Part III
Conclusion

CHAPTER 17

Managing in a virtual world

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Introduction: brave new virtual world?

To bring our book to a close we consider contemporary changes in the organization of work that are seen by many to either herald or follow the advent of a *virtual world*. In doing so we adopt a slightly different style in the presentation of our thoughts on the matter, because consideration of the notion of managing in a virtual world gives us a welcome opportunity to look back and reflect upon our own practices in the production of this text. So this chapter represents an extended attempt to highlight what managing in a virtual world might be like, both by consideration of the production of this book and a look at some other pertinent examples that shed some light on the potential future of work for managers and employees alike. As such, it does not follow the basic structure – questions, questions on a case – adopted in other chapters, instead it represents an extended questioning and answering of a number of cases and propositions about contemporary and future circumstances. It examines the nature of the virtual world, its history and its consequences for accountability. It looks at the present and the future of both office and factory work and concludes with a discussion of the implications for identity of life in a virtual world. We begin, however, with some facts about the present case.

MANAGEMENT AND ORGANIZATION: A CRITICAL TEXT – A VIRTUAL PRODUCT?

This book has had two titles during its production. The three main authors, from two different continents, have, between them, worked in seven different organizations during its production (four in the UK, two in different states in Australia, one in Hungary). Our associates, who contributed much of the specialist content of the text, are currently based in, or have emerged from, at least three different continents and have passed through the doors of innumerable institutions during the production of the text. The name of the imprint has changed once and the identity of the commissioning editor at the publishers, working with us on the text, has changed three times. In short, little or nothing around the text has stayed fixed during its production. Most of the production of the text was electronically mediated. We swapped versions of chapters by attaching them to emails (using a number of different accounts). We frequently commented on each other's contributions using facilities such as MS Review. Many of the case materials and illustrative examples were downloaded from the Web, and the draft versions of the text (and the reviewers' comments on them), along with the final version to be sent to the publisher, were all transmitted using electronic means. At any given time, many different fragments of the text, in many different forms, existed simultaneously in a number of different electronic receptacles and pathways. But now the text is produced as a commodity for sale, it parades its integrity, as a *product*, that belies much of this detail concerning the unstable circumstances of its production. However, as we note in the Preface, this is a product that, along with the supporting web-based materials, can be consumed in myriad different ways. It exhibits considerable *interpretive flexibility* (Pinch and Bijker 1987). As such, both in terms of its production and in its form as a product, this book is avowedly a constituent of a virtual world.

Having concluded our statement of facts with such a claim, before going any further we need to correct a couple of potential misunderstandings to which such a statement can give rise. The first concerns the implicit ascription of *newness* to the virtual world, because there is nothing necessarily new about virtuality. Ever since we have been able to record and disseminate text in symbolic form (see for example Ong 1982; Goody 1986, 1987; McArthur 1986) and trade in other representative tokens, we can be said to have conducted part of our existence in virtuality (see for example Heidegger 1977; Barker 1984; Cooper 1991; Kallinikos 1995). Money is perhaps the most obvious example here, an example that not only indicates the lack of newness of virtuality, but also its incompleteness as a metaphor for understanding the totality of our condition: 'No matter how virtual the subject may become, there is always a body attached' (Stone 1991).

Money … is not the thing itself. Over time we can come to think of money as wealth … but in truth, this is sloppy abstract thinking. It has allowed its focus of attention to wander from the bun to the penny which symbolizes the bun. In effect we've had an information economy ever since we invented money. But we still haven't learnt to digest copper. (Bey 1996: 372)

Neither then is the associated notion of a *virtual community* a new one. A geographical region within which certain coins or notes consistently stand for agreed amounts of value can certainly be seen to constitute the location of a virtual community. And as Stone (1991) notes, the 'community of gentlemen' that was assembled by the scientist Robert Boyle to assist during his debates with the political scientist Thomas Hobbes, in the seventeenth century, can easily be construed as an early example of a 'textual' virtual community. So virtuality is not new, nor is it capable of providing us with a complete account of our existence – we cannot eat virtual food! And while we *do* need to consider what has happened to us and our managing in the face of a *partially* virtual world (more of this later), we should be wary here of the second potential misunderstanding that consideration of matters virtual throws up. That is, the extent of (access to) the virtual world. For if we understand virtuality in more conventional terms, as signalled by the existence of a (computer-mediated) 'information economy' (Porat 1977; see also Castells 1993, 2000a, 2000b, 2000c), then it is a mode of existence experienced by very few. For while even in 1990 over 40 per cent of the populations of the US, the UK, France and West Germany 'were engaged in information processing activities … and the proportion continues to rise over time' (Castells 1993), the same cannot be said for the world as a whole.

Exclusive technology – is the Internet for the elite?

If we take the Internet as our exemplar of virtuality, this becomes clear. As David Trend (2001: 182) points out, 'little more than a decade ago admission to cyberspace required membership of an elite community: the university'. And as he further notes, although a figure of 200 million Internet users, worldwide (a figure available of course, at his time of writing, and one about which we should take considerable care, given the difficulties in accurately stating Internet usage and the variability in the figures offered by different commentators – see Jordan 1999; Bell 2001), sounds impressive, 'it is important to recognize that Internet users represent less than four per cent of the world's 6 billion people' (Trend 2001: 124).

On many levels the vast expansion of information technology has created what the US Commerce Department has termed a 'digital divide.' Reports indicate that households with incomes under $25,000 were 20 times less likely to have Internet access than those with high incomes, and people with little education were 25 per cent less likely to be netizens than college graduates … Consolidation of commercial and residential capital into such technology-rich centers as Boston, Silicon Valley, and Seattle continues, while simultaneously producing growing transient or ghettoized populations in less fortunate regions or in the nations of the developing world that produce the majority of the world's silicon chips. (Trend 2001: 124)

Jordan [1999] writes that in July 1998, the US had 65 per cent of all Internet hosts; Slevin (2000: 40) states that 'almost 99 per cent of all Internet connections were in North America, Western Europe and Japan' by the late 1990s … Striking concentrations and inequalities are also revealed elsewhere: of the 145,000 hosts in sub-Saharan Africa in 1998, more than 96 per cent were in South Africa – take away South Africa, and the stats for sub-Saharan Africa show only one user per 5,000 people. More than three-quarters of the 115,000 hosts in the Middle East and North Africa in 1998 were in Israel. The cost of Internet access in Vietnam in 1999 was one third of the average annual salary. In Indonesia, Internet access costs twelve times more than it does in the US. Moreover, between one third and one half of the world's population lives more than two hours from the nearest public telephone. And so on – the pattern that emerges is of huge disparities globally, all of them exacerbating what Sean Cubbitt (1998: 149) calls, in a telling phrase 'the excommunication of the developing world' (see also Holderness 1998). (Bell 2001: 17; see also various contributions to Bell and Kennedy 2000)

More worrying than these brute figures is the direction of the future development of the Web, delineated by many commentators. For example, Arthur Kroker and Michael Weinstein (1994/2001) suggest that much of the 'virtual class', directing this future, can best be conceived of as 'the post-historical successor to the early bourgeoisie of primitive capitalism', as a class that 'only wants to subordinate digital reality to the will of capitalism' (2001: 153). And, as such, we can expect little in the way of amelioration of extant inequalities to come from the virtual revolution of the information economy. Instead we should expect an exacerbation of these disparities. As the popular book *Netocracy* declaims on its cover: 'Those who can harness global networks of information and master new forms of communication will inherit the power. They are the Netocrats' (Bard and Söderqvist 2002).

Popular technology: Is the Internet for everyone?

The power of the Web is in its universality. Access by everyone regardless of disability is an essential aspect. (Berners-Lee 2003)

But things are not all bad! For, as Kroker and Weinstein also note (1994/2001: 151): 'Dedicated flesh rebels against the virtual class' and acts as 'the Internet equivalent of the Paris Commune: anarchistic, utopian, and in full revolt against the suppression of the general (tele-)human possibilities of the Net in favour of the specific (monetary) interests of the virtual class' (2001: 153). The virtual future is still open. Consider the following case example.

CASE EXAMPLE

MARILLION CHALLENGE THE MUSIC INDUSTRY WITH FAN POWER

In what is believed to be an unprecedented venture which could revolutionize the music industry, Marillion fans have financed the making of the band's 2001 album, *Anoraknophobia*, after an Internet campaign raised over £100,000 – conclusive proof of the power of the Internet for artists and record companies alike.

Marillion, who have been writing and recording for almost 20 years, approached their database of over 30,000 fans via email, as an alternative to taking up the deals they were being offered from established record companies. The response was overwhelmingly positive: within three weeks fans offered to prepay for the album, to the tune of 5 per cent of total worldwide expected sales, providing enough money to cover the costs of making their 12th studio album. In doing so, a record company advance was rendered redundant and the band retained the rights to their new music. This groundbreaking idea enabled the band to return to EMI Records who agreed to license the album for a world-wide marketing and distribution deal. The album was released in spring 2001 through their Liberty label: 12,647 pre-orders were manufactured and fulfilled by Marillion's own Internet mail-order company, Racket Records, and shipped on the week of release. The 8,000 fans pre-ordering albums within an initial limited period of one month were thanked personally in the sleeve notes of the special first edition of the album. Marillion then ceased manufacture and sale of the pre-ordered version upon the album release, after which the album became available only at retail. The scheme led to a number of copycat initiatives from other well-known bands, including Dodgy and The Levellers.

Commenting on the initiative, Lucy Jordache, Marillion's marketing manager, said:

We were being offered deals from various record companies, but what the guys really wanted, was to have total control of their music, yet still be able to utilize the expertise and distribution facilities of a major record label. This could only be achieved if we obtained the capital to record an album from another source, and then took the finished product to a label. This is a real testament to the loyal support of Marillion's fans, old and new. It also demonstrates the power of the Internet and what it has to offer both artists and the record industry as a whole. 95 per cent of the band's market still remains beyond the scope of the pre-order idea, so retailers should see no noticeable loss in potential sales. Indeed, an upturn is expected as Marillion return to their original EMI stable.

EMI Liberty's co-director Peter Duckworth added: 'We were very impressed with this venture which we believe breaks new ground in the industry. We are all in a win–win situation, EMI are happy, retail is happy, the band are happy and the fans are extremely happy.'

Marillion are no strangers to harnessing the power of the Internet. They were one of the first groups in the UK to set up a website ('http://www.marillion.com') in the mid-1990s to communicate with and sell Marillion products to their fans – fans from as far and wide as Brazil to Japan and Australia to Iceland. They now have an active database of over 30,000 fans who visit their website on an average weekly basis. UK fans, objecting

to a chance remark by Simon Mayo on Radio 1 last summer, brought the radio station's computer system to a standstill when they emailed to complain and demanded he play a Marillion track. He subsequently interviewed keyboard-player Mark Kelly on air in an attempt to understand and appease the phenomenal passion of Marillion's audience. Back in 1997 American fans underwrote an entire US tour to the tune of $60,000, with donations following an Internet campaign – an idea conceived and managed by the fans before any involvement by the band. Lead singer Steve 'h' Hogarth added: 'It's not just about the money – the Internet allows us to communicate directly to our fans worldwide in a way that's spontaneous and instant. It's a two-way communication process that's changed everything for us – the fans feel like a worldwide family now. Faith moves mountains, so watch out.'

Subsequently the band challenged standard music industry practices with the release of their double A side single 'Between you and me/Map of the world'. In another unprecedented project, fans buying the single from their popular website, www.marillion.com, were given a free copy for each single bought. The fans then sent the free copy (along with a letter and band biography provided by Marillion) to their local radio station to encourage its airplay. Over 10,000 copies were posted

to local radio stations worldwide, and the band's exposure was massively enhanced. Hogarth urged, 'Look around, listen around. Surely the music business has to change. How do REAL bands compete with the Hear'Say/Britney Spears astronomical marketing/promotion spend? This experiment enables us to plough any profits straight into promotion AND to mobilize our legendary fans to raise a concerted voice to radio and, to a lesser extent, the media. On balance, we decided our own independent release is the way to go. It's great that EMI have the vision to let us run with this. There's been a lot of indifference to us at radio. Now we're in a position to let everyone know we're alive and well with the best weapons we have – our music and our fans.' As well as much press and media interest, this venture has also seen the band appear on the recent BBC2 documentary *The Future Just Happened,* explaining how the concept of Internet self-financing worked for them. With the innovative single release, Marillion once again proved that the combination of faithful fans, the Internet and radical thinking can ensure the continued success of both their business and their contemporary music.

Source: Adapted from press releases issued by the band, archived at http://www.marillion.com/news/2000/1606.html, accessed 27 February 2003.

There is even a new word for this – *devox* – coined by futurists Ryan Mathews and Watts Wacker to represent the voice or spirit of deviant ideas, people and products. According to Wacker (Tucker 2002: 66), the devox starts:

way out on the Fringe. It then moves to the Edge, then to the Realm of the Cool and then becomes the Next Big Thing. Then it turns into Social Convention. From there it can go into Cliché, Icon, Archetype or Oblivion.

Wacker may well simply be using trendy terms to track the process of paradigm shifting that social scientists have been familiar with since Kuhn, but his point is that corporations need to be able to pick their winners much earlier in the fast-moving, Internet-enabled, competitive environment of today, and identify which deviant ideas are the ones which will create new markets. It is a risky business, but the rewards can be immense – Bill Gates and the Microsoft team were all deviants when they set out on the high-tech fringe (see Bell 2001: 11), but now Gates is the icon of the monopoly capitalist. Las Vegas began as a desert gambling den for laundering mob money, became cool with Sinatra and Martin, moved into social convention

as other states and even other countries began to copy its methods and now, as cliché, is a place where the whole family can holiday without ever gambling (Tucker 2002).

Marillion, despite their early popularity in the 1980s, were still out on the 'fringe', a cultish band with deviant appeal. But their cultural deviance led them to think deviantly about their business affairs, and they created a successful model, using the information technology at their and their fans' disposal, to shift both their creative and economic power base. They are now certainly 'cool' in that respect – the question remains open as to whether other bands will turn their ideas into 'social convention'. So one consequence of the advent of the virtual world could be increased emancipation, greater empowerment of producers as distributed capital in the hands of consumers can be mobilized sufficiently quickly and in sufficient volume to short-circuit the need for large amounts of invested and accumulated capital. However, the communication and information-rich world may also offer quite different prospects, as our previous warnings from Kroker and Weinstein suggest. We take up these themes with reference to the shifting ways in which accountability is realized in the virtual world.

No time for accountability? Living in a scandalous world

One of the things that the virtual world of the information economy has effected is a radical increase in the compression of time and space (Harvey 1989), a change that had already been inaugurated by the mechanical and informational products of the industrial age. As a result, time has increasingly become a competitive issue.

Increased competitive pressure has sharpened what has always been a point of difference between companies, namely time, into a strategic issue. Time appears in the business world in many guises: time-to-market, down-time, real time, customer-facing time, fee-earning time, on-time. Some companies realize that these terms are part of a business shift from economies of scale to economies of time. It is the speed and responsiveness of an organization that now gives it a comparative advantage … It is no longer good enough to have the right product at the right price. It also has to be in the right place at the right time. All factors have to be present to satisfy customers. This changes the rules of the game. (Kreitzman 1999: 121–2)

Customers now evaluate manufacturers and service providers according to the changing rules of a world 'which has speeded up so as to make, as the saying has it "twenty-four hours a very long time"' (Harvey 1989: 285). Indeed, so complex is this world that the most successful and talented are made long-term ill by conditions such as 'yuppie flu' or myalgic encephalitis (ME), otherwise known as chronic fatigue syndrome, the Epstein–Barr virus and other forms of long-term fatigue. Why should this happen, and why do managers nevertheless seem so willing to engage in practices which sustain it, even while expressing sentiments like Kreitzman's (1999: 134) respondent 'Mike Dollar's children will not go into the same business as him. At least, not if he can help it'?

Harvey's (1989) view is that the phenomena which Kreitzman observes are the result of the latest and perhaps most spectacular phase of historical time–space compression, where the acceleration of the development of technological and informational systems has added a new dimension to capitalism's historical and paradoxical need for growth and further accumulation, even in conditions of overaccumulation and post-scarcity, which produces the need to find new forms of *flexible accumulation* and therefore new 'spaces' – geographical and cultural – to exploit. Speed of manufacturing production, speed of information flow to and from markets, speed of flow of capital through deregulated financial and trading systems, speed of transportation which takes advantage of distributing manufacturing around the world and establishing localized partial assembly functions to put together products with flexible features have had spectacular results in increasing the availability and reducing the cost of products, with short time-to-market and rapid modification and monitoring of customers' needs and preferences. Economies are economies of time and space, not just of material value. Furthermore, as Lash and Urry (1993: 10–11) note, the rapid flow of information cannot be fully organized because there is not time to screen and evaluate all information. As Paul Virilio, perhaps the foremost theorist of speed, puts it: 'The twin phenomena of immediacy and of instantaneity are presently one of the most pressing problems confronting [us]' (1995; see also Virilio 2000). Virilio sees this not so much as the result of the forces of capitalism, favoured as explanation by Harvey, but rather as the result of military imperatives. Such a view foregrounds, to take one pertinent example, the role of the military in the construction of the antecedents of the Internet (see Bell 2001: 11–14, for an account of these antecedents, along with some welcome unpacking of the mythology that has grown up around it). The racing of information through its new circuits and the problems associated with such racing, Virilio terms *dromology*. Taking a less pessimistic and, indeed, less nostalgic and conservative line than that adopted by Virilio (Kellner 1999, particularly 103), we may note that the more information and knowledge flow, the more problems, paradoxes and unforeseen consequences occur, and the more such a system depends on individuals who are *reflexive*, aware of emerging problems and committed to coming up with at least partial solutions to them. *Disorganized capitalism* is sustained by *reflexive accumulation*. As Harvey notes, this entails a good deal of risk:

Time-space compression always exacts a toll on our capacity to grapple with the realities unfolding around us. Under stress, for example, it becomes harder and harder to react to events … the world's financial markets are on the boil in ways that make a snap judgement here, an unconsidered word there and a gut reaction somewhere else the slip that can unravel the whole skein of fictitious capital formation and of interdependency. (Harvey 1989: 306)

In a world where unforeseen problems are thrown up constantly and there is rarely time to respond to them in a considered way, how can it be possible to hold people *accountable*? How can rational procedures be followed to the letter when there is no time to follow rational evaluation procedures? This goes beyond Simon's 'satisficing' (see Chapter 14) because even though Simon (1960) recognized that rationality is bounded, and we often settle for the best decision that can be made in circumstances of imperfect information, the

problem often is one of too much information, some of which may be contradictory, none of which is stable, all of which is likely to change rapidly, and where the degree and extensiveness of *interconnection* and *interconnectedness*, familiar from chaos and complexity theories, can mean that a small change in one part of the nexus – including this decision – could produce changes elsewhere which might transform the whole. Oddly, this decision might be the right one in terms of all we know before it is made, but its existence might have unforeseen effects which make it the wrong one as soon as it has been made. Sounds familiar? Did you ever have that feeling that you couldn't do anything right? In these circumstances, when can *achievement* be unequivocally demonstrated and performance properly evaluated?

We would expect then that there would be, at one level, a proliferation of ever-changing performance measurement and evaluation systems, in many cases a modernist act of faith, but also that organizations would need to be able to know that they had managers who were *reflexive* and *committed* to trying to solve unanticipated problems quickly and in the right way, with insufficient time to do so. In a world where time and space are compressed, competence may have to mean not achievement but commitment, signalled by availability – 24/7 in some cases in Kreitzman's 24-hour society. Accountability may mean not following rules and procedures, but having the right values and mindset to respond in the right way, to be a good corporate citizen even in deviating and transgressing existing norms. We should also note, accordingly, that the new compressed economies of time and space need to be sustained symbolically, and responsible participation in and commitment to them consolidated, as far as such things can be, by economies of signs, cultural developments where identities can be formed and commitment can be seduced into being (see Lash and Urry 1993; Baudrillard 1981: 90). That said, in many cases, the speed of information seems to combine with ever-shifting, transitory, 'structures' of (ir)responsibility in such a way that accountability simply breaks down. Consider the following recent cases in point.

CASE EXAMPLES

CAPITALISM IN CRISIS?: UNCLE SAM'S SCANDALS AT A GLANCE

An unprecedented wave of corporate scandals has engulfed Wall Street and unnerved investors. Share prices have fallen 40 per cent since the start of the year on both sides of the Atlantic. The September 11 terrorist attacks dealt a blow to investor confidence but the fraud and December bankruptcy at energy trader Enron really set the sell-off rolling. Since then there has been a steady stream of corporate scandals. Cooking the books at Enron cost investors $67bn (£42bn). World-Com lost telecoms shareholders $175bn while the Tyco conglomerate was desperately reassuring the market last night that it was not on the verge of bankruptcy.

The Securities and Exchange Commission (SEC) in the US opened 63 investigations into financial reporting irregularities in the first three months of 2002 alone. This may be more than the tip of the iceberg, but it is unlikely to be the whole of it.

ENRON *(power and energy trading)*

Enron, the seventh largest corporation in the US at the beginning of 2001, started the corporate crisis in America by announcing on October 16 2001 that it would take a $1bn special charge and write down shareholders' funds by a further $1.2bn. This followed losses arising from a private equity operation run by chief financial officer Andrew Fastow. Within a week the SEC had started a fraud probe and by the end of the month Enron shares had fallen 50 per cent. It filed for bankruptcy in December, having wiped out $67bn of shareholder funds. One of its VPs resigned and committed suicide. Its auditor Arthur Andersen admitted shredding documents on the case, while Enron's links with the White House have tarnished the Bush administration.

WORLDCOM *(telecoms, Internet)*

Internal audit at WorldCom, the world's biggest telecommunications supplier, showed more than $3.8bn in expenses had been fraudulently disguised over five quarters dating back to January 2001. The SEC filed civil fraud charges and the Justice Department began a criminal investigation. The stock had peaked at $64.50 in 1999 but was suspended on July 2 2002 at 83 cents when the company filed for bankruptcy in order to buy time to restructure.

GLOBAL CROSSING *(telecoms)*

Global Crossing sought protection from its creditors at the end of January. On February 8 it revealed that the SEC had started an official inquiry into the collapse and had subpoenaed documents relating to claims by a former employee that the company had used creative accounting to inflate its earnings. The investigation was further bad news for accountancy firm Arthur Andersen which audited Global Crossing as well as Enron.

TYCO *(Industrial conglomerate)*

Tyco's former chairman Dennis Kozlowski was indicted in early June on tax evasion charges over art purchases worth £13m. He has also been charged with tampering with evidence. Prosecutors said they would reopen an investigation into the $2.5m sale of former Conservative Party treasurer Lord Ashcroft's Florida home to a senior executive of Tyco. Lord Ashcroft is a board member at heavily indebted Tyco whose debt has been downgraded to junk status. The company yesterday denied bankruptcy rumours.

XEROX *(office machines)*

Xerox restated $6.4bn of revenues dating back to 1997. It reached agreement with the SEC three months ago over the way it booked as revenues the long-term leases of copiers but the figures were three times larger than investors expected. The stock lost 13 per cent of its value in one day in July 2002.

BRISTOL-MYERS SQUIBB *(pharmaceuticals)*

Bristol-Myers Squibb was charged with illegal attempts to block generic rivals to its top-selling breast cancer drug, Taxol. Twenty-nine American states led by Ohio have filed a lawsuit in the US district court of Columbia saying the company profited unfairly from its monopoly and was depriving consumers of less expensive versions of the treatment.

AOL TIME WARNER *(Internet and media)*

AOL revealed that its accounts were under investigation by the SEC. It is the second time within a month that the financial regulator has looked at the company's books. The company's share price has been on the slide since AOL joined with Time Warner in a merger worth $165bn but the latest allegations of creative book keeping have further damaged its standing. Chief executive Richard Parsons said the inquiry was just a 'fact finding' mission inevitable in the current volatile atmosphere.

ADELPHIA *(cable operator)*

John Rigas, the 77-year-old founder, his two sons plus two other former executives were arrested and charged with 'looting Adelphia on a massive scale'. These are the first criminal charges to be bought in the recent spate of corporate scandals. Adelphia, the US's sixth largest cable operator, is also facing civil charges from the SEC. The company filed for Chapter 11 protection from creditors in summer 2002.

JOHNSON & JOHNSON *(drugs and household products)*

Johnson & Johnson, maker of Band Aid, admitted it was under US criminal investigation over allegations that it made errors in drug manufacturing and then tried to cover them up. Former employee Hector Arce claims in a wrongful dismissal suit that he was pressured into changing key data to hide mistakes in making anaemia drug Exprex at a factory in Puerto Rico. News of the investigation prompted a dramatic fall in Johnson & Johnson's share price.

HALLIBURTON *(engineering)*

Halliburton admitted in May 2002 that the engineering and oil services group was being investigated by the SEC over accounting practices when it was run by US vice president Dick Cheney between 1995 and 2000. The legal pressure group Judicial Watch is suing Mr Cheney and the firm, alleging they defrauded shareholders by overstating company revenues by $450m. The company and the White House have denied this.

QWEST *(telecoms)*

Qwest Communications was already under investigation by the SEC for its accounting practices when it disclosed that it had incorrectly accounted for more than $1bn of revenue over three years. The company's new management – appointed in June 2002 – also said it might make further accounting revisions after the SEC and its own auditors completed their investigations. Qwest had booked hundreds of millions of dollars of revenue at the end of its quarterly reporting which should have been delayed until the next quarter. Like many telecom companies, Qwest was under intense pressure to meet quarterly revenue and profit targets.

So what seems to be going wrong? Various theories have been put forward, from the need to emphasize ethics more in the MBA curriculum (many of the officers involved have Ivy League MBAs), to corporate culture, to the need for greater regulation by the state, to gender issues (the whistle-blower at Enron was the only woman VP). However, we can draw on what we have already covered in the book to glean some insights. If we turn to Chapter 3, we will see that Deal and Kennedy (1982) proposed that the two dimensions of corporate culture were *risk* and *speed of feedback*. If we interpret speed of feedback to be information flow, then

it is clear that Deal and Kennedy stumbled upon what are two of the most important concepts in contemporary social science, *risk* and *information*, especially in a network society (Castells, 2000a). Thus the important tasks for contemporary management are risk management and knowledge/information management.

In a world economy which has seen sustained long-term growth over the last ten years in the West, a bull market, pressures to maintain growth and profits to shareholders tend to become intense. In companies like Enron, high growth comes through riskier projects, often with long-term payoffs like pipelines for example, promising only slow feedback. Enron employed an army of mathematicians and accountants to deal with these risk management problems, hedging risk by setting up companies – partnerships which were not included on its balance sheet – in which investors would insure them against risk and Enron would prop them up with its own shares. In other words, beneath the complex deals in which some Enron senior managers would make millions, the company was guaranteeing itself against its own losses. Then, through sophisticated accounting measures, it was able to report as profit in the current year (on which dividends were paid) projected profits from projects only just signed up, such as pipelines not yet built, in order to impress the stock markets and shore up its share price, which was necessary to underwrite the off-balance sheet partnerships. For example, Enron invested in a high-risk Internet company whose share price inflated to give a $300 million paper profit. Enron declared that profit and then insured itself against the fall of the price of the Internet stock. As long as everyone continued to believe the emperor had clothes, as long as they were kept moving fast enough that they did not have time to look, or there was no outside disaster to cause the stock market to fall to a point at which they could not cover their debt, they could get away with it. But they were living on borrowed time, and the crash of share prices after 11 September 2001 triggered disaster. For speed seems to be as effective in bringing the pile of cards down as it is in sustaining its construction. This is Virilio's *information bomb* (2000).

Clearly, companies have been misreporting expenses as capital (for example WorldCom), evading tax on a massive scale, and manipulating information in order to give investors apparently accurate and early feedback that products and performance, which may in fact be problematic, are in rude health, in order to encourage further investment and artificially shore up the share price. Misinformation, indeed lies and fraudulent information, have been superabundant. What is perturbing is that the accountants, particularly one firm, Arthur Andersen, who appear to have been involved in almost all the major scandals, including their indictment for shredding evidence in the Enron case, appear to

have colluded and abetted in these practices. As one investor has said, investors have to trust *something*, and it is usually the figures. If you can't trust the accountants who produce the figures, you can't trust the figures. Thus until the market finds something to trust in the system again, investment will rein itself in.

As we noted in Chapter 7, the accountancy profession has a huge presence in and influence over all forms of corporate life. Its involvement in auditing all aspects of business activity acted as a foot in the door of the major corporations, facilitating the growth of huge business consultancy practices associated with accounting firms, from an investor's perspective a network organization of the worst possible sort. In the case of Enron, for example, Andersen had offices for its auditors in the Enron building and its consultants gave advice on the setting up and operation of the improper partnerships, which its own auditors were auditing. Not only was Andersen auditing itself, it was legitimating Enron, effectively guaranteeing its own profits. Here we witness a different form of the *digital divide*, the construction of an information loop in which the goods stay on the *inside*, since no one from outside can see in to witness their misappropriation. This hermetic circle was energized by the fact that every transaction, profitable in reality or not, was generating huge fees and bonuses for both the accountants and the Enron employees involved. Personal greed and corporate interest thus fed off each other to create a situation which the parties involved felt they could justify because they only had to justify it to each other, at least until the charmed circle broke. A network of accountability was constructed in which accountability was only owed to those who stood to benefit from the continuation of malpractice, never to those who might suffer from its consequences. Perhaps the most disillusioning spectacle has been of Arthur Andersen's corporate lawyers arguing that shredding roomfuls of documentation in an exercise which involved their employing additional shredding capacity, at a time when they knew that an investigation by the Securities and Exchange Commission (SEC) was likely, was merely normal practice and that as such any company in America could face the same charges. As Prem Sikka (2002) notes in the following case study, this situation is not limited to the US.

What Sikka could have also noted is that, on both sides of the Atlantic, the profits generated in these transactions have been used to fund the activities of the major political parties, whether on the left, centre or right. Indeed, the list above of the US corporate scandals includes several of the main campaign funders of the Republican Party – for example, during the Florida recount in the 2000 elections, George W. Bush flew around the state in an Enron helicopter. Such scenes illuminate vividly and horrifically the powers of

CASE EXAMPLE

HOW ACCOUNTANTS HELP THEMSELVES

Hardly a week passes without revelations of some shortcomings in accounting and auditing. In each case, the companies concerned employed and remunerated accountants to massage their accounts. In accordance with carefully developed plans, large amounts of cash were siphoned off. Audit firms did not notice anything because in some cases, in their capacity as consultants, they created many of the transactions and opaque corporate structures. Auditors collected fat audit and consultancy fees and blamed everyone else for their own failures. Ordinary people lost their jobs, homes, investments, savings and pensions.

Rather than developing alternative modes of accountability and institutions of democracy, failed auditing and accounting technology has been extended to almost all walks of life. The expertise of accountancy firms has been used to sell off public assets, promote the private finance initiative and restructure the NHS. With 250,000 qualified accountants, Britain has more accountants than the rest of the EU put together and one of the highest numbers of accountants per capita in the world. This unparalleled investment in economic surveillance has failed to deliver better corporate governance, company accounts, audits and freedom from frauds or scandals. Yet the ranks of accountants continue to swell.

Company auditors have more rights than the police. They have access to all company records, files and documents. They have a statutory right of information and explanation from any officer or employee of the company. Yet this private police force of capitalism has always failed and will continue to fail. The basic model of auditing is flawed. It expects a bunch of capitalist entrepreneurs (accountancy firms) to invigilate and regulate another bunch of capitalist entrepreneurs (company directors). Profits, market share and the number of clients measure the success and failure of both. Doing anything for the public is not part of the equation.

Accountancy firms enjoy a state-guaranteed monopoly of auditing. This provides the basis for selling consultancy and generates a double-digit growth in profits. Auditors are regulated by professional accountancy bodies who have no independence from the auditing industry. Audit firms are not required to publish any information about the conduct of an audit. No scandal has ever come to light because of audit firms or the professional accountancy bodies.

The practices of auditing firms encourage audit failures. Partners are given bonuses for selling consultancy services to audit clients. The prime concern of audit firms is to appease company directors. The same partners want to squeeze more productivity from the trainees doing company audits. They are expected to work evenings and weekends for free. Most find the work boring and resent the exploitation. More than 50 per cent admit to falsifying audit work.

The legal pressures for delivering good audits are weak. Auditors only owe a 'duty of care' to the company they audit, not to any individual shareholder, creditor or employee, no matter how negligent they are. In the wake of audit failures, most lawsuits are by one accountancy firm, acting as a receiver or liquidator, against another. Win or lose, they do very nicely out of it. Ordinary stakeholders rarely do.

On some occasions the Department of Trade and Industry (DTI) appoints inspectors. This provides nice fees for accountancy firms, as one of the inspectors is usually a partner from a major accountancy firm. Inspectors ensure that uncomfortable questions are avoided. Many DTI inspectors' reports never see the light of day. Some, like the Maxwell report, are published some 10 years after the event.

The DTI does not prosecute audit firms for delivering poor audits or for colluding with companies. That task is delegated to the accountancy bodies. The disciplinary processes are under the control of big firms, with their partners occupying key positions within the accountancy bodies. Any benchmarks with fines, firm closures and disqualification will come back to haunt them. So a feather-duster approach is institutionalized. With weak legal and institutional structures and the profit motive of accountancy firms, audit failures are institutionalized too. But accountants make money at every stage. More Enrons are inevitable, although the scale might differ. Greater reforms are needed but unlikely as major firms have close links with government departments, senior civil servants and political parties.

Source: Adapted from Prem Sikka 'We are a nation of accountants but it does us no good when the industry remains so self-serving', *Guardian,* Wednesday 20 February 2002, © Prem Sikka 2002.

the dominant coalitions we considered in Chapter 14, emphasizing again that many virtual worlds are far from inclusive, with those that are excluded frequently footing the bill. Since the fall of the Berlin Wall and the collapse of communism, some commentators have argued that the triumph of capitalism, and its necessary political corollary, liberal democracy, is now complete. Apparently there are no longer any viable alternatives, and even the People's Republic of China is moving towards a moderated capitalist form. The growth of the

Internet has accelerated this triumphalism, this hyper-reality, which has fed off its own image and rhetoric and has led to the development of corporate cultures where highly talented technicians – economists, mathematicians, lawyers and IT specialists and so on – with the help of public relations spin doctors, market researchers, advertising agencies and highly active political lobbyists have bought into the illusion that they can do anything and get away with it. It seems like a modern, technologically mediated version of the gangster capitalism of the mob in the 1920s and 30s and that corruption should arise is hardly surprising. The kleptocratic culture that seems to have gripped Enron extends beyond the US. Some major banks, accountants and lawyers, including Swiss bank UBS, French oil company Elf Aquitaine and former German Chancellor Helmut Kohl, are now involved in investigations into the moving and rendering invisible of countless billions squirrelled away by ruthless mega-rich dictators of some of the poorest and most embattled countries on earth – including Marcos of the Philippines, Salinas of Mexico, Suharto of Indonesia, Abacha of Nigeria, Milosevic of Yugoslavia and Karadzic of Bosnia – and those with connections with organized crime, especially in Russia where the presidents of Russia, the Ukraine and Kazakhstan have also been implicated (see http://www.marcosbillions.com/ marcos/dictators.htm, accessed 2 February 2003, for links and further information).

So which of our two scenarios is the real future? The increasing empowerment of the fringe, the opening up of capitalism to the grass roots? Or the increasing corruption of big business, with its growing capacity to hide its fraud and keep its secrets? Well, the answer is likely to be 'both and neither' and thus the question becomes: What can managers do to manage in the space between and how will their lives be affected?

Too much time on protecting accountability? The new office

Obviously, the key site to which information

technology has been applied up to now is the office, the white-collar paper mills in which most managers spend most of their time. In a study conducted under the auspices of the UK's Economic and Social Research Council's 'Virtual Society?' programme, Steve Brown and Geoff Lightfoot (see Brown and Lightfoot 1998, 2002; Brown et al. 2001) have made considerable inroads into the task of articulating the consequences of this application of technology. Of particular interest to them has been that field of applications collectively known as 'groupware':

The term broadly refers to a range of office organization software based on local and wide area computer networks. Such networks typically consist of a large number of personal computers distributed throughout the organization (clients), which are all connected to a smaller number of server systems. Clients are then able to access information stored on central servers as well as pass information by way of these servers to other clients. Common groupware activities include supporting workflow (for example receiving and processing customer orders), allowing access to common databases, facilitating computerized conferencing and offering email or document sharing protocols. (Brown and Lightfoot, http://www.regard.ac.uk/research_findings/L132251042/report.pdf, accessed 25 February 2003)

Brown and Lightfoot note that the initial appeal of groupware, and the ways in which it has been sold to organizations, seems to be considerably at odds with much of the detail of its operation in practice. These differences turn particularly around issues of accountability, as shown in the case example below.

What are we to make of all this? While not everyone agrees with Brown and Lightfoot's account of the use of email in organizations (see for example Lee 1996; Shortis 2001), for many readers who have worked in electronically mediated workplaces much of their account will be familiar. Two points seem particularly noteworthy. First is *the disparity between the cyberenthusiasm of early proponents of groupware and the findings of the study* (Trend 2001: 2). This disparity turns around the distinction between the

CASE EXAMPLE

GROUPWARE AND ACCOUNTABILITY

Since the late 1970s, a vision of how modern organizations could be radically reshaped by the power of networked information communication technologies has been widely disseminated. In their influential thesis, *The Network Nation*, Hiltz and Turoff (1978) argued that

over the next two decades, computer-mediated communication would come to have a profoundly democratizing effect on organizational structures, resulting in decentralized, flatter or 'virtual' organizations built around open exchanges between dispersed groups of individuals with common interests. Geographical and hierarchical barriers would be overcome in this organization of the future through common use of computerized conferencing and electronic mes-

saging facilities. Such media would, it was claimed, not only supersede much routine face-to-face interaction, but would also come to replace a whole range of communication tools, like postal services, fax and voice telephony. In the organizational heartlands of the network nation, computer-mediated communication would be the norm.

Perhaps unsurprisingly, the reality of the contemporary 'virtual organization' is somewhat different. There is, for example, little evidence to suggest that computerized conferencing is as yet allowing organizations to dispense with more traditional face-to-face meetings. Despite its ubiquitous presence, email also seems to have expanded upon rather than dominated the range of potential communications tools available to modern organizations (Sproull and Kiesler, 1998). The crucial questions to be posed around the impact of computerized communication technologies are then not around what is gained and lost in the shift towards virtual organization, but instead how electronic and traditional media mutually shape one another in the context of what might be called 'semi' or 'partly' virtual organizations.

Proponents of groupware emphasize the ability it affords to integrate the storage and retrieval of information with computer-mediated communication occurring across different places and times. Meetings may, for example, be held between participants dispersed across a number of sites using either video or text-based services. Alternatively, much of the work which was previously routinely achieved at meetings (for example communicating schedules, consultation, assigning tasks) can be performed through emails sent to specific groups of individuals (that is, members of a department or work groups). A further advantage here is that electronic communication can generate a continuous record of any exchange, providing a far more detailed account of what transpires than traditional minutes of meetings. In this way groupware can effectively support 'organizational memory' (Khoshafian and Buckiewicz 1995), that is, the ability of an organization to retain and archive its own history.

Previous research into the introduction of groupware systems has concentrated on their impact on interpersonal relations between users (Rice and Love 1987; Schmitz and Fulk 1991) or directly on organizational efficiency. Vogel and Nunamaker (1990), for example, list a whole range of benefits, including improved meeting efficiency, increased quality of input by participants and the creation of more complete records. These studies tend, however, to assume that the availability of and access to increased amounts of information is an unalloyed good. They do not explore, for example, the uses which might be made of these more complete

records by managers and others, or the content of computer-mediated interactions between users. There is also an idealized view of how meetings operate contained in these studies. Meetings are treated as though they were sites where information is exchanged and decisions duly generated.

We take a very different view of meetings. They are exchanges where participants struggle to establish their own version of past events, while simultaneously guarding their own accountability. Although decisions are often retrospectively attributed to meetings, they often occur outside the formal agenda. The relationship between the formal record of a meeting and what actually happened is often ambiguous and can sometimes be subject to multiple interpretations by participants. Meetings can then be highly strategic affairs, with participants engaged in skilled rhetorical performances to secure their own objectives.

This approach to meetings is informed by ethnographic and discourse analytic studies of organizational life (Drew and Heritage 1992; Law 1994; Watson 1994). One of the major concerns here is how participants in meetings formulate matters at hand in rhetorically persuasive ways. In this sense recollections of past events by participants are treated as accounts which are structured in accord with the speaker's current interests and objectives. Groupware thoroughly impacts upon the ability of participants to generate accounts in this way. The potential to provide a more complete record of the meeting, for example, makes it increasingly difficult for participants to provide alternative interpretations of what actually happened. A clear implication here is that the content of meetings may be substantially affected by participants' prior concerns with how the meeting will be subsequently recorded. Furthermore, when the work previously done at meetings is performed instead through the exchange of emails, an entirely different range of rhetorical skills is required to manage the interaction. Participants in such exchanges are faced with a unique set of problems. The entire dialogue may be edited or archived by either participant. It may also be forwarded throughout the organization, possibly in a truncated form. This means that participants must rapidly acquire skills for the strategic use of the medium.

Our findings confirm that the adoption of groupware is highly variable. Users point to a number of problems, ranging from the purely technical (poor quality of some conferencing facilities) through to perceptions that groupware creates excessive demands on managerial time. More importantly, users tend to experience the electronic communication offered by groupware as a *highly formal* and *politicized medium* [emphasis added]. Users perceive that their personal standing within the organization

could be enhanced or diminished by the quality of their electronic communications. Such communications were not seen as ephemeral, but as highly durable records which required careful crafting, since they could be archived, forwarded throughout the organization and retrieved at some future date, to the potential cost of the sender. In response, users describe a range of strategies they adopted to manage electronic communication. These include attempts to prolong debate in order to expose potential flaws in prior parts of the exchange and the strategic mobilization of possible allies through the copying in of superiors and interested parties.

At the same time, we found evidence that while the implementation of groupware has actually tended to increase rather than reduce the number of face-to-face meetings held by the two participant organizations (additional meetings are now held to resolve disputes emerging from groupware communication), there has been some impact on the formal nature of meetings. Managers reported that less meetings are now formally minuted, especially at senior levels. This is due to two unexpected consequences. First, that email is being used to distribute brief action points generated by meetings in place of formal minutes, and second that much of the rhetorical work previously performed by managers at meetings – ensuring that particular state-

ments are 'on record' – is now more easily done through electronic media, which managers are moreover able to archive themselves.

More generally, managers are tending to routinely store colossal numbers of emails and other electronic documents, sometimes stretching back five years or more. Such archives are strategically used by managers to rapidly produce persuasive evidence in their favour when their own actions are questioned, or to reintroduce potentially damaging past exchanges opportunely to challenge the current actions of rivals. Managers also use of a range of tactics to gather information for their own archiving practices. These include 'lurking' on exchanges which are becoming increasingly hostile, provoking others to produce complex accounts of the past by sending innocuous looking suggestions about current strategies and routinely copying in particular individuals who are known to 'keep everything'. Organizational memory is then not the simple preservation of information, but rather a strategic process of archiving, editing and reintroducing selection from masses of past electronic communications.

rather bloodless view of organizational life of proponents of technological solutions to 'communications' and 'memory' problems and the rather more realistic and subtle approach adopted by Brown and Lightfoot. As we noted in Chapter 15, discourses of strategic conduct are consumed by individuals as much as by organizations, and as the oft-heard phrase 'my career strategy' attests, individuals are more than capable of acting strategically in their own interests, and potentially against those of their co-workers. Contrary to the simplifications of the cyberenthusiasts, the experience of email described by Brown and Lightfoot is just what we should expect when it is deployed within hierarchical organizations, as Chapters 4 and 7 have already alerted us. Brown and Lightfoot's account is a description of a virtual world completely different from that envisaged by system designers. The incorporation of system features such as blind copying, continuous voting and auto-copying, seen as innocuous tools in providing the grail of greater, *better* information for everyone, become ambiguous and contestable weapons when put in a management setting. Revealing the strategic or 'political' dimension to groupware use also helps to put our knowledge of different kinds of information communication

technologies on a new footing. Previously, many theorists have used a distinction between 'task-oriented' and 'relationship-oriented' activities to focus on the impacts of communication technologies and the development of the virtual organization. Yet it seems more likely that running between this distinction is a whole series of strategic activities aimed at sustaining accountability and reconstructing the past. These activities lead to the creation of formal and informal communication networks, based not on common interests but on common *antagonisms*, people allying against a particular project, individual or coalition, as much as for anything. This facet of virtual community building is also reflected on and around the wider Internet (see for example Brown et al. 1998), a theme to which we return in our concluding section 'Community and identity in a virtual world'. The impact, then, of the virtual organisation has been to provide *a new set of resources in which managers can re-enact the work of managing*, as they define it, rather than a democratization of the workplace.

The second key point to emerge from the study is that *the virtual organization is only part of the organization as a whole*, with electronically mediated organizational life going on alongside other aspects of organizational existence, rather than replacing it. We live, those of us

lucky enough to be among the four per cent that Trend (2001) identifies, in a partially virtual world. Indeed, we can go much further and note that the infrastructure on which the virtual world depends and much of the content that sustains it is far from virtual in its production and maintenance. This world…

has an immense material base underpinning its operations, which depend upon complex wired and wireless systems of transmission via microwave towers, communications satellites, fibreoptic networks and on line services. (Luke 1999: 31)

The cyberspatial resources of global computer nets permit virtual enterprises to employ thousands of poor women in Jamaica, Mauritius or the Philippines in low-paid, tedious data entry or word-processing jobs for firms in London, Paris or San Diego. (Luke 1999: 37)

Luke calls this political economy of the control (capital) and maintenance (labour) behind cyberspace, drawing on Virilio, as characterized by *dromoeconomics* and it is all too easily overlooked in the glib discussions and techno-boosterism that fill many of the column inches that are apparently devoted to understanding the future of work. It is also a facet of the darker side of the factory of the future that we go on to consider in the next section.

We should not, however, be too surprised by the ways in which new technology has failed radically to alter the office and its existing structures; for the language of techno-boosterism is slippery stuff and the changes associated with technologies are, even when apparent, complex and often far from unidirectional. As Bell (2001: 38) notes with regard to the impact of the use of email on interactivity at his place of work:

Email has certainly reconfigured the way we talk to each other at work. In some cases, it's diminished social contact – it's quicker to send an email than go to someone's office for a chat (they might not be in, for one thing). But it's also enlarged the sphere of 'public' communication within our workplace – I am the recipient of far more emails that I was a participant in 'RL' [real life] discussions at work.

Language is obviously most at risk, however, when we enter the realm of marketing and promotion. For example, although 'interactive' digital television is certainly more 'interactive' on one level than merely sitting in front of a standard analogue broadcast as a recipient, it is considerably less interactive than, say, going to the pub. Or, indeed, talking to our co-watchers in the lounge – a practice that may itself be increasingly unlikely if one watcher is 'interacting' with the programme. As the British journalist Suzanne Moore commented during the third and last episode of

UK Channel Four's excellent series *Visions of Heaven and Hell* (1994), exploring potential futures of our virtual world:

I get as excited as everybody else by the visions of the future that are conjured up. That we'll all be united in this global village which will all work on behalf of … the greater good. But I think we can look at the past and see what other technology has done for us. I mean when video first started it was going to … free us from huge media conglomerations, because we were going to make our own films. It was going to be a two way process … It was going to revolutionise our lives. And we ended up with Jeremy Beadle! [Jeremy Beadle was the original presenter of the UK's leading amusing home video clips show *You've Been Framed!*, a genre of programming well represented throughout the world.] We ended up with a machine that just fits into the domestic set up and doesn't really disrupt very much. So I am a bit sceptical about it because it's a question of who owns it and whether they are gong to work on behalf of 'the public' … or work for themselves. I mean this idea that we all actually own it is a lovely utopian idea. But we don't.

The Internet and the factory of the future?

So who is the Internet for? In the case example opposite, Jack Welch, the retiring CEO of one of the world's biggest corporations offers some reflections that the Internet is the way of the future not just for the fringe, not just for the frauds, but for the big and old corporations – in other words, *the places where the norms of management tend to be most obviously found*.

For Welch, the Internet offers excitement to all workers, who are increasingly becoming knowledge workers rather than just hands. If you do the job, you know about it, and GE wants to put that knowledge to use. But significantly Welch argues that it is not just the obvious selling and procuring functions that the Internet enables, although these functions will not be any less important, but the 'make' functions. Unfortunately, in this interview he does not expand on that. Nevertheless, we can get an idea of what the factory of the future may look like from the case example of an uncelebrated Chicago company who has found itself competing with GE and Cisco Systems to develop the means of making such a factory possible.

Corrugated paper's blueprint for a factory linked to its customers and suppliers, capable of rapid responses to customer demand and quick customization, may be the model for other industries or it may not. However, the likelihood is that with the research and development efforts being put in by so many major players, sooner or later models for all industries will be in place. Whether there will be a practical means of creating a brokerage

CASE EXAMPLE

Jack Welch, former CEO of the giant General Electric Corporation in the US and *Fortune's* Manager of the Century, commented on how the Internet had affected its way of doing business shortly before he retired.

'We laugh at bureaucracy, we laugh at bureaucrats,' he says. 'It really is the corner family grocery store and we treat it that way. The corporate leader of tomorrow', he says firmly, 'is the person who understands that it's necessary to search everywhere for the best idea and share it with others. One who can go out and excite an organization to look outside itself, to engage every person in the place, to let no mind be quiet, to get rid of any pomposity, to rid itself of layers because everyone is going to have the same information,' he says.

Optimism obviously comes naturally to Welch. Even so, his enthusiasm for the Net and the gains for companies like GE and the entire world economy is extraordinary. It's made him one of the messiahs of e-commerce and GE a leader in it. Welch believes that the productivity surge is only just beginning because what he calls the 'make' side of a business – as opposed to the buying and selling – is only now beginning to benefit from the efficiency and the possibilities of the Internet.

'The Internet makes the company transparent so the old command and control structure [that came] after the war and that we all built on is a dead duck,' he says. And then repeats slowly for emphasis. 'A dead duck.' But what seems to have him even more enthused is the changes it will create in people's work by getting rid of all the 'mind-numbingly dull jobs' – chasing down the orders, doing the paperwork, filing the bills, following the process.

'We replace them with knowledge workers,' he says. 'So there's another gain. You can't believe it when you see people coming to meetings now totally energized. I remember sitting at our long-range planning review in

July … for these people in the widget business, basically our dullest industrial business. It's worth $US7 billion and it sells switches, that sort of thing. They were standing on the table practically they were so excited about the issue because they basically have got a way to change the atmosphere in their business.

'Everything will be online, all the information will be available, they will deal with their customers – they are in their customer's shops, they are looking right at suppliers. Running an auction is more fun than you can imagine. It's like going to the track.'

Not that he concedes there is any such thing as a new economy/old economy division, grumbling that it's a dumb journalistic invention. 'The Internet belongs to the big and the old,' he says. 'Every advantage accrues to the big and the old. Brand is important, fulfilment is important, loyalty is important on the Net. We all copied dot.coms because we all thought it was Nobel Prize work – particularly people my age, probably 50 and above. We all went after auctions for purchasing and procurement. We all had our little dot.com *sell* model but we missed the biggest opportunity of all which is the '*make*' part.' And Welch of all people understands just how important that 'make part' is.

'Twenty years ago, you didn't go hanging around with a bunch of factory guys and ask them for their best ideas,' he says. 'We didn't send factory guys out to buy machine tools. We sent kids who had just gotten a degree and gave them a purchasing pad and told them to go buy a machine tool. They'd never seen a machine tool and they're making the buy. So now we send factory workers out. The people who use it, do it.'

'The important thing is not to predict what is going to happen,' he says. 'It's to be agile enough to capitalize on what does happen. That means massive, constant, change and values that promote informality and good communication and lack of hierarchy.'

Source: Adapted from Jennifer Hewett 'This quick Jack is Net nimble', *Sydney Morning Herald,* 23 September 2000, pp. 21, 24.

for manufacturing capacity so that demand can be diverted from one factory to another, creating a global factory through the cooperation of various suppliers to an industry seems to be a question that will outstrip the ability of technology to achieve it and is more likely to rest upon the abilities of corporate lawyers and politicians to remove the barriers to it. But with the contracting out of manufacturing capacity already the norm in industries like the athletic apparel industry, where one factory may be making designs for Nike, Reebok or Adidas, or where the same shoe is capable of

being manufactured in India, Thailand or Mexico, the principle is already in place. For companies with several plants worldwide, the ability to shift capacity and use it more effectively will be a godsend. This is already happening in the field of informational content, as we noted earlier in our citing of Luke (1999). It is also increasingly the case with the information and technology-rich call centres we considered in Chapter 7, which are ever more likely to be found in the cheap labour markets of the developing world. The likelihood for the future is that there will be fewer workers in the

CASE EXAMPLE

SUPERPLANT – THE WEB-READY FACTORY

In 1998, Rick Van Horne, owner of Chicago's Corrugated paper decided to remake the factory. Actually, he decided to hook up his Chicago plant to cyberspace, to test whether the much-touted Internet really could transform big, groaning meta-industries like his into nimble paragons of technological efficiency. In Van Horne's vision, all his plant's machinery – trimmers, slitters, giant corrugators, everything on the factory floor – would feed data to the Internet, and to the rest of the company and the outside world. Corrugated would give its customers a password so they could peek into the plant's innards anytime. Customers – and customers' customers – would call up Corrugated's production schedules on the Internet to see exactly where their orders were on the factory floor and whether they would arrive on time. No more little white lies that an order was on its way. Suppliers would be able to tap the system to manage their own inventory – not just inventory they were selling to Corrugated but material they were storing at Corrugated's plant to sell to someone else. Here's the capper: Van Horne decided that he wouldn't just figure out a way to Webify his own plant. He imagined creating a seamless, replicable system that could bring the full power of the Internet to any manufacturing operation, anywhere in the world. And then he would sell it.

Not that factories aren't computerized. Manufacturers spent vast amounts of money installing computer-driven machinery during the 1990s. But very little of that massive info-tech spending had anything to do with the Internet. If anything, plant managers have tended to play it safe and to keep their production machinery away from the Web. Most computer-driven machinery installed in recent years runs on proprietary software; trying to hook those machines together – with outside customers and suppliers, or even with a company's own far-flung operations – often produces a tech Tower of Babel. Many factory managers who tried including production equipment in their computer networks discovered that Ethernet switches couldn't handle more than one packet of information at a time. When there was trouble and a dozen machines sent bursts of messages at once, they collided and the system slowed down or crashed. In an office network, such glitches are mostly irritations. But if an assembly line can't be shut down instantaneously in an emergency, million-dollar machinery is trashed or someone is maimed or killed.

Imagine taking all that wonderfully efficient automation on the factory floor and linking it to the Web. The potential for even more productivity gains is enormous.

The challenge lies in devising a network that can handle both internal and external demands. Ford, for example, wants a Web-based system that would let customers tap in design preferences for cars. The information would be shared with Ford suppliers that design car parts as well as with Ford's factories. In effect, hooking up the assembly line to the Internet would give a Ford customer direct input as his car moves down the assembly line, sort of just-in-time designing, replacing inventory with information. Software agents could be sent out by machines onto the Internet as brokers, matching machines with excess capacity to others seeking more production capacity, producing a 'global factory floor'.

Van Horne didn't have a clue about any of this when he decided to turn his plant into an Internet proving ground. Indeed, Corrugated's 80,000 square-foot production floor was a perfect example of why plant managers shun the Web. The machines are huge, complicated, noisy, dirty, and dangerous, and they require constant babying. Corrugated had a website that customers could use to place orders, but most of them preferred ordering the old-fashioned way, by fax or phone. In 1998, Corrugated's half-dozen customer service reps handled as many as 300 orders a day, mostly by hand. To check the status of an order, a rep had to drop the phone, run next door to the plant, and hope someone could find it. Thirty per cent of orders were late.

But improving order fulfilment wasn't what drew Van Horne to the Internet. At first, he saw it as a terrific new marketing tool. Marketing is vital in the corrugated-paper business; it's about the only way for a company like Van Horne's to differentiate itself from its 125 competitors. But building one of the world's first completed Web-based production plants from scratch is a lot more demanding. Van Horne realized that there are no systems-in-a-box for converting a plant to an Internet factory.

Cutting corrugated paper for boxes is a little like laying out sewing patterns on rolls of fabric. The idea is to get as many pieces as possible out of a single roll. On Corrugated's plant floor, people called schedulers arrange each order, which may involve anywhere from 50,000 boxes to just a few dozen, to be cut from pasted-together layers of paper spooling through the corrugator. On a single 25,000-foot roll, the schedulers may lay out dozens of orders, each a different size, shape, and quantity. One of the main objectives is to leave as little left-over paper to be trimmed away as possible. Wasted paper is wasted money.

How could Internet technology help? A group of software programmers began a total rewrite of the company's computer code to produce graphically intu-

itive and easy-to-use Web interfaces to control what customers would see when they dialed up the Corrugated site. All this would be tied into a single database; the idea being to make the system available to everyone, from the machinists on the plant floor to customers off-site, in real time, with no delay. Running on a wireless network, even the forklifts (which have dashboard PCs) have instant access to the database.

Customers are key in the Corrugated equation. Many of Corrugated's customers don't have their own inventory tracking systems, so Corrugated hopes to supply its main customers with wireless networks – linked to Corrugated's database – and bar code scanners so that the company will know when its product arrives. This makes the customer more efficient with the idea that the customer and Corrugated can work together to pinpoint exactly what happened if a shipment goes wrong. Corrugated even has a full-time employee who introduces customers to Corrugated's Web system.

Here's how the whole thing is supposed to work: Say you make computers and you need corrugated paper for your shipping boxes. You want the paper cut to order so you can fold it into boxes, put your computers in, and move them out. You call up Corrugated's website and punch in an order for corrugated paper precisely cut and folded for 10,000 computer boxes. Off goes the order. The order lands in Corrugated's computers, which come up with a suggestion on how best to blend in your order with others. A scheduler looks over the computer's plan on one of the numerous computer screens scattered around the plant; they're all linked. If it looks OK, the scheduler hits the Send button. Software then directs the big corrugators on when and how to fill the order. If you've indicated that it's a rush job, the computer will adjust. The machines start doing their thing, spewing out corrugated paper at 800 feet per minute, slicing and dic-

ing it to fit your order. Computer-controlled conveyor belts take your custom-cut box paper toward the loading dock. A wireless PC on a forklift instructs the forklift operator to take your load to a specific truck trailer. Truckers pull in and log on to the network. They're told by computer which trailer they're supposed to haul to maximize their trip's efficiency. And they're off. Your order usually is delivered by the next day.

The system already is generating productivity gains. Corrugated's sales have climbed to $70 million from $40 million three years ago, and are expected to hit $100 million this year. Paper waste, one of the plant's major costs, has been cut by about 35 per cent with the new technology. Turnaround time on orders has fallen from an average of 2.5 days to 18 hours. Customer service has dropped to three employees from six, but they are handling as many as 800 orders daily – more than double the previous volume. About 70 per cent of the orders now come in by Internet and are routed electronically to the plant floor. No more reps running invoices back and forth with little notes spelling out special-order details.

Van Horne estimates that about 90 per cent of his customers don't yet quite understand that the Internet can link their factory floor and Corrugated's factory floor into one virtual box-making operation. Van Horne boasts that his company will be able to build a comparable factory from the ground up, incorporating the new technology system, for less than $30 million – and could manage it with significantly fewer people than anyone else. 'It doesn't make sense to do it just once,' he says.

headquarters of organizations operating in this way and that those who remain will manage information rather than anything else. Will the new order affect the lives of people working in Third World factories for the better? No one seems to think so – the factory of the future seems to be leaner and meaner in the advanced economies, but simply mean in the less developed ones. And many commentators have noted the power of the technology to introduce new forms of surveillance to further ensure compliance and control (see Chapter 7) both within the factory (Zuboff 1988; Rosen and Baroudi 1992; Sewell and Wilkinson 1992a, 1992b) and beyond (Dandeker 1990; Lyon 2001). But information technology is not the only way in which manufacturing is likely to be revolutionized in the not-too-distant future, as shown in the following case study.

The machine tool industry is one of the standard indices for the economic health of manufacturing industry in any country. The kind of radical change which the powder press could bring about could enable companies to retool cheaply and rapidly, and may even help small firms to stay in business. So although it may seem to have the potential to reduce staff at the tool manufacturers, it may, by enabling growth elsewhere in the manufacturing sector, create sufficient growth in tool manufacturing to offset this. When considered in combination with the Internet factory capability we saw in the case of the Chicago superplant, it would seem as if manufacturing in the twenty-first century is going to be a very different phenomenon from manufacturing in the last decade. Nevertheless, we should continue to exercise caution here, because we

CASE EXAMPLE

NEW MANUFACTURING FOR A NEW AGE

If you own a manufacturing business, you might want to pay a visit to West Lebanon, New Hampshire. What's going on there may forever change the way you do business – or perhaps put you out of it altogether. Tucked away in an unremarkable industrial building on the outskirts of town is a little machine about the size of a three-drawer filing cabinet. Feed a bit of metal powder into its maw, and after a moment of whirring and digesting, it spits out, say, a valve for a diesel engine or a gear for a car transmission or a pump component for a hot tub. It's an odd bit of industrial alchemy to watch – mere dust transforming itself into highly refined hardware.

The little machine in West Lebanon is known as a 'powder metallurgy press', and to most manufacturers, there ought to be nothing especially new about it. Powder presses have been around for 70 years, stamping out everything from truck-motor parts to medical equipment. Remarkably common though they are, these machines are remarkably crude. Most power presses are great, loud, chugging things, about the size and shape of a tractor trailer and demanding the ministrations of at least 200 people to keep them running through a workweek. Retooling the presses to switch from making one component to another can take days. And any parts the machines do produce are coarse at best, requiring up to a dozen refinements and improvements before they're ready for use.

The West Lebanon machine, developed by Mii Technologies LLC, is a whole different industrial beast. It's part of a new manufacturing system that is fast, portable or computerized. It can be shipped wherever it's needed and easily reconfigured to make just about any part for just about any manufacturer. While the machine the West Lebanon inventors are giving the world is not quite the personal computer, it could become to twenty-first-century manufacturers what the cotton gin was to the farmer or the loom to the miller. 'If these guys have the materials and can automate the manufacturing process,' says Kevin Prouty, an industry analyst with AMR Research in Boston, 'that's moving toward a new level – toward a manufacturing renaissance.'

By any measure, a renaissance in manufacturing is long overdue. Traditional powder presses are not the only low-tech way parts have been built over the years; stamping machines, casting machines and forging machines are used to melt or muscle metal into shape. Not only are these machines imprecise, they are also fantastically expensive and hard to come by. Mii's powder press may change all that, turning American industry on its head, reinventing not just products and components but the factory itself – creating a readily available and mobile digital manufacturing system for the New Economy with the kind of near-zero-tolerance quality needed in industrial manufacturing.

The cabinet-size press is an astonishingly economical piece of engineering – and an astonishingly powerful one. A traditional 935-cu.ft press generates about 440,000 lbs of force to compress its metal dust. The new 16-cu.ft press generates a whopping 920,000 lbs. Four built-in computerized control systems run the press's robotics, monitoring quality and minimizing work-stopping breakdowns. This helps reduce the team of 200 workers normally required to run such a machine to just three. What's more, by keeping quality high and eliminating the extra finishing steps needed by parts produced by cruder processes, the new press can complete a job up to 50 per cent faster which means it can lower costs by 30 per cent to 50 per cent.

It's Mii's powder as much as its machine that makes this kind of radical improvement possible, as they bond together differently and reduce the likelihood of clotting – and the ruination of a batch – to zero. And Mii's robotic presses can not only be shipped around the world, they can also be remotely operated. Thus a supervisor at a computer console in, say, Singapore can monitor a press in, say, Seattle, trouble-shooting any problems that come up. 'This is like the airplane or copying machine in previous eras,' say Jay Agarwal, an analyst with Charles River Associates 'How long it takes the market to form will depend on how long it takes manufacturers to change the way they think about their businesses and the laws of physics.' If the new press can really deliver on its promise, the laws of economics will probably have something to say about it too.

Source: Adapted from Jeffrey Kluger (2000) 'A new factory for a new age', *Time Magazine*, pp. 75–7.

have heard before stories of revolution in the machine tool industry – and this previous story was one of information revolution! Numerical control (NC) of machine tools (see Noble 1985, 1986), which allowed the modifiable specification of workpiece dimensions, was first introduced commercially in the USA in 1955 and its diffusion has carried on steadily since then. The system allowed one to control the path of a cutting tool by inputting a reprogrammable description of required tool movements. In his investigation of these changes, David Noble draws specific attention to the choices that were available, and those that were taken, in the

design of automatically controlled machine tools. These choices are understood in terms of the social relations of capitalist production. According to Noble (1985: 109), the introduction of NC and computer numerically controlled (CNC) machines led to a reorganization of the production process in metal-working 'in the direction of greater managerial control'. He identifies changes in both horizontal and vertical relations of production within metalworking. The former has seen a shift towards concentration in the industry, resulting in a small number of large firms, with a large number of small firms falling by the wayside. The latter entails 'a dramatic transfer of planning and control from the shop floor to the office'. To expect some sort of decentralization and democratization of manufacturing arrangements from the powder press, in the face of such historical precedents, might therefore seem a little naive. As Noble asks of the preceding information revolution in machine tooling:

Is it just a coincidence that the technology tends to strengthen the market position of these firms and enhance managerial authority in the [machine] shop? Why did this new technology take the form that it did, a form which seems to have rendered it accessible to only some firms, and why only this technology? Is there any other way to automate machine tools, a technology, for example, which would lend itself less to managerial control? (1985: 109–10)

To answer these questions, we need a little more detail on the history of the information revolution that was effected in the machine tool industry. Prior to this intervention, machine tools had traditionally been controlled by machinists, skilled craftsmen who transmitted their 'skill and purpose to the machine by means of cranks, levers, and handles'. The task involves complex and ongoing decision making about how the work should proceed to achieve the end product, which must itself be visualized by the machinist. A range of highly developed skills is involved, with tacit knowledge built up through a lengthy apprenticeship, with experience being of particular importance. During the 1930s and 40s, 'tracer technology' was developed. This allowed a recording of the movements of a skilled machinist via use of a sensor. This trace could then be 'played back' to control the machine to cut a similar piece on its own. Since machine tools are general-purpose machines that are used to cut a huge variety of parts, a separate trace was required for each new part and the source of this trace remained the skilled, tacit knowledge and abilities of a machinist. In the late 1940s an alternative mode of automation emerged, supported by the US Air Force and the Massachusetts Institute of Technology. This was the numerical control, (NC) system, a digital alternative to the analogue record playback. In this system:

The specifications for a part – the information contained in an engineering blueprint – are first broken down into a mathematical representation of the part, then into a mathematical description of the desired path of the cutting tool along up to five axes, and finally into hundreds or thousands of discrete instructions, translated for economy into a numerical code, which is read and translated into electrical signals for the machine controls. The N/C tape, in short, is a means of formally circumventing the role of the machinist as the source of intelligence of production. (Noble 1985: 111)

The key question to be answered is why NC technology was developed in favour of record playback technology. Noble notes that between 1949 and 1959, when the US air force ceased its formal support of the development of NC software, the military spent at least $62 million on the research, development and transfer of NC. Only one commercial company put their own money into this research. In 1955 the air force:

undertook to pay for the purchase, installation, and maintenance of over 100 N/C machines in factories of prime subcontractors; the contractors, aircraft manufacturers, and their suppliers would also be paid to learn to use the new technology. In short, the air force created a market for N/C. (Noble 1985: 113)

Noble's key point here is that the air force support that made the development of NC possible 'also helped determine the shape the technology would take'. The software for controlling these machines turned out to be the biggest problem that needed solving. Noble notes that various sites had differing levels of success in their attempts to make the transformation from embodied skill to disembodied digital instructions, with a variety of simple 'higher level' computer languages being invented for this purpose at a local level. Eventually, however, a standard, but complex, software system, APT (automatically programmed tools), was developed that usurped locally developed languages. It was flexible and made up of very basic fundamental 'skeletons' of shapes of actions that were fleshed out for each particular case. This fleshing out required complex programming skills (not generally possessed by current workers) and large computers. Despite these problems, the:

air force loved APT … it seemed to allow for rapid mobilization, for rapid design change, and for interchangeability between machines within a plant, between users and vendors, and between contractors and subcontractors throughout the country (presumably of 'strategic importance' in case of enemy attack). (Noble 1985: 114)

This usurping of local, simpler, but less generic and hence less widely applicable, computer languages was

initially resisted, but resistance was eventually overcome by 'higher level management, who had come to believe it necessary to learn how to use the new system for "business reasons" (cost-plus contracts with the air force)' (1985: 114). There were still huge problems with APT for all concerned, but these problems were most apparent for small manufacturers. Standardization retarded the development of simpler, alternative languages (which would have favoured smaller firms) and forced those who wanted to use NC into dependence upon the controllers of APT development, large computers and mathematically sophisticated programmers. Problems could be overcome by the large manufacturers receiving air force subsidy because of the resources at their disposal. Smaller, commercial users were not so fortunate. Any company that wanted military contracts had to use APT and together we can see how these changes served, over time, to concentrate the industry into a small number of large firms. As Noble (1985: 115) notes: 'APT served the air force and the aircraft industry well, but at the expense of less well endowed competitors.'

It would seem that record playback would have been a better bet for small manufacturers, yet it was abandoned by their large competitors and small companies never even got to see it. The company producing the system was bought out by one of the major NC manufacturers, who promptly shelved record playback in order to continue its focus on NC systems. NC represented the computer age and the advent of the brave new world. Perhaps most importantly, it furthered an ideology that sought to remove control from unpredictable and belligerent workers and place it in the hands of the far more trustworthy and dependable management. It provided an automated route to the Taylorist goal of complete *management* control. And management were the ones taking the decision, with the support of the air force, to go for this technology. As Peter Drucker (1967: 26) once observed: 'What is today called automation is conceptually a logical extension of Taylor's scientific management.'

A desire for control of the workforce and work clearly drove NC and its successor CNC. For example, control panels on machines on the floor were frequently disabled, allowing only remote programming from a central office, a practice which also served to ensure that the potentially 'subversive' (because of their unionization) machinists could not learn the new skills and reassert their power. And we should not forget that the introduction of C/NC had the added bonus of providing management with more of the essential thing that it requires to undertake its task and justify its existence: *information*. Managers generally do not work directly on the world of materials, they work on and through information, and in this sense we might say that

management has always been an activity carried out in a (partially) *virtual world.*

However, as Noble notes, *a desire for control on the part of management is seldom entirely satisfied*. In the C/NC case, tacit craft skills are still frequently required to moderate the execution of programmes. Use of 'cheap', unskilled staff was resisted by well-organized unions and, even when it could be deployed, unskilled labour proved costly, in particular, when machine reliability was not 100 per cent (which it never was) and errors could lead to the 'smash-up' of a very expensive machine. It proved very difficult to replace completely the tacit, craft skills of the operators with mathematically derived, logical instructions. This is a problem we may see repeated with the powder press when it is in numerous different locations without extensive, skilled, on-site support. In this case, then, existing powers of the military and concentrated capital strengthened their position in the face of opportunities for flexible distributed manufacture and we would be foolish not to consider the possibilities of such an occurrence in the factories of the virtual future. Having looked at how managing might be affected by the move to a (partially) virtual world, we conclude our book with a brief examination of how we ourselves might be affected by such moves. Consideration of these matters allows us to finish where we started, with consideration of both the *relationality* of the virtual world and its implications for *identity*, particularly those dimensions of identity associated with gender.

Community and identity in a virtual world

Who lives in the virtual parts of our partly virtual world and how do they relate to each other?

users are white [or about 90% of them are], have professional or managerial occupations, higher than average incomes and are likely to be located in the developed world. (Jordan, 1999: 53–4)

As Jordan also notes, the age profile of users is relatively stable, with the majority being in their early to mid-thirties and while the gender breakdown of users can be seen to be slowly equalizing, the virtual world is still predominantly male. It is to this gendering of the virtual world and its implications for the identities lived out within it that we devote most of our concluding thoughts. As we have already noted, many proponents of the virtual world suggest that it is a place where we can leave all our problematic distinctions, the bases for the invoking of prejudices by others, behind. Trend (2001: 183) illustrates this naive belief with a recent

MCI WorldCom ad, which 'typifies the boosterism that posits the Net as colorless, carefree, and democratic':

There is no race. There is no gender. There is no age. There are no infirmities. There are only minds. Utopia? No, Internet.

But, as our statistics above suggest, this is simply not the case, and MCI WorldCom know this as well as anyone. What is clearly being referred to in the quote is the way in which one's disembodied presence on the Internet allows one to hide, deny or invent anew one's actual embodied materiality. If you're a boy, you can say you're a girl. If you are white, you can say you are black, in an endless masked parade of identities. But this does not mean that one's bodily identity is so easily dispensed with and matters little if the environment online is generally tolerant of material that would offend those of colour, women and those whose sexual persuasion is other than straight:

In any visit to an online chat room one will observe voluminous anti-Semitic, racist, homophobic, and especially sexist speech, giving the lie to the myth of a disembodied or colorless cyberspace. (Trend 2001: 184)

Indeed, in such circumstances, non-whites, non-male, non-heterosexual users who have chosen to perform their identity online as other than it bodily/materially is will feel their 'real' identities intensely as they are simultaneously self-erased. Such a *life on screen* (Turkle 1996) is far from utopian. As indeed is much of the 'community' formed online (see Brown et al. 1998). 'Community' is one of Raymond Williams' keywords. He uses its references to common interests and remarks that it is a:

'warmly persuasive' word, whether used to describe existing or alternative relationships: what is more important, perhaps, is that unlike other terms of social organisation (state, nation, society etc) it never seems to be used unfavourably and never to be given any positive opposing or distinguishing term. (Williams 1976: 66)

Despite such usage, one can witness online communities as being formed not so much by a coming together over shared likes but more over shared *dislikes*, antagonisms, as we witnessed earlier in our groupware case. And thus the anti-Semitism, racism, homophobia and sexism signalled by Trend may perhaps unfortunately be seen as emblematic of a particular mode of community formation, in which the 'other' functions as a scapegoat (Burke 1969) who ritually accepts all the iniquities of the community formers as they coalesce around their enmity for their shared victim. Consider the following less extreme form of the process and its interrogation (or for an even more extreme version see Aycock and Buchignani 1995).

John Seabrook's dismay as his past writings for the *New Yorker* are served up in an online community for public disapproval.

The community in question is WELL – Whole Earth 'lectronic Link. For more on virtual communities, see Turkle (1984 and 1996) and Stone (1995).

Topic 748 [media]: The New Yorker

#145: The Sweat of Fear Smells Disgusting (rbr)

Well, good! So here we can turn our attentions to the travails of John Seabrook, who, in a remarkable impression of Ved Mehta, gets ten pages out of one e-mail message.

This piece reminded me a little of Bill Clinton's address to the 1988 Democratic National Convention. Seabrook touches all of the bases, and speaks to many of the points that need to be spoken to, and it's encouraging to see someone speaking to these 5 points under the national spotlight. And yet, he rambles, stumbles over the complexity of the issues, and ends up talking for a very long time for all the actual information he manages to impart.

Then Jon Carroll, the *Chronicle* columnist, posted:

#152· One word: rostrum

heh. veteran readers will remember seabrook as the author of the 'he likes me! he really likes me!' article about Bill Gates. This article seemed to consist of the author creating a persona that he believed would be attractive but was in fact intolerable. I found myself rooting for the flamer [Seabrook's article included both an interview with Bill Gates and an account of a subsequent 'flaming' from an author of an earlier book on Gates who considered that Seabrook had 'ripped off' their work.], altho I'm not a flaming kind of guy. Put this animal out of its misery, I thought, although that was an uncharitable and wrong thought.

#160· One word: rostrum

I'm sorry; I hate flamewars as much as anyone and more

than some. I have no idea why seabrook makes me think evil thoughts. It's just so darn passive aggressive.

#161: Kathleen Creighton (casey)

Sounds like he's a chucklehead and will be rightfully driven from the net. In fact, I'd like his e-mail address *right now* myself. I've got this pent-up hostility – oh, 45 years' worth – I'd like to do something with :-). (Seabrook, 1997: 168–71)

Seabrook eventually responds in the following way and also seeks some information on scapegoating from the archive:

Put yourself in my position. It's kind of scary. It wasn't that long ago that I was tremblingly showing my overwritten manuscripts to editors and feeling that sick feeling in the pit of my stomach when their voice came onto the phone with that sympathetic tone in it saying, 'It's really well written but …' Now, I'm listening to people call my writing/me 'intolerable' (jrc); a 'chucklehead' (casey); 'painfully uninteresting' (rbr); 'a specialty writer' (kj); 'not a specialty writer' (mnemonic); and 'aggressively and dangerously stupid' (hlr) … But perhaps the cruellest cut of all was to compare me to Ved Mehta (rbr).

#229: Howard Rheingold (hlr)[1]

It's an initiation ritual, John Seabrook. Stick around and help us dump on the next guy. ;-)

Another poster said:
Welcome to (if I may say it) the real world.' (ibid., p. 177)

Topic 173 [archives]: System Scapegoat – does the WELL always need one?
Started by: Stewart Brand (sbb)

This is a topic for public discussion of my shortcomings and how they are the source of all problems on the WELL.;
    The purpose is to determine what is the proper behavior toward whoever is the current System Scapegoat, and how the goat should best behave.

#15: well's cargo (dlee)

Maybe it's because I don't frequent the 'right' conferences, but it seems pretty rare to see an sbb posting. I have great respect for his accomplishments, and like Howard says, it seems fairly natural to be both fascinated and intimidated by Stewart. But Howard's description of him as 'aloof' and paternal fits what little I've seen

of his postings, and it seems like Stewart's happy enough being aloof and intimidating.
    It fits the pattern that he would open this topic, and with the words he used. I didn't see that, by WELL standards, he's been flamed that much, but he seems mightily annoyed that people would be so low class as to question him at all. Scapegoat?
    Hardly, Stewart; you flatter yourself.
    If you're content to rest on your laurels, then fine, Stewart. Go away. That's not what the WELL's about. We're all peers here, dude. If you think you're being treated unfairly then tell us why, and tell us what IS going on. Give us something more than 'wise' terseness. If you really care about us, and the ongoing health and viability of the WELL, then be a part of it and us. Otherwise it's easy to think that you see the WELL more as another nice item for your biography.

#36: Stewart Brand (sbb)

Who actually does the hard work of scapegoating?
    Judging by mine, they are volunteers, not paid, self-appointed, not elected or otherwise appointed, and energetic. Unrelentingness is part of the profile. If the scapegoat's behavior is not changing as demanded, hit harder and more often. Sometimes a Tormenter goes so over the top that he or she flips into the Scapegoat role, for over-reaching and thus endangering the system. Gans has been there, I believe. Tormenters never get to be the System Darling, who is the mirror of the System Scapegoat. I've been the Darling a time or two. Last time I checked Cliff Figallo was sort of it, but John Coate is carrying the main burden, this week. Darlinghood is limited because you're only allowed to say adorable things on line, same as the Goat is only allowed to say defensive things on-line (if he or she says something adorable, it must be attacked).
    I've learned there are only two viable responses to Scapegoathood – defensiveness, and defiance. This topic represents my changing gears from the one to other. That I'm having a good time with the experiment is driving my Tormenters crazy, as it is intended to.

#43: Stewart Brand (sbb)

Now a tricky moral question.
    Do Scapegoats feel pain?
    Of course not. A Scapegoat is a chimaeric entity, a projection, and therefore incapable of pain.
    Well then, do Tormenters intend to inflict pain?
    Yes, and it apparently gives them pleasure to do so, but that may be my biased perspective. However, they know that a chimaeric entity feels no pain after all, so they are absolved from feeling bad.

This is a demonstration of a fundamental truth, quickly and harshly learned, of Scapegoathood. Never show blood in a flock of chickens.

#57: Mouthy Scorp (axon)

well, heaven forfend that i should bully saint stewart. i'm afraid this latest exercise in obfuscation fails to sustain my interest. it's just a lot of handwaving.

now that i've been branded a Torturer i suppose i can die happy. but it isn't true that my intention is to inflict pain. far from it. my only intention is to help. you took it wrong, and my apologies to all if my rhetoric offends. but it seems to have gotten your attention, at least, and i'm willing to be 'the bad guy' (new well cultural icon; alongside The Scapegoat, The Tormentor and The Darling) if it will give you a safe way to gauge the depth of user resentment without sacrificing your own ego needs. (Seabrook, 1997: 158–61)

How are we to make sense of this? In J.G. Ballard's recent novel *Cocaine Nights*, it is suggested that this is always how communities form, in response to a perceived outside threat. In the novel, crime is the threat that delivers the inspiration for community formation. As one of the protagonists puts it:

'Burglary fills you with anger, even a self-righteous rage. The police are useless, fobbing you off with vague promises, and that generates a sense of injustice, a feeling that you're surrounded by a world without shame. Everything around you, the paintings and silverware you've taken for granted, fit into this new moral framework. You're more aware of yourself. Dormant areas of your mind that you haven't visited for years become important again. You begin to reassess yourself …'
'Exactly.' Crawford patted my arm, happy to welcome me to his flock. 'We form watch committees, elect a local council, take pride in our neighbourhoods, join sports clubs and local history societies, rediscover the everyday world we once took for granted. We know that it's more important to be a third rate painter than to watch a CD ROM on the Renaissance. Together we begin to thrive, and at last find our full potential as individuals and as a community.' (1996: 244–5)

For others the issue is more related to the specificity of the virtual environment, particularly the potential anonymity we considered earlier:

Because people cannot see or hear others laugh, wince, or indicate other immediate reactions to their performances they become less socially inhibited and more likely to be rude (or, as it is called, within the CMC subculture, to 'flame') … The upshot of these findings for the social potential is well summarised by Baron (1984) who writes that 'Computer Mediated Communication – at least as currently used – is ill suited for such 'social' uses of language (p. 136). (Baym 1995: 140)

Indeed, Seabrook notes down a conversation with Eugene Spafford, a self-professed Usenet old-timer attempting to 'get people to act with "decency" on Usenet':

What I see is new users getting on-line, promptly getting flamed by the older users, and then saying to themselves, hey let's get down and dirty and go for it. In any other kind of medium, the reality of the two people talking would prevent a lot of ugliness from happening, but with nothing but bits between them, people feel they can say anything they like – it's not a human you're talking to, it's just a machine. (Seabrook 1997: 119)

But it may not just be the anonymity of the medium, or a consequence of the lack of cues associated with the screening that the system provides, but also because our vantage point on our virtual world is one which, despite the rhetoric of virtual reality, is separate and separates us out as a viewing self, distinct from the virtual environment, not a part of it. We look *at* the virtual world, move *forward* through it (Bailey 1996). We accept a Cartesian, rational viewing point that 'permits the world to be constructed as something to be examined, manipulated, or owned' (Trend 2001: 184), positioning the viewer as 'male, white, straight, able bodied and dominant classed (Bailey 1996, cited in Trend 2001: 184), as indeed our statistics suggest they are. This is not a welcoming world for those who do not fit the bill.

Or so some say! It is nice to finish on a positive note and that is what we try to do. Other commentators have seen the form of page linking that exists on the Internet, 'hypertext', as a veritable embodiment of the postmodernist/poststructuralist modes of critical thinking that we have frequently valorized throughout this text (see, particularly, Landow 1991). Landow draws on the literary theorist Roland Barthes's distinction between writerly and readerly texts. The former can only be read by following the prescribed lines of the author. The author produces; the reader merely consumes (in the most impoverished sense of the term). In the latter, readerly case, the 'reader is no longer a consumer, but a producer of the text' (Barthes 1974: 4). In the opportunities it gives 'readers' to produce their own texts by creating their own pathways through the bringing together of different

chunks of text from different sources, hypertext is, for Landow, a readerly text. Even though a book is 'a linear thing, decidedly non-hypertexty' (Bell 2001: 1), we hope that the eclectic mix of chapters and themes produced here in this text, along with our varying treatments of them and our accounts of the variety of ways in which they might be used, constitutes something of a readerly text itself. That's what we've tried to make possible – a *virtuality* whose realization is down to you!

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