technological and architectural trends, *Officing* is a valuable addition to sociological and cultural approaches to work and technology. Understanding these material and discursive processes that feed into the formation of the space and time of work provides a more substantial contribution to the analysis of relations of power than a labour process or class-based analyses alone. With its focus on the ongoing, contingent and productive aspects of space and time conceived in terms of multiple stabilisation strategies, the account of *Officing* opens up a whole range of new areas to be investigated. A future study, for example, might investigate how stabilisation strategies define relations between different organisational interests, including IT officers, equipment acquisition, management and workers. Another approach might be to apply *Officing* with more of a focus on gender relations. For, even though *Officing* is informed by a feminist understanding of work as constructed through the exclusion of some forms of labour as non-productive (that is, not productive but merely reproductive), this account is also relevant for understanding how gender is performed and constituted at work. We saw this in several case study examples, but a future study might concentrate on how gendered divisions of labour are performed through stabilisation strategies, and how outcomes vary across different material arrangements of work. Remembering work through *Officing* therefore generates a number of new issues to be investigated as well as a range of new conceptual and methodological tools.
Practical Applications of Officing

One of the main issues raised by the account of Officing has been the connection between the support work put into work platforms and the experience of time pressure and overwork amongst white-collar workers. The account of Officing could potentially form part of a response to these issues by providing practical methods within organisations for accounting for the work, time and space that goes into making the office workable. In the context of a shift towards mobile and flexible office forms and integrated practices, this account can potentially provide a more relevant and accurate way to conceptualise the space and time of work for the purposes of organisational planning, taking into account a range of places and times ‘outside’ the official workplace. The potential for this approach was confirmed during the research process when I was asked to present my findings to Innertown. My initial presentation to the IT manager was followed up by two additional requests for presentations, once to staff of IT Services and again to all the departmental heads.

In these presentations I drew on a number of concepts from Officing, though in a very early form and, in turn, the presentations informed the development of these concepts as they appear in Chapter 3. Each presentation concentrated on common issues and problems that staff faced in going about their daily work, the practices and innovations that individual employees came up with and the extent to which these pointed to systemic issues. Both group presentations generated lively discussion and the staff attending confirmed the importance of the findings. Many remarked on how the issues identified by participating staff echoed their own experiences and the sense these issues weren’t being captured in existing organisational processes. This was reiterated by the IT manager who subsequently told me that my research had identified several areas missed from the strategic analysis and report recently undertaken by their section that he intended to follow up.

From this perspective, Officing, with its focus on personal and in-depth accounts of individuals’ experiences and especially, on arrays of information and communication technologies, has the potential to complement existing methods used to inform system development within organisations, offering a more user-centred approach to gathering information about the system than accounts collected by and imparted by
technical staff alone. Technology diaries such as those used in this study (samples of which are included in the Appendices) could play an important part in this approach, since diaries provide a way to record and highlight experiences and issues usually conveyed through informal channels such as workplace chats, in passing, over lunch or even through email jokes and pranks. In addition, by informing the approach to system development, *Officing* could provide the basis for addressing the unaccounted for efforts and use of resources in a more sustained and comprehensive fashion. Based on this account, individual work practices are situated within and in relation to a larger assemblage of objects and context of use, enabling a broader and more inclusive definition of the ‘IT system’. Thus, rather than dismiss individual practices and experiences as personally eclectic, frivolous, irrelevant or even an abuse of existing use policies, assessing these practices in terms of how they *enhance workability* becomes a way to initiate formal recognition of their organisational value.

This recognition could take a variety of forms. For example, we know from the case studies of *Innertown* and *Worldcom* that time to experiment and play is crucial for staff to prepare and plan ahead and to create innovations in the form of techniques, routines and configurations that ‘save’ time. Formal mechanisms for enabling time to ‘play’ and ‘experiment’ might therefore be a way to support staff to be more productive at work as well as providing a concrete and more substantial basis for facilitating an innovative and creative organisational culture. Recognition may additionally, take the form of space, for example, to facilitate opportunities and methods to configure. This might include, for example, providing surfaces for collective information resources, opening up access to built-in configuration options in technologies and systems and purchasing furniture that can be flexibly re-arranged to create places for adhoc collaboration and training. Another form of recognition might be providing opportunities for participating in system-wide projects. For example, we saw at *Innertown* that some individuals were recruited to work on software implementations and this led to opportunities for promotion, development of new skills and transfers to other sections. These forms of recognition have some parallels with Nardi and O’Day’s (1999) idea of ‘cultivating gardeners’ to mean the formal development and support of people within work settings who can play
‘diverse roles around technological tools—to cooperate to get the “full potential” of the tools’ (140).

In their case study of the implementation of the software program CAD into a workplace, Nardi and O’Day identified the presence of individuals who take on extra responsibility for getting the software to work within local settings. These workers were more technically expert than the average user, good communicators and with a desire to help others. They suggest that organisations have much to gain by adopting ‘gardening’ as a formally recognised, part-time activity (148). Rather than giving these opportunities only to staff who perform certain kinds of configuration such as customisation of software and who are seen to have technical expertise, however; this could extend to staff who have a special set of social and interpersonal skills, who facilitate communication and who contribute to a more comfortable work environment. The photo below of the in-house art piece by an Australian artist and corporate bank employee29 is one example of a configuration that might be included in an expanded definition of ‘gardening’ to cover creative modifications as well as more instrumental endeavours.

Figure 27 Untitled (2005), ‘Coat hangers on a blank wall’, by Peter Fyfe

Extract from ‘The True Story of an Artistic Statement’: In 2005 I was contracted as a technical writer and business analyst to work on a large IT project for a major corporation based in Sydney. Not long after I started, my team was moved to some particularly squalid accommodations, featuring ancient desks and barren hospital green walls...Noticing a hook on the wall behind me, and desperate to inject a little levity into the bleak situation, I hung four of the coat hangers on the wall and deemed it ‘art’, assuring my colleagues our new situation was part of an ‘installation’. The joke broke the mood and we got on with settling in and making the most of our new home.

29 Grateful thanks to Peter Fyfe for his contribution to my research project in the form of permission to reproduce his art and his stories of working in one of Sydney’s major corporate headquarters. The full artist statement and story of the art is available on request.
Recognition might combine any or all of these forms mentioned so far and this is particularly important when it comes to sustaining decentralised forms of work. Thus, when work is shifted outside of the workplace or takes place beyond it for other reasons, then recognition may include additional IT support, financial support for equipment, reimbursement of telephone calls and for work outside of ‘social’ work hours (if standard work hours no longer apply). It may include preserving a semi-permanent or permanent workspace at a centralised office for staff to come in to perform certain kinds of concentrated tasks, for meetings and for connecting with others. Or, it may include technologies to support individual efforts at managing their work and life boundaries outside of the workplace, for example, a range of customised and customisable profiles or other kinds of agents for managing not just one’s ‘presence’ but ones absence as well. As the case of Worldcom demonstrated, in jobs where the professional identity of workers is incorporated into their role and office setup, then this also necessitates an extension of their job descriptions to include this ‘identity work’ in some form, otherwise it too, will remain an unaccounted for addition to their work.

While these are all ways that practices towards workability can be officially recognised, one of the advantages of Officing is that processes are treated as logically interlinked. Thus, accounting for the effort, space and time involved in making the office workable might also take the form of taking action on the office setup in order to reduce the effort, space and time required to achieve workability. This approach is implicit in some of the suggestions mentioned above but there are additional ways that the office setup can be modified to make existing and emerging practices more workable. One example came up in the presentation to the IT Services staff at Innertown. It was a common practice amongst Innertown staff to use portable storage devices (USBs) to transport work between the workplace and other sites, usually the home, in order to work in other places and times. This practice was not permitted and was seen as a security risk by IT Services, a way to introduce viruses into the IT system and compromise the confidentiality of council’s information, yet staff continued to find ways to do this. The position of the officer in charge of security was to block access to the USB ports completely and introduce penalties for breaching IT policy. Others in the group took a slightly modified view and could see the benefits of allowing employees to take work home if they had an imminent
deadline or had to suddenly interrupt work to care for sick children. Rather than take a stand that treats all use as an equal potential threat or risk, a more flexible and nuanced approach to security that maintained some openness and trust to systems would have organisational benefits that far outweigh a closed design. This approach may involve distributing virus software for personal use to overcome the issue of viruses, extending formal remote access to more employees and communicating the importance of confidentiality to staff. While this might come with a ‘cost’, it may also result in a significant reduction in the time and effort of staff working around the impossible ideal of a ‘bulletproof’ system just to get their work done.

**Sustainable Officing: a future agenda for research**

These are some initial ideas for extending *Officing* into an organisational context to create a more participatory and inclusive approach to system development and account more accurately for the resource requirements of work. In putting these forward, however, it is important to consider that there are circumstances where it is not favourable to remember *Officing*. This is an issue grappled by a number of researchers addressing questions of invisible work. In the field of CSCW researchers have shown that it is not always beneficial to ‘disembed’ invisible work to capture it for the purposes of design. For example, Star and Strauss (1999) point out that one of the key issues at stake in doing this is how to balance making work visible with maintaining discretion and not increasing surveillance over work. In many situations, such as in the case of nursing, this discretion may be directly associated with not having work completely prescribed and ‘visible’:

> Nurses struggle to be visible, but simultaneously to hold areas of ambiguity and of discretion. It is one thing to note that one has given counselling to a dying patient; quite another to specify the words one would say to that patient. (21)

This issue is just as relevant today as it ever was and one that applies to all kinds of work including so-called knowledge work. Indeed, I came across a recent example since conducting this research. In the process of researching the provision and management of information services in another organisation, it was discovered that one staff member had been providing an email bulletin service on behalf of the
organisation to the local community in an informal capacity for many years, created in and delivered from her work email account. One manager voiced concern that these email bulletins were not being recorded and stored centrally, making it difficult to assess the long term value of this service, ensure its continuity and determine how it might be of use to other sections of the organisation. The staff member who managed the email newsletter was equally nervous about the consequences of formalising what she considered a highly personalised service. What is important to note from this example is that in the process of making work visible, there is firstly, potential for the work practice as well as the product to change, since these are both intimately bound up in their status as visible or invisible or formal or informal, and secondly, changing the status of visibility is a political act of representation that has consequences not just for the work and its product but also for workers.

Nevertheless, appreciation of this dilemma does not mean turning away from making work visible but rather, as Suchman (1995) has suggested, calls for a ‘reflexive engagement’ such that,

> representations of work are taken not as proxies for some independently existent organizational process but as part of the fabric of meanings within and out of which all working practices—our own and others’—are made. (58)

If used reflexively, ethically, with staff involvement, and with the underlying premise that the meaning and value of work is open to negotiation (rather than being pre-determined according to certain interests), Officing does not have to detract from employees’ control over their work process. Rather, Officing could be used as a tool for enhancing participatory approaches at work in much the same way as participatory design approaches. In the context of the emergence of the dislocated office and an associated shift in the burden of effort in making and sustaining work platforms, this project becomes all the more important. Perhaps, it is within a broad framework of sustainability that incorporates social, material and environmental goals, that this project may find a home. To improve outcomes for work and life interaction, Pocock (2006) has argued for including forms of public, private and market sustenance into the definition of sustainability—as the social ‘fabric’ that sustains our working lives (33). Officing provides one way to extend this ‘fabric’ to
the material dimension of work shown here to be the ongoing intersecting material and discursive processes that are necessary to sustain forms and identities. These processes go to the heart of what is represented as work and to what is recognised as the space and time required for work in the context of a shift to a so-called knowledge economy. Thus, by developing methods for challenging the status of work not considered productive, for accounting more accurately for the resource-intensiveness of this work and reducing its social and environmental consequences, Officing may be able to contribute to the development of more sustainable material cultures.
### Appendix I  
**Demographic Chart**

*Table 2 Chart of demographics, participants’ work ICT arrangements and technology experience*

<table>
<thead>
<tr>
<th>Name (Pseudonym)</th>
<th>Position and time in organisation</th>
<th>Age</th>
<th>Main ICT arrangements for work</th>
<th>Experience with ICT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innertown</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norman</td>
<td>Social Support Program Officer</td>
<td>36-45</td>
<td>Works regularly at clients’ premises to collect data, uses pen and paper when away from desk. Desktop computer and workstation in community outreach centre is main office setup. Works at home and on weekends sometimes.</td>
<td>Considered himself a basic user of computers. First experience with computers was with word processor. Desktop computer now his main tool.</td>
</tr>
<tr>
<td>Xack</td>
<td>GIS Analyst 1 year</td>
<td>18-35</td>
<td>Desktop computer and workstation in main administrative centre is primary setup. Prepares handheld computers for development assessors to take out into the field. Occasional use of personal mobile phone at work.</td>
<td>Studied engineering at university where he was exposed to computers. Also exposed to computers in various workplaces.</td>
</tr>
<tr>
<td>Therese</td>
<td>Citizens’ Service Officer 7 months</td>
<td>46-40</td>
<td>Rotates between front service counter and call centre. Combination of standing or sitting on high stool at counter and sitting in small cubic style workstation in call centre. Uses personal mobile phone to speak to friends during the day.</td>
<td>Exposed to computers in the early nineties, used mainly as a word processor.</td>
</tr>
<tr>
<td>David</td>
<td>Environmental Officer 2 months</td>
<td>18-35</td>
<td>Regularly visits sites in municipality. Records information with pen and paper. Main setup is desktop computer and workstation in main administrative centre. Has two mobile phones (one for work) but only uses personal one for convenience.</td>
<td>Exposed in high school and in previous jobs. Been working with computers for about 12 years.</td>
</tr>
<tr>
<td>Rose</td>
<td>Communication and Cultural Services Officer 4 years</td>
<td>36-45</td>
<td>Main location and setup is desktop computer and workstation in town outreach centre. Occasionally visits clients’ premises, uses pen and paper when away from desk. Uses Instant Messenger to get technical assistance from partner. Personal mobile phone for coordinating care of kids with partner.</td>
<td>Used computers in previous work in travel industry. Describes herself as an average user of technology. Also had a computer at home during Uni, used for Internet access.</td>
</tr>
<tr>
<td>Name</td>
<td>Position</td>
<td>Age Range</td>
<td>Setup/Location</td>
<td>Experience/Technology</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------------------------------------------</td>
<td>-----------</td>
<td>---------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Beatrice</td>
<td>Cultural Development Coordinator</td>
<td>36-45</td>
<td>Main setup is desktop computer and workstation in administrative centre. Visits galleries and cultural sites 2-3 times a week. Regularly works from home and on weekends. Bring personal mobile phone to work and is thinking of buying a Blackberry. Has special duty of running a cultural services mailing list.</td>
<td>Describes herself as not a technophobe. Exposed in previous council workplaces. First experience was with a dedicated typewriter/word processor.</td>
</tr>
<tr>
<td>Ernie</td>
<td>Citizens’ Service Officer (Currently seconded for software project)</td>
<td>36-45</td>
<td>Main location and setup is desktop computer and workstation in main administrative centre. Working with IT on roll out of new system-wide software program for staff. Uses USB to take work home.</td>
<td>Long history using computer technology in workplaces. Describes himself as confident user who learns by osmosis.</td>
</tr>
<tr>
<td>Danielle</td>
<td>Citizens’ Service Officer</td>
<td>18-35</td>
<td>Rotates between front service counter and call centre with standard set up for Citizens’ Service Officers. Uses access to Internet in spare moments to run her web retail business. Provides regular support and technical assistance to her colleagues.</td>
<td>Exposed to computers at University. Identifies as a confident user. Her use has been shaped by her experience at Uni and also in previous workplaces.</td>
</tr>
<tr>
<td>Oscar</td>
<td>GIS/LIS Analyst (Supervisor)</td>
<td>18-35</td>
<td>Main setup is desktop computer, desk phone and workstation in main administrative centre located in basement next to IT Services. Sometimes rearranges furniture to provide over the shoulder training and support to other GIS staff and participate in online training seminars.</td>
<td>Experience with GIS systems in a private company before coming to the council. Has been using IT for 10 years.</td>
</tr>
<tr>
<td>Ulga</td>
<td>Team Leader, Building Development Assessments</td>
<td>36-45</td>
<td>Located in admin centre. Main setup is workstation with desktop computer, desk phone. Has enclosed room as own ‘office’. Regularly moves from desk to meetings or visits other staff for supervision. Uses paper-based diary and electronic diary. Mobile phone for personal calls and work calls. Regularly works at home, emails documents to her personal account</td>
<td>Main exposure through working in councils. Worked in local government for 18 years.</td>
</tr>
<tr>
<td>Betty</td>
<td>Human Resources Advisor</td>
<td>36-45</td>
<td>Located in Human Resources section next to Records Office. She has her own enclosed ‘office’. Rarely leaves desk to work elsewhere. Main setup is workstation with networked desktop computer and desk phone.</td>
<td>Previous experience and exposure to technology mainly in the current workplace.</td>
</tr>
<tr>
<td>Name</td>
<td>Position</td>
<td>Age Range</td>
<td>Years</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------</td>
<td>---------------------------------</td>
<td>-----------</td>
<td>-------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Samantha</td>
<td>Waste Services Coordinator</td>
<td>18-35</td>
<td>3.5</td>
<td>Desktop computer and desk phone main setup in admin centre, open corner workspace with workstation. Also uses mobile phone for coordinating with staff at the Depot. Uses Internet occasionally at work for looking up friends phone numbers.</td>
</tr>
<tr>
<td>Mary</td>
<td>Technical and User Support Officer</td>
<td>18-35</td>
<td>7</td>
<td>Located in IT Services in basement. Workstation with desktop computer and large display, deskphone main tool. Moves around workplace visiting other staff to fix problems.</td>
</tr>
<tr>
<td>Mike</td>
<td>Landscape Coordinator</td>
<td>18-35</td>
<td>6</td>
<td>Located in main administrative centre. Main tools are desktop computer with large computer display, desk phone, extra graphic software and has corner of room as ‘office’. Regularly called on to help with system-wide IT projects.</td>
</tr>
<tr>
<td>Worldcom</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lillian</td>
<td>Enterprise Marketing Manager</td>
<td>36-45</td>
<td>2</td>
<td>Regular travel within Australia, New Zealand and South Pacific. Dedicated workstation with desktop computer in central office. Uses laptop and MOVE when travelling and describes locations of work on the move as hotel, car, plane and conference facilities. Has three home ‘offices’ for doing work and running personal business. Prints out key documents before travelling. Uses MOVE for own and work communication.</td>
</tr>
<tr>
<td>Jan</td>
<td>Business Development Manager</td>
<td>36-45</td>
<td>15</td>
<td>Regular travel to customers. Has workstation with desktop computer at central office. When away uses laptop, MOVE and has home ‘fully networked’ for work and personal use. Uses MOVE for personal and work communication and describes locations of work on the move as cab, airline lounge and customer premises.</td>
</tr>
<tr>
<td>Zina</td>
<td>Business Development Manager</td>
<td>36-45</td>
<td>1.5</td>
<td>Regular travel. Describes main locations of mobile work as between appointments, on street, travelling interstate and overseas. Has workstation at central office with desktop computer, desk phone. Uses laptop and MOVE and USBs when travelling. Uses MOVE for personal and work communication.</td>
</tr>
<tr>
<td>Ned</td>
<td>Channel Manager 16 years</td>
<td>Has a workstation with desktop computer in central office. Described main location of use of MOVE outside of central office as car, customer premises. Uses MOVE for personal and work communication. Travels less than other staff in trial.</td>
<td>Was exposed at university 16 years ago. Completed a degree in computer science. His first use of mobile phones was about 14 years ago at Worldcom.</td>
<td></td>
</tr>
</tbody>
</table>
Quick Instructions for Diary Keeping

1. **Daily diary keeping:** Each daily entry involves three main activities. You are asked to:
   - jot down issues and problems with technology as they occur
   - do a summary of your daily technology use
   - record your thoughts and feelings on the suggested or your own themes

2. **Time:** Please spend at least 5-15 minutes a day or more on the diary for two working weeks after the initial meeting between you and the researcher.

3. **To get started each day:** Read through the quick instructions for diary keeping, then open your diary to today (or have it nearby) for jotting down issues as they occur and completing the summary and reflections.

4. **On the last day,** after you have done your daily entry, give your feedback on the diary. The diary will be collected from you during the last meeting.
Theme Guide

Theme 1: My interactions with technology

Write a bit more about something that came up with the technology you used today. The scenarios below can be used to stimulate your thinking. You may select one of these scenarios or choose your own to write about.

• Something happened today with technology that made me feel particularly happy or sad, stressed or relaxed, comfortable or uncomfortable, frightened or angry. What happened? How did I respond? How did my feelings change?

• There is something I do every day with my technology that I couldn’t do today. What is it? Why couldn’t I do it today? How did I respond?

• I always experience the same issue with my technology. What is it? What do I do? How do I feel about it?

• I came up against a rule or policy today relating to our technology that I didn’t think made sense. What was it? How did it make me feel? How did I respond?
Theme 3: Mapping your technology use

Idea 1: Draw a map of how you see yourself and others within your information and technology environment. You may choose your usual work environment or an unusual setting. Please indicate which it is.

You can use any symbols, lines, colours or diagrams you like to illustrate the sense of how you feel and how you perceive others in this environment.

Some ideas include using colours to indicate levels of frequency of use with different technologies or you could mark out where events with technology happen.

Perhaps you could draw what you see as the boundaries between your technology and the shared technology in the work environment.
Day 8 (cont.)

Reflections on themes

- Staff meeting today frustration was expressed in re: to Asset/ Master System and it being tampered with. A lot of info apparently lost. Anger/

frustration expressed in regards to going to a "live" system when the "mock" system still has so many bugs. Effects the property side of Council - asset management issue has to be looked into by Manager with IT section.

Comments were raised that Council bought a "cheap" system that is now causing dramas, i.e. the Kia car instead of the BMW!!!
Bibliography


