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The new enterprise culture

Charles Handy

The coming of the information economy offers the tantalizing promise of a modern alchemy, the ability to create wealth out of nothing. Microsoft stands as a sort of parable of our times, for it was built on nothing but the ideas and energies of two people. It needed, in its origins, nothing of land or materials or machines or even of finance – the sources of wealth in times gone by. The modern economies will not be constrained by lack of resources but only by lack of imagination, of creativity and ideas. Anyone, therefore, can do it, anywhere – that is the hope; but not in the ways we are accustomed to or comfortable with.

A German executive was mulling over the past and the future of his country. 'It has been our custom in Germany', he said, 'to put engineers on our boards, unlike the British who favoured accountants. That has worked very well for us, but one consequence has been that we have been inclined to think of organisations as machines, and to manage them as machines. Today our minds tell us that the organisations which we will need in the future will be more like networks or villages than machines, but our hearts are still with the machines. Until our hearts fall in line with our minds we shall find the future hard going'. His words could be echoed in cultures besides that of Germany.

The cultivation and exploitation of imagination will need new organisational forms. We shall need to look for them in unfamiliar places. Perhaps in the theatre or the arts, in unlikely places such as universities, or in the metaphors of the new sciences with their complexity

and chaos theories, their talk of 'strange attractors' and of repeating but exploding patterns. Imagination starts with individuals but flowers in groups, and it needs the power of an organisation to bring it to its full potential. The challenge of bonding the individual to the organisation is one which will stretch the imagination of our leaders, and they will be leaders rather than managers, for creativity can be led, it can be channelled and fostered but it resents being managed.

As this special issue of the *Demos Quarterly* explains, we need to encourage a very different enterprise culture to the one that prevailed in the past. Hierarchies will have to be built on respect rather than power. Ownership will increasingly be vested in the creators rather than the financiers, and education systems will change to reflect the need to create knowledge rather than to collect it. It could be a new kind of Renaissance, challenging the existing order and creating a new one, or, if resisted, we could end up watching the world overtake us on the new bypass. The prize will not necessarily go to the rich, nor to the powerful. The exciting thought is that it is an open choice for each society.

The new enterprise culture

Geoff Mulgan and Perri 6†*

In the 1980s, a distinctive enterprise culture took shape in the UK. It was actively promoted by government. It promised freedom for businessmen, and talked of the need to let managers manage, to cut taxes and set the market free. It had an unmistakeable tone, symbolised by the confidence of young men in pinstripe suits in the City and the swagger of the self-made small businessman. These were some of its elements:

- *Policy* – Businesses were to be freed from regulation and restraint.
- *Competition* – Competition was to be aggressive and based on 'go-it-alone' thinking.
- *Stakeholder control* – Business was there for the shareholders: everyone else was there to create wealth for them, and – if they had any sense – to become one of them.
- *Secrecy* – Apart from reporting financial information to shareholders there should be no requirement or even inclination to disclose information. Consultation just meant delay or fudging.

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- *Risk culture* – A more risk-taking venture capital industry and a more American 'can do' attitude to problem solving were to be encouraged.
- *Paradigm for solutions* – Solving problems in business – as in government – was a matter of cutting costs, getting the incentives right and mobilising self-interest.
- *Measurement* – Measuring performance meant measuring the cash value added: the bottom line was to reign supreme.
- *Purpose* – Only one purpose was legitimate: the maximisation of profits, often very short-term ones, except in a handful of sectors such as pharmaceuticals. Other goals had to be either subordinate or excluded altogether. Any involvement of business in social goals was either a diversion or a squandering of shareholders' money.

It was also clear what the enterprise culture *didn't* mean. There was to be no more:

- government subsidies for lame-duck firms;
- corporatist planning or negotiation;
- trade union power; and
- 'dependency culture' either for businesses or for people who ought to be working.

The phrase 'enterprise culture' told a story – or, rather, two: a story of how business would work and a story about public policy. The story about business was one about leadership by tough charismatic individuals, battling to create wealth. To coin a phrase, there was no such thing as the industry, only firms and their leaders. The story about public policy was that it had just one task – to get out of the way. There was to be no place for safety nets, picking winners, no more beer and sandwiches, no more 'bringing together the two sides of industry'. All policy-makers had to do was set in place the legal framework of property rights and the market would do the rest.

What the old enterprise culture did for us – and can't now do

With the benefit of hindsight we can see that the 1980s enterprise culture did something important. It helped Britain out of the sclerosis that had gripped many of its institutions. It helped the transition from an economy based on manufacturing and resource extraction for which markets were in relative decline, towards a post-industrial economy based on services. It encouraged a new generation to see self-employment and enterprise as attractive. It challenged the antiquated British view of commerce as sordid, brought competition into some sluggish monopoly-riddled markets, and broke the power of old trade union interests that put distribution above production.

Unfortunately, that was all it did. It did not achieve sustainably high growth, did not prevent small firms disappearing in their hundreds of thousands when recession hit, and did not enable prosperity to trickle down. Its managerial approaches proved far better at cutting costs than at generating new products and services. It did not even completely achieve its more central promises. Bloated utility monopolies, a steady slew of red tape even – or especially – in 'enterprise' initiatives like the Private Finance Initiative, and an inability to compete in many key markets still described much of British business by the late 1990s, and if anything Britain's competition policy structures ended the period weaker, not stronger, than they had been before.

Perhaps more fatally, the 1980s enterprise culture was profoundly unbalanced. It misdescribed much of the real business world that it claimed to celebrate, seeing it in terms of swashbuckling individuals rather than organisations. It projected an image of enterprise as the domain of suited white men at a time when people like Anita Roddick, Richard Branson and Shami Ahmed showed that business could have a very different face.

For the public the problem was that while it raised them up in their role as shareholders and consumers, giving them ever greater choice, it made them ever more submissive in their role as producers. Sometimes it seemed to make ever more demands for commitment from employees just when firms when giving ever less commitment back.

Moreover, all too often the tightening of financial controls actually strengthened old hierarchies rather than loosening them up. Meanwhile, throughout this period, the insistent claim that the only business of business is wealth creation continually ran up against the fact that the public holds firms to account for such things as the fairness of their executive pay structures, the morality of their behaviour on the other side of the world, and the sustainability of their environmental record.

The agenda for the emerging new enterprise culture

A business culture is one of the most valuable resources any society can have. Getting it right enables societies to grow and prosper even if they lack natural resources or large reserves of capital – especially in an era when whole industries are based on knowledge and information.

Many nations are now having to rethink their business cultures. Germany is worried about its lack of venture capital and business start-ups. Japan is worried that it lacks the creativity to pioneer new markets and new technologies. The US is concerned about the short-termism and irresponsibility of its big firms.

Here, too, in the UK we now need to develop a quite different enterprise culture, one suited to the distinct conditions of the late 1990s, and one appropriate to the long-term direction of change in business (and one that is wholly different from the culture of the 1970s).

In what follows we set out some of its elements – not because cultures can be created out of nothing, but rather because it is in the power of governments, legal frameworks and businesses themselves to promote cultures and to give them positive feedback, just as it is in their power to stifle them.

Policy – supporting competitive cohesion

The first concerns public policy, which now needs to facilitate the competitiveness not just of firms, but also of systems. In part this is because human capital is so important, along with communication and transport systems that ensure rapid flows of goods and messages.

But there is also a subtler lesson to be learnt from Silicon Valley, South Carolina, Baden-Württemburg, Boston Back Bay, Singapore and Seattle. Long-run prosperity depends on dense networks of relationships and agglomerations of activities, not just on régimes of tax and law. These can be influenced, though rarely created, by public policies to improve the quality of life, to support partnerships and networking arrangements between universities and firms, colleges and supply chains, employee volunteers and local communities. The key point, as both Michael Best and Gerard Fairtlough argue, is that policy needs to focus on networks rather than just on firms or sectors.

Stakeowner control – a new meaning for membership

The second concerns membership. Securing the commitment of skilled, knowledgeable staff requires an acceptance that shareholders, like nation states, gain most by sharing sovereignty. Treating labour simply as a commodity will not suffice when real value is in the heads of the staff. This is why, as Peter Wickens shows, the failure to turn the rhetoric about employee empowerment into reality has been so debilitating. Looking ahead, the new enterprise culture needs to involve experiment with workable models going beyond existing Employee Share Ownership Plans (ESOPs), and giving genuine power and responsibility (with all the risks that entails) to smaller units. Jeff Gates' ideas of 'stakeownership' show many promising routes forward, giving concrete expression to the rising significance of human capital, and presenting a vision of active popular capitalism that is very different from the passive popular capitalism of the 1980s.

Re-engineering for information

The third element concerns information. The economy is becoming ever more dependent on information, but most of our institutions lag behind this new reality. Businesses have only crude methods for measuring investment in software and associated skills. The failure of economics to adapt from its industrial origins means that national economic investment statistics simply ignore much of the most

important investment taking place. In the years ahead we will need to promote new property rights (see Robin Mansell and W. Steinmueller), new means of analysis (see Kate Oakley), new thinking about ownership (see John Kay) and new organisational forms (see Geoff Mulgan and Ivan Briscoe) if the full promise of a knowledge based economy is to be realised. But new approaches to information are also relevant within the firm. The presumption against disclosure is unsustainable. Instead, successful firms recognise that greater transparency can help them. Sharing corporate plans with employees can improve motivation and trust. And when something goes wrong (e.g. with a product or a chemical plant) it is far better to be open and honest than to give the appearance of covering something up.

Mass enterprise

The fourth element is inclusiveness. An effective enterprise culture has to have broad appeal. It has to be able to embrace the values of very diverse groups, from women opting out of corporate hierarchies (see Helen Wilkinson) to young Asian businessmen, from cultural and community entrepreneurs to computer fanatics. So far it has proven very hard for the traditional arms of policy – ranging from the DTI to banks, chambers of commerce to TECs – to reflect this diversity. Instead most reflect the business culture of 20 years ago, which is why one response has been the establishment of culturally distinct financial institutions and support structures – from women-only banks to community-based local investment funds. Yet a truly healthy and adaptive economy must be one where everyone can imagine themselves as an entrepreneur, owning their own life, and where everyone can imagine taking a small slice of their savings or pension capital to invest in a friend or relative's business.

Integrating learning and business

The fifth element is learning. The new enterprise culture will depend on taking seriously organisations' capacities to learn. This is not as soft an option as it is often portrayed. In practice it often requires tough

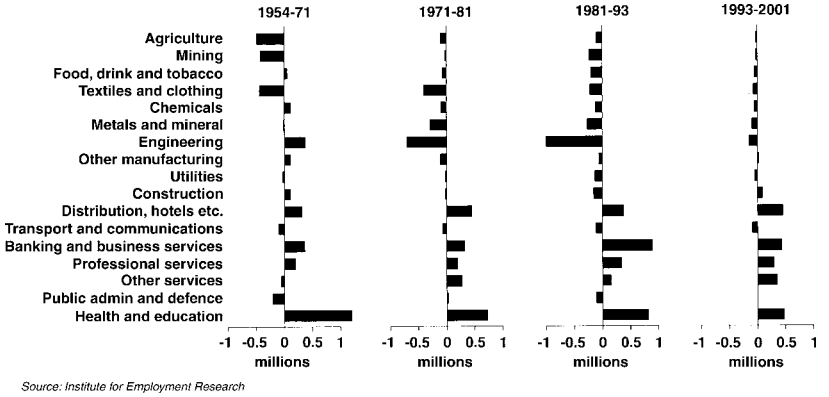

Figure Changes in Employment, 1954–2001.

measures to unlearn inappropriate practices, to bring to the surface dissonances and conflicts. It also implies rather less security for the traditional institutions of learning. As Douglas Hague argues, the old clear-cut boundaries between education and business are rapidly disappearing. Already many firms are developing their own quasi-universities, providing continual learning opportunities to their staff, and integrating learning and doing. In the future the best will compete in terms of what they can do for their employees' employability, while a whole range of educational activities, from research to teaching to brokering knowledge, will take place in a wider ecology of learning, far beyond the confines of the universities and schools that once had a privileged monopoly.

Seriousness about the future

The sixth element is concern for the future. At the moment fear and uncertainty are leading to some strange reactions (see James Woudhuysen). We have few institutional frameworks for serious thought about what the future is bringing. But a more uncertain world makes it all the more essential to lock future thinking not only into firms' strategies but also into the thinking of governments (see Bob

Tyrrell). As a counterweight to the nervous hyperactivity of modern news and financial markets and as an alternative to glib invocations of chaos theory, we need to cultivate the habit of long-term thinking all the more. Failure to do this threatens business with perpetual anxiety, as crises explode over everything from the contents of food to misselling of products.

Organisational culture

The seventh element is organisational culture. People respond with loyalty, imagination and commitment to organisations when leadership engages with all their motivations. Partly because of the huge imbalance in rewards British employees have become strikingly cynical about their leaders, and about official cultures. This imbalance has a cost. As David Cannon points out, if organisations want to be able to learn from their failures, they must make some commitment to the staff who will draw those lessons for them. The key point, as Edgar Schein shows, is that culture is a crucial asset for any firm, a potential motivator and glue for very disparate activities, albeit one that is extremely complex to manage and change. Successful programmes of change, in which the process of change is 'owned' by those involved, can be hugely motivating. This is why it is altogether appropriate that firms are now striving in new ways to learn how to be creative as well as efficient (see John Coopey and John Whatmore).

A new model of service

Eighth, the new culture has to be one that fits an economy ever more based on service. So far the restructuring of services has been dominated by models taken from manufacturing, stripping away front-line staff and dehumanising the service (and often empowering managers and accountants). The application of technology has done far more to cut costs than to improve customers' sense of the quality of service. In the future we need radically to rethink our ideas about services, emphasising not only the quality of human relationships involved (see Geoff Mulgan, and James Woudhuysen in the previous issue of

Demos Quarterly), but also the pursuit of ideals, so that service loses its association with servility and regains some of the sense of vocation that motivates the best curers, teachers and carers.

Measuring what counts

Ninth, we need to learn how to measure the new sources of competitive advantage – skills, knowledge, social capital, software, environmental impact and the intangible assets that make for sustainable success. Ever since the industrial revolution methods of measurement and accounting have had to be continually revolutionised. Now in many fields there are signs that the numbers are falling behind, failing properly to map an information based economy. But there is also another change in measurement which is long overdue. We need more experimentation with measurement methods which enable each business unit and even each individual to be clearer about the costs and values associated with their work, since greater responsibility is the corollary of greater devolution within the enterprise.

Diverse purpose

Finally the new enterprise culture needs a more sophisticated understanding of purpose. The idea that business can have only one purpose – the maximisation of profit – was never accurate. But today, perhaps more than ever, businesses are being established as means to other goals. Sometimes these will be aesthetic (the pursuit of a design ideal), social (helping poor Latin American coffee growers or preserving a craft tradition), environmental (saving rainforests or promoting renewable energy), religious (promoting Christian or Islamic values). While the need to make profits remains an outer limit to the scope for these more values-driven businesses, we should see a far more diverse business culture as a strenght, not as an aberration.

Together these are some of the elements of a new enterprise culture – a culture that has the potential both to be far more inclusive than the narrow enterprise culture of the 1980s, and to pay higher dividends in the long run.

Although this culture is in part about greater flexibility and adaptability, it is also about redefining the relationship of rigid and flexible elements. In the most successful enterprises of the 1990s there are still fixed points, non-negotiable elements. But whereas in the past these tended to focus on authority and hierarchy, today these concern quality, or safety, or adherence to core principles as well as financial returns.

This special issue of *Demos Quarterly* explores the key themes of the new enterprise culture, including their problems and contradictions. It looks at ownership and creativity, at insecurity and intellectual property, and, wherever possible, it seeks to draw out concrete policy conclusions whether in relation to competition policy (see Perri 6), how the DTI might be reformed (see George Guise and Gerard Fairtlough), new forms of money (see David Birch and Neil McEvoy), or how regional economies might be better supported (see Michael Best). It does not offer a blueprint, since it is in the nature of cultures that they are diverse and organic. But it does paint a picture of a very different, and perhaps more sustainable, form of popular capitalism.

The shapers of things to come: the history of planning

Bob Tyrrell

Images of the future have always played a central role in human affairs. The nature of these images has differed substantially over time and in different cultures, but individuals, organisations and states have always needed some image of the future. That image can present the future as something that happens to them or as something that they can actively create.

The common element in thinking about the future is always a desire in some way to increase control. Peter Schwarz, President of the Global Business Network, puts this very directly in the first paragraph of his recent book *The art of the long view.* 'This book', he writes, 'is about freedom'. What he means is that without an understanding or an exploration (a distinction which is central in this essay) of what the future might hold we lack the freedom to make the most of our opportunities and to control our destinies.

Yet in modern times the history of planning has been intimately tied up with communist régimes, which liberals have characterised as seeking to usurp the prerogative of nature and of God to control our destinies by substituting planning, backed up by the power of science.

Interestingly, the communist model of planning could still be said to take a cue from God. If the assumption was that God (or, even more

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abstractly, history) has purpose and design (in corporate speak, a 'strategy'), the advance made by Marx, with appropriate acknowledgements to Hegel, was to crack that design and to describe how to facilitate its realisation. The common assumption was that the future was determinate. The advance was to determine what the conditions in the system were and from these to predict the end state.

Liberal régimes and philosophies have always seen planning as opposed to the free market. The philosophy of the free market is premised on the complexity of nature, the freedom and autonomy of individuals and the consequent need for the devolution of decision-making. There may or may not be a pattern to be discerned, but either way such a project is beyond ordinary mortals' capacity either to know or to control.

For the extreme exponents of this view, planning and its implicit objective of control is eschewed not only at the level of markets and economies but at the level of the firm too. For example, Tom Peters has seriously suggested that attempts to plan and to understand how corporations work (and, by extension, to control their evolution) is not only foolish but dangerous. He argues about the corporation by analogy with national economies. No-one understands how the US economy works, yet it works very well. The Soviets 'understood' how their economy worked and it was a disaster. His prescription is for chaos and 'crazy organisations for crazy times'. More generally there is a good deal of evidence of the triumph of the 'liberal' approach to planning in corporations, one that relies less on the rational, analytic and passive and more on the inspirational and emotional.

The development of planning in organisations

How did we get here? Within firms the development of formal strategic planning methods in organisations can be traced back to the 1950s when large firms such as ICI in the UK or Boeing in the US began to adopt the vocabulary of military strategy and to assimilate the experience of planning gained by governments during the war. The strongly deterministic stances of the social sciences, and economics in particular,

also proved critical in shaping corporate strategic planning. At this time it was still possible to look to the Soviet Union as testimony to the power of science, technocratic knowledge and managerialism to solve social problems and create 'progress'.

It was against this background that the early management theorists of planning (such as Ansoff and Mintzberg) began to emerge in the 1960s. They prescribed a highly structured and quantitative approach. The organisation was depicted as a passive agent operating in an environment that was complex and uncertain but still, in principle, one that could be fathomed and predicted. The environment was typically categorised under a number of headings, such as the social, technological, economic and political (known as the STEP approach). 'Models' were developed to characterise these environments and used to predict their course and the impact of 'shocks' to the system. In the case of the economy the models were typically quantitative, in the other areas they were more often intuitive or judgmental. The theory was that organisations should relate different parts of their operations to the operating environments and 'read off' the implications for corporate action of the changes predicted by the models.

By the 1970s, the limitations of this approach were beginning to be evident. One problem was that it was not all that easy to read implications off in the way suggested. More seriously, there were doubts about the single point, deterministic approach to describing the future. The answer that came back was 'scenarios'. These became serious currency in the USA which had already seen the development of a large and respectable 'futures' industry in the 1960s. In the UK scenario planning found its most enthusiastic practitioners in the Shell company.

The Shell experience was widely disseminated, especially in the wake of the 1974 oil price explosion. In one of its scenarios the company had described a large increase in oil prices. As a result the company was said to have been better able to adapt to the dramatically different conditions that prevailed. The Shell precedent was widely discussed and large numbers of other companies started to do their own scenario planning.

Table The changing scale of technology

Area of change	Late 1940s–early 1970s	Early 1970s-mid-1990s	Mid-1990s onwards
OECD installed computer base (no. of machines)	30,000 (1965)	Millions (1985)	Hundred millions (2005)
OECD full-time software personnel	>200,000 (1965)	>2,000,000 (1985)	>10,000,000 (2005)
Leading representative computer: instructions per second	10^3 (1955)	10^7 (1989)	10^9 (2000)
Personal computer (PC): instructions per second	–	10^6 (1989)	10^8 (2000)
Cost: computer thousand operations per $US	10^5 (1960s)	10^8 (1980s)	10^{10} (2005)

Source: Freeman and Soete, 1994, Work for all or mass unemployment?

Unqualified enthusiasm for scenario planning did not last long. The main difficulty was that executives still needed to take decisions on the basis of a single point of view. Whilst exploring alternative futures could make you more flexible in your attitude to change, this was often judged to be of insufficient value when set against the costs in time and other resources required to generate and assimilate the scenarios.

More seriously, the uncertainties in the 1980s seemed to be multiplying. Things started to happen that no-one had anticipated in any scenarios. In economics the breakdown of the post-war welfare consensus and the rise of Thatcherism and Reaganomics turned old assumptions on their heads. Analysis could tell you that cutting taxes could raise revenue … or, maybe, lower revenue. Logic alone could no longer discriminate between possible outcomes. The threat this posed to the confidence of Enlightenment thinking cannot be over-stated and has still to see its full repercussions work through. The breakdown of the certainties of the Cold War added to this sense of a chaotic world. Anything seemed possible and if anything was possible what was the point of trying to anticipate the future?

Corporate priorities were also changing in the 1980s as companies' attention turned to internal rather than external imperatives. Competitive strategy, competitor benchmarking, focusing on core competencies, re-engineering the business and financial re-structuring became the new management mantras.

As an alternative to planning, if anything could happen, then you had to prepare for anything. Infinite flexibility became the goal. Change was not now something that happened to things, it was a phenomenon in its own right and the ability to respond to change became itself a source of competitive advantage. In a survey of 100 chief executives and main board directors in 1990 the Henley Centre found this to be their top rated attribute of successful companies.

National planning

The parallel recent history of national planning in the liberal democracies is varied and plagued by at least as many of the difficulties as those

encountered in corporate planning. In continental Europe, France with its system of 'indicative planning' was frequently held up as an example of the best of both worlds, fusing free markets with the potential for enhanced rationality that planning always, in theory, offered.

In the UK the Wilson-led Labour government set up its own Department of Economic Affairs in 1964 and within a little over a year inaugurated its first Five Year Plan. The National Economic Development Office was also set up, along with 'little neddies' for key industry sectors. These were designed to facilitate the discussion and dissemination of planning assumptions within the key (corporate, trade union and government) parties to the planning process. The aim was to ensure a systematic cascading of implications from macro to micro level.

But almost as soon as the plan was published it was blown off course. The fatal flaw was the failure to attain the critical macro economic prediction/premise of a 3 per cent p.a. growth rate. On this hinged many other elements of the plan and it was the cue industry was supposed to take for its own plans and actions. To many this experience demonstrated not only that planning was impossible and a waste of time but, insofar as it misguided investment plans, that it was actually damaging.

Attempts were made to sustain the process, but other problems distracted the government and when the Tories were returned to power in 1970 macro planning was shelved. By this time the benefits of the French planning experience were also being questioned and, in the ceaseless quest to find a model on which we could base our own industrial revival, Japan became the new paragon of virtue. The role attributed to the industrial strategy of MITI (the Ministry of International Trade and Industry) in Japan's industrial success encouraged a continuation of the practice of 'picking industry winners'.

There were further attempts to sustain an active industrial strategy in the second Wilson government that won power in the two elections of 1974, mainly centred around Tony Benn. However, this government's experience instead foreshadowed what was, in the 1980s, to become an ideology of 'powerless government'. Keynesian economics was being progressively discredited as economies ran into the problems of

'stagflation' and without Keynes, governments discovered that they had lost their macro-economic steering wheel.

The link between the decline in the efficacy of planning and the decline in the efficacy of the nation state is unmistakeable. Planning implies objectives and the ability to control. Whereas governments were previously seen as the regulators or even the creators of markets, today the markets are the new gold standard by which governments are to be disciplined. The new mental model is clearly illustrated by this quote from an *Economist* magazine survey on the Global Economy in October 1995:

'… one thing is sure: plenty more clashes between global markets and national governments lie ahead. The danger is that some governments will be tempted to respond to market excesses by trying to force the global capital market back into a strait-jacket. But they would be bound to fail. Governments would do better to rethink the way they conduct policy to avoid destabilising market expectations, and ensure that markets are better informed so *that they can become stricter disciplinarians*'. (Italics added)

At a more philosophical level the demise of planning is also linked to the 'end of history' and the 'postmodern' condition in which the narratives to explain progress and the human condition are lost.

Postmodern corporate planning

But even though some nations have given up planning and the purposeful pursuit of objectives, this is not the case in corporations. I left the corporate story at the point where 'flexibility' was being seen as the substitute for planning – but this is not the end of the story. The current corporate chapter on planning contains some extremely interesting twists in the plot. A recently published best-seller from Gary Hamel and C.K. Prahalad, entitled *Competing for the future*, is significant in this respect. This series of short passages from their book indicates the direction in which corporate planning in some companies may be starting to move:

'We are standing on the verge of a revolution … the environmental revolution, the genetic revolution, the materials revolution, the digital

revolution and, most of all, the information revolution … Existing industries – education, health care, transportation, banking, publishing … will be profoundly transformed … Thus the question of which companies and countries *create the future* is far from academic … The wealth of a firm, and of each nation in which it operates, largely depends on its role in *creating tomorrow's markets* … in emerging opportunity arenas … the rules are waiting to be written. In existing industries the rules are waiting to be rewritten.' (Italics added)

The key change is one from planning as a process to generate understanding, to planning as exploration and creation. If you haven't a clue what's going to happen and infinite flexibility is neither attainable nor consonant with human and corporate nature, then all you have left is to articulate your vision and strive to realise it. Clearly that vision has to be intelligent and rational, but, for example, is it the vision of the future of the information society of Bill Gates of Microsoft, Jim Clark of Netscape or Eckhard Pfieffer of Compaq that is correct? The answer is substantially dependent on who has the strongest vision and drive. The coming corporate mantra is that winners will be the those who have discovered the strongest sense of purpose. The injunction is to decide who you are, believe in it with a passion … and things should start to happen for you.

What this approach starts from is a recognition that we live in extraordinarily fluid times. In many, if not most, situations today there is a much greater range of possible futures. However, there will still only be one actual outcome, and an enhanced power in determining that outcome will be influenced by the relative strength of purpose of the agents in any situation. In this context the agent is the corporation and the corporate will is revealed in and energised by the corporate plan. In other words, the planning causality is beginning to be reversed. Now it's not just 'how should the corporation adapt to the environment' but rather 'how does the corporation need to adapt the environment in order to achieve its objectives?' The emphasis in corporations on envisioning the future, the role of mission statements, the use of 'positive thinking' techniques under a range of guises, such as neuro-linguistic programming, all testify to this change.

Other, more circumstantial, contemporary evidence also supports the argument. For example the current merger and acquisition boom is patently different from the one that preceded it in the late 1980s. This time the overriding goal of most mergers and acquisitions is category or market dominance. The view this reflects is: if you can't control or predict your operating environment, then own it.

This development from a passive to an active mode of planning has its analogue in the social sciences. Many social and natural scientists are moving away from deterministic and reductionist stances for their disciplines. They are accepting that the future is plural and that outcomes are not even in principle determined independently of the actions of agents.

Conclusion: the case for and the possibility of national 'planning'

The potential dangers of the contemporary corporate planning philosophy cannot be ignored in an unregulated environment where the countervailing power of governments has declined. In his book, *When corporations rule the world*, David Korten gives a chilling account of these dangers. But, for practical purposes, what can governments do?

I stressed earlier that there are two conditions necessary for the successful execution of a planning process. First, a set of objectives and second some ability to control outcomes. In extraordinarily fluid times, outcomes are not determined by the logic of situations, but by the strength of purpose of the agents in any situation. If business planning has become, in part, a case of identity affirmation then perhaps it is not too simplistic to say that one of the responses of governments should be to 'affirm' back! National 'stories' have to be developed and, the 'liberal' resistance to contriving an identity and a sense of direction has to be overcome. Governments and global corporations are now almost equals in power to control events. If the further accretion of corporate power is to be contained, then a necessary condition of that containment is that we need a matching level of political purpose.

This question of purpose is also important in the relationships between governments. Nowhere is this more clearly borne out at the

moment than in the battle over EMU. The question is not 'will EMU happen or won't it', but rather 'who is going to make what happen?'. 'Events' are clearly relevant to the outcome (look at the problems in realising their purpose of the German and French governments), but the fluidity of this (and many other) situations today is such that the balance between agents and events has altered. Waiting to see what the logic of events dictates is, perhaps less sensible today than ever before.

Holding your own: the case for employee capitalism

Jeffrey Gates

> Ownership is not a vice, not something to be ashamed of, but rather a commitment, and an instrument by which the general good can be served. (Czech President Vaclav Havel)

Historically, the moral foundation of both free enterprise and democracy has been the feedback provided by their participants. And the most powerful and effective feedback device available to free enterprise systems is ownership. This key component of capitalism has recently become the object of intense political scrutiny through the notion of the 'stakeholder society'. But how much substance lies behind the fashionable slogan?

This article suggests that opportunities for ownership should be extended to as many as can benefit from them, in particular through the most modern manifestation of ownership: corporate shares. Further, the notion of 'stakeholder rights' will remain nebulous and inchoate – no more than a political slogan – until it is consolidated

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into contractual relationships that embody the rights and responsibilities associated with the ownership of corporate shares.

Ownership is best understood as a way to connect a nation's citizens to its private property system so that the system better responds to their needs. Equally importantly, that ownership stake can enable citizens to understand – and better respond to – the system's many needs. Thus, this article advocates not just ownership by employee-stakeholders but also 'proximate' ownership. The aim is to encourage a policy preference for an element of ownership, even stewardship, by those most affected by (and best placed to enhance) the nation's productive assets.

Corporate finance – a closed system

Despite overwhelming evidence to the contrary, many policy-makers continue to claim that the free enterprise financial system is open to all because anyone can buy shares in the stock market. Expecting a broad base of stakeholders (particularly wage-earners) to buy their way into this system might best be described as Marie Antoinette Capitalism – only instead of urging 'Let them eat cake', the refrain is 'Let them buy shares'. It is clear that modern day capitalism is designed not to create capitalists, but rather to finance capital (see Figure 1).

As the illustration indicates, a corporation has only two sources of funds: those it generates internally and those it raises externally. Internally generated funds consist of two components: reinvested earnings and profits (the funds a company retains for growing the business after it has paid its expenses and distributed dividends to its shareholders); and depreciation reserves (the funds it sets aside to replace its physical assets, such as equipment and machinery, as they wear out or become obsolete).

Depreciation is immensely important, reflecting the private property concept that taxes should not be levied on a corporation's income until its owners recover the cost of replacing the property used in generating that income. Otherwise, the tax would be a levy not on income but on the property itself.

In advanced market economies such as the US, these two sources of internally generated funds (earnings and profits plus depreciation) typically amount to three-quarters of all corporate funds, while depreciation alone accounts for about 90 per cent of those funds sourced internally. Thus the private property system (embodied in depreciation) underpins more than two-thirds of the funds used today to finance tomorrow's capitalism. Tax policy clearly plays a crucial role in sustaining the 'closed' nature of this financing system.

The third and fourth sources of funds come from outside the company. They include creditors (such as banks and bond holders) and equity investors (shareholders). The best-known source of debt capital is bank loans. Understandably, no bank will lend money without collateral. Because it is the current owners' collateral that is put at risk to secure that debt, and because it is the cash generated by their company that pays off the loan, those same owners, unsurprisingly, claim ownership of anything acquired with that debt.

As a consequence, commercial credit in any free enterprise economy is very strictly allocated – to those who are already beneficiaries of this closed system of finance. In combination, depreciation and debt generally account for 85 to 90 per cent of total funds.

In looking for ways to open this system to broader participation, we are left with the fourth and last source of funds: the sale of newly issued shares ('equity'). New equity has been a relatively insignificant

Internally Generated Funds
Earnings and Profits – reinvested for current owners
Depreciation Reserves – reinvested for current owners
Externally Generated Funds
Debt – which is repaid on behalf of current owners
Equity – which is most affordable by current owners

Source: US General Accounting Office (1986).

Figure 1 Sources of corporate funds.

source of funds for several decades, although this has changed a bit in recent years, largely because of equity purchases by institutional investors (pension plans, mutual funds, banks, insurance companies).

ESOPs: the first stakeowner solution

The key determinant of an enterprise's financial value is the cash flowing through it. The well-to-do have long known that the secret to significant capital accumulation is to acquire income-producing assets on a self-liquidating basis – using the revenue those assets generate to repay the cost of their acquisition. That's also the secret behind leveraged buyouts (LBOs), the transatlantic financial technique of choice to create a few billionaires in the midst of declining fortunes for the many. In the US, this common 'self-financing' business practice was given legislative backing as a means of benefiting employee-stakeholders through employee stock ownership plans (ESOPs). In essence, an ESOP-sponsor company's shareholders are urged to borrow funds to buy shares for their employees. The loan, which attracts tax relief for the company, is then repaid from the company's future earnings.

The ESOP concept can be captured in six words: 'productive assets can pay for themselves' – not out of labour's after-tax earnings but out of the pre-tax earnings of the enterprise. That fundamental self-financing notion lies behind the great popularity of employee ownership in the US. ESOP legislation marks the first time that a stakeholder-focused agenda has appeared in the tool-kit of conventional financiers, merchant bankers and their advisers.

In the US today, more than 10,000 ESOP companies cover 10 million workers, with an average ownership level of 15 to 20 per cent. Of the hundred largest companies with at least 30 per cent employee ownership, the smallest has almost 1,000 employees. Many of America's ESOPs are 'self-financed' while others are hybrids, with ownership accessed through a combination of personal saving (such as employee payroll deductions) and business saving.

One of the most notable self-financed ESOPs is Avis Inc., the second largest car rental agency in the US. It became 100 per cent ESOP-owned

in 1987 through a buyout transaction which enabled its previous owners to end their investment in Avis and reinvest their capital gain on a tax-free basis. That capital gain 'rollover' provision is a stakeholder ownership incentive since embraced under UK tax law.

In the 1980s, the United Steelworkers of America adopted an 'investment bargaining' strategy to save their jobs and secure their pensions – agreeing to take less cash out of the company in return for convertible preferred shares in the company. The strategy is credited with helping the struggling US steel industry adjust its costs back in line with global norms, a critical factor in the resurgence of America's auto industry. One key element of the adjustment was a leadership which had the foresight to ensure that these important stakeholders gained a stake more complex than the size of their pay packets.

More than 100 countries are now interested in adapting versions of the ESOP concept. Many are well advanced. For example, a World Bank Report documents that employee ownership is the most common component in privatization in each of the 15 Republics of the former Soviet Union (though it seems destined to degenerate into management entrenchment). Employee ownership is also to be found in countries as diverse as Argentina, Pakistan, Chile, Zimbabwe, Canada, Jamaica, Morocco and even China.

An era of disconnection

Perhaps the key irony of the Thatcher era is that a genuine 'people's capitalism' never fully took hold in the UK. Instead, the privatisation of council houses (a type of stakeownership) remains Lady Thatcher's most enduring ownership legacy while the far more important area of corporate and business ownership became steadily more concentrated – and the promised trickle-down never materialised. A more profound change in the structure of society still confounds policy-makers.

We are witnessing the beginning of a historic shift in the nature of production. Professor Peter Drucker puts it thus: 'the acquisition and distribution of formal knowledge may come to occupy the place in the politics of the knowledge society which the acquisition and distribution

of property and income have occupied in our politics over the two or three centuries that we have come to call the Age of Capitalism.'

Due to the ability of developing countries to 'leapfrog' two centuries of technological advance, this trend is to be found worldwide. Already, we are beginning to see new-style companies where the critical resource is knowledge-intensity rather than labour-intensity. This new form of capital resides in what commentators are calling 'competence carriers' or the 'cognitive elite'.

As the hi-tech entrepreneurs of California's Silicon Valley discovered long ago, to keep hold of this valuable (and quite mobile) human capital means ensuring that employers retain their workers' long-term commitment. Not surprisingly, ownership is the most popular solution, typically in the form of employee stock options.

Of course every economy, no matter how developed, will continue to have a certain number of jobs that are routine or relatively low-value personal services. The question then becomes whether an economic policy based on job opportunities alone is sufficient. An alternative 'dual-connection' approach to public policy would involve a nation's citizens participating in their economy both through a job (where income is based largely on their personal skills, experience and motivation) and through an ownership stake (where income is based, in part, on those skills embodied in their culture's collective skills, experience and motivation).

The search for connections

In *JobShift*, William Bridges suggests that the whole concept of the job is rapidly being eliminated through a combination of re-engineering, self-managed work teams, flattened organisations and computers taking over routine information-based work. In a fast-changing, global economy, jobs are characterised as 'rigid solutions to an elastic problem'.

Peter Drucker believes that while many workers will continue to be employees, the meaning of the term will evolve as they, through their pension plans, increasingly come to own the means of production. In addition, he notes that knowledge workers already directly own

a principal means of production (their knowledge), which indicates the need to fundamentally reappraise notions of both 'worker ownership' and even the 'means of production'.

This change could have a far-reaching impact. According to Michael Beer and his Harvard colleagues, the sources of competitive advantage are competence, coordination and commitment – the '3 Cs' – all of which are undermined by a process that results in people continuously changing jobs. Yet many of the '3 Cs' concerns could be addressed through compensation plans that included an ownership component. Genuinely competent people know, for instance, that it is in their interest to be associated with the potential upside of a project. That is why key executives routinely bargain for ownership participation in companies where they work. Stock options would provide one means for soliciting long-term commitment from both direct employees and those providing out-sourced services – while also underpinning long-term coordination. This strategy could also guarantee that productivity gains (reflected in share prices) are harvested, at least in part, by those who contribute to generating those gains.

Expanding the network of stakeowners

Other models are emerging that explore how a nation's citizens might most appropriately be connected to their economy, including various new forms of stakeholder ownership. For instance, stepping beyond the notion of ownership by direct employees, the related enterprise share ownership plan (RESOP) widens the ownership stake in larger companies to those indirectly employed by them, as suppliers and distributors. As well as serving to update the social contract in connecting people more effectively to work and the economy, this wider ownership structure also benefits companies. Management theorists have repeatedly confirmed that companies compete on the basis of their entire operation, including the relationships among all those crucial to their success: employees, customers, suppliers, distributors, etc.

The original, self-financing ESOP concept suggests how everyday economic relationships can be massaged to create a broader base of

'relationship' owners. For example, a consumer stock ownership plan (CSOP) could be designed to build broad-based ownership of revenue-generating utility companies and natural monopolies such as gas and electricity. This becomes possible simply because, in the financial world, the value of a company is a function of the revenues projected to flow through it over time. CSOPs suggest that a portion of that capital value be captured (as shares) for those who ultimately sustain that value: the customers.

Core design principles

Any stakeownership initiative should be tested against three operating principles:

- participation: as many as possible should be included, whether direct employees, employees of related enterprises or consumers;
- limitation: some limit must be placed on relative shareholdings, otherwise experience suggests that this ownership opportunity will, in time, be monopolized by a few;
- distribution: a carrot and stick approach will be needed to decide what participants receive and when they receive it. The clear lesson emerges from worldwide experience that if participants can access their shares and liquidate them, then many will, pocketing any incentive used to encourage their ownership.

Stakeholding in the UK

The UK offers numerous intriguing opportunities for ESOP/CSOP combinations. For instance, it is now widely recognised that some element of consumer ownership would have been useful in the privatisation of the gas and electricity utilities. Although consumers will eventually share in the post-privatisation efficiencies through a quinquennial review of the price caps, the Government could have ensured that consumers gained in the short run by requiring that, for instance,

75 per cent of any profits above an agreed level be paid out both to employees and consumers (formula-based profit-sharing being a sort of ownership). Better yet, that excess cash could have been used to acquire an ownership stake for employees and consumers. In that way, future gains would be shared with those who help create the profitability (the employees) and with those who ultimately are the sole source of the company's revenues, and who have no choice to take their patronage elsewhere –local customers. Natural monopolies offer the most compelling case for CSOP-type stakeownership.

In an attempt at encouraging customer ownership in the privatisation process, the utility companies for UK telephones, gas and electricity offered customer-shareholders a discount on their bills (bill vouchers), an idea adapted from the private sector practice of rewarding a company's shareholders with discounts on the purchase of its products and services. A 'self-financed' CSOP would instead include an element of corporate-secured and corporate-serviced debt engineered so that customers would acquire an equity stake through future customer-generated revenues of the utility.

Policy-makers could also advance a more environmentally sustainable model by fostering an ownership stake among those living in communities near companies that may cause ecological damage (such as utilities). Locally concerned citizens would find more ready avenues of feedback if the capital structure of, say, a power plant included a component of both employee and consumer ownership.

Perhaps most importantly, that ownership stake would help create a local social climate in which those most affected would be empowered to influence the system through means that hold the highest priority under today's social contract: property rights. Although the Citizen's Charter movement is a step in the right direction (i.e. toward customer-responsiveness), there is nothing quite like property rights for ensuring that citizens have a right to ensure that their views are heard.

Conclusion

It is impossible to build a genuinely robust democracy on an economic foundation where citizens continue to be divided by extremes of

economic class. Economic policy is inseparable from social policy. Both should be concerned with transforming historically concentrated, fiscally unsustainable and socially divisive ownership patterns into something more benign. Though equality of economic result should never be the goal, economic policy should not condone a system of corporate finance that fosters a society in which citizens are separated from each other by barriers of economic class, although within that society clearly some would deservedly have more and some less.

The most prudent course would be to embrace wide-spread stakeholder ownership as a new direction – without an announced or even an intended destination. To ensure feedback at the policy level, any ownership participation policy should include a requirement that policy initiatives of any sort be accompanied by an 'ownership impact statement' (analogous to an environmental impact statement). That would force policy-makers to publicise a key impact of policy-making that has long been hidden from view: the ownership beneficiaries of tax expenditures, government contracts and the like. The stakeholder advocate's *modus operandi* should be to seek the common ground upon which property-based systems may be re-engineered so that they gain in strength, resilience and robustness, as they expand the ranks of those who participate as property owners.

3-D competition

Vincent Cable

Economists' arguments on competitiveness have traditionally been caricatured, partly in order to counter the 'man in the pub' argument, otherwise known as mercantilism. This, essentially, is the idea that 'our' national exports are important: that it really matters that British products and British companies are doing well in the world. This idea was very much part of the Wilson orthodoxy during the 1960s – characterised by constant league table comparison of our performance relative to that of Japan and Germany. This is now far less common, perhaps because of our current league table position, and also because we see the world in a more sophisticated way. Even in the US, where the old fashioned view of competitiveness has traditionally been strong, one hears rather less of it. This may be due to changes in American industry: the US automobile and semiconductor industries are performing relatively well in relation to Japanese companies, so the heat has gone off.

But there are deeper reasons for the decline of this traditional view. First, there is a growing understanding that trade is not a zero sum game. Despite the views of dissenters such as Goldsmith, Buchanan and Perot, a consensus is developing that trade is generally beneficial, and does not lead to one country's gain from another's loss.

A second factor, resulting from the general shift towards economic liberalisation during the 1980s, is the growing view that protecting

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national industries and helping them internationally can involve heavy costs for national governments. This is one reason for the US government's failure to follow through on the initial rhetoric of the Clinton administration.

The third, and most important factor, is that it is now very difficult to know what 'our' exports really are, since most of our 'national' companies export from overseas bases. For example, if you count overseas production by subsidiaries of American corporations, it is possible to show that on some measures the US has a massive surplus in trade, rather than a superficial deficit.

The strategic argument for protecting key industries, such as defence, is also deeply affected by this international diffusion of production. For example, it is no longer clear that a Japanese company with a factory in the US would be a less reliable supplier to the US Air Force in an emergency than a US company, let alone a US company overseas. In this sense the strategic argument for national preference,

Table The world's 500 largest enterprises by country

	1962	1992
USA	297	161
Canada	13	8
UK	55	41
Rest of Europe	93	111
Japan	31	128
Australia	2	9
Late industrialising	4	33
Other	2	9

Source: London Business School.

even in the hardest hardcore of strategic industries, is increasingly questionable. For these reasons the traditional straw man, the 'Harold Wilson' view of the world, has probably disappeared. But there is something left. The ways in which competitiveness is important come under three headings.

Real exchange rates

As the world becomes more interdependent, an ever larger number of companies engage in international trade of goods and services. The slightly laborious economic concept of real exchange rates – the combination of nominal exchange rate and relative price movement – is crucially important in determining the profits of these companies. Most of the important economic events of this century can be explained in these terms. The UK economic crisis of the 1920s originated in an overvalued real exchange rate. Current developments in Japan are closely connected to the same problem, which has put severe strains on the manufacturing system, and as a result on the financial system. It is arguable that many of western Europe's economic problems stem from the fact that, in real terms, the Deutschmark is overvalued against non-European currencies. The concept of the real exchange rate as a measure of competitiveness therefore remains relevant. It is deeply rooted

in the way that people think about their country, and as in Japan and Germany, acts as a trigger for debate about where things are going.

Capital flight

One of the notable changes in the last decade is the very big increase in direct foreign investments. Multinational companies have been debated for thirty years, but since the mid-1980s we have seen a quantum leap in flows of real direct foreign investment, both within the developed world and increasingly in developing countries. Not surprisingly, this has created a climate of fierce competition for foreign capital. More and more attention is paid by governments to key reference texts such as the *World Competitiveness Report.* No government official's desk is now complete without a copy, which assesses the state of your police force, your education system and dozens of other things which are supposed to matter to company managers.

However, it may be that these factors are not particularly important. I recently asked a group of Japanese businessmen why they had invested in the UK, when the *World Competitiveness Report* puts us around number 25 and sinking. Their answer was that, having established a big factory, they would behave here exactly as they would in Africa: teach the local people literacy, and then offer them jobs. In this sense the indicators of the report are not binding.

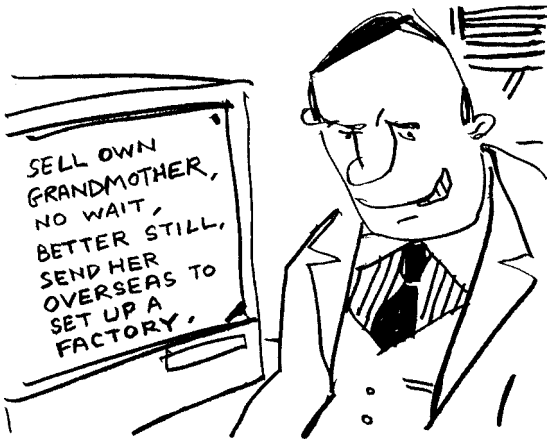
Nonetheless, it is true that countries, regions and cities are bidding for investment, and this is a challenge which increasingly occupies governments. Some, like Singapore, and arguably Britain, are well ahead of the game. One area in which the current UK government has been relatively successful is in understanding what is required in order to attract inflows of capital. One of its achievements, matched by very few other governments, has been to recognise the importance of capital *outflow* to this process. The *World Investment Report*, one of the more important documents of the last few years, was published recently by UNCTAD. It argues that in future governments will have to promote not just inward but also outward investment, because the nature of modern business demands it. This is a second sense in which

competitiveness is meaningful, and which governments and policy-makers need to be aware of.

Internationalisation

The third sense in which competitiveness matters is an all-pervasive one, affecting parts of the economy which were previously untouched by national competitive forces. For example, the professions are beginning to be exposed to international competition. Within a generation, accounting qualifications will be internationally transferable. Already quite advanced within the single European market, this will become a global phenomenon. Global accountants will be recognised from the UK to Japan and Korea, and will compete in a truly international market. The same process is going on in the engineering industries, and will probably happen in the legal profession.

The other sphere in which competitiveness is becoming global is the utilities. British Telecom, for example, is not just a private firm that must now compete with Mercury: it is under increasing pressure from both the European Commission and the WTO to expose itself to competition from other international telecoms operators. Within ten years most international telecoms utilities will be forced open: competitiveness



will be imposed upon them from outside, by international agreement. This is clearly something that governments can influence, since they set the rules by which it happens. They also determine the level of access to the domestic market.

Competitiveness no longer matters solely for manufacturing firms, as it did as recently as ten years ago. The professions, non-traded utilities, and non-traded services such as banking are increasingly part of the context in which we understand it. Traditional definitions of competitiveness, as a result, have become obsolete. But governments which can maintain sensible real exchange rates, and which can stimulate and coordinate complementary flows of capital investment, will find that competitive advantage brings tangible benefits to regional and national populations, if not necessarily any longer to individual industries.

Business feminism

Helen Wilkinson

Twenty five years ago feminists tended to fight their battles on the streets and in the media. Many saw the world of business as alien to all they stood for: patriarchal, competitive, and exploitative. For them the place to change the world was more likely to be the university, the source of ideas and knowledge. But a generation later, while academic feminism has become ever more introverted, many women have come to see business as a better place to advance the position of women – the place to win power and assert their equality. Although the numbers of women in the major boardrooms remain small, there is abundant evidence of women's advance. Figures like Anita Roddick, Steve Shirley (founder of software firm FI currently being floated on the Stock Exchange), Yve Newbold, Carol Galley, and Debbie Moore of Pineapple have become high profile role models for new generations of women.

Moreover many of the most successful women, far from eschewing feminism (like the most successful of all, Margaret Thatcher), still see it as highly relevant. In Demos' exclusive survey of 63 women members of Forum UK, the elite network for professional and business women, almost 68 per cent said that feminism had been influential to their own lives; 58 per cent had been active in a feminist or women's organisation; almost 38 per cent considered themselves to be a feminist and 76 per cent felt that feminism was still relevant.

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This match between business and feminism has obvious roots. The feminisation of the economy has been one of the key trends of the last few decades of the 20th century. The facts are striking. Women now make up almost half the workforce, and the proportion of women earning more than their partner has also risen from one in fifteen to one in five in 1995; there are already more female professionals under 35 than over and more female solicitors under 30 than male.[1] Meanwhile, during the 1980s women's self employment rose by 81 per cent compared to 51 per cent for men.[2] One in four of all self-employed people are women (almost a quarter of whom employ other people), and more than 790,000 women now run their own businesses.[3] Nor is the flow showing any signs of letting up: nearly a third of people setting up their own businesses through the Business Start Up scheme are women.

Elsewhere there have been similar trends. More than a quarter of businesses are owned by women in Sweden and Finland, and in Germany female entrepreneurs now account for 40 per cent of all new business start ups. In the USA women-owned businesses now employ more people than the whole of the Fortune 500, with sales exceeding $1 bn in 49 metropolitan districts.[4] Even conservative estimates predict that women will run 40 per cent of small businesses by the end of the century.

Even in the very different climate of Asia the pace of change has been dramatic. In Singapore the number of female managers has tripled over the last ten years, and a fifth of all businesses are owned by women. In Thailand the number of women managers increased five-fold between 1974 and 1990 whilst the number of male managers only doubled. In Hong Kong, one in five managers are women whilst in Japan nearly all currency traders are female. Even in China over a quarter of business start ups since 1978 have been by women.[5]

To understand this feminisation of business we need to examine both the factors of supply – the forces pushing women into business and enterprise – and the forces on the demand side, that lead employers to want to employ women. First the supply. In some cases the pressure comes from the need for an independent income to fill in for their partners' diminishing earning power, but the main factors include

women's rising aspirations, not only for work but also for power, money and success. We have also found evidence of broader value shifts towards risk taking and autonomy amongst younger generations which explain why younger women in the USA and UK are far more likely to want to be self-employed.

Changing values are one part of the equation. The other vital force has come from the demand side of the equation with a shift from manufacturing to services and a parallel shift in terms of the skills that are needed. Qualities traditionally associated with women – service, dexterity, adaptability, interpersonal skills and perhaps as important in the long run, EQ (emotional intelligence) – are now seen as critical. Women may also be better suited to the ways in which firms are gradually moving away from being 'employing' organisations to 'organising' organisations, with a much reduced core of people managing the firm whilst operational tasks are sub-contracted to businesses and individuals on the periphery. According to Charles Handy the process of delayering, and the greater emphasis on outputs rather than status, may well render obsolete the idea of the glass ceiling.

These changes in demand and in supply have clearly reinforced each other and help to explain why, when asked how they would advise an 18 year old woman today about her career options, our survey of members of Forum UK found that nearly twice as many would recommend a young women to set up her own business as would recommend working in a large company with a fixed career structure.

But the combination of business and feminism has not been straightforward. It has brought several dilemmas to feminism more generally. The first is whether having more women in business necessarily means more femininity and a different managerial style. Experience so far has been mixed. The first women managers often attempted to fit themselves into managerial roles by adopting a 'masculine' style: they dressed like men, talked like men and even used sports analogies like men.[6] This pattern has continued for many women managers, often at some personal cost.[7]

More recently there has been a much greater diversity of business styles. A younger generation of women managers have benefitted from

the trail blazed by older women. In our focus groups we found that many feel that they will be the generation to 'break through' in the sense of achieving professional success without having to sacrifice their personal lives and without having to act masculine and aggressive in order to succeed. Yet in other respects today's young women are more overtly 'masculinised' than previous generations, at ease with 'male' attributes, and enjoying the power and adrenalin that accompany them. Few believe that there are innate differences between male and female managers, and the great majority reject an essentialist analysis of women's qualities. The lessons for business feminism are clear. Feminine (and masculine) qualities are not the preserve of either gender, and there are just as many signs of men adopting feminine management styles as there are of women doing so.

The second dilemma for business feminism is a direct mirror image of the central strategic question of the women's movement as a whole: whether to play from the inside or from the outside. Many business women argue that the priority must be to achieve critical mass inside large organisations and to win power. The key is not to bypass the glass ceiling but to break through it. Others have argued that rather than wait for incremental change, women should go it alone and create an alternative work culture more conducive to women's values and lifestyles. In practice, women have pursued both strategies. Yet few doubt that female entrepreneurship has thrived partly because of the heady mix of female impatience and a corporate world which is considerably more reluctant to feminise its boardrooms than its service desks.

One recent study of female entrepreneurs confirmed that many women set up in business in response to discrimination and the glass ceiling.[8] Many women managers have found that the pressure to act masculine, confident and aggressive is a cause of stress. Others feel that they have to work harder to prove themselves, while their mistakes are seized on and blown out of all proportion. Many are alienated by the absence of family-friendly policies. It is perhaps no surprise that women managers are twice as likely to resign.[9]

But self-employment does not save women from discrimination. Many business women find it hard to raise finance for their ventures

and others find it hard to get the same level of business advice as well as encountering sexism from their suppliers or clients. And whilst female entrepreneurs clearly have more autonomy than their peers in large scale organisations, the time demands of the business remain a problem for a substantial minority, as do the problems of maintaining a balance between work and family life.[10]

Despite these barriers, a younger more confident generation of women managers are voting with their feet and positively embracing a DIY culture of self-promotion. They are no longer content to be cast in the role of victims and for many the decision to leave is an assertion of power. Significantly, women managers under 40 are twice as likely to resign as women over 50.

This leads us to the third challenge facing business feminism in the UK: how to focus resentment and harness it for positive change. In the past, the traditional campaigning women's organisations would have been a natural focus: generalist and expansive in their aims. But now many traditional organisations are in decline, whilst professional women's networks – such as the Business and Professional Women's Association, the Pepperell Network, and the City Women's Network and Forum UK – are positively thriving, partly it seems because they have a utilitarian value, helping with careers and networking, and partly because of the focused way in which they campaign against discrimination and barriers in particular fields.

We can see something of a possible future in the US, where business feminism has evolved a stage further than in the UK. America's extremely vibrant DIY culture of female entrepreneurship has been partly helped by government[11] but primarily reflects the fact that American business women have been more effective in pursuing a double strategy – both working through existing business and business organisations and at the same time cultivating their own professional networks and even their own infrastructures, such as the women-only banks which are now established in New York, California and several other US states.

These have now reached critical mass, and have become a major cultural and political force, as well as an economic one. They have

helped business feminism evolve beyond the 'superwoman' ideas of the 1980s which sometimes pretended that there was no clash between career success and family life. And they have paved the way for policy advances in fields like parental leave which can benefit all women.

Notes

1. Wilkinson, H. and Mulgan, G., 1995, *Freedom's children: work, relationships and politics for 18–34 year olds in Britain today*, Demos, London.
2. *Employment and education: Key facts on women*, March 1996 Factsheet, Department for Education and Employment.
3. *Employment and education: key facts on women*, see above.
4. Bridges, W., 1995, *JobShift*, Allen and Unwin, London: 118.
5. Naisbitt, J., 1995, *MegaTrends Asia: eight Asian megatrends that are reshaping our world*, Simon and Schuster, London.
6. Nichols, N., 'Whatever happened to Rosie the Riveter?', July–August 1993, *Harvard Business Review.*
7. Women managers are far more likely to be childless and unmarried than their male counterparts. See: Davidson, M.J. and Cooper, C., 1987, 'Female managers in Britain – a comparative perspective', *Human Resources Management*, Volume 26, No. 2: 221–223.
8. Marlow, S., 1996, *Female entrepreneurs:do they mean business?*, ESRC Research Report.
9. Marshall, J., 1994, 'Why women leave senior management jobs: my research approach and some initial findings', in (ed) Tanton, M., *Women in management: the second wave*, Routledge, London.
10. See: Marlow, S., 1996, *Female entrepreneurs – do they mean business?*, ESRC Research Report. This found that time demands were still a problem for 20 per cent of the women compared to just 4 per cent of the men.
11. Carter, S. and Cannon, T., 1992, *Women as entrepreneurs*, Academic Press, London.

What do we know about knowledge?

Kate Oakley

'The Information Age may be at an end.' This somewhat surprising hope was expressed by the *Economist* in 1995.[1] 'The trouble with the information age,' it asserted, 'is that it seems to place no value upon differentiation.'

This is a sentiment with which I heartily concur: In this article, I examine the need for such differentiation and how it may take place. I ask, first, what is the relationship between information and its value-added counterpart, knowledge? And secondly, what do knowledge processing as opposed to information processing firms look like? (Note that the term data processing is rarely heard these days).

Thirdly, what exactly is the shape, size and dynamics of the knowledge sector of the UK economy? For a notion that is bandied about so readily in everything from management textbooks to the Sunday supplements, knowledge businesses are remarkably hard to track and the researcher using official statistics is left looking at the Information Age through an Industrial Age prism.

It is largely because we fail to distinguish between information and knowledge that we have difficulties in understanding the new economy. If we insist on lumping together heterogenous groups of workers doing things as varied as systems analysis, business process re-engineering and

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human resource consultancy into 'business services', we have very little hope of understanding what is happening in the real economy.

Does this matter? I think it does. There are large public policy issues at stake. As the European Commission's Group of Experts on the Social Effects of the Information Society pointed out in their interim report,[2] employment statistics are still heavily biased towards manufacturing and material goods. We understand too little about job creation in the knowledge sectors, about regional disparities in employment and about the skills required by successful knowledge businesses.

Knowledge businesses and information businesses

In order to map the knowledge economy, we need some idea of how knowledge businesses differ from information businesses. We also need to be clear that we are not talking about all knowledge-based businesses, which, as many contemporary commentators tell us, cover virtually all successful businesses in the modern economy.

In a recent major article in the *Harvard Business Review*,[3] Stan Davis and Jim Botkin tried to distinguish information from knowledge. They went on to claim that 'those businesses that are based on providing information to customers will do better than those that are not, and businesses that know how to convert information into knowledge will be the most successful.' They are concerned with the kind of knowledge that 'enables those who hear it to learn.' So far so good. However, they then characterise knowledge-based businesses as covering everything from the Ritz-Carlton hotel chain to producers of glass which darkens according to the weather. While not denying that all of these are knowledge-based offerings, it is not with these broader services that this piece is concerned.

For our purposes, we can focus on two types of knowledge business. One, which we may call a 'pure' knowledge business, where knowledge is really the only product. Examples of this type include consultancy and training. And the other (the Ritz-Carlton hotel chain, maybe), which we may call a knowledge-based business. In this latter case, a large amount of knowledge will be needed to produce the output, but

knowledge is not itself the product. A further dimension is added by the blanket use of the term 'information', with which the *Economist* was so concerned. I shall elaborate on the differences between information and knowledge businesses later, but Figure 1 suggests how they relate to one another.

Many professions fit into the category of knowledge-based businesses. An architect, for example, is clearly a knowledge worker, but his product is a new design or building, not the knowledge of architecture. The crucial difference, therefore, is the amount of knowledge passed on to the client – in a knowledge business that is what the client is buying; in a knowledge-based business, it is not. Figure 2 makes this point clearer.

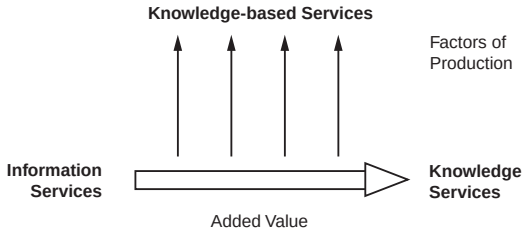

Figure 1

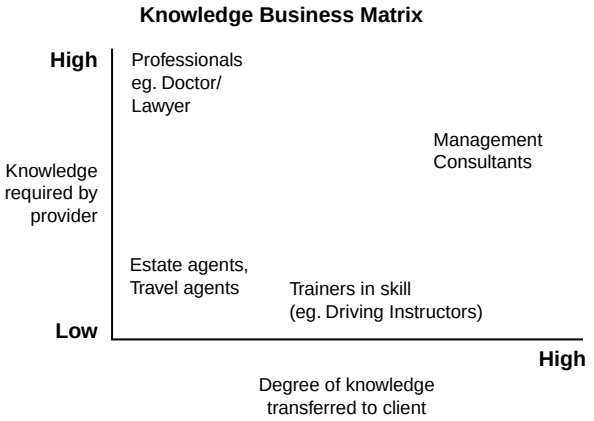

Figure 2

I would argue that to distinguish knowledge businesses from information businesses a degree of expertise or analysis has to be present in the transaction. Several years ago I was employed by a large market research firm as a knowledge worker (though analyst was the preferred job title). The firm also employed information scientists, but the two roles were quite distinct. If clients wanted to know how many personal computers (PCs) a particular firm had shipped in the last twelve months, they used the information service and paid one price. If they used the information service and shipped fewer PCs (or more) than in the previous twelve months, they spoke to an analyst and was charged a different (higher) price. In one case they was buying information and in the other knowledge.

The point about price is not insignificant. A recent European study found that 'information brokers' were having a hard time surviving in a world where end users have access to huge amounts of information via the Internet and other electronic media.[4] Those who were doing well had moved from simply searching for information to analysing and consulting. Thus to make money in the information age it seems wise not to deal in information, of which there is a glut, but in knowledge.

There are some additional important characteristics of knowledge businesses:

- *The assets are the people.* Most knowledge businesses have only the knowledge and experience of their staff as assets with which to trade. In this they are distinct from other service industries which deploy assets such as fixed plant (airlines), property (hotels and retailing) or liquid capital (banks).
- *The decline of intermediaries.* As distinct from the 'intermediary' services such as estate agencies, which act as information brokers, knowledge businesses add value by providing expertise or advice. It may be argued that estate agencies, recruitment agencies or travel agencies also offer expertise and advice but the client only pays for the transaction – for the holiday to be booked or the house

sold – and not for the expertise itself. These facilitators, it could be argued, have much to fear from new technologies bringing sophisticated information services into the home.

- *The importance of transfer of expertise.* Knowledge businesses aim to transfer expertise to clients, unlike other knowledge-based businesses such as law or architecture. As described above in the example of the architect, the client is clearly paying for knowledge and expertise, but he wants to end up with a building, not knowledge about how to create a building himself.
- *Knowledge workers, not professionals.* They are heavy employers of graduate or postgraduate-educated workers who are 'professionalised' but not necessarily professionals. In the case of management consultants, for example, the industry is obviously not regulated in the same way as the traditional professions, but the model of the professional practice is often adopted as a useful organisational form. In addition, these knowledge workers fit many of the aspects of the professional profile. In Judith Blau's words, they 'work long hours, marry late, have few children and postpone retirement.'[5]
- *Intangibility.* In common with other service organisations, the knowledge business does not sell a product. One could argue that what it sells is a capacity to produce in the form of the knowledge to enable others to produce further goods or services.

Lies, dammed lies and official statistics

We have a model for the type of business we are talking about, but how many businesses of this type are there and how important are they to the UK economy? More important, is the UK internationally competitive in the development of such businesses? As might be expected, the difficulties in mapping official statistics onto a rapidly changing economy make such questions hard to answer. If we accept that

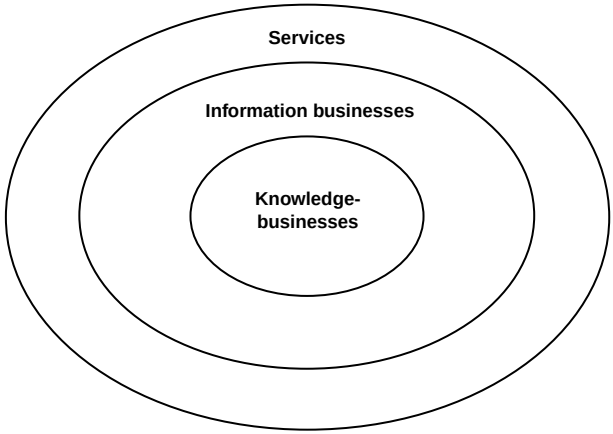

Figure 3

'knowledge businesses' represent the value-added end of the spectrum of information businesses, it would be useful as a starting point to measure the broader 'information economy' (See Figure 3).

Attempts to do this have been made consistently since the 1960s and have often foundered in hyperbole. Using very broad definitions, some studies estimate that information activities represent 50 per cent of the national product of advanced economies.[6] But research in this area is continually hampered by poor statistics. The treatment of non-manufacturing industries in general and particularly information services in national economic statistics remains poor, lumping together a great range of diverse activities. Not only is it difficult to measure the information sector, it is seldom possible to come up with decent measurements of the entire service economy within which it is located.

And what is true of services in general, is doubly true of knowledge businesses, particularly given the difficulty in finding relevant units of output to measure in the case of knowledge businesses. Discussions of national competitiveness are thus often made against a background of outdated and increasingly meaningless data and have to be treated with deep scepticism.

The UK Census of Production, for example, provides elaborate detail on output, costs and structure of enterprise, but only for manufacturing, mining, utilities and construction. The International Standard Industry Classification (ISIC), while reflecting primary and manufacturing sectors in great detail, serves the information sector and indeed the whole service sector poorly.

Management consultants for example, are classified as Standard Occupational Classification (253), a subset of business and financial professionals. Even at this level they are lumped together with 'business analysts' – a job title even more vague than management consultants. Evidence from the last Census in 1991, based on self-reported occupation, suggests a figure of just under 30,000 management consultants (and business analysts) in the UK in that year. This seems reasonable but hardly accurate enough as a way of measuring a major knowledge business, and takes no account of the hundreds of other types of consultants there are in the UK nor of the consultants whom the census has identified as computer analysts or taxation experts for example.

The knowledge sector is heterogeneous, including activities such as research and development, consultancy and training. So simply aggregating the statistics, when we can get them at all, may have limited usefulness except to suggest a substantial degree of activity in the economy involving knowledge. And this would be to replicate what I would argue was the error of those concerned with the early attempts to measure the wider information economy. Pioneers like Fritz Machlup and MarcPorat in the USA[7] undoubtedly achieved their aim of drawing attention to the growing importance of information in the economy, but by merely reorganising and reclassifying the statistics generated by national SICs (Standard Industry Classifications) of the time, it sometimes appeared that the entire US economy was doing little more that processing information. The danger of hyperbole in such matters is the inevitable backlash.

The frustrating thing is that official statistics do give us an idea of the growing importance of knowledge services, without allowing us to analyse it at a sufficiently detailed level. Throughout the 1980s, one of the fastest growing sectors (in terms of employment) was 'business

Class		All employees	
		No	%
83	Business services	+857.3	+77.1
66	Hotels and Catering	+280.3	+29.8
96	Other services to the public	+275.7	+48.9
64	Retail distribution	+193.2	+9.4
93	Education	+163.4	+11.0
81	Banking and finance	+158.0	+33.8
61–99	All services	+2175.8	+16.6

Source: NOMIS.

Figure 4 increases in main classes of service employment, 1981–1989 (Great Britain, thousands of employees).

services', as shown in Figure 4. This category includes many of the things I would term knowledge businesses, such as training, consultancy and research services.

For those of you wondering why this table stops over five year ago, the answer is that 'business services' are no longer calculated in the same way and attempts to update the table with recent statistics are fraught. A neat example of the phenomenon I am attempting to describe.

Official statistics do allow us to see that our economy is becoming more dependent on information of all kinds. Work done in the US by Stephen Roach[8] suggests that the early 1980s for the first time saw capital endowment in the information sector on a per worker basis finally achieve parity with the capital endowment in the traditional industrial sector. The information infrastructure has reached the point where it is a decisive influence on macroeconomic change and he estimates that some 60 per cent of labour input in the US now comes from the information workforce. However, what the statistics do not allow us to do is to differentiate between the types of work being conducted in that 'information sector.' So we are stuck with the problem identified by the *Economist* of lots of information about information and very little knowledge about knowledge.

Working from the bottom up

Given the difficulties with recalculating official statistics to measure the knowledge economy from the top down, the only answer seems to be to work from the bottom up. Having defined what a knowledge business would look like, what industries can be classified in this way?

As we have seen, statistics on the size and shape of the UK management consultancy industry are difficult to unearth. The reasons for this are well known: there is no general agreement about what constitutes consultancy, and it is difficult to measure a market with so many sole practitioners. Often consultancy may be part of another piece of work – a piece of IT consultancy may be accompanied by the sale of IT equipment for example – making it difficult to decide what portion can be called 'consultancy'.

In addition, the partnership form of many consultancies means that they do not produce annual reports and are often coy even about their own structure and size.

There are no authoritative surveys of the industry, so an educated guess is probably the best that can be attempted. A quick calculation of the combined fee income for the top 50 consultancies,[9] produces a figure of close to £1.329 billion. Of course this does not allow for the number of very small firms and single operatives in the UK. If we assume these represent around half the UK market, we can arrive at a market size of £2.65 billion.

Other knowledge businesses such as research prove equally difficult to quantify. A 1989 study of quantitative social researchers[10] estimates the number of graduates employed in quantitative social research to be around 9,000, though other studies put the figure anywhere between 5,000 and 20,000.

Training in the commercial sector is similarly difficult to measure, compounded by the numbers employed as trainers by large firms whose business is not training. *The Training Directory* 1994[11] lists over 250 independent, training organisations and consultants in training, not counting TECs (Training and Enterprise Councils) but gives little idea of how many people might earn some or all of their living in this way, let alone the turnover of the industry.

Most of these occupations have one, or in some cases several, industry bodies which represent them. But for the newer knowledge services, unlike the liberal professions, membership of such bodies is not compulsory or even strongly encouraged and most of the industry associations, while trying to be helpful, admit they have no idea how many people are employed in the industries they purport to represent. The fact that the new knowledge businesses can offer no equivalents of the Law Society or the BMA is part of their more open, less credentialised structure, but it makes the job of measuring them that much harder.

Conclusions

So what should be done? For a start, we need some idea of the differences between information and knowledge businesses. I have made some suggestions as to how this might be done and it is obviously an area fraught with semantic pitfalls. Secondly, having arrived at a definition of knowledge businesses, we need a large scale national survey to map the size of the knowledge industry in turnover and employees, the location of enterprises (and hence any implications for regional policy), growth rates, profitability, skills required; in short, all the information we routinely collect on the enterprises of the Industrial Age. Beyond that we need comparative international statistics to get some idea of competitiveness, whether at the firm, regional or national level.

The purposes of such an exercise would be manifold. We would be able to understand better the changes in our economy brought about by the growing importance of information as a factor of production. In this it may allow public policy to steer clear of the hysteria which this subject often engenders, either from those prophesying the end of work and massive social dislocation or from those who see nothing but a brave new world of knowledge workers enjoying the fruits of their (intangible) labours. It may counter British complacency on one hand which says, 'we do well in business services, the arts and finance – new media should be a piece of cake', and European panic on the other

which sees manufacturing as the only 'real work' and the new economy as one run by the USA. It may allow us to devise social policies to protect the weakest from the real threat posed by the changes, not the imaginary ones. It may even allow us to move out of the information age into one based on knowledge.

Notes

1. 'In praise of knowledge', *Economist*, 25.5.95.
2. *Building the European information society for us all: first reflections of a high level group of experts*, 1995, Directorate-General V, Commission of the European Brussels.
3. Davis, S. and Botkin, J., 1994, 'The coming of the knowledge-based business,' *Harvard Business Review*, September–October 1994.
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6. Porat, M., 1977, *The information economy*, Office of Telecommunications, United States Department of Commerce, Washington D.C.
7. Machlup, F., 1962, *The production and distribution of knowledge in the United States*, Princeton University Press, Princeton, New Jersey; Porat, M., 1977, *The information economy*, Office of Telecommunications, United States Department of Commerce, Washington D.C.
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9. Abbott, P., 1995, 'Andersen tops league in growing market', *Management Consultancy*, July–August, 16–29.
10. Quoted in Sykes, W., Bulmer, M. and Schwerzel, M., eds, 1993, *Directory of social research organisations in the UK*, Mansell, London.
11. *The Training Directory 1994*, Kogan Page, London.

The myth of intellectual property

John Kay

The future of intellectual property is a central issue – perhaps *the* central issue – of the information age. Unless we establish a régime that classifies and protects proper incentives both to create and to develop intellectual innovation, what we will achieve will fall far short of what we could achieve.

But most of the debate is entirely superficial. It is conducted on the basis that the issue is how best to extend existing rules to new technology. The truth is that the inability of these existing rules to handle new technology is a measure of their threadbare intellectual basis. We need to rethink the issues in a more fundamental way.

The phrase 'intellectual property' is part of the problem. It is a misnomer: what it describes is not property in any recognisable sense of the term, and most of it is not very intellectual either. The mistaken analogy between intellectual property and tangible property is in fact deeply damaging. The central attribute of the ownership of physical property is the ability to reserve use exclusively to oneself. When I say 'this is my house', the central right which I assert, and the law will defend, is my right to admit to it only those I choose on grounds that I am under no obligation to explain, however arbitrary they may be.

But no creator of real intellectual property wants, or needs, to exclude others from using what he or she has created. Every novelist

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wants to be read, all composers hope to be played; the excitement of a new idea is derived almost entirely from communicating it to others. Yet when we think of houses, there is a more or less unambiguous demarcation between what is mine and what is yours.

Nothing similar exists in the world of ideas. Courts find themselves in the absurd position of being forced to determine whether two works are identical (in which case intellectual property rights have been violated), or different (in which case they have not). But the real world is one in which knowledge advances by small increments, and that framework simply cannot cope with it. By seeking to maintain the analogy between intellectual property and other kinds of property, we confine its scope to a narrow class of activities, and we allow those who benefit from it to use the legal rights it confers on them to support undesirable production monopolies.

If I ask myself how much I, as a self-styled intellectual, benefit from intellectual property, then I think the answer is probably not at all. Would the royalties that I negotiate with my publisher for my books be any different if there was no copyright? They would not. While other publishers would then be free to produce pirate editions of my work, the likelihood of their doing so in practice is negligible.

Would the fees I charge for newspaper articles or for consultancy services be any different if there was no intellectual property? Again the answer is no. Would the salary I earn be any different if there was no copyright? It would not be: universities expect negligible earnings from intellectual property and are, incredibly, often net payers of royalties rather than net recipients. Such intellectual property as I have is actually very poorly protected, and the protection that does exist is irrelevant to the promotion of such originality and creativity as I may have.

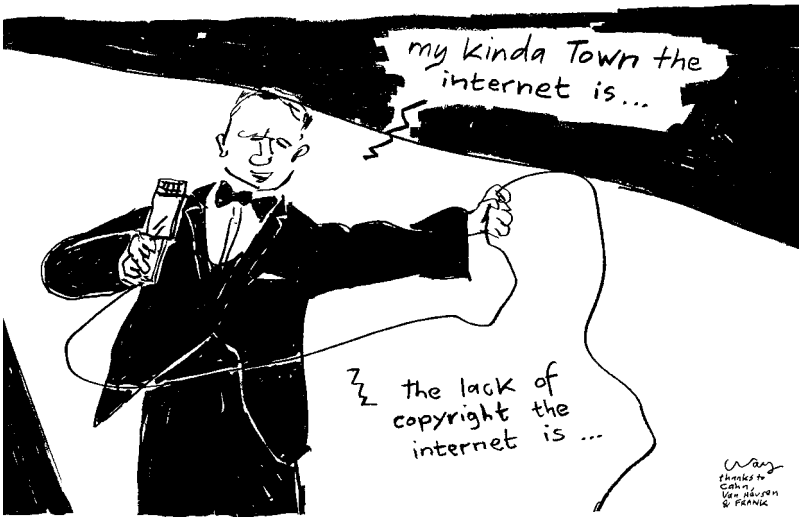
If I deliver a lecture on the ideas of the great economists, I owe those great economists absolutely nothing. I need not even attribute the analysis that I present to them. If, on the other hand, I were to xerox one of their articles and hand it out to you, I would have to pay a fee to the publisher. If I were to show you photographs of great economists, I would have to make payment to the photographers. I would not, incidentally, have to pay a fee to the economists themselves; my obligation

would be to those who took the photographs. If I were to deliver the lecture in an Armani suit, I would have to pay something to Armani for the privilege. If beneath my Armani suit I wore a Snoopy tee shirt, I would have to render royalties to the cartoonist and his merchandising agents. And if I end the lecture by singing 'My Way' to you, I would have to pay something to the composer and arranger of that particular work for the doubtful benefit you derive from hearing my singing voice.

Suppose instead I were to measure GNP for the last decade. Suppose I engage in years of research and employ a battery of statisticians in order to try and measure what British national income is. Nothing emerges from that calculation for which I can effectively charge royalties. But if I were to put the figures on a diskette or simply draw them on a graph, I would be able to protect that, and I would be able to charge a fee to anyone who reproduced the material. The law protects the expression, not the idea. Listening to that catalogue you might well conclude that what the law does protect is not of any great value and what is of great value the law does not protect. I think that in the way our law works this conclusion is not very far from the truth.

Originality and creativity are not dependent on intellectual property legislation and only weakly, if at all, protected by it. If we think of the theory of relativity, the unraveling of DNA, the novels of Lawrence, the poems of Yeats, the creation of high-level computer languages, the operas of Mozart, we can quickly see that not one of them either required or derived significant benefit from intellectual property legislation. As a matter of empirical fact, they were mainly financed not from royalties or from the expectation of royalties, but by private individuals or direct government subvention.

This is as true of scientific innovations as artistic endeavour. The two most valuable patents in the last 50 years have been held by pharmaceutical companies. They are for tranquilisers and for anti-ulcerants. These are useful innovations, to be sure, but it is very difficult to argue that they are the most important inventions of the century. What makes them so valuable is not that they are major intellectual breakthroughs; almost the reverse. Their distinguishing characteristic is that they are of modest continuing value to very large numbers of people. Such things



are generally those items of intellectual property that have major value. Valuable copyrights are mostly for the intellectual equivalents of sedatives and stomach settlers. If you ask what have been the really rewarding copyrights of the last 50 years, then the list would include the lyrics of 'White Christmas', the novels of Jeffrey Archer, and the creation of slightly innovative but very user-friendly spreadsheets like Windows and Lotus 1-2-3. I do not disparage these things, or suggest that they should not be produced. But if these relative rewards were truly to represent an assessment by society of the value of different copyrights, it would be a sad commentary indeed on our sense of values.

The legislation we have is much better explained by a public choice perspective than characterised as the outcome of a process of maximising economic and social welfare. To put it bluntly, copyright law has evolved for the systematic purpose of securing rents for certain organised producer groups, primarily publishers, record companies, and in the last decade, software houses.

The result is that quite disproportionate resources are attracted to producing these essentially second-rate, but fortuitously favoured

activities. We have too many songs like 'White Christmas' and too few Mozart operas. We have too many Jeffrey Archer novels and too few by Jane Austen. That must be expected to follow from the structure of the economic incentives we have established.

I can only outline the nature of the rethinking that is required. Essentially, intellectual property legislation should apply to a much wider class of items, but be more limited in the scope of protection that it offers. The key point is that the objective should be the right to a fair return, not any right to exclude or monopolise. Microsoft's Windows gains from the invention by Xerox of the graphical user interface (GUI), and the demonstration by Apple of its commercial potential. Both fairness and the provision of efficient economic incentive require that all these companies share in the rewards of Window's success, and that there should have been competition and co-operation in developing an MS-DOS compatible GUI. This does not happen because our law protects, too extensively, the copyright MS-DOS, and fails to protect the concept of the GUI.

Digital ownership

Robin Mansell and*
W. Edward Steinmueller†

The policies underlying the definition, granting, and enforcement of intellectual property rights (IPRs) are among the most important factors that will affect Europe's, and the world's, construction of advanced information infrastructures.

Intellectual property laws extend the right of property protection to creations such as inventions, literary or artistic works, or trade marks. After a particular creation is granted protection it may be sold, licensed, or mortgaged. The goals that may be served by extending property right protection to creations include: promoting invention and the authorship of new work; encouraging the dissemination of ideas and the disclosure of inventions to foster the creative activities of others; and protecting the rights of authors to receive income from their work. IPR protection attempts to balance society's interest in the disclosure and dissemination of ideas by creating an exclusive right to control and profit from invention and authorship. It is possible to have too little protection or too much.

With some exceptions, the right of the creator to legal protection is absolute without regard to who violates IPRs, or for what purpose. The cost of the incentive created by IPR protection is borne by social actors

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as well as private commerce. Thus, the IPR system has costs as well as benefits.

Copyright law grants the creator of particular types of works an exclusive right to control the making of copies, broadcasting, or other forms of distribution of that work to the public.[1] A widely accepted definition of what constitutes a work is that it includes 'every production in the literary, artistic and scientific domain, whatever may be the mode or form of its expression'.[2] This definition encompasses much of the information that might be created for distribution in the advanced information infrastructure. However, substantial national differences exist.[3] This has led to discussions about the desirability of clarifying existing law in several areas including: the protection of databases which may consist of compilations of individual pieces of information that may not be granted copyright individually;[4] multimedia works whose components may be copyrighted individually but can be more efficiently protected if the work as a whole is protected; and works that may be 'transmitted' over a network.[5]

Works must meet certain standards of originality to qualify for protection. Copyright protects how ideas are 'expressed' rather than the ideas themselves, but the line between expression and idea is often unclear. This boundary line is particularly important for software and multimedia because the innovative character of these works may reside in their 'look and feel' to users. It may also be due to the relative ease with which a particular 'expression' may be modified by the use of software authoring techniques.

Social and economic constituencies in the information society

What are the interests of various social and economic constituencies in the supply of different types of information and in accessing this information? Existing publicly accessible information services include Minitel, the Internet, other research or university oriented computer networks such as JANET, information service providers such as CompuServe, and services provided by hardware or software companies such as Apple Computer's e-World or The Microsoft Network.

A given organisation or individual may be a member of one or more social and economic constituencies with an interest in producing or consuming information. First, there is the *Public Domain Constituency* which makes either little or no use of copyright protection. The producers of information in this group include those who receive a benefit from the dissemination of their work unrelated to their receipt of revenue or income. It also includes users who are interested in information for both personal and commercial reasons. A substantial amount of information provided on forerunners of the global information infrastructure such as Internet and commercial bulletin board services is non-commercial. The authors seek the broadest possible dissemination of their contributions without charging receivers.

The second, *Related Revenue Constituency*, uses copyright protection to maintain control over the content of works, but benefits from the wide dissemination of copies. Producers in this group have an interest in distributing information without direct payment. However, they expect the distribution of information to increase their future revenue or income. This group includes business that expect information to improve their position with investors and customers, or with the public at large. Sophisticated ways of exposing individuals to advertising and promotion messages using information infrastructures are emerging, resulting in user concerns about controlling the receipt of such information. One attractive technique is to monitor and analyse individuals using their information service requests, raising new concerns about possible intrusions into people's privacy.

A third, *Direct Revenue Constituency*, seeks direct control over selling and buying information goods and services using information infrastructures. Producers in this group need a means of protecting the value of their goods and services from those who would like to receive them without paying. Success in these markets is based upon: winning a share of existing markets for information distribution using other media; creating new products and services involving information that may be subject to copyright protection but that is, either by choice or by technical limitation, not distributed using other media; and creating new services that may use the 'intelligent' features of

the information infrastructure. IPRs are particularly relevant in the first two markets. Effective copyright protection is necessary to allow the information infrastructure to compete with physical distribution, to cope with the problems of electronic distribution of copyrighted broadcasts, and to protect other information that is distributed using the information infrastructure.

These three constituencies make different use of copyright protection and have different interests in the enforcement of copyrights. The primary interest of producers in the *Public Domain Constituency* is in retaining some credit for their work, and many users voluntarily comply with standards for identifying authorship. This constituency comes into conflict with the other two constituencies in the production and receipt of material that violates copyright. Raising the level of intellectual property protection and enforcement increases the liability of both producers and users. From a policy and legislative perspective, the choices are: to increase the level of monitoring to reduce liability; to insure against the risk of liability; to accept the risk with the hope of escaping a legal liability judgement; or to attempt to transfer the liability risk to another party. Making either of the first two choices directly increases the costs of the *Public Domain Constituency.* Choosing either of the latter two may lead to higher costs depending on the level of copyright enforcement. In short, there are conflicts of economic interest between the *Public Domain Constituency* and the other two constituencies.

Securing intellectual property in the information infrastructure

The current relationship between copyright protection and security issues accounts for much of the growing enthusiasm for the extension of copyright. This interaction has two aspects: the security of particular types of information from unauthorised reproduction, and the security of the information infrastructure from being used to transmit unauthorised copies.

There are several routes to reducing, and perhaps eliminating, security problems in the transfer of copyrighted information but none of these is costless. Each imposes costs on producers and users that may or may not be necessary, depending upon the extent of copyright protection desired by society and enacted into law. When the costs fall on producers and users that are not in the *Direct Revenue Constituency*, the conflict of interest among three constituencies becomes apparent.

The first route to enhancing security involves the addition of technologies that prevent the unauthorised reproduction of an electronic work that is copyrighted. A second is to embed copy control schemes in the installation software accompanying software packages. A third route is to link users and individual copies of information. Other technologies may emerge in the future that are not variants of the three existing routes. Until either a major innovation appears or one of these approaches is accepted, there will be no fully effective mechanism for safeguarding IPRs in software, or information exchange.

In the absence of a highly reliable technological method for copyright protection, attention turns to methods that seek to discourage, rather than to eliminate, copyright violation. The main goal is to remove the profit from violating copyrights. This requires a means of seeking out large scale copyright violation operations. In the security domain steps can be taken to improve methods for identifying the provenance of information and encourage users to co-operate with the use of registration procedures for a growing array of copyrighted work.

If it is accepted that the costs of protection should be paid by those who benefit, then it follows that members of the *Public Domain* and *Related Revenue Constituencies* should not have to pay. However, the argument that the costs of copyright protection should be imposed only on the producers and users of copyrighted information may be too narrow. There is social value in building the information infrastructure needed for the information society. Since much of the expenditure on the information infrastructure is a fixed cost, the addition of more users has the potential to reduce the costs to all users. Security and encryption devices that provide methods of protection are improving

but they are likely to continue to fall short of the stringent levels of protection sought by the *Direct Revenue Constituency.*

Improving the infrastructure

The distribution of copyrighted information is one of the many new revenue generating activities that will help to pay for the costs of enhancing that infrastructure. Some customers of the information infrastructure will be willing to pay higher access and service charges to obtain improved connections that will allow them to receive copyrighted information in audiovisual, audio, still image and computer file formats. The 'network of networks' which supports business communication is based on methods of knitting together proprietary standards to create value added network services. The research community-initiated Internet model, on the other hand, is based on broad acceptance of public standards. However, despite its popularity, the Internet currently receives substantial public funding, is subject to congestion, and faces serious problems in the area of copyright protection because of security issues.

Significant improvements in Internet security for business use require security features such as user monitoring and authorisation like those in business networks. This will increase its costs to users. It will also raise important issues about privacy (user monitoring of electronic mail) and democratic protections (who will do the monitoring). Since the Internet is a major resource for the *Public Domain Constituency*, it remains to be seen who will pay for these costs.

The absence of a technological solution along with the problems of increasing security in the use of information services based on the Internet will bring the interests of the *Public Domain* and *Related Revenue Constituencies* into direct conflict with the interests of the *Direct Revenue Constituency.* With growing exposure to problems of copyright infringement, pressures to limit public access to extensive public networks may grow. Alternatively, these networks may be sub-

ject to increasing user monitoring and security procedures, increasing costs and the threat of compromises of user privacy.

To design effective policies there is a growing need to develop ways of monitoring the use of existing information services to determine the growth of the three constituencies' activities. The social and economic viability of the European information society will be strengthened or weakened by the way these conflicting interests in the domain of IPR are resolved.

Notes

1. Bainbridge, D.I., 1994, *Intellectual property*, Pittman Publishing, 2nd edition.
2. The Berne Convention Article 2(1).
3. Commission of the European Communities (CEC), 'Green Paper on Copyright and the Challenge of Technology: Copyright Issues Requiring Immediate Action', COM (88) 172 Final, 7 June 1988.
4. CEC, 'Proposal for a Council Directive on the Legal Protection of Databases', COM (92) 24 final – SYN 393, Brussels, 13 May 1992 and 'Amended Proposal', COM (93) 464 final – SYN 393, Brussels 4 October 1993.
5. CEC, 'Green Paper on Copyright and Related Rights in the Information Society', COM (95) 382 Final, Brussels 19 July 1995.

The firm as a university

Douglas Hague

Developments in information and communications technology mean that knowledge has become divorced from organisations and places. In future, people will use knowledge where it is, not where it can be institutionalised. With knowledge footloose, knowledge businesses will become a common phenomenon.

Conceptually, both knowledge businesses and universities are knowledge exchanges. They *acquire* knowledge (sometimes in universities from their own research); *interpret* knowledge; and *disseminate* it to those who need it. In conventional universities, dissemination has been mainly through lectures and writings. As new possibilities open up, knowledge businesses are growing in number and students are increasingly learning at times and places which suit their own lives.

Entrepreneurship

I am especially intrigued by the possibilities of a new breed of knowledge entrepreneur, many aged between 25 and 35. Some are being given opportunities by the firms that employ them; others are establishing their own businesses. Whether they choose to move into fields previously dominated by universities or to enter quite new activities before universities do, many of these new businesses will succeed because they

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have a key entrepreneurial talent. They are not totally wedded to their original business idea of launching a particular new product, which is why many scientific and technical inventors fail. They are wedded only to the success of the business and will change what it is trying to do in its early period, sometimes quite dramatically, in order to find a business activity in which they can succeed. This kind of aptitude is almost unknown in universities and, if found, usually suppressed.

From this background, one can see that it will take some years for a clear pattern of knowledge activities to evolve while businesses and universities are establishing their precise roles. What is clear is that some big companies are already moving substantially into traditional university activities.

Teaching

In teaching this is happening where large companies believe they can provide technical, commercial and/or administrative training for employees which is more appropriate to them, because it is closer to the company's specific needs than if provided by universities. It is also more carefully designed to inculcate the particular ethos, knowledge and skills which the company requires.

The establishment of Unipart University is an interesting example. The stimulus came from the need to raise educational standards in order to compete successfully in crowded international markets for automobile components. The route chosen was to become a 'learning organisation. 'Unipart U (as it is dubbed) is the direct opposite of a conventional university. Any employee can become a student. Indeed, any employee is also a potential teacher. There are no examinations or qualifications. Professor Dan Jones, one author of *The machine that changed the world*, explains that Unipart U does not teach what may (or may not!) be useful later on, with a certificate to say so. It provides what is needed for the immediate job.

The aim is continuous (incremental) learning, leading to steadily improved performance through students teaching their own skills and learning those of colleagues. The only 'examination' question is: do you

perform more effectively in your job? Learning comes also from teaching, which is often the best way. One has to master one's own job and the skills of presentation and explanation if one is to teach well.

Unipart U is a good example of action learning, a brave venture and we should wish it well. The knowledge acquired is still relatively low level and operational, but that is where to start. The important thing will be to recognise at what stages new knowledge should be brought in from outside and to do that well.

Unipart is a substantial organisation, but many smaller companies are already taking advantage of the need for lifelong learning which is raising the demand for post-experience programmes. Curiously, such training companies have the advantage that only a small proportion of university academics keep themselves and their presentation skills sufficiently up-to-date to reach the necessary standards. Those who do are often members of a 'freelance fringe' of people who either have left employment in universities or who still work in universities as well. They find the 'fringe' more stimulating and more lucrative.

Research

In research, there are substantial scientific and technical laboratories – for example, in pharmaceuticals – where world-class scientists work on issues as fundamental and difficult as any in a university environment and do so more purposefully. Those who work in such laboratories learn from their own study and research and from their colleagues, though perhaps less formally than in a university. To the extent that individuals move in and out of the laboratory, knowledge and ways of learning are spread, but the key objective is research not training. Their links with universities, especially in pharmaceuticals, are good.

With the evolving knowledge society, what is happening in other fields is perhaps instructive. For example, in applied economics, there are already fields where businesses have established virtual monopolies, as banks and stock brokers have with studies of short to medium-run economic developments. Doubtless the fact that many of these studies are free to clients, researchers and teachers helps their success

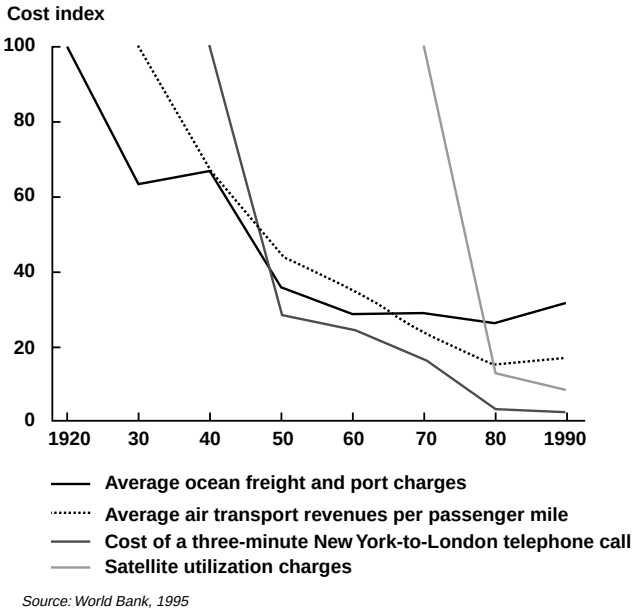

Figure International transport and communications costs. *Source*: World Bank, 1995.

but relevance, high intellectual standards, clear exposition and above all speed of publication, are crucial. For example, Goldman Sachs faxes significant new information to clients as soon as it becomes available.

This is a field where businesses have already won and there will be other similar fields. Success comes from an imaginative focus on the client, but mainly from promptness and speedy delivery.

Information technology

Businesses are also establishing themselves in using information technology to produce educational material. There are already about 10,000 educational databases, many the property of US businesses, and this is where the knowledge entrepreneurs are currently most active. The great majority of these databases are still primitive, but one can

see that they have enormous future potential in providing information to students.

Beyond this, while the Open University is still the dominant supplier in the UK of high-level university TV/video programmes, numerous smaller companies are specialising in producing training videos and CDs. They will succeed, not least because they have built up the ability to run good production teams. Many of them also organise training courses alongside their own material. How good will universities be at all of this?

The CD-Rom may well have a bigger impact even than television and video, because it forces interaction between the student and a combination of written and graphic teaching material, 'talking heads', etc. and can interrogate the student and record how well he or she has answered the questions. Combined with good tutoring, the CD-Rom will have a big impact on education.

Further into the future, virtual reality will become important too. Already some airlines train pilots from the very beginning on a 'flight deck', using a simulator. As time passes, a growing range of technical, selling, trading and administrative skills will be learned in this way. Further still into the future, one can imagine more conceptual skills being learned through virtual reality as well.

As yet, businesses produce few university-level CD-Roms, but a straw in the wind is a partnership between IBM and a very small company, CRT Multimedia. This is developing CD-Roms for NVQ students in business administration. Once NVQ material exists it will not be difficult to move on to produce first-year university programmes where CDs can be very effective. The potential for a firm like IBM – alone or in alliance with smaller companies – is huge.

Knowledge exchange

Businesses are already moving into the new field of knowledge broking and are set to make big inroads into what one might have expected to be the university's province. The function of a knowledge broker is to understand the information which businesses and other organisations currently need and then organise to provide it.

Table Number of 'live' registered databases in the UK

1990	150,557
1991	160,253
1992	168,365
1993	164,331
1994	184,877
1995	202,476

Source: Data Protection Registrar.

An interesting example builds on the fact that many businessmen acquire knowledge by talking, not reading. There is therefore a growing market for periodic conversations with experts (especially in science and technology) who can give authoritative advice – what we may call 'distributed brain tapping'. With today's technology, physical proximity no longer matters and 'conversations' will doubtless be on the Internet as well as on the telephone. This is a field where universities could play a big role, but I expect entrepreneurial knowledge businesses to have the edge because of their dynamism, inventiveness and because they are not hampered by long-established ways of operating. They will comb the whole world for the 'experts' they use.

The business as a university

The conclusion from this analysis must be that for the foreseeable future the pattern of activity of businesses working as universities will be very fragmented, with entrepreneurial businesses leading the way especially in fields like information and communications technology, the provision of databases and other new forms of knowledge exchange. This will be a typical 'immature' market.

It is hard to see any business setting up a complete university in the UK, but that does not mean that no business will be a substantial participant, especially since technological developments mean that the

market for education is now international. Potentially big players are lurking. For example, Pearson/Longmans has acquired Henley Distance Learning, which spun off from Henley Management College and is a successful seller of distance learning programmes in management. More intriguing is the decision of IBM, already mentioned, to work with very small organisations to gain experience in the educational field. With its size, global reach, skills and brain power, a computer business is likely to be the first to establish a 'real' university. Will it be IBM or Hewlett-Packard, or even some other firm?

The new basic skills: from the 3R's to the 4S's

Geoff Mulgan

If we take seriously the claim that education and skills are the primary determinants of economic success and failure, then clarity about what is to be learnt and how becomes critical. In what follows I argue that a new set of basic skills is now taking shape, skills that will be essential for any citizen or employee in the next century. I go on to set out a new framework for learning, based on a branded smart card that would act as the Visa of a learning economy, the entry point to integrated infrastructures for learning based on multimedia.

The transformation of learning

First, the background. We are now at the beginning of a period of transformation in the ways in which learning is carried out. We are moving away from models based on learning knowledge to models based on learning how to acquire and use knowledge; away from the monopoly of schools and universities to a far more open market; away from the fencing off of learning in just one part of life, to models in which learning is done in parallel with work, leisure, retirement, even early childhood; and we are moving away from the factory model of learning to one under the control of the learner.

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Many factors are converging to drive change forward. Information technology is the most obvious. It is now, at last, beginning to realise its potential, and in the near future is likely to advance rapidly with visual, human-centred interfaces, more tailored to how people naturally learn. There are also other factors, including demand (rising aspirations and the desire to learn outside work as well as around it) and supply (firms using multimedia to enter new markets and cross national boundaries).

The three S's

As information technology filters into all areas of work and life, new sets of skills will become essential. The key skills of the industrial age were the three R's: reading, writing and arithmetic. In many respects these skills of numeracy and communication remain as relevant as ever. But today from a very early age we need to cultivate a parallel set of basic skills, which like the three R's provide the basic means of access and participation in labour markets and in life – means which can be acquired not as separate disciplines but rather through their use as ways of learning other things. These are the three S's.

The first of these is simulation. Simulation is turning out to be a remarkably powerful tool for genuine understanding, whether in learning how to fly an aeroplane, or how an economy, a company, or an ecosystem works. Modelling and simulation force the learner to reveal assumptions and understandings, and they provide a good mix of learning and doing.

The second is selection. As the available knowledge and information rises exponentially, we all need to be able to find what is truly useful: to surf through the Internet, to sift the wheat from the chaff, to identify what is valuable, to browse effectively. A set of skills that used to be relevant only for a few disciplines such as editing are now becoming general.

The third is sharing. The individualised model of learning ill-prepares people for a world in which they have to work in teams with other specialists, a world where work depends far more on interpersonal and intrapersonal skills. The capacity to share questions, ideas

and knowledge is now a basic competence, and can be learnt through new tools such as groupware.

Together these three basic skills can be learned in many contexts; at home with access to a network and a CD-Rom, in primary and secondary school, or in the workplace. They are not inherently hard to learn, because they go with the grain of human motivation. Simulations tend to be more involving and more fun that the traditional absorption of knowledge; selection draws on capacities of pattern recognition; sharing goes with the grain of sociability. All can in principle be learned at any age.

The fourth S: service

There is a fourth element in the cluster of basic skills without which the IT revolution threatens disappointment: the capacity to serve, to be part of a service. This idea is difficult for two reasons. The first is that service has long been associated with servility and servitude (its etymological origin is the Latin 'servus', meaning slave). The second is that in recent years, despite all the rhetoric about the rise of a service economy, the primary models used for restructuring public and commercial services, and for using IT, have been drawn from manufacturing.

Their main characteristic has been to emphasise throughput, productivity, and cost control. Front line jobs in banks, hospitals and shops have been cut back. Central control functions have tended to be built up, with more managers, more accountants and more hardware.

The result is that despite impressive productivity gains the public remains ill-at-ease with many services, unconvinced that they have improved. The Swedish writer Gunnert Emmerson suggests why this may be so. We are, he argues, only just beginning to understand the nature of a service economy. Too often, in applying manufacturing models we have lost sight of what makes a good service (and, interestingly, why it is that the rich still use face-to-face services based on close human relationships with a financial adviser, a personal trainer, a butler or a valet).

The alternative is to use technologies to improve the fundamental quality of the service not by removing human beings but rather by

enhancing them. This may mean greater labour intensity at the point of delivery, but leaner managements and central control functions. It may mean pay scales that better attract high quality staff into care jobs, and new strategies to finesse the re-engineering of fields like retailing and banking.

But crucially, too, if this is to inform the next phase of IT implementation we will need employees who are not just good at dealing with technologies but also at ease with service, and with understanding others' needs. This will be as important for elites (to restore a sense of public obligation), as for everyone else. It will require models of learaning that inculcate the habit of service from a very early age. And it will require a cultural shift to see service not in terms of servility but in terms of a commitment to an ideal of quality (even simple tasks like cleaning can be conceived as the pursuit of an ideal, and there can be an innate joy in performing services such as caring, curing and teaching).

If these – the three S's and the cultivation of service – are some of the new basic skills, how could we push these models forward, popularise them and give their users a sense of ownership over the process of learning?

A new infrastructure

Much is underway in education which points in the right direction. But one particular model could provide a useful push. A few years ago I first developed the idea of a University for Industry, a new learning infrastructure delivering courses and qualifications to workplaces, both large and small, and accessible via a personalised smart card. The intention was to help turn workplaces into learning institutions, drawing on the successful innovations of existing vocational and non-vocational firm-based universities. The core organisation of such a University would primarily be concerned with marketing and dissemination on the one hand, and quality control on the other. Beyond this there would be as open a market as possible, to minimise the danger of capture by vested interests based in older educational models. In the longer run the infrastructure would have the potential to evolve into a larger social

role, providing courses and qualifications which could also be accessed by school children and the unemployed, pensioners as well as professionals; a model fit for an era when serial linear lives have been replaced by non-linear ones, pursuing different activities in parallel.

After several false starts the technologies are steadily making such a vision more realisable, and more attractive, offering genuine user control over the time and pace of learning. But in my view we could now go a step further than simply creating a new open learning infrastructure. The opportunity is open to the UK, with its strengths in education, broadcasting and distance learning, and its relatively advanced computer culture, to deliberately develop a brand, a world class identity for the new multimedia learning. The brand should be focused and memorable – perhaps. 'The Smart Card', 'Opportunity Card' or 'Learning Card'.

By linking access to the infrastructure to personal smart cards, which would in turn contain not only individual learning achievements but which could also be programmed to organise the terms of access and payment for courses, a new system could be created with huge commercial and educational potential. Organisationally, the model would apply in learning some of the 'society of networks' organisational principles developed by Visa in banking. In terms of public culture, the model would provide a sense of individual ownership and might encourage motivations to learn, particularly if it is given to children from an early age, with stepped progress through some of the key basic skills described above. Economically, the model would push forward the UK's comparative advantage in learning materials, turning the infrastructure, the accredited learning materials and the card, into a model to be marketed globally, an embryonic global learning infrastructure (rather as, for example, GNVQs have been taken up around the world).

We are now in a period when the old models will exist side by side with the new. The huge expansion of higher education and the rising political salience of education means that there will be fierce conflicts for resource and power. Interests associated with previous models of learning will try to take control of anything new, to cast it in terms with which they are familiar. But within a few decades we should expect to see systems that are as different from the schools and universities of

today, as factories and supermarkets are from their equivalents of a century ago. An integrated knowledge infrastructure based on personal means of access could turn out to be the most important building block of a system that could carry us well into the next century, a crucial support for a new, and more inclusive enterprise culture.

Downloadsamoney

David Birch and Neil McEvoy

Just as the technologies of the personal computer and laser printer meant that anyone could become a publisher, so the technologies of smart cards and superhighways mean that anyone can become a bank. Endogenous money is money created within a market whereas exogenous money is money created by some outside authority and imposed on a market. We're used to the second – where the outside authority is the government – and have forgotten about the first, but pressures on the monetary system may have reached the point where a change is inevitable.

Three strands are coming together which lead to an irresistible conclusion: private currency is on the way, and it'll be good for all of us. The first strand might be called the political economy argument. In his famous work *Denationalisation of money*, F.A. Hayek argued persuasively against the government monopoly on the issue of money and in favour of private institutions competing to provide currencies. The core of Hayek's thesis is that governments have systematically defrauded their subjects by forcing them to accept depreciating money and caused economic instability (including bouts of mass unemployment) by using 'monetary policy' in misguided attempts to 'manage' the economy. He thought that commercial organisations competing

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for profit would be more successful than governments in providing the sort of money that people want: money that retains its value.

Hayek noted that there were certain practical difficulties associated with introducing such a scheme. Firstly, he saw that people are used to dealing with one currency and would find the concept of choice strange. However, he also noted that traders in border areas are usually happy to accept payment in the currency of a neighbouring country, providing its currency is reasonably stable at the time. Today, notions of locality and borders are being redefined by the Internet. In some sectors electronic trading is already predominant and global in scope. When a Japanese investor sells to an American some stock in a German company on a British exchange (and the consideration passes between the investor's Swiss and Luxembourg banks) who can say where the trade takes place? In such situations the contracting parties have a choice of what currency they use, and invariably they choose a stable one, as would anyone trading anything if there was a choice. With the superhighway, we will all inhabit a border zone and be confronted with dealings in a multiplicity of currencies (tried buying shareware for $20 recently?). As economist David Ricardo wrote in his *Proposals for an economic and secure currency* (1816): 'In the use of money, everyone is a trader'.

The second difficulty noted by Hayek was a technical problem to do with the use of 'cash registers' or 'vending machines', where issuers might mint coins of differing denominations, size or weight, and where in any case their relative values would fluctuate. Hayek foresaw that within a well-defined region (the Internet?) perhaps one currency would predominate, or (with amazing pre-science) that: 'another possible development would be the replacement of the present coins by plastic or similar tokens with electronic markings which every cash register and slot machine would be able to sort out, and the 'signature' of which would be legally protected against forgery'.

In fact this has now happened. The technology is the electronic purse, in which cash is stored not as notes or coins but in digital form, within a computer chip embedded in a plastic 'smart card'. The inhabitants of Swindon already have them: the Mondex scheme developed by NatWest and Midland went live in July of 1995. Electronic purses

are being adopted world wide: notes and coins are already a declining fraction of the money supply (less than 4 per cent in the UK, see Figure 1), and the advent of the electronic purse will reduce them further. Notes and coins also cost the economy as a whole several billions of pounds per annum – they are expensive to produce, secure, transport, count and so forth – and are estimated to impose an overhead of 2–4 per cent on retailers. And you can't buy things on line with them. Credit and debit cards aren't the solution. They're not cash: I can't call my brother on the telephone and send him the £351 owe him with Visa (I can with Mondex).

In 1930, Sir Frederick Angel wrote: 'the usual definitions of the functions of money are that money is a means of exchange, a measure of value, a standard of deferred payment and a store of value'. But there is no law of nature that says all these functions have to be implemented by one authority. With notes and coins it may be impractical to

Year	M0	M4	M0/M4
1970	4.1	26.6	15.4%
1972	4.8	38.1	12.7%
1974	6.2	51.7	11.9%
1976	7.6	64.5	11.9%
1978	9.8	85.0	11.6%
1980	11.7	114.1	10.2%
1982	12.3	154.9	7.9%
1984	13.7	199.2	6.9%
1986	15.0	261.2	5.8%
1988	16.9	355.4	4.8%
1990	18.3	473.6	3.9%
1992	19.3	519.1	3.7%
1994	21.6	562.3	3.9%

M0–notes and coins in circulation.
M4–overall money supply.
Source: Economist world in figures.

Figure 1 The changing UK money supply (£ billion).

separate them, but the shift from atoms to bits (to use Negroponte's famous phase) changes this.

Even if a government did succeed in forcing you to use their currency (by searching you at the airport and taking away all of your smart cards or portable computers, perhaps) such a policy would just deprive citizens from participation in the world's largest market, and hamstring domestic industries by making access to information harder. A scheme like Mondex is firmly rooted in the exogenous money supply: its purpose is to make the use of national currency more efficient and cost-effective for consumers, retailers and banks. The same kind of technology, however, could be used to create endogenous money. This idea – set out, for example, by Jon Matonis in his *Digital cash and monetary freedom* – has been gaining a wider audience as people begin to consider the ramifications of dispensing with coins and notes.

A second strand, the business economics argument, begins by noting that if currency isn't defined by the government, what would back the 'note' issue? Free banking advocates have long argued for gold or baskets of commodities. None of these tangible anchors are logically necessary to support private currency: consumers should of course be free to choose between money that represents a claim on a 100 per cent backed reserve of gold if they want to, but a claim on something else of use (whether fractionally backed or not) might be more desirable to others. Different rates, discounts and premiums in the market would reflect all of the relevant factors. In a 1994 pamphlet for the Centre for the Study of Financial Innovation, lateral thinker Edward de Bono put forward private currency as a claim on products or services produced by the issuer. In his example, IBM might issue 'IBM Dollars' which consumers would use to obtain IBM products or services in the future.

This gives a more practical segmentation of the 'currency market'. Purchases of software could be carried out in a currency issued by Microsoft, and purchases of topical information could be in a currency issued by Reuters. Of course if Microsoft or Reuters issued more currency than these sectors of the economy need, or if it were generally felt they may become unable to meet their obligations to redeem units of their currency, then currencies issued by IBM or News International

would start to gain market share and exchange rates would shift appropriately.

The use of future revenue streams, rather than commodities, to back money widens the ability to 'issue notes'. Thus, free banking becomes free to anyone. While printing money is still the legal privilege and monopoly of governments and it is difficult to imagine a government passing a bill to abolish this monopoly (witness the single currency debates sweeping Europe even as this is written) there might be directions other than the abolition of legal tender that could lead to the same end point. Suppose that technology enabled the 'IBM Dollar' to exist and, following Hayek's arguments, it became successful? Dr de Bono wrote: 'companies like British Airways or Sainsburys could issue their own currencies, and could benefit from the float until these currencies were used'. British Airway's Air Miles (frequent flyer points) indeed used to be issued as paper notes which were freely transferable and redeemable. This was one of the properties that made them desirable, the other being that they could be converted into something very useful: seats on British Airways (BA) flights to nice places. With similar loyalty schemes widespread – the Tesco Clubcard, introduced in February 1995, had 6 million users within 9 months – competition is no longer about offering loyalty schemes, but who offers the best one.

What, then, would make these schemes better for both companies and their customers? A smart card carrying Air Miles or Safeway's ABC Points would bring the best of both worlds: consumers could pass the tokens amongst themselves (just like paper notes) using widely available devices and could redeem them in person or over the Net.

What widely available devices? Smart card readers will be ubiquitous for a number of reasons, including the appearance of smart credit and debit cards, the shift towards smart telephone cards and so forth (see Figure 2). Consumers will have ready access to devices that enable them to either spend their tokens or pass them on to someone else: 'you don't have enough Air Miles for that holiday in Rome! Here, darling, take some of mine'. What government would risk 'taking away' people's Air Miles or ABC Points? If we make the assumption that the extension of loyalty schemes is the natural migration path to private

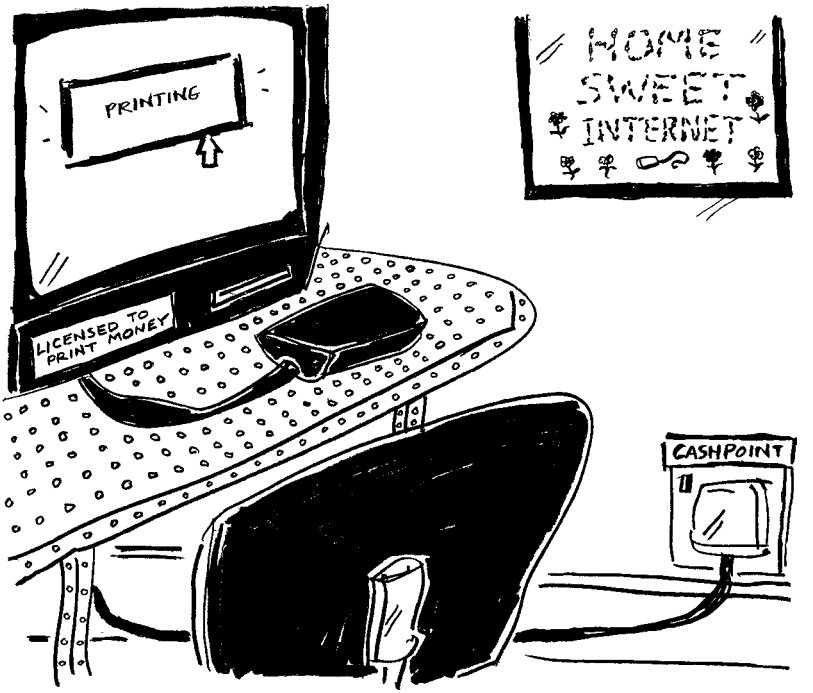
Applications	1994	2000 (estimated)
Phonecards	310	1400
Gaming	1	500
Metering	2	50
Access/Vending	4	200
GSM	9	50
Health	62	400
Bank/Loyalty	20	500
Identity	1	400
Transport	1	200
Pay TV	2	50

Source: Gemplus, 1995.

Figure 2 The growth in smart cards applications worldwide.

currency, it then becomes interesting to consider whose money consumers might find acceptable. While banks and insurance companies seem the natural choice, a September 1995 MORI poll found that one third of UK consumers would be happy to trust supermarket chains or Marks & Spencer with their money. By extension then, if a consortium comprising Norwich Union and Marks & Spencer began issuing transferable loyalty points for cross-accepting within their consortium (the currency *keiretsu*) they could provide an acceptable currency for transactions and lock consumers into their group. There's no need to assume a 'big bang' to private currency: it will happen because of the dynamics of the marketspace. If you believe that Marks & Spencer will always redeem your points and that those points will keep their value then you're happy to accept them in payment.

Smart cards have already become the preferred implementation for payment systems because of pressures from consumers, who use plastic cards already and are very familiar with the card format, and banks who are attracted by all of the familiar characteristics of smart cards (security, portability, capacity and so on). It is the security of smart cards makes them ideal for use in conjunction with the ubiquitous and



insecure (and therefore cheap) information superhighway, the Internet. John Gould of Mastercard International called smart cards the 'link between the real world and the virtual world' at the 1996 RSA Data Security Conference in San Francisco – an apt description. Advances in cryptography have made it easy for a PC (or a smart card) to generate information with 'digital signatures' that are far harder to counterfeit than a £5 note and much cheaper to produce.

When these advances are mixed with the decentralised paradigm of the Internet, the result is an explosion in money experiments that is predictable in magnitude, but not in direction. The Internet payments world is evolving at such an incredible pace that while it may be impossible to predict whether Ronald Rivest's (of RSA fame) PayWord scheme will win out over Digital's Millicent scheme or any one of

the hundreds of others, it is entirely possible to predict that something like one of them will, and that it will be used to support private currencies – simply because it can be. This is the technological strand, well observed in Kevin Kelly's *Out of control* (1994): 'by its decentralised, distributed nature, [electronic cash] has the same potential for transforming economic structure as personal computers did for overhauling management and communications structure'.

In the Internet marketspace, the distinctions between consumers, retailers and banks become hazy. An individual or organisation of significant reputation might buy things from one web site, sell things to another and issue their own money. Their copy of Microsoft Money, or whatever, could easily manage these transactions: any device connected to the Net has access to all of the information (and markets) it needs in order to establish the desirability of a currency. Once people can use the Net to send cash around, then a market will develop in the different kinds on offer. Someone with an excess of ABC Points puts up a page offering to trade them for Talking Points: foreign exchange brokers (e.g. Thomas Cook) then become web sites that will sell you the URL of a counterparty for your trade. All of this can be done in seconds and with a vanishingly small overhead.

Here, then, is a practical example. Alice asks Bob to write a report on the Manchester United vs. Tottenham Hotspur game for her magazine. They agree a fee of 100 minutes of BT Long Distance (100 Busbys), which has become the standard unit of account for people with Internet access. Bob writes the article, Alice loves it, and now it's time for payment:

- Alice's PC (Alice's Quicken controlling her electronic purse card) contacts Bob's PC (Bob's Microsoft Money controlling his electronic purse card) and says 'I owe you 100 Busbys: how would you like it?'.
- Bob has set the preferences on his Microsoft Money to go for Safeway ABC Points, since that's where he does his shopping, so his PC asks for that.

- Alice's PC contacts the Thomas Cook PC and trades 100 Busbys for 1000 ABC Points and sends them to Bob, with a digital receipt signed by Thomas Cook stating the exchange rate.
- Bob generates a digitally signed receipt for Alice, and her Quicken neatly files this away for tax purposes. Neither Bob nor Alice have had to think about the different currencies or exchange rates: they agreed a mutually acceptable unit of account and foreign exchange market (not bank: Forrester Research predict that non-banks will have at least one-quarter of the Internet payments market by the year 2000).

In his excellent book (which cannot be too highly recommended), *The history of money from ancient times to the present day*, Professor Glyn Davies notes that improvements in the technology of the means of exchange – from ingots, to coins, to paper, to plastic cards – have always diminished the power of the government over the monetary system. Is it time for them to give up completely?

Further reading: *On the Cards: Privacy, identity and trust in the age of smart technologies* by Perri 6 and Ivan Briscoe, recently published by Demos at £9.95.

The society of networks

Geoff Mulgan and Ivan Briscoe†*

Technologies transform the nature of organisational forms. Sometimes they make new organisational forms necessary. The car, for example, required a new infrastructure of garages and service stations, and, as Alfred Chandler wrote brilliantly in *The visible hand*, the railways impelled the invention of the modern corporation to keep track of a far more complex logistical system. At other times technologies make new organisational forms possible: the telephone, for example, made it possible to manage dispersed operations in real time, while the car made possible the suburb and the supermarket.

Today a new wave of technologies is once again transforming the nature of organisations. Virtual companies are being established without an office and in some cases without even any staff. Small software companies are emerging as if from nowhere to become corporate titans. Traders are now dealing on world markets from remote cottages.

Given the remarkable level of innovation in organisational forms it is surprising that most commentators take it for granted that the age of cyberspace will be based on the classic organisational models of the 20th century. There is no shortage of imagination about the technologies and uses of the information superhighway, but it is still widely assumed that the networks of the 21st century will be organised in

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the same way as the infrastructures of the past, either as publicly-owned corporations or as regulated private ones.

The organisational forms which have dominated this century were designed for an age of materially based industry, for economies based on hardware, and for relatively uneducated workforces. Their characteristics have tended to be uniformity, standardisation, clear and pyramidal lines of management and unified ownership. Within the organisation the norm has been to have hierarchical command structures exercising control over dispersed production processes, flows of goods, and over labour much of which has been devoted to precisely definable repetitive tasks, whether in the factory or the classroom, the government office or the hospital.

The information age has posed fundamental challenges to these models of behaviour and production in two ways. The first is that it tends to favour difference rather than uniformity. Employees in classic industrial occupations have to perform their tasks consistently and predictably. Autonomy and variation threaten the smooth running of the machine. Where information and knowledge are concerned, by contrast, the value the employee adds is less predictable, concerned with creativity, with reshaping information for new uses. The second major difference is that far faster flows of information make it possible to organise in far more complex ways, with networks or flotillas of organisations joined together loosely, rather than depending on integrated command structures.

These differences are particularly evident in the case of infrastructures. Where the classic infrastructure provided a largely undifferentiated product (such as gas, electricity or water), or an undifferentiated carrying capacity (like a motorway), in the information age what is required is a far more varied set of services, ranging from mobile communications to databases. And where the classic firm and the classic infrastructure could be vertically integrated, those of the information age seem to work best by articulating diverse types of service supply and diverse types of use.

Unfortunately few of the key organisations in the information industry reflect this new reality. The great majority are organised on

traditional principles, and are little different from firms in manufacturing or retailing. Yet it is a striking fact that those which have designed their organisational shape to reflect the nature of information have, on the whole, proven far more successful than those which have stuck to older models.

One of these is the Internet, the fastest growing medium in human history. The Internet is not owned by anyone, but makes use of leased lines to interconnect different public and private networks. There is no substantial physical body underlying the whole operation – which is why the term 'cyberspace' was coined to describe the virtual realm inhabited by netsurfers. Central to the popularity of this 'network of networks' is its distribution of intelligence and innovative capacity throughout the system. The Internet is essentially a 'bottom-up' structure. Innovations on the Net have generally come from users and niche software companies: the World Wide Web, for instance, was invented by a computer scientist in Switzerland, while the companies which provide connection to the Net are small operations, almost all under five years old.[1]

From complexity and network chaos has emerged something like order, and a slow but very useful system of knowledge and communication. While large telecom companies have lumbered into broadband technology, this initially low-key and highly technical medium for communication has become an extraordinary success. This performance has owned nothing to advertising or corporate brainstorming; it has been the system's adaptability, the freedom it gives users, which have given it its edge.

The second model of an information age organisation is Visa, in financial services. Instead of offering a credit card supported by the resources of one bank or a consortium of banks – like the failed experiments of American banks in the 1960s – Visa operates a credit card service which is owned by the large number of financial institutions (over 20,000) which offer its cards and services. Visa itself is only a skeletal 'overseeing administrative organisation', [2] linking the operations of its members into a cohesive and efficient whole. It is, in short, an organisation which *enables.* By doing this, it has succeeded in

managing 7 billion transactions per annum, worth over $650 billion. This is, according to Visa's founding Chief Executive Dee Hock, 'the largest single block of consumer purchasing power in the world economy.'[3]

What is interesting about both these new forms of organisation is the way in which they operate broad infrastructures incorporating diversity, competition and multiple lines of power. It is no coincidence that the areas in which they have thrived are markets for information – markets in which the number of transactions, exchanges and communications handled would bemuse many more centrally directed organisations. Instead of being paralysed by this complexity, they have flourished upon it. Consumers have been drawn to Visa by the ease of using the card anywhere in the world; constant innovations, like cheap voice transmission, broaden the appeal of the Internet each year.

New theoretical accounts of the organisation have trailed in the wake of the information age. Dee Hock has advocated the development of more 'chaordic' organisations such as Visa, which would avoid the institutional sclerosis experienced by hierarchical, 'command-and-control' organisations. By distributing ownership and power, according to Hock, an organisation or infrastructure can embrace huge complexity, and, like the human mind, evolve into an extremely effective organism able to withstand shocks and incorporate new ideas. This biological motif is also prominent in the work of Internet expert Kevin Kelly, who champions evolutionary models for complex systems of information exchange (and many other types of co-ordinated networks or systems). He argues that our fixation with mechanical design is damaging – and likely to retard innovations in a huge number of scientific and informational fields: 'a neo-biological technology is far more rewarding than a world of clocks, gears and predictable simplicity.'[4]

Many organisations are ill-suited to this type of organic structure: the form of their product, or the nature of their markets make evolutionary, fragmented designs inappropriate. Railway networks would fall apart in such a loosely co-ordinated, haphazard environment (although the most imaginative thinking in transport is concentrating on how information and connections between different forms of transport can reduce journey times and waiting times, in contrast with

the traditional emphasis on capacity – such as high speed rail links or new roads).

The new systems also have their faults. The Internet is currently plagued by public concerns about the on-line distribution of pornography and racist or even terrorist propaganda. Freedom for users does not always translate into moral rectitude. And so far it has proven hard to adapt the Internet into a genuine market, able to sustain financial transactions.

But there are important lessons to be drawn about how the infrastructures of the next century might be better organised. The current debate sees the choice as one between monopolistic public utilities and competitive (large) private firms. The wider public interest is conceived in terms of a set of social obligations to be imposed on these firms by a regulator – such as the obligation to connect schools and hospitals, or externally imposed controls on pricing.

This faith in regulation as the key to a successful information society rests on the successes of the 1980s. Pricing controls and regulatory rules encouraged greater competition, lower prices and a wider range of services. Regulated competitive markets proved more innovative and more efficient than earlier models of state monopoly. But recent developments have shown up the limits of regulated competition. Regulators have found it hard to understand the technological trends and cost structures of the firms they are regulating. Despite competition, erstwhile monopolists remain overwhelmingly dominant and, more importantly, it has proven far harder than many expected to open up networks to a multiplicity of service providers. In part this is because of conflicts of interest: vertically integrated dominant companies, like BT in Britain and Deutsche Telekom in Germany, are involved both in providing services themselves and carrying the services of others. Moreover because these large telecom companies have their origins in an engineering based culture, and the more traditional job of providing an undifferentiated service, their cultures may be ill-suited to the far more customer-oriented task of cultivating a myriad of new services, ranging from teleshopping to education, video-on-demand to home alarm systems.

If the information superhighway is to become anything like a supermarket of options, then something has to be done to guarantee open access and diverse content.

The alternative model, what we call a 'Society of Networks', draws on the approach taken by Visa, and is deliberately designed to suit the nature of an informational infrastructure. Instead of having the superhighway run either by a single network operator, or by a small group of competing private companies, all service providers (including in the British case BT and Mercury, Ionica and Energis) would have a share of ownership in an open, profit-making association governing the main network infrastructure. As with Visa, membership would be open to any service provider able to meet set criteria, rather than being a closed cartel.

There would still be strong incentives to improve the network and the technology used. But unlike current models, there would also be an incentive to minimise the cost of access, since service providers will naturally want to maximise the market for their services. This would not be a model of monopoly. Indeed it should have, and would need, no formal privileges. Any competing network provider would be free to set up in competition. But the odds are that most service providers would want to remain part of the 'Society'.

This vision of the broadband network would achieve many of the goals that liberalisation and deregulation have found elusive. It would ensure open access to the core network, incentives to maximise usage and keep prices low, and provide permanent competitive pressures. By building both competition and co-operation into the very heart of the organisation, it would enable regulation to be more focused and more effective. Complexity could be managed in something resembling the 'distributed control' of Kelly's predictions.[5]

Looking further ahead, the Society of Networks model suggests how businesses could evolve in the future. Instead of developing internally, either through growth or acquisition by a single organisational entity, the key issues in the future business environment may come to concern what we might call the interfaces: the means by which different units interconnect. In the case of the Internet and Visa these are clear cut

rules governing such things as transactions and technical standards. In other types of organisation they might include shared commitments to principles, or rules governing the exchange of knowledge. These would become the glues of federations that both compete and co-operate, whose elements are both autonomous and interdependent.

Structures of this kind seem to defy the logic of organisations in the industrial age. Whereas industrial-age organisations were defined by their boundaries, in this new model the key characteristic of an organisation is the range and number of connections to the outside environment – its connectivity. This is the virtue of the Society of Networks model. The fact that the Internet is the fastest growing medium, and Visa the highest turnover business enterprise the world has ever seen, is proof that these models are more than abstract ideas. They have a capacity to grow and to adapt that no other organisational form can match.

Based on the Demos Argument The Society of Networks, *available from Demos for £4.95. (&60p p&p)*

Notes

1. *The Economist*, 1.7.95.
2. *Visa international: the management of change*, Harvard Business School, 1981: 2.
3. Hock, D., 1995, 'The chaordic organization: out of control and into order', *World Business Academy Perspectives*, Vol. 9, No. 1.
4. Kelly, K., 1994, *Out of control*, Fourth Estate, London: 607.
5. Kelly, K., *Out of control:* 58.

The end of the office

Gerard O'Neill

Jane Fonda once quipped that 'You can run the office without the boss, but you can't run an office without the secretaries'. There are some who would now suggest that you can run the office without an office, though you might still keep the secretaries and even a few bosses. If the past ten years have been about the re-engineering of the factory floor to compete in a global marketplace, then the next ten years will be about the re-engineering of the office space to compete in a 24 hour marketplace. The 'virtual factory' is about to be joined by the 'buildingless' office.

Some estimates suggest that up to half the workforce in developed countries work in offices. That share has been steadily increasing over the past fifty years as first agriculture and then manufacturing saw huge declines in their share of total employment, with services taking up the slack.

From virtual factory to buildingless office

The office has played a key role in absorbing some of the consequences of de-industrialisation in the UK and many other European economies. But that absorptive capacity may now be at a limit, with profound consequences for the future nature of work. Writers on the economics of the office, such as Bruce Lloyd,[1] have pointed out that

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one reason for the huge increase in the numbers working in offices over the past quarter of a century has been the extraordinary inefficiency of the office as a workplace. In other words, because the average productivity per office worker has been so low, many workers are required to achieve a given level of output. The office almost ranks with the proverbial 'digging holes in the road and filling them up again' in terms of productivity.

Think about it: they are usually only open for 8–10 hours per day, Monday to Friday, and not on Bank (or should it be 'office') Holidays. Those occupying the floor-space within the office are also likely to be on holiday from their desks on a further 20–30 days in the year. Offices also have to be depreciated against the balance sheet, whilst their appreciation as property can no longer be taken for granted in an oversupplied marketplace – even as you spend a small fortune on their maintenance, upgrading and compliance with a plethora of regulations.

Thus most offices are only effectively occupied for little more than 20 per cent of the year; an estimate that may err on the generous side if allowance is made for the time that all of us who work in offices spend gossiping, politicking, drinking coffee and reading newspapers.

Forces at play

So why is this all about to change as we enter the twenty first century? A quick run through of the STEEP (social, technological, economic, environmental, Political) forces for change affecting office work will give you some idea of the complex and rapidly changing dynamics at play.

Social forces

- Women's expectations about their working requirements are increasingly reflected in office working conditions, including flexible working arrangements and childcare facilities;
- office workers are increasingly middle-aged;
- people's expectations about work are shifting to a greater focus on 'post-materialist' rewards (i.e. opportunities for self-development and self-organisation).

Technological forces

- Desktop computers and now networked computers have opened up the potential for huge increases in office productivity;
- the same technologies have also created the opportunity for computer users (between 30 per cent and 50 per cent of EU employees) to work from home or on the move;
- the management of work and the communications channels between companies and customers are also being transformed by information technologies.

Economic forces

- Increasing use of 'hot-desking' and other techniques to ensure that the office resource is used more intensively, more of the time – ideally on a 24-hour basis;
- the application of business process re-engineering techniques to offices, replacing traditional office hierarchies with flatter, process driven activities using fewer people and resources;
- companies see buildings more as means than ends, renting the minimum office facilities necessary to achieve wider corporate goals.

Environmental forces

- Increase in traffic congestion has compelled some regions to champion the re-engineering of the office economy. Los Angeles, for instance, has set a goal of getting one in ten office workers to telecommute by the year 2000;
- more visionary cities in Europe are looking at ways to avoid the 'doughnut city' scenario – now the norm in the United States – whereby city centres have seen their office occupants migrate to suburban developments;
- regional planners in predominantly rural areas are looking at ways to re-generate depopulated places, by attracting

teleworkers or by supporting the creation of tele-centres linked to a slimmed down head office.

Political forces

- The European Commission has committed to ensuring that Europe becomes one of the first Information Societies in the next century;
- the de-regulation of European telecommunications markets over the next 2–3 years – and the resultant price competition – will provide a significant economic stimulus to the application of information and communication technologies to office work;
- the application of new technologies to government's administrative processes promises.

Telefutures

One of the key issues to emerge from the debate about the future of offices is the potential for tele-working. Coates & Jarratt[2] note that in the United States currently only 2 to 3 per cent of the workforce are engaged in telework, but that over the next fifteen years that share might rise to 25 per cent.

The October 1995 edition of *Wired* magazine contained an article on 'The future of telecommuting', presenting the views of five experts on work and telecommunications trends. The piece began by noting that by some estimates there are already 9.2 million telecommuters in the United States, i.e. employees who use networked computers and cellular phones to work outside the traditional office. The experts were all asked to give their views on the most likely year by which several of key telecommuting milestones might come to pass. The consensus among the experts makes for interesting reading (see Figure 1).

Thus it is expected that within ten years telecommuting will be commonplace, with one fifth of the US workforce becoming teleworkers. But how likely is it that the UK and Europe will follow the same

Milestone	By:
20% of US Workers Telecommuting	2003
Universal Desktop Videoconferencing	2003
Global Wireless Telephone Number	2001
Fortune 500 Virtual Corporation	1999

Source: Wired, October 1995.

Figure 1

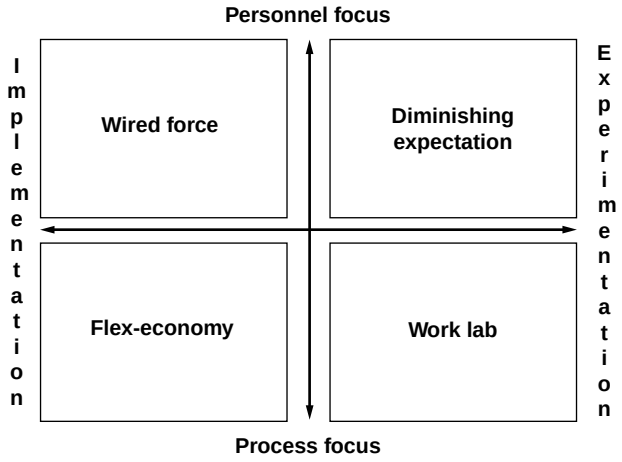
path? There are obviously many critical uncertainties affecting the potential course of UK teleworking including:

- prevailing public attitudes toward teleworking;
- the availability and cost of tele-technologies in the home;
- the nature of the office based work environment;
- trends in traffic congestion and commuting;
- shifts in economic sectors and occupational categories;
- the activities of foreign owned companies and of exporters;
- trends in management practice and working patterns; and
- the growth in self-employment and contract working.

All of these variables (and others than we have not listed) are liable to play a key role in the future direction of teleworking over the next ten years.

So how can we 'call the future' with regard to teleworking? In a recent study on teleworking prospects in Ireland[3] we identified the following two key axes relating to the future of teleworking:

- The degree of commitment to teleworking by organisations: this gives us a spectrum of possible commitments ranging from one that is mainly characterised by *ad hoc* 'experimentation' to one characterised by widespread 'implementation'.



Source: Telefutures, G. O'Neill & I. Bertin, 1996

Figure 2

- The nature of the focus of teleworking within organisations gives us a spectrum of possible focuses ranging from a predominantly 'personnel focus' to a predominantly 'process focus' within companies.

By laying one axis on top of the other, we gave outselves a 'future map' with which to explore the dimensions of teleworking's future in Ireland or elsewhere (see Figure 2).

Each of the quadrants that this map gives rise to are in effect four different scenarios for the future of teleworking.

Scenario 1: Diminishing expectations

This could be said to be where teleworking is at present in the UK. In this scenario, organisations would only be committed to small scale experimentation with teleworking. Teleworking would still be driven by personnel needs, such as the retention of the services of key staff who want more flexible working arrangements, and the *ad hoc* use of teleworking to contain overhead costs while expanding the payroll.

Under such a scenario, the proportion of the UK workforce teleworking might rise from its present level of about 2 per cent[4] to 5 per cent over the next 10 years.

Given the slow and evolutionary changes in telework practice, we feel it appropriate to call this scenario 'diminishing expectations'. We speculate that there would be widespread disappointment with telework should it only reach these levels.

Scenario 2: 'Wiredforce'

A markedly different scenario is presented by Quadrant 2. Here the degree of commitment has matured well beyond the experimental phase characteristic of present practices. The emphasis is on implementation, driven by the desire to reap the benefits of (by then) nearly two decades of intensive investment in information technologies and knowledge systems – investment that gives employees the rich information resources they need to run self-managed teams and to serve customers on a sophisticated one-to-one basis. The focus on teleworking has remained on personnel in this scenario, but this time the emphasis is less on *ad hoc* responses to individual staff needs, and more on the systematic application of communication and learning tools to working practices. In short, the workforce is replaced by a 'Wiredforce'.

The contrast with our first scenario is obvious. In many ways, the potential of teleworking is realised, and the practice of teleworking moves in from the fringe to become a mainstream business activity – raising the proportion of the UK workforce who are teleworking to as much as 15 per cent over the next ten years.

Scenario 3: 'Flex-economy'

There is, however, another route by which teleworking might become a mainstream phenomenon. Current business emphasis on cost reductions and controls – coupled with a growing managerial 'comfort' with outsourcing – could result in a quantitatively similar but qualitatitively different outcome to that in the second scenario.

In this scenario, the organisational commitment to teleworking is predominantly characterised by an emphasis on implementation, but the application of teleworking is focused on processes. Imagine an economy in which the labour force is divided into two unequal parts: the core (about twenty per cent of all workers) in long-term positions with an employing company; and the periphery (most of the rest) in short-term positions with a portfolio of companies. It is the apotheosis of the trend towards outsourcing: the creation of a 'Flex-economy' in which the greater parts of the resources (material, financial and human) that corporations use to create wealth are bought in on an *ad hoc,* just-in-time basis giving maximum flexibility and offering the potential to minimise costs.

In contrast to the 'Wiredforce', this scenario would see greater use of sub-contracted, self-employed workers, bringing in key skills when required. Joseph Coates has already identified this as the likely scenario for the United States. He speculates that 'contingent workers' as he calls them (those on temporary contracts and/or working for job agencies, many of whom are teleworkers) will account for over 40 per cent of the US workforce by 2010.

In our 'Flex-economy' scenario we speculate that there might be an even higher level of teleworking practice (perhaps as high as 20 per cent of the workforce) but it would be of a very different nature to that under the 'Wiredforce' scenario since a much larger proportion of the teleworkers would be contingent workers. The emphasis in a flex-economy on cost would also see an even higher proportion of teleworkers used for tasks such as providing customers with technical support and for telesales activities.

Scenario 4: Work-lab

Our final scenario is characterised by an organisational focus on experimentation, but unlike the first scenario the focus of teleworking is on processes rather than on personnel. Teleworking is seen as one more tool in the business process re-engineer's tool kit. Key economic sectors such as the information and communications technologies

sectors will readily experiment with new forms of work and its organisation and management – but other, more traditional sectors, might ignore it.

In such a scenario, there is little prospect of teleworking becomeing anything like the widespread phenomenon described in Scenarios 2 and 3 (perhaps remaining at around 5 per cent of the workforce, as in Scenario 1). Rather, teleworking remains in the 'Work-lab', the focus of sometimes interesting, sometimes disappointing experiments in the re-engineering of work – but always on the margin and rarely the subject of mainstream attention. As with Scenario 1, there might be a sense of disappointment with the 'fruit' of ten years of teleworking endeavours between 1995 and 2005.

The future of offices

The scenarios I have set out above are not exercises in statistical forecasting, but are more akin to storytelling (the original meaning of

the word scenario). And like all good stories they have their lessons for the attentive listener.

Ultimately, the office without an office might well prove to be a blessing without an disguise, even for those of us who still like to enhance our productivity with copious amounts of coffee, with gossip and with newspapers.

Notes

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3. O'Neill, G. and Bertin, I., 1996, *Telefutures – a study on teleworking in Ireland*, Telework Ireland Publication.
4. UK estimate from the European Commission's TELDET study, Brassels, 1994.

Our people are our greatest asset

Peter D. Wickens

The title of this article is both the most frequently used and most hypocritical statement made by top executives! First of all, they rarely behave in this way. Take a look at almost any company's annual report – most begin with a glossy photograph of the chairman, Chief Executive Officer (CEO) and members of the board. Usually, the chairman and the CEO are featured on several other pages. 'Our greatest assets' may be shown, perhaps seated at a computer terminal, or attending a machine but only to put life into an inanimate object – the modern day equivalent of the scantily clad girl draped over a car at a motor show.

And when the going gets tough it is these 'greatest assets' who are first to go. Many executives shed crocodile tears when recounting that their most difficult task was to 'let 2000 people go'. Do not believe it. It is often regarded as an achievement. Few really care, especially when they see it as part of a re-engineering process designed, among other things, to clear out what Michael Hammer in his second book, *The Re-engineering Revolution*,[1] refers to, rather illuminatingly, as 'the Death Zone of re-engineering' – middle managers.

However, the fundamental criticism is that the people working in an organisation are not *our* people. *They* do not *belong* to *us.* By using this

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possessive terminology senior executives intuitively perpetuate the distinction between *them* and *us*. However much they may emphasise our 'team' (a term which seems to have replaced 'family' as the essential corporate glue) the fact that the vast majority have never thought of it this way serves only to underline how deep lies the division.

But how will an organisation behave if it genuinely regards people as the only real and appreciating asset? In order to achieve long-term sustainable business success it is critical to combine commitment of the people with control of the business processes, and this is only effectively achieved in what I call an 'ascendant organisation', in which the people who are normally controlled by the processes have control of the processes. To reach such a condition there need to be fundamental changes in the behaviour of top executives and the values of the organisation (fully described in *The ascendant organisation*[2]).

Leadership

Normally included in lists of the prime attributes of successful top executives are the abilities to establish the perspective of the organisation, define its values and provide the direction. However, one attribute usually missing from such lists is empathy, the deep understanding of the impact of their decisions on the people affected. Executives with a high level of empathy actually care about the people and are able to talk with them in a totally relaxed and non-threatening way. They are trusted. They are also seen as being genuinely concerned with the long-term interests of the organisation and not, as is often the case, with giving priority to their own interests.

Critically, they also create the environment in which leadership can flourish at all levels of the organisation. As soon as a person has one other to supervise or one process to control they are able to exercise leadership. In particular, the much neglected first line supervisor, if properly selected, well trained and highly motivated can make more difference to the success of an enterprise than anyone other than top management and, even here, it is the first line supervisor who delivers at the sharp end what top management wants to happen. Generally,

appointment to such a position is regarded as the end of a career – it must become the beginning.

Teamworking

More nonsense is written about teamworking than about almost any other concept. We have spent so much time listening to those who regard teamworking as something special (skunkwork, hot groups, multi-functional project teams etc.) that we forget that in the ascendant organisation teamworking is the norm, and nothing special. Teamworking is not about structures, but simply: *a group of people who are working together to achieve clear, shared and stretching goals for which they hold themselves accountable.*

The essential point is that it is the everyday team, working together all the time, that is the basic building block and the one which really counts. Most thinking on teamworking has become too concerned with the structure of the temporary, multi-functional project group but, when teamworking is the norm, the temporary groups sit behind the everyday practice. This is well illustrated by the Union Jack (see below).

The horizontal bar represents the everyday group of people at more or less the same level permanently working together; the vertical bar represents the vertical team – you and your boss and your subordinates, again working together all the time. The diagonal bars sit behind the horizontal and the vertical and they are broken – these are the temporary, multi-functional, multi-layered project teams which in the words of B.W. Tuckman 'form, storm, norm, perform, adjourn.' It is only when the permanent teams are an accepted part of life that the diagonal teams can be truly effective.

Involvement

It is through genuine teamworking that real involvement comes about. One of the things we have learned from the Japanese is the concept of *Kaizen* – continuous improvement: the recognition that the person doing a job knows more about that job than anyone else. In most

Western organisations that knowledge is at best withheld and at worst is used against the company. In the ascendant organisation a task of management is to create the environment in which that knowledge is brought out and is used for the benefit of both the individual and the organisation, seeking the hundreds of 0.01 per cent improvements which, together, create not only a better working environment but enhance the competitiveness of the organisation through which the security and prosperity of all staff can grow. We are talking here of the genuine involvement of employees in an area in which they can have a positive impact as opposed to the representatives of employees.

But in such organisations, involvement is not restricted to the day-to-day task. While I see little in favour of 'workers on the board' we do need to move to a situation in which all staff are able to contribute to discussions on policy and strategy and fully understand the reasons for decisions that are made.

Every worker a knowledge worker

There is today much use of the phrase, 'knowledge worker', relating to those people working with their brain, often in the creative processes. But in talking about knowledge workers it is implicitly assumed that there are others who are not knowledge workers. This is untenable. In the organisation in which everyone is contributing to the continuous improvement of their work, every worker must be regarded as a knowledge worker. Knowledge is used not only in performing the routine task but often, more importantly, in contributing to its improvement.

F.W. Taylor said much that was correct but his fundamental mistake was to separate thinking, planning and control from doing. The ascendant organisation brings everything together and to achieve this puts in place all the necessary training programmes which equip people at all levels to do and think and plan and control.

Rewards

In the current debate about executive pay, attention has been concentrated on certain high profile individuals. This is probably inevitable

but there is an underlying assumption about executive pay that has not been seriously debated, and that is that managers and executives are motivated differently from everyone else in the organisation and, therefore, need different reward structures. The assumption is false.

I have long argued that, 'You do not get first class results from people who are treated as though they are second class citizens.' This applies to the totality of the way people are treated but it is particularly true of the reward structures. I emphasise the *structure* rather than the *levels* of reward, for few would argue that top executives should not receive higher pay. Nor do I argue against bonus schemes or share options as such, for it is right that everyone should be able to share in the success of a company. The basic inequity lies in the thinking that executives should be paid disproportionately high bonuses for improvements in the short or mid-term financial performance of their company.

The underlying assumption of all performance related pay systems is that people are not paid for improving performance and if they do they should be additionally rewarded. This is the thinking behind suggestion schemes. In the ascendant organisation, where improving performance is the norm, people should not be paid more for achieving what they are paid to achieve. This applies whether it is a shop floor piece rate system or an executive bonus scheme. In the ascendant organisation everyone at every level is paid to achieve the required quality level, the required level of productivity or customer service. These are not voluntary goals. But then, everyone is also paid continuously to improve performance. Whether the improvement is in quality of service, productivity, innovation or in earnings per share or return on assets employed, that is their responsibility.

When everyone is working together to these ends as a normal part of their job, it is indefensible to argue that the people at the top are motivated differently. Having been a director of British, Japanese and American companies, I have yet to come across anyone who had the long-term development of the company and the people at heart who was motivated by anything other than a desire to do the best possible job. Few turn down the bonus, but that is not what motivates.

Table Corporate downsizing in the US

Company	Number of people fired since 1991
IBM	86,000
AT&T	83,600
General Motors	74,000
US Postal Service	55,000
Sears	50,000
Boeing	30,000
NYNEX	22,000
Hughes Aircraft	21,000
Procter & Gamble	18,000
GTE	17,000
Martin-Marrietta	15,000
DuPont	14,800
Eastman Kodak	14,000
Phillip Morris	14,000
PharMor	13,000
Bank of America	12,000

Source: Business Week.

It is management's job 365 days a year to motivate the workforce, not the bonus payment on the couple of days a year on which it is made. This applies at the very top just as much as at other levels, and when Executive Compensation Committees are seen to be indulging in another bout of mutual back scratching, it does, to say the least, cast doubt on their commitment to long-term success and places in jeopardy the trust of the top which is so essential in vertical teams.

Security

In this increasingly insecure environment it is not surprising that in any survey of employment aspirations, security is at the top. No company can give an absolute guarantee of lifetime employment, for we are all subject to the vagaries of the marketplace. But if a company wishes

to gain the commitment of everyone to continuous improvement, they must be assured that they will not be victims of that very improvement. The German trade union IG Metall put it best in 1992:

'It is an illusion to think that employees will readily work for improvements to which they themselves fall victim. A production system that requires high morale, qualified workers and a commitment to constant improvement cannot be pushed through against the will of the employees.'

Therefore, if an organisation wants the commitment of all the people, it, in turn, must be committed to those very people. In practical terms this means saying that once we are at a level in which our order books and the number of people are about in balance no person will compulsorily be made redundant because of improvements in productivity or as the result of further reorganisations. This may well require increased flexibility and retraining but without such a commitment it will be impossible to gain total involvement in the continuous improvement process.

The current approach of demanding ever increasing commitment while offering ever reducing security has to end. That, while only part of the story, is a fitting conclusion.

Notes

1. Hammer, M. and Stanton, S.A., 1995, *The reengineering revolution*, Harper-Collins, London.
2. Wickens, P.D., 1995, *The ascendant organisation*, Macmillan, London.

Risky business

James Woudhuysen

On the computer screens of giant American corporations, a new kind of display is spreading. At the press of a mouse, you can click on to company help when moving house, company help if having a child, company help in planning retirement. Click an option in the left hand column if you want advice about events in your personal life; click on the right to discuss events in your career. There is also a company call centre to take your enquiries with the help of computer-aided telephony.

In the new enterprise culture being pioneered in America, the Human Resources (HR) department has, like many other bloated staff functions, been subjected to business process re-engineering. Now many tasks in HR have been shifted downward to the level of the strategic business unit, and, more significantly still, to the employee. In the face of today's insecurities, it has more than ever before become the responsibility of the employee to look after his or her future pay, conditions, promotion, health, education, insurance, pensions and all the rest. Meanwhile, slimmer HR departments find themselves, like everyone else, having to do more with less. They run spreadsheets which track every point of contact between themselves and the employee: from a routine payroll enquiry to the losing of a company badge.

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As ever, Information Technology (IT) mediates relations between business and employee. But IT has grown up like this only as a symptom of a wider *political economy of risk at the workplace.* And in this economy, business ethics will play a vital role, for reasons we shall explain.

The drive for cohesion at work

The screens we have described exist because it is thought that each employee's future needs planning as never before. The job for life is over; state provision of welfare cannot be relied upon. This harsh logic applies even to HR employees. After victory over the trade unions, the absence of an enemy puts every HR professional's job on the line.

More broadly, it is now held that every kind of *manager* in business, let alone every kind of member of staff, can fall victim to risk. The cult of re-engineering, the dependency corporations now have on their customers, suppliers and partners, the rise of outsourcing and of the 'virtual' corporation, unexpected threats from new competitors entering the market for the first time, rule-changing new technologies: it appears that risk itself has been globalised, and, with it, the fate of even senior people. Haunting the Western imagination is a mix of formidable Japanese production technique and dirt-cheap labour costs in the rest of Asia. In this world, it seems that nobody in the workplace is safe.

Since Henry Mintzberg first showed that everyday management was for the most part a chaotic series of quick and oral improvisations, the sense of contingency in running a firm has grown.[1] Today, however, there is uncertainty not just about the future, but even about the present. Already AT&T and Barclays have shown that a rising mass of profits is no impediment to major redundancy programmes. As a result, textbooks on strategy formulation and on planning are denigrated.[2] Meanwhile, the naturalistic metaphors of biology and of co-evolution have begun to overwhelm our old friend, the theory of the firm.[3]

In such a universe, each is almost blameless. Each, in the style of Oprah Winfrey, is also a real or potential victim. This is why, in the workplace, business ethics can only grow. We ought to be more than

ants, after all. Alternatively, we should learn from ants and, through ethical transactions within and beyond the firm, gain a more collective approach to risk. Ethical conduct in the office, factory or customer-facing environment, is thus demanded not for moral reasons, but as a binding discipline brought in to make sure that profitability does not unravel in the face of what is seen as unprecedented risk.

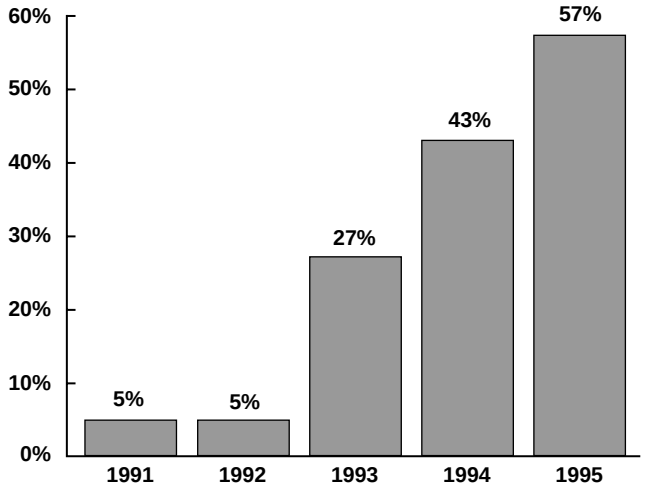
More and more, top management believes that if it can exude the right kind of generosity to people made insecure by years of slow growth, it can successfully appeal to them to work harder and 'smarter'. And in 1996 this new role for business ethics is not just possible, but necessary. The old props to cohesion have lost their effectiveness; indeed, it is exactly this impotence which explains today's heightened perceptions of risk.

Global markets have, of course, put circumstances beyond the individual's control for a century or so. In that case, what's new? What is new is the sense that:

- chaos is in the nature of management;
- many traditional techniques no longer bring results;
- risk, once a positive ingredient of enterprise culture, is now a negative barrier to it.

Stress at work, health promotion at work, change management, 'clipboard armies' of auditors, consultants, counsellors, ergonomists, facilitators, graphologists, lawyers, neurolinguistic programmers, regulators, representatives of a multi-agency approach, specialists in lifelong learning and personal development, trainers: we have here a whole industry of nervousness. The fear of information overload is rising and much of the discussion on the future of IT now relates to building mechanisms to cope with overload.[4] IT, HR and management itself all suffer a crisis of legitimacy. It is a crisis of credibility and of authority, familiar to any observer of Western governments nowadays.

The firm's future, like society's, is perceived to be at risk. 'Bet the company', the enterprise culture of the 1980s, has become the sensation that, through decisions innocuously made today, we may 'lose the com-



Source: Deloitte and Touche 1994 Survey of Information Technology

Figure Percentage of human resources activities in large US corporations performed on-line.

pany' tomorrow. Risk management has grown into an occupation and, like HR and IT, is increasingly regarded as a skill in which even the most junior manager must be adept. At the same time some blame does publicly attach to the current generation of top managers. When they transgress, and especially if they are found to have responded to the pressures of risk by becoming corrupt or greedy, they are castigated for irresponsibly exposing the firm to risks even greater than those already endured. They put the trust employees have invested in them at risk. They must be sent on a course on business ethics.

The place of ethics in the history of management

Ever since the American railroads pioneered the separation of ownership from control, the possibility was given that managers might represent interests wider than the shareholder. From the Webbs onward, an industrial democracy in which managers embraced workers' interests

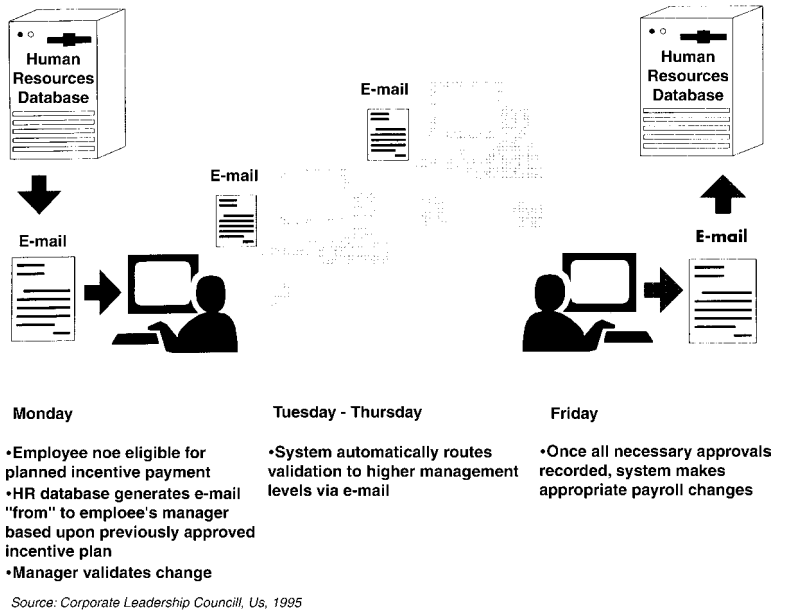


Figure The new process for approving salary changes.

was seen as a way to go beyond capitalism. However, the ethical or 'stakeholder' approach to social cohesion differs greatly from this.

It offers not more property, but rather the more modest, American theme of inclusion. Also, the ethicised stakeholder approach aims not to go beyond capitalism, but rather to stabilise it. Above all, however, the target audience for business ethics is as much management as it is the workforce. It is management that is the most paranoid about risk.

Fear, we should remember, predates the discovery of facts today. As a result, many managers dread the instability that might be set off by ethics programmes. Having drunk the most deeply of theories of globalisation and unstoppably subversive technologies, management does not feel in control of events. It has little real theory of change and thus', we may surmise, little faith in its own agency. And where agency is seen to be at work, as in ethics programmes, the suspicion is that it could

make things worse, Why? Well, the most recent attempt at agency in management – the application of business process re-engineering over the past seven years – is now widely agreed to have failed.[5]

That ethics programmes rarely lead to revolts is reassuring, but also disturbing too. For when this risk, like most others, is revealed as miniscule, that fact alone can compound apprehensions of risk. Today, even satisfactory *dénouements* prompt agonising reappraisals. Wasn't a lot of time spent worrying about the reception that ethics programme might get, whether cynical or over-zealous? And wasn't, in retrospect, the time wasted – wasn't it time which could have been spent dealing with genuine risks?

Conclusion

The traverse to ethical practices can be hard for an older generation of managers. But a newer one senses that, when people have lost their old sense of belonging but may still want to belong to something, now may be the opportune moment to recast 'industrial relations' once and for all. Ethics does not just speak of the plight of corporate elites. By building on the individuation and atomisation of recent years, it promises that risk, a limitation inherent in market forces, will be deemed instead a condition of nature in general and human nature in particular.

The market is taken for granted. It is universal and eternal. Snags only derive, therefore, from bad behaviour. One silly experiment, as at Chernobyl, can lead to disaster. One computer virus, unnoticed, could destroy a company for good. In this framework, safety at work becomes a religion, the security of IT systems and of buildings forms grounds for a continual panic, and 'awareness' of the problems is preached as the new panacea.

More and more, management is represented, like the nation state, as unable to do much about risk: the risk of malice, evil or recklessness. The merit of business ethics to 21st century enterprise culture will be that it offers a tool for the exercise of power in the name of impotence. Management, it is candidly argued nowadays, is beset with difficulty. The employee who does not curb his smoking, his language, his

demeanour and his tendency to avoid consulting screens of Human Resources advice – such an employee is making the difficult impossible. The right to draw a salary must be coupled with the responsibility to be a team player. When everyone's job is at risk, a personal, computer-mediated dialogue with the central HR department is a small price to pay.

That is a slippery slope. The doctrine that dissent is only the work of anti-social elements used to be put out by Stalinist régimes in Eastern Europe: nobody believed it. But many believe that same doctrine now that it is promulgated in the West. Ethics, the reduction of risk in the workplace, turns out to be the reduction of independent thought and action.

Ethics – prescriptions for why, in a risk-laden political economy, we should *not* act in certain ways – has itself been born of paralysis. For far-sighted bosses, it offers a way out of that state: an end to the moral censure of recent years, and a winning back of the right, if not the ability, to manage. For the rest of us, it offers intellectual enslavement.

Eventually, the risk of being turned into a zombie at work will emerge as bigger than the risk of being made redundant. The screens on HR will be switched off. They shall not pass.

Notes

1. Mintzberg, H., 1973, *The nature of managerial work*, Harper & Row.
2. Barwise, B., 1996, 'Strategic investment decisions and emergent strategy', in *Financial Times*, 2.96, *Mastering Management*, No 15: 2.
3. For recent examples of the fad for biological metaphors in management science, see Moore, J.F., 1993, 'Predators and prey: a new ecology of competition', *Harvard Business Review*, May–June 1993.
4. For fear of information overload, see Postman, N., 1992, *Technopoly: the surrender of culture to technology*, Knopf.
5. There is a growing literature hostile to 'BPR'. See Bartlett, C. and Ghoshal, S., 1995, 'Rebuilding behavioural context: turn process engineering into people rejuvenation', *Sloan Management Review*, Fall 1995.

Culture matters

Edgar H. Schein

Ever since the concept of organisational culture was broached as an important element in understanding organisations, companies have been looking for the right kind of culture and have been hiring consultants to foster or install those cultures.

Let me begin bluntly – there is no such thing as the 'right' culture and culture cannot be fostered or installed. The notion that one can is based on a dangerous misunderstanding of what culture is and how culture comes about. Organisations start with founders and entrepreneurs whose personal assumptions and values gradually create a certain way of thinking and operating, and if their companies are successful, those ways of thinking and operating come to be taken for granted as the 'right' way to run a business. If the founders have the wrong assumptions they never succeed, so it is success that creates organisational culture, not the will of the leaders. And success depends upon the match between the assumptions of the leaders and the nature of the environment in which they operate.

Because cultural assumptions are the product of success, they become more and more stable as the company ages. But as the company ages, the economic and market environment may change. New technologies come in, success attracts competitors, products become

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commodities, governments step in with anti-trust laws and so on. The culture of a given company may, therefore, step out of alignment with environmental realities, resulting in leaders calling for new cultures that are better adapted to the changing environment. However, it is in the nature of culture to remain stable because people's daily routines, their habits of thinking and feeling, their basic assumptions about reality, human nature, truth, etc. are all taken for granted as the only and right way to do things. The proposition that 'we must change our culture' either will be denied or cause levels of anxiety that trigger intense resistance to change.

Leaders who have tried to change culture have come to realize that one can change culture only by destroying the key groups that maintain it, thus leading to the painful kinds of turnarounds where a new Chief Executive Officer immediately fires the top echelons of management and brings in his or her own people. They in turn have to locate the culture carriers lower down in the organisation and replace them with people who think in a new way. But this new way has to be specifically adapted to two sets of realities:

- the new assumptions and values must be to some degree congruent with the present culture or they will simply be misunderstood or ignored;
- the new assumptions must fit the new environment.

Leaders who simply espouse a new way of thinking about delighting customers or empowering employees, or systems thinking, or organisational learning, may call this 'culture change', but they will not influence the existing culture by this method. If the existing culture of the organisation does not already value what the new 'right' way is supposed to be, the leader's words will fall on deaf ears. Even if the leader enlists an army of change agents to 'change the culture', it is unlikely that they will get anywhere because people will not give up ways of thinking that they have come to take for granted, that are mostly tacit, and that have been the basis of the organisation's prior success.

What then is to be done if the present cultural assumptions appear to be dysfunctional or out of alignment with environmental realities? Let me propose a set of steps that take into account the realities of culture:

- Start with what the 'business problem' is. Don't start with an analysis of the culture without understanding precisely what is not going right and why not. The organisation must understand its mission or its primary task and ask itself whether it is being fulfilled. This issue is not about culture, it is about the organisation's reason to be at all.
- Figure out what needs to be done strategically and tactically to solve the business problem. Again, don't say we need a new culture. That means nothing. Specify what the organisation needs to do concretely to solve its survival and growth problems.
- When there is clear consensus on what needs to be done, examine the existing culture to find out how present tacit assumptions would aid or hinder what needs to be done. Not all the parts of a given culture are relevant to any given problem. Therefore general cultural analyses can be a major waste of time. Only when you know where you want to go, does it become relevant to ask how the culture will aid or hinder you.
- Focus on those cultural elements that will help you get to where you need to go. It is far easier to build up the strengths of the culture than to change those elements that are dysfunctional or weak. All too often culture is seen only as a constraint. The strong elements of the culture and the diversity that may exist within the organisation's various sub-cultures are almost certain to provide opportunities for building on existing strengths instead of getting bogged down with overcoming constraints.
- Identify the culture carriers who see the new direction and feel comfortable moving in that direction. Empowering the specific employees and managers whose assumptions are

already in line with the new strategy that is needed is a necessary first step to create role models to show others what the new direction of thinking and acting might be. These 'culture leaders' are often found in more marginal managerial roles or in sub-cultures that have developed in the organisation.

- Build 'change teams' around the new culture carriers. Each 'change team' will have to diagnose the situation in the part of the organisation which functions in its own area. The team will have to assume that different groups and different

individuals will have to be treated differently to produce the changes in thinking and acting that are desired.

- Top management must adjust the reward, incentive, and control systems to be aligned with the new desired strategy. The actual reward and other systems must reinforce the desired new directions or the message will fall on deaf ears. It is this step that is often overlooked. For example, management announces the need for teamwork but all the pay and incentive systems continue to be based on individual performance and individuals are competitively compared with each other when deciding upon promotions and bonuses.
- Ultimately the structures and routine processes of the organisation must also be brought into alignment with the desired new directions. Just as reward, incentive, and control systems must be consistent with the desired new direction, so the basic organisation design must also facilitate what the new strategy demands. For example, if the new strategy requires teamwork across functional or product groupings it is important to weaken the power of the functional and business unit managers and strengthen the power of the project managers. One structural way to do this is to tie career advancement more to the performance appraisals given by the project managers.

All of this takes a great deal of time and energy on the part of many layers of management, many task forces and change teams. But the motivation to take the time and provide the energy comes from seeing a clear solution to a clear business problem. It does not come from vague protestations about new cultures or new values. If culture change occurs it does so as a by-product of fixing the fundamental problems that the organisation's leaders identify and the new strategies upon which they embark. For this reason there is no such thing as a prescribed 'right' culture for an organisation, only a right strategy within the limits of the culture that the organisation already has. And, as stated

above, if the present culture really prevents correcting the business strategy in some fundamental way, that culture will be broken up by destroying the group and eliminating the culture carriers, or the organisation will fail and die.

Culture is perhaps the most stable element in organisations because it is the product and residue of past success. If we want our organisations to become more competitive and effective we would do well to take culture very seriously and stop bandying it about as if it were a suit of clothes to be changed at will.

Failing to succeed

David Cannon

It is now commonplace to attend a seminar where a Managing Director, Head of Quality or Director of Customer Service lectures the audience on the importance of being a learning organisation unafraid to reflect on past mistakes. One is struck with a deep sense of irony. It appears the same people who heightened employee self-interest through serial re-organisations and massive redundancies are now asking the worried survivors to share their experience, positive and negative, to trust each other and not to be afraid of taking risks. This new requirement in business life to be open, honest and trusting, to admit mistakes rather than cover them up, is promoted under a number of banners including: 'continuous improvement', 'accelerated learning', 'quality service' and 'competitive advantage through people'. Given the climate of mistrust and uncertainty that presently exists in many large organisations one wonders, 'Why now of all times?'. Amongst the possible explanations three rationales stand out:

- *The past has not worked.* Are businesses now admitting that power politics, restriction of information and 'annihilate thy neighbour' competition never really worked? Or are they coming to the conclusion that these approaches are only appropriate when competing externally and are no longer

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suitable for internal use. Is it the new generation of young women and men entering business – do they have a different vision of the ideal work environment, perhaps one that is less manipulative?

- *The future problem demands a new approach.* In a knowledge economy is learning more important and more enduring than power? Is speed more vital than political manoeuvring? Are innovation and creativity, which demand open attitudes to experimentation and consequent failure, increasingly essential to competitive advantage?
- *There are fewer places to hide.* Has de-layering given junior people the opportunity in business meetings and team projects to experience first hand the flaws and foibles of their seniors? Does news of mistakes and poor performances ripple more quickly through a 'grapevine' globally connected by frequent phone contacts, faxes and e-mail messages? Have investigative journalists and demanding stockholders made it harder to sweep 'things gone wrong' under the carpet?

We cannot know for sure what motivates business's new interest in internal openness and honesty. It is probably some combination of the above reasons. One thing we can be certain of is that suddenly people are being asked to do something they are particularly ill prepared for – to talk openly about mistakes and failures, their own and those of the businesses they work for and manage. At the personal level this may be in relation to a 360 degree performance evaluation, at the team level a debriefing concerning a failed sales pitch, and at the organisational level the need for policy makers to explain a strategic error to shareholders and employees.

As part of an on-going study on the topic of learning from failure I recently interviewed people from a variety of businesses in the UK and North America to find out how their organisations cope with setback. Although the present sample is small, involving 16 business people, some patterns of how businesses are able to face up to failure are emerging. The sample includes: Bill Jones, Managing Director of Disneyland Paris UK;

Richard Hill, Senior Manager Customer Relations for British Airways; Peter Hunt, Communications Manager at Shell UK; Paul Atherton, Managing Director Queensgate Instruments; James Brown, Senior Vice President of Operations for Four Seasons Hotels; Dr Joe Cullen, Director of Quality for the Rover Group; Professor Peter Cochrane, Head of Advanced Applications and Technologies at BT; and Paul Beeston, General Manager of the Toronto Blue Jays professional baseball club.

Taking that first step

The preliminary findings indicate that although painful it is possible for businesses and the people in them to learn (and prosper) from their mistakes. According to those interviewed, the most difficult hurdle is the first one – being able to admit that something is wrong. Three conditions appear to facilitate this.

Extreme consequences

'We had to. It was not a situation we could weather – we either fixed it or the park would close. People at Disney simply would not accept that the dream could die.' In describing the EuroDisney turnaround, Bill Jones recounts how success in Tokyo, where the first Disney park was built outside the US, led the company to underestimate the difficulties Paris presented. 'When you are the world's expert on theme parks it is hard to admit you could be making mistakes.' It was only when Disney CEO Michael Eisner made it clear, 'This is it, make it work or it closes' that people started to admit the real problems. Baseball General Manager, Paul Beeston, argues that athletes are much better at facing up to their failures than most business people because the stakes involved in sport are very high. 'If a ball player has a bad season it can cost him millions and if he has a bad game the fans let him know. On the other hand business guys can sweep their mistakes under the carpet because the consequences are neither immediate nor out in the open'. The reports of those interviewed suggest people in organisations respond differently to crisis – some start to admit their mistakes, while others go into blind denial.

A 'learning leader'

Jim Brown tells the story of how Issy Sharp, head of the global chain of Four Seasons Hotels, was once upset with a hotel manager because he had 'arranged' a room for the unexpected Mr Sharp in a fully booked hotel. Issy Sharp's hard and fast rule is that when a Four Seasons Hotel is full, visiting management stay down the road at the competition. As the story goes, Sharp was not upset that a mistake had been made but angry because the staff at the hotel did not quickly own up to their error and ask their Managing Director to vacate the premises.

Brown describes two types of leaders: a leader such as Sharp who portrays him or herself as having succeeded by building their knowledge and experience, in a sense learning their way to the top, and another kind of leader best known for their political cunning and ability to build a strong powerbase. 'Learning leaders' are typically portrayed in corporate story-telling as having struggled and stumbled – they revel in their imperfections and openly disclose the mistakes they have made along the way. On the other hand, 'political leaders' are characterised as always making 'the right moves', having the uncanny knack of being in the right place at the right time. Unlike 'learning leaders', whose attraction stems from people identifying with them in their own imperfect struggle, 'political leaders' convince people that they have some from of superior intellect giving them an insight which cannot be readily learned by mere mortals. 'Learning leaders' appear to offer salvation through self-improvement while 'political leaders' offer protection through allegiance.

The business people interviewed agreed that most middle and many senior managers in large organisations play a political game in which admitting mistakes and focusing on disappointing performances is not considered advantageous. According to Brown, if an organisation has a 'learning leaders', people further down in the ranks will at least know someone important in the business sanctions disclosure. Learning leaders may not directly protect employees who draw attention to errors but their existence and rhetoric gives employees a legitimate rationale for being open and honest.

An adopted process

On the wall at Rover Group's Test Centre in Gaydon is a complex diagram of boxes and arrows. 'That is part of a formal learning process that makes it possible for us to capture learning', explains Dr Joe Cullen, Quality Director. Project teams at Rover Group have an established procedure to analyse outcomes and can request a 'learning facilitator' to help them face up to the question 'What could we have done better?'. Similarly at Queensgate, a high technology firm that designs and manufactures sensitive measurement instruments, one finds an adopted process, for what Managing Director Paul Atherton calls 'rapid corrective action'. These processes are a natural extension of quality improvement programmes aimed at making learning from failure an everyday practice which focuses on future success rather than blame for the past. In addition to formal process, British Airways gives their service providers feedback in the form of hard data pointing to opportunities for 'service recovery'. Richard Hill, Senior Manager of Customer Relations at BA says, 'people find this trend data of value, more objective than one-off anecdotes of customer complaint and a good starting place for dialogue on how to set things right'. Organisations and the people in them seem to be able to address past mistakes if they can somehow objectify them. This is accomplished by diverting attention away from blaming individuals or teams for incompetence and instead framing disappointing performances as inputs to a process of continuous improvement.

Lowering the risk barrier

Peter Wickens, author of *The ascendant organisation* and former Director of Personnel for Nissan Sunderland argues that 'the more secure an employee feels the more likely they are to point out things gone wrong'. Learning leaders and formal processes signal that it is reasonably 'safe' to talk about failure. In situations of extreme consequence where individuals often feel insecure, they may still decide to take the risks associated with admitting mistakes because they believe it to be the only way back to safety and stability.

If people are unable to find safe ways of talking to each other about negative outcomes they forgo opportunities to learn from the experience of others and themselves. Geoff Peters and Joyce Fortune in their new book *Learning from failure* provide numerous examples of the serious implications of lost opportunities to aquire knowledge from failure. They describe small failures as gaps in knowledge pointing to wider systematic weaknesses such as faulty organisational structure or lack of clear understanding of how an organisation ought to respond when disaster strikes. Given the tragic consequences of situations examined in the book such as the Bhopal chemical leak and in light of the recent Sea Empress oil spill, one appreciates the logic of designing systems which force us to think about failure in a wider scope. However, no matter how thoughtfully constructed, systems still depend on individuals coming forward to expose error.

Gaining commitment

Business policy makers may discover their anxious employees are sceptical about the benefits of the 'learning organisation'. Waves of reorganisation and associated delayering exercises have convinced many employees that the best way forward is the path of quiet self-interest. This means keeping your head down and your backside will protected. People know that when it comes to decisions about who stays and who goes, performance is the most frequently used 'objective' criteria. Given this, it appears strikingly naïve for MDs and CEOs to proclaim that henceforth there will be an open and honest dialogue about mistakes, setbacks and poor performances. If individuals have learned anything from the present economic climate they have learned to be wary.

To gain commitment for learning beyond mere lip service, business leaders will need more than 'rally round' rhetoric. They must find new ways to make people feel 'safe' and demonstrate that it is an employee's self-interests to learn. One way organisations can accomplish this is by helping people to see learning from failure as a self-development skill which can enhance their chances of futures survival and progression.

Organisations or individuals interested in discussing findings or participating in David Cannon's on-going programme of research into learning from setback and failure are invited to contact him at London Business School 0171 262-5050 ext. 3181 or at his home office 0171 792-0377.

A creative credo

John Whatmore

Scientific and technological developments have had increasingly dramatic effects upon the ways we work and live. Organisations are increasingly aware the scientific and technological change and the increasing speed of change are key elements in their continued existence. Several organisations are searching simultaneously for the same scientific and technological break-throughs, and developments in one field can quickly out-date products and services in another. The concepts of timeliness and 'windows of opportunity' have become ever more important elements in management thinking. R&D (and innovation) used to be seen as leisurely and opportunistic activities, but they are now time-driven and purposive.

At the same time, science and technology have become more specialised and more complex. It has become increasingly difficult for someone in one field to understand another, and the knowledge and skills of those working in any one field have become more diverse. Whereas science and research and development used to be conducted by individuals working by themselves in back rooms, they are now carried out in inter-disciplinary groups, and are often seen as the key functions of a business (one science-based company recently move its Head Office to the site of its R&D Division).

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The social and cultural background against which these changes have taken place also seems to be changing no less quickly. Knowledge is greater and more widespread; the customer is accorded more primacy; individuals expect to contribute to decision-making; and jobs for life have been overwhelmed by a contract culture.

These changes continually prompt questions about management. How is management changing and how should it change? And what should we be doing in order to get the managers we need for the future?

By all sorts of indicators, the UK's economic performance has been in relative decline, perhaps for the last fifty years. Yet we are seen as inventive and successful in a number of creative fields, notably in the graphic and the performing arts, and in certain fields of research. The Japanese Ministry of Industry and Technology reported that 51 per cent of the most significant concept breakthroughs of the 20th century had come from the United Kingdom, whereas only 21 per cent came from the USA, where Research and Development expenditure was five times higher. Yet repeated studies by the Department of Trade & Industry and others indicate that we are not nearly so successful at innovating, i.e. getting these ideas into practice.

Whilst the statistics do not suggest that this country is falling behind in its research expenditure, it is worrying that some companies seem to have built cash mountains rather than spend their profits on new ventures. By their actions they seem to be saying that they too do not have the confidence in their ability to create or innovate successfully.

In circumstances of rapid scientific, technological and socio-cultural change, it is worth asking whether the skills and talents of managers who were successful in the creative fields might not offer us some useful insights and thoughts about management in all fields in which innovation and change are increasingly important.

Research into leadership in creative groups

We have just completed a study at Roffey Park Management Institute, supported and in part funded by the Department of Trade & Industry's Innovation Unit, which explored the contribution of management/leadership to success in various creative fields, including drug research,

healthcare, industrial research and development, financial services, marketing, academia, broadcasting, opera, music and sports. Our research also explored how such leaders develop their strengths as leaders, i.e. how they learn (as well as how they help others to develop). The fact that many people regard creative folk as 'difficult to manage' suggests that the task does require different (and less widely understood) approaches. Some people have a special talent for getting the best out of creative people, and this study sought to understand what were their special skills.

Tasks that require creativity are different: persistent paradoxes, ambiguities and problems, that have not been unlocked, must be looked at differently. Creative people are different: they are sensitive, intuitive, experimentalist, non-conformist and concerned as much about the development of their skills and talents as about their organisation's objectives. Working in groups is increasingly common in science and technology, and the leadership of such groups is a new kind of leadership. While those who become leaders of creative groups are almost always experts in their field and continue to work in their own subject, they have to look at things in new and different ways: they are seen as abandoning their profession for the organisation, as having to deal with people not facts, projects not problems. Yet most complain that they receive little or on training for the job.

What were the study's findings?

Managers as invisible

Many of the people who headed the thirty-eight project groups in the study were at pains not to be seen as managers because creative people tend to be self-motivated and because overt leadership was seen as bringing a point of view (the constraints of the organisation) which was the opposite of the atmosphere in which creativity flourishes (where one has to 'think beyond the limits' and where 'leadership hops from shoulder to shoulder').

Leaders as team selectors and developers

Leaders used a variety of criteria in selecting teams in which the members knew each other very well, used each others' perspectives, helped

each other to succeed and built on each others' work. They selected people for whom the constraints were the very challenges they needed for their own development, gave them freedom in the ways that were right for them, but within a climate and culture which would influence how they used their freedom.

Leaders as supporters

Trying out different approaches, learning from each, then trying again, until hopefully 'it works' (in the arts, allowing happy accidents to help to build the work) is an approach which entails failure and risk, sometimes with depressing frequency. Above all else, effective leaders were providers of support – support in helping creative people to work through the process (cognitive support), and support in helping them to handle frustration and to keep up their confidence (emotional support).

Leaders as creators of climates and cultures

Effective leaders dealt in climates and cultures rather than in policies and plans. Deeply experienced in their field, passionate and enthusiastic, warm and approachable (keen to see how it is going and always available), open and trusting, and generous of spirit (wanting to bring out the best in and happy to succeed through others), they influenced people through their 'performances' – not so much through what they said as through their values, beliefs, and style. Yet they live in a world the essence of which is ambiguity. They contribute very fluidly to all aspects of the work, 'just lending a hand where you can', and, as one research director put it, 'being a chameleon – with integrity'!

What disables creative groups

Leaders who were less empathetic, less interested in personal development, less aware of 'process' and its importance for matching up teams were less likely to be successful.

Less successful groups seemed to be less able to address a wide variety of objectives simultaneously (both at the organisational and at the personal level); they were less open and accepting of differences of view

Table Research and development expenditure of selected countries and top companies

Country	R&D expenditure as % of GDP	R&D expenditure of top companies as % of sales
Canada	1.3	4.6
France	2.3	4.2
West Germany	2.6	6.1
Italy	1.3	4.2
Japan	2.7	4.9
Netherlands	2.1	3.0
Sweden	2.9	6.5
Switzerland	2.9	5.9
United Kingdom	2.4	2.1
United States	2.7	4.7

N.B. Data refer to various years during the 1980s.
Source: adapted from UNCTAD (1992).

and opinion (and therefore there was less likely to be productive discussion and debate). Sometimes the physical lay-out was obstructive to meeting and talking, and in the worst failures the groups concerned were working for two organisations, each with different objectives.

Organisational obstacles

The report also suggests that organisations can be awkward settings for creative output: where they were very dominated by market or customer-orientation, where they exerted tight control over policies or standards or were bureaucratic; where they were hierarchical, paternalistic or inflexible, where they expected only success (and did not encourage risk-taking); and where they did not include personal development among their primary objectives, their atmospheres tended to be the very opposite of those in which creativity flourishes.

Effective leaders were often seen as shielders of their groups: they shielded them from the obstructive influence of their organisation – from the constant monitoring, the doubting and questioning. They did

this by creating a 'womb' within which the group was provided with security to experiment and dare.

How leaders learn

How did they develop their strengths as leaders? Most dismissed courses as inappropriate, and referred to bosses they had experienced, usually including one 'bad boss', as among the most powerful influences on their management styles. Many talked about their guiding principle as aiming to manage others in the way they would like to have been managed themselves. They learned, they said, mainly by doing, and by private reflection about their personal experiences.

Many of these findings have echoes with the recipes for successful innovation discussed by Dr W.E. Coyne, Senior Vice-President, R&D at 3M in his recent 'UK Innovation Lecture', when he spoke about his company's vision of being an innovative organisation.

Many organisations appoint people to manage (and to work in) project groups based on considerations quite other than those to do with the needs of the task and the team. Often those decisions are based on who is available, who has done something like this before, or who will deliver a particular result. Innovative organisations put innovation first, whereas by basing the decision on other factors, senior management is effectively putting other considerations ahead of creativity and innovation.

He spoke about the value 3M places upon giving people freedom, and about empowerment; he spoke about the acceptance of risk, and about selecting good people and trusting people to come up with the goods; and he spoke repeatedly about the climate and culture of innovation which permeated the company.

To the extent that my findings apply to innovation as they do to creativity, they have important implications for the kinds of issues which senior management should be addressing. These include the skills and performances which senior management should reward, the kind of culture they should create and the kind of management they should encourage.

If an organisation is to give people freedom to be innovative, it must accept that its products and services cannot be closely prescribed. Its objectives will be determined more by the interests, developments and decisions of those teams whose job is to be innovative than by senior management. Similarly, where success in innovation is risky and unpredictable, organisations should not reward success so much as reward the kinds of skills which produce climates in which risk is accepted, in which challenges are common and in which there is openness and trust.

Above all else, senior managers must demonstrate by the different way they work (by the culture they espouse) that they encourage the kind of loose, yet passionate management style which is most likely to produce creativity and innovation.

Playing for profit

John Coopey

Last year saw two unusual events that bear directly on this article's theme: the use of theatre to involve employees in the creation of organisational cultures that nurture rather than constrain learning and innovation as part of everyday working life:

- As part of the eighth London International Festival of Theatre (LIFT), nine company directors attended a "Business Forum' to learn from inspired productions from around the world, and from discussions with the international artists. Some seemed to have gained insights into problems of life in their own organisations, but were concerned how to translate them into companies and boardrooms.[1] For Julia Rowntree, the creator of the Forum concept, business organisations, unlike arts companies, are coping only slowly with 'paradigm shifts in society … against the traditional attitudes to barriers of culture, age, sex and hierarchy'. The quickest way to ensure that organisational cultures adapt to these shifts is to foster innovation, respecting 'all kinds of different styles of presentation of experience … which may

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come from people who are not traditionally respected in the hierarchy, like the caretaker or the cleaner'.[2]

- Borrowing from Shakespeare, British Airways – whose director of strategy attended the LIFT Forum – appointed a 'corporate jester.' Because the board is 'a bit like a medieval court where … no one questions the king or senior courtiers', the jester serves 'a serious role, as the mouthpiece for unorthodox criticism, couched as harmless jest'.[3]

Tacit in this story is a burden of anxiety, fear and conformity. Where is the 'emotional space' in which to learn: to reflect on a situation, to identify problems, to import ideas from elsewhere towards their solution?

A culture of fear and inhibition

How do we begin to deal with the fear that inhibits learning and innovation at work? Before addressing this question directly let us consider the roots of the problem in order not to underestimate their tenacity and scope.

- Anxiety pervades boardrooms. Directors are under pressure to meet short-term profit targets to satisfy the only stakeholder judged important in Company law: the shareholder. 'Underperformance' risks predatory takeover.
- Directors quell this anxiety through tight control inside the organisation. Accountants and other technocrats devise systems to motivate, 'incentives', monitor, evaluate and reward individual performance. Control has been facilitated by the removal or emasculation of laws regulating employment.
- For the many trapped between these internal control systems and flexible work practices and the external rigours of a recession-prone labour market, there is widespread anxiety, fear and mental stress. Managers compete with each other for preferment, policing their own behaviour to win the approval of bosses. Treating peers and subordinates as mere objects,

managers provide emotionally and ethically impoverished role models.

- Directors' self-identities are buttressed further by the rich 'charismatic leadership' mythology. Possessing semi-mystical qualities, leaders 'inspire their followers to higher levels of morality', a blessing that justifies leaders' considerable prerogatives.
- Prerogatives are exercised in top-down restructuring of organisations. In the 1970s 'quality circles' were set up, where everybody's ideas for improvement were welcomed. By the late 1980s their democratic form had not been integrated into existing structures. The new cry was 'Total Quality Management' – a more effective way of managing because 'top management is the main driver'.[4] In the 1990s consultants were seducing directors to move one step nearer megalomania: nothing short of the root and branch re-engineering of their organisations would deal with anxiety-provoking 'global threats'.
- Peters and Waterman reinvigorated the leader's traditional prerogative in forging a strong corporate culture – 'creating meaning for their followers' by what they attend to, what they reward and punish, and even though their banal slogans.
- In parallel, trades union influence was diminished by government action and the corrosive effect of recession. The architects of managerial culture have remained largely silent on issues of power and political activity while some, like Senge[5] eulogising about 'the learning organisation', have 'rubbished' the political discourse that serves civil society so well, arguing that it is irrelevant to modern work organisations despite the rhetoric of 'empowerment'.

So it is not surprising that people at work are full of anxiety and fear. Whatever improvements might be made inside organisations, significant change is still needed at societal level. The current skirmishes about stakeholding might yield a forum for delivering such changes: a debate

upon how best to achieve these changes is even now taking place within the US Democratic Party.[6]

Against the abysmal record of efforts to increase UK levels of investment in people and technology over 50 years, can we be sanguine that a 'voluntarist' strategy will be sufficient of itself? It is clear that if we intend not to rely on 'court jesters', but to increase employee autonomy, innovation and productivity, then some key problems which need attention are the nexus between 'the City', British business and the political system, the dominance of accountancy within British management training and practice, and constitutional and legislative safeguards for workers' rights and obligations.

The challenge for organisational leaders

In suggesting what might be done *inside* organisations I draw heavily on my recent research into innovation[7] and on a fascination with theatre as a medium of potential liberation. The task set out is formidable, but, since in part it builds on the ideas of the LIFT Business Forum, perhaps the nine companies represented there could be invited to set the pace!

- First, organisational leaders should shut out the siren voices peddling top-down culture change and begin to re-think 'culture' and how it relates to the creation and use of knowledge through learning and innovation. The gurus' notion of 'grand culture' is a one-minute anthropologist's interpretation of a complex of vocabularies, practices and relationships, drawn on to instill life into organisational activities. That complexity is not static but evolves throught the accrual of innovation on innovation, new knowledge on old – laying down what the novelist Saul Bellow spoke of as 'cultural tarmacadam'.
- To understand, succour and influence this cultural matrix more effectively, organisational leaders need to listen not only

to the principal actors but to members of the 'chorus' – their voices, telling their stories.

- Subsequently, any top management interventions can be tailored to amplify people's visions and support their initiatives. In this way latent innovations might be brought to some form of positive expression and a corporate culture nurtured that does empower people.
- On the shop-floor, at each level and in each section at which local decisions are made without reference upwards, a 'forum' would be set up, charged with starting to free up individual and collective conceptions of innovation; to identify key problems needing resolution; and to challenge their managements to provide innovative ways of supporting them in their initiatives. This process would be replicated at every level through the organisation.
- Each forum, including the directors' forum, would be offered help in their 'soul-searching' through the use of 'Forum Theatre' created by a Brazilian, Augusto Boal.[8] In workshops guided by a professional actor, lay-participants would enact a sketch expressing the models of thought and behaviour that they find oppressive in their everyday lives. The script for a forum on innovation might turn, for example, on the difficulties of innovating in an atmosphere of distrust, or the problems created by 'short-termism' in decision making on investment. As the drama was re-worked on subsequent runsthrough the audience would be encouraged to intervene, to take the part of the previous 'actors', in order to change the course of the argument and action and to create 'a new vision of the world'. In the process all can start to learn how to free themselves from the inhibiting meanings they live out in their daily work lives.
- Various principles should be followed in the process:
  - The participants must share *equal status* in the forum process and any ongoing mechanisms to maintain momentum.

  - The definition of innovation should aim for *inclusiveness,* broad enough in scope to enable as many as possible to imagine themselves as innovators.
  - Despite the broad definition of innovation adopted, individuals would be expected to *challenge* each other to take risks in committing to demanding objectives, to challenge and resist woolly thinking and to challenge more senior management to provide support.
- The task of making good use of the outcome of all the forum deliberations would fall to successive levels of management up to the board supplemented by other employee representatives. Again, certain principles would have to be established to ensure that, for example, lower level groups would be allowed to get on with any proposals that were within their existing authority, and that transparent decision processes were used to assess the relative merits of proposals competing for extra resources. This approach would provide scope to tailor corporate responses to match different innovation sub-cultures (e.g. R&D as compared to Marketing) whilst providing the minimum umbrella of corporate values, beliefs and supporting practices necessary to sustain overall momentum.

Maintaing momentum

Once set on this 'liberation cycle' top management would need to consider ways of maintaining momentum, helping people to realise and share their visions for themselves and the organisation.

- For example, an 'innovation intra-net' (Innonet) could be set up for people to broadcast their ideas, provide updates on how they were progressing and, if necessary, ask for help from others.
- Once it had matured Innonet might be monitored in order to highlight ideas of special merit, which met one or more of

a wide range of criteria, acknowledging that creativity comes in many guises.

- Membership of the screening group might be subject to ballot if the scheme's popularity took off, embodying another key principle: any recognition should come from a representative group, taking advice and evidence from experts as necessary.
- The top management of the IT company we studied had introduced various schemes to generate, recognize and reward innovation. But it became evident that these could generate their own problems: e.g. an 'idea a month' scheme that 'turned-off' young engineers, and individually-based financial incentives that were 'disruptive' of team work. My advice to any organisation following the 'innovation liberation' route outlined here is to avoid individual or small group reward schemes; they are almost certain to end in tears. Instead, once the 'liberation' process is bearing fruit consider declaring a company-wide innovation bonus.
- Finally, looking to the longer term, it might be necessary to consider whether the systems of governance and internal control match up to the needs of a really innovative organisation – a learning organisation. If there is to be the degree of challenge and potential conflict that the necessary level of openness and risk-taking might generate, will the internal institutions be robust and flexible enough to cope? The suggestions made above for involving employees in the management of the processes for generating, communicating, recognizing and rewarding innovation might start to prepare for that time.

Taken as part and parcel of a revised national framework of institutions, as argued earlier, I believe that these ideas can help set the stage for innovative stakeholders. Or will companies rely on court jesters, using 'quip' and 'riddle' to intercede on behalf of the king's spear-carriers?

Notes

1. *Financial Times*, 12.7.95.
2. *Arts Management Weekly*, 13.7.95.
3. *Financial Times*, 11.10.95.
4. Hill, S., 1991, 'Why quality circles failed but total quality management might succeed', *British Journal of Industrial Relations*, Vol. 29, no. 5: 541–568.
5. Senge, P.M., 1990, *The fifth discipline*, New York: Doubleday.
6. *The Guardian*, 14.2.96.
7. 'Managerial innovation in three organisations: an IT company, a university and a regional authority social work department', a project completed in collaboration with Orla Keegan, Fife Health Research and Nick Elmer, Department of Experimental Psychology, University of Oxford. Funded by the Economic and Social Research Council.
8. Boal, A., 1992, *Games for actors and non-actors*, Routledge, London (Translated by Adrian Jackson, Associate Director, London Bubble Theatre Company, who is an exponent of 'Forum Theatre').

Industrial policy: a lesson in dynamics

Michael Best

Industrial policy has a poor track record. Throughout the West since the Second World War, the usual outcome has been failure. Not surprisingly there have been many explanations for this. But most miss the point and fail to give sufficient weight to the new competitive dynamics, based on product-led competition, which shape modern industrial success. Only through a thorough analysis of these dynamics can we draw some valuable lessons for industrial policy in the future.

America's hidden industrial policy

The US offers a good starting point since by almost any criteria its industrial policies have been on a larger scale than those of any other nation. In the aftermath of the Second World War the US government developed a vast science/technology infrastructure which linked government agencies, industrial, university and government laboratories, and business enterprises. Engineering education in particular was transformed into applied science as federal funding enabled university engineering departments and associated laboratories to pursue federal contracts and grants on an equal footing with their pure science colleagues. Today, roughly half of all America's research and development

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is funded by the federal government and two-thirds of this is defense R&D.

The publicly stated purpose of this great government-sponsored expansion in the nation's technology base was national security. But the policy also served as a *de facto* – though publicly invisible – industrial policy: the expanded technology base was made available to the entire business sector freely to convert into commercial products. It escaped public scrutiny and the label of industrial policy for two reasons: first, it was consistent with the political myth of the separation of public and private spheres; and second, the policy seemed to work: the US was the undisputed world leader in technological innovation.

The hidden reality was one of pervasive government involvement in industry, both as a major funder of corporate R&D and as a major purchaser of high technology products. In fact, all America's major post-war export industries – including aircraft, computers, electronics, telecommunications and instruments – received both substantial government R&D and purchasing support in their formative, low-productivity years.

Losing out to Japan

In time, however, it all stopped going right. America first lost international market share to Japan in the steel industry, shortly followed by declines in market share in cameras, cars and motorcycles. This caused little concern: analysts all agreed that America's strength in hi-tech industries was intact. Then, suddenly, in the early 1980s, the pattern was repeated in semi-conductors, semi-conductor equipment makers and downstream industries such as advanced consumer electronics, computers and telecommunications.

America's technological strength had become its weakness. The Pentagon-sponsored, science-push technological paradigm came into competition with a production-based technological paradigm that undermined the US's industrial leadership. Three key US assumptions were exposed. The first was that technological innovation follows a linear path, proceeding from basic science to applied science to engineering

science to engineering design and development to production. Scientific pre-eminence, it was supposed, generated technological pre-eminence which in turn assured product pre-eminence. This was, in effect, a science-technology based theory of comparative advantage. The second assumption was that the diffusion of technological development follows a 25–50 year cycle. By the time Japan and other countries were able to capitalise on the commodity production stage of a product's life cycle, US firms would have moved on to the development of new products. And thirdly, it was assumed that organisational capabilities are not important to competitive advantage. Product performance, not production process improvements, drove the design and development of military systems.

The Japanese new technology paradigm, on the other hand, is about shifting the technological base from the science end of the spectrum to the production end. Innovation is driven as much by competitive dynamics as by science-push. Fundamental science, according to this view, is as likely to follow technological innovation as to be a driver, and Stephen Kline points to a long list of industries formed without direct linkage to new science developed in R&D laboratories: the jet engine, sewing machines, weaving machinery, machine tool, most construction methods, space shuttles, turbomachinery, combined cycle power plants, vertical and slant take-off and landing aircraft, and integrated circuits.[1]

The quest to modernise manufacturing

To tackle the US's declining competitiveness, a variety of programmes and organisations started to emerge in the mid-1980s, sponsored by federal government, state governments, private foundations, industry associations and labour organisations. Small and medium sized industrial enterprises (SMEs) have been the focus of attention. (In the US, the general definition of SMEs is less than 500 employees). By the 1990s, some 42 state-level industrial modernisation programmes had been set up in 28 states.

Typically these programmes offer a series of direct subsidies to individual manufacturers to reorganise their quality systems, improve

their use of a piece of hi-tech equipment, or conduct market research. Some states, however, have taken a more experimental approach, providing seed money to stimulate manufacturing networks and consortia. The idea is for groups of firms in the same industrial sector to come together, often through an intermediary, to address common concerns and reach economies of scale, for example in product development, marketing, financing, and education and training.

At federal level, from 1988 onwards, the US government funded 'manufacturing extension centres'. By late 1994 there were 35 of these in 26 states, with nine more designated. Manufacturing extension centres are non-profit organisations that serve as a focal point for delivering services to smaller manufacturers. Each centre is sponsored by a non-profit organisation – including state governments and educational institutions – which must provide about half of the budget. All the centres rely on field staff providing on-site advice and assistance, and vary considerably in size and scope.

So far the manufacturing extension programmes have not lived up to expectations. It remains unclear whether they can assist firms in making the necessary changes to become problem-solving organisations, able to maintain their profitability and discover new market opportunities. Their experience confirms that the most damaging failure of analysis in America's industrial modernisation strategy has been the lack of a dynamic economic perspective about how companies change and develop. While policy-makers and academics agree in the abstract that sustained high performance depends upon a company undertaking thorough internal reorganisation, there seems to be no consensus as to exactly what these changes should entail and how outside organisations can act as catalysts. It is to that issue we now turn.

A framework for regional manufacturing strategies

Industrial policy must start with a strategic assessment of a region or nation's basis for competitive advantage in the global marketplace. The purpose of a strategic analysis is first, to develop a consensus on the fundamental threats or challenges facing a region's industry; second, to assess the performance gaps between world class production and organisational practices and local practices; third to develop a strategic vision; and fourth to draw up action plans that will close the performance gaps and give force to the vision.

A good analytical tool is a 'competitor analysis', the aim of which is to assess the region's strengths and weaknesses, sector by sector, relative to those regions that enjoy global industrial leadership. The idea is not that local enterprises have to match global best-practice capabilities, but to fashion a company's strategic orientation and core competencies to establish a defensible position, and to assess its competitive capabilities in the context of the regional 'business system' within which it operates. The dynamic nature of competition means that new opportunities for regional development are constantly arising.

It is worth taking a closer look at the character of the new competitive dynamics which have revolutionised the performance standards for business enterprises.

The new competitive dynamics: productivity and innovation

The defining feature of today's competition is rapid new product development created by the marriage of productivity and innovation, and the redefinition of both. The term 'dynamic' is used to capture the transition from a trade-off between two goals to a mutually reinforcing interaction: improved performance in achieving one goal enhances performance in the second and vice versa. In recent years the quality movement has exposed the presumed trade-off between quality and cost that was taken for granted in the era of Big Business. Leaders in quality turned that trade-off into a dynamic: higher quality products generated, in the long run, lower cost products.

Product-led competition has opened up a new competitive dynamic between innovation and productivity. It is important to drive down manufacturing cycle times, because this allows more rapid response, more reliable delivery dates, higher inventory turns and better quality. Driving down the design/manufacturing cycle time is equally important: it determines the pace of technological change that a company can sustain. (The design/manufacturing cycle is the time it takes to convert a new product design into scaled-up plant capable of producing at competitive costs.)

Yet high quality and low cost alone do not assure sustained success: firms must also be able to produce faster and develop new products more quickly. A company that can reduce its design/manufacturability cycle to half that of a competitor can introduce technological innovations at twice the rate. Being first to market with a new technology is important, but introducing technological refinements more rapidly is more important. The technology dynamic is reinforced by higher profit margins, which creates funding for increased research, design and engineering, which in turn enhances the investment in and introduction of new technologies.

If the first dynamic of the new competition is the synchronising of design/manufacturing cycle times, the second is the integration of both with the diffusion of technology. Since a firm can only introduce new technologies alongside new products or model changes, technological

change must come at the beginning of a design/manufacturing cycle. In between, the firm can practice continuous improvement but not innovation.

Product-led competition requires industrial policy to be similarly production-focused, the emphasis being on building the capacity of firms and sectors to respond to global manufacturing challenges.

Networking and co-operative research projects

In product-led competition, networking replaces both the impersonal, inter-firm market relations and the bureaucratic internal co-ordination of the autarchic firm from the age of price-led competition. Thus lead manufacturers and prime contractors are in a powerful position of influence the transformation of numerous SME supplier firms.

Networking applies to a wide variety of inter-firm relations: along the industrial food chain; cross-sector relations crucial to product diversification and new product development; and between firms and intermediary agencies providing R&D, technical, design and managerial services. The centrality of networking is a significant difference between the US approach to industrial policy and that of Japan.

The Japanese government's pursuit of technological advance has involved simultaneously promoting competition and co-operation; its strategic industrial policy is about shaping the form that competition takes. Kenneth Flamm's study of the development of the Japanese computer industry illustrates the point: 'Japan never handed over the entire domestic market to a favoured company – a 'national champion'. Instead, support was given to a small group of highly competitive firms, and the virtues of competition were preserved even as limits on entry by outsiders were established'.[2] The Japanese Ministry of International Trade and Industry (MITI) gave little direct assistance to individual firms.

A further layer of Japan's regional and national business systems is its intermediary institutions – neither business enterprises nor government agencies. These organisations might be established by industrial policy-makers, groups of enterprises, or professional associations.

One such example is the *Kohsetsushi*, 178 technical research centers sponsored through MITI. The *Kohsetsushi* centers offer research services, technology assistance, testing, training and management assistance to industrial enterprises with 300 or fewer workers. Of the 6,900 people who work at the centres, 5,300 are engineers.

The new consortia

The involvement of government in promoting inter-firm co-operation for innovation is not new. When in 1961 a law was passed in Japan establishing Engineering Research Associations (ERAs) it was based on the Co-operative Research Associations set up in the UK shortly after the First World War.[3] They had similar functions. But while the UK's Research Associations died out, Japan's have proliferated in the 1980s and form a key element in Japanese industrial policy. And like other borrowings from the West, the Japanese have refined, upgraded and advanced the concept. ERAs, while important, are but one type of inter-firm co-operation. Much more prevalent are 'exchange groups' of SMEs, based on the concept of technological fusion or the blending of technologies, and administered by the Japan Small Business Corporation. The case of the machine tool industry illustrates two key differences between the operation of exchange groups and the conventional western notion of R&D consortia.

Fusion and co-operation: the machine tool story

The transformation of Japan's machine tool industry began with mechatronics, the marriage of mechanical and electronic technologies. This stemmed directly from fusion – the idea that new product lines can be generated by coupling complementary technologies.

In 1971 a mechatronics law was passed in Japan which called for the 'consolidation of machinery and electronics into one or systematisation of them'.[4] While the concept of mechatronics applies to many Japanese new product innovations, the technology diffusion rates in the machine tool industry were spectacular: among numerical control

tools from 10 per cent in 1975 to 70 per cent in 1981; among industrial robots from 10 per cent in 1975 to 80 per cent in 1983.[5]

Eventually the entire machine tool industry was transformed, with dramatic consequences. In 1985 the Japanese and American industries were of roughly the same size; by 1990 the Japanese industry had nearly tripled in size while the US industry stagnated and the Japanese enjoyed a nearly 20 per cent productivity advantage. Over recent years the Japanese government has sought to promote the fusion and diffusion model exemplified by the mechatronics success story. Local authorities act as catalysts to groups of enterprises, and exchange groups enjoy local and central government subsidies for joint R&D expenditures.

The second distinctive feature of Japanese strategy illustrated by the machine tool story is the principle of sectoral advance. Historically, sector strategy involved getting a group of key players from a single product market together to develop a shared vision for their industry in the global marketplace. The concept of fusion suggests that in the age of rapid new product development, successful co-operation lies in forming groups of key players from sectors with different but potentially complementary technologies.

In the machine-tool example, MITI, crucially, pressured the numerical control producer Fanuc (at the time still a division of Fujitsu) to provide machine-tool makers with standard, flexible multi-purpose controls, thereby establishing industry standards. In contrast, US machine-tool companies pursued proprietary software, custom products and profitability through after-sales support.

The lesson here is just how central to strategic industrial policy-making is the challenge of shaping competitive forces to promote a rapid and wide diffusion of new technologies.

Conclusion

To deny the catalytic role of strategic industrial policy is to fail to understand the economic challenges and opportunities of today. Yet a successful modern industrial policy must start from an understanding

of the new production-led dynamics of competition. Moreover, industrial policy is not the sole preserve of national governments; strategic industrial policy agents might also be regional or state governments, intermediary agencies or technology oriented universities working in partnership with industrial enterprises. Developing the organisational capabilities of self-management at the production level is fundamental to developing such a regional industrial economy.

The aim of a successful regional industrial strategy will be to create a common language within the industrial community and thereby reinforce the social fabric of community that distinguishes an innovative industrial district from atomistic, disconnected competitors.

Based on 'Competitive dynamics and industrial modernisation programmes: lessons from Japan and America', a lecture given to the Northern Ireland Economic Council in 1995.

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Focusing the DTI on networks

Gerard Fairtlough

In the UK, successive governments' attempts at industrial policy have given the whole idea a poor reputation, largely deserved. In the 1970s, the policy of choosing national champions often degenerated into feather-bedding the incompetent, and encouraged industrial managers to spend their time lobbying for grants and subsidies, instead of developing new products and markets. In the 1980s, financial stringency was supposed to make firms lean and fit, but often ended up by making them weak and emaciated. In the 1990s, industrial policy seems such a muddle that the public might have some justification in thinking that all it involves is finding ways to sell arms to Saddam Hussein, while pretending not to.

Given this bad track record, a future UK government will need to rethink its industrial policy in a radical way. There is, in fact, a great opportunity to do this, because the nature of business activity is changing rapidly. Past industrial policies were not only wrong, but were based on what is now an out-of-date premise. They were centred around

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the firm, reflecting economists' analyses of the way industry works. It was thought that industrial policy should change the decisions firms make, or give support to the activities of established firms. Little attention was given to the interaction between firms, or to the possibility that an industry, or a region, could be more than the sum of the firms involved.

Concentration on the firm will, in the future, be a bad mistake. To understand post-Fordist industry, including the increasingly important service sector, it is necessary to focus on the network of people on whom industrial sectors and regions depend. The actual grouping of these people into firms, and their future regrouping into different firms, is becoming less significant than the strengths and weaknesses of the whole network. So, the present disarray in UK industrial policy gives a future government the chance to scrap existing policies and to put in their place up-to-date policies, orientated towards the network-based industry of the future.

Firm-based and network-based industry

It is important to distinguish between two types of industrial culture: firstly, *firm-based*, in which the individual firm nurtures distinctive competences, and secondly, *network-based.* The latter has similarities to basic scientific research, to the legal and accounting professions, to the advertising and fashion businesses, to artistic creation – fields in which competences are widely dispersed, projects are brought to fruition through semi-permanent alliances, and professionals build reputations well beyond the firms where they currently work.

People who have spent many years in one large organisation, who function well in it, but who cannot work without that organisation's routines, are those with firm-specific competences. In contrast, network-specific competences are easily transferable from one organisation to another. Firm-specific competences are needed for continuous improvement (*Kaizen* in Japanese) but network-specific competences are important for step-change innovation, for high-technology industries, for generating new economic activities in the wake of Schumpeter's 'winds of creative destruction'.

One approach to improving the performance of UK industry is to discourage short-termism, making UK industry more like industry on the Continent, where banks take equity shares in industrial firms and appoint their staff to the boards of these firms. Industrial policy would aim to reduce takeovers and mergers and to change the behaviour of financial institutions, so that their reaction to a firm's underperformance is not to sell its shares but to change its management. Will Hutton, author of *The state we're in*, has been a prominent advocate for this approach, which relies on firm-specific competences for success.

But there is an alternative approach, that of encouraging the formation of smaller, highly innovative firms and of networks between them, an approach that takes as its external exemplar not Germany, but California. In California, business depends more on science, the professions and the arts than on the skills of the shop floor. The educational system reflects this, since there is a great demand for training in the sciences, in information technology, law, business administration, and the arts, but less in engineering and craft skills. Links between universities, industry and the professions are close, with people moving between them with some ease.

Examples of network-based industry

The first example is Silicon Valley, where dense social networks encourage experimentation and entrepreneurship. Although industrial activity is undertaken by individual firms, these firms are in constant flux. The fortunes of new firms are widely reported and closely followed, so successful new firms quickly attract skilled people from older ones. There is a network of venture capitalists who understand the industry, linked to wealthy individuals who also understand it, and to a network of professionals such as accountants, lawyers, market researchers or PRs, who are ready to work for untried new firms. This network-based industry is much more innovative than the firm-based industry elsewhere in the US or in Japan or Taiwan. Within small firms there is little hierarchy, great openness of information and high enthusiasm and commitment.

The second example is the worldwide pharmaceutical industry, which in recent years has become polarized between a handful of very large multinationals and a host of small, new research-based firms, usually termed biopharmaceutical companies. Nearly all the big multinationals now draw a significant amount of their discoveries from deals with the small company sector and with academic researchers. The majors are now concentrating on their area of greatest strength: later-stage development, closely integrated with marketing. For this, the majors need close, and subtle, links with the small company sector and with academia. Small companies are able to keep up with the rapidly changing field of biology, and keep in tune with the academic community, in a way that no large company can do.

Why the UK doesn't need a firm-based industrial policy

It is true that a firm-based industrial culture, on the German model, still has something to offer. Run-of-the-mill industries generally lend themselves to a firm-based approach. The UK remains the base for a handful of huge multinationals and a number of other companies which are excellent by world standards. 3i is a very capable, industry-orientated finance house, providing venture and development capital with a long-term perspective, partly to start-up companies, but also to established firms. Adopting financial and legal policies that supported those parts of the City with longer-term attitudes might have a cumulatively good effect.

In addition, inward investment, particularly by Japanese firms, has brought a wealth of management expertise, much of it firm-specific, to the UK. (Seeking inward investment is perhaps the only recent government industrial policy that has worked well). Continental banks, for example Deutsche Bank, now have a major stake in the City. Although they have made their investments mainly to get involved in the Anglo-Saxon financial culture, there is no reason why they should not, over time, become expert in providing finance to UK industry. There is also no reason why medium-to-large UK-based firms could

not develop sound relationships with sources of finance in Frankfurt, Paris and Amsterdam, in order to lessen their dependence on the City's short-termism. Clearly, any future government's financial and industrial policies should support these existing strengths and trends.

But to make firm-based policies the centre of industrial policies could prove to be a serious mistake. There are two strong reasons against such an approach:

- Continental European banks have had 150 years of experience of close interaction with industry. Their executives have grown up in this culture and are used to making judgements about industrial technology, markets and management on which a mutually beneficial interaction depends. The culture of UK financial institutions simply cannot be changed overnight.
- The City would fight a government that pushed it hard towards a Continental style of industrial involvement, since

Table Number of Legal Enterprises in the United Kingdom ('000s)

	1984	1992	1995
Agriculture, forestry and fishing	183	173	167
Production	156	167	160
Construction	223	251	189
Transport industries	65	75	69
Postal services and telecoms	0.5	2	3
Wholesaling and dealing	123	144	131
Retailing	270	250	215
Finance, property and professional	106	181	182
Catering	124	123	113
Motor trades	77	80	71
Other services	170	278	307
TOTAL	1,497	1,723	1,606

Source: CSO, 1996.

the changes involved would upset many of its cherished ways of working, and destroy some of its unique competences, making it less able to compete with other financial centers, such as Frankfurt.

Why it does need a network-based industrial policy

Instead, I believe the UK government should focus its industrial policy on network-based, innovative industry. The arguments for doing so are these:

- The UK is second only to the US in its present competence in network-based industry. It is very strong in pharmaceuticals and reasonably so in information and communications technologies and in advanced chemicals. It is a leader in entertainment, music, publishing and many international service industries.
- It is much easier to have a stakeholder orientation within the small and medium-sized firms typical of network-based industry. Complete openness of information among everyone working in a firm is only possible on the scale of a few hundred people, otherwise there is just too much information to exchange. Virtuous circles of trust, commitment, empowerment and openness can only develop to the full on this scale.
- Most importantly, network-based industry will probably become dominant in advanced economies during the next century. If the UK wants to remain an advanced economy, it will have to have a high proportion of advanced industries, with skills that cannot easily to transferred to lower-wage parts of the world, like China or Indonesia. Advanced industries, depending on continuous innovation, are the ones that use networks the most.

Policy proposals

I now turn to some specific proposals for action by a future British government.

In my opinion, the support presently given to high- technology ventures in the form of tax breaks (like the Enterprise Investment Scheme) and DTI grants is useful, but I would not suggest expanding this. Grants are costly to seek and to administer, both for firms and for government, while tax breaks have to be carefully defined, to stop them being used for tax avoidance in straightforward investments. Their inflexibility makes it difficult to use them constructively in the fast-moving sector of high-technology companies.

The alternative policy measures I suggest are these:

- Setting up regional development organisations, on the Scottish Enterprise model, in the rest of the UK. Scottish Enterprise has become a highly professional organisation, working in partnership with many other bodies, public and private. It would take a decade or so to develop agencies with similar levels of expertise and reputation for Wales and the English regions, but an early start is important. Of course, these organisations would not only support network-based companies, but they could be orientated towards them.
- Providing capital for a number of specialist venture investment funds. Five or six of these funds, with around £100 million for each to invest over a four year period could make a huge difference to the funding of network-based companies. Government money would be invested with the aim of getting a commercial return and should generally be co-invested alongside, and on the same terms as, private sector funds. Obviously, the aim would be to avoid duplicating what the private sector can already provide, and the scope of each of these new funds would have to be carefully defined. New areas of industry with high potential, but high risk, should be chosen. As well as high-technology manufacturing, service and creative industries should be targeted. There could be specialist funds for biotechnology, optoelectronics, high-performance materials, cinema films, Internet publishing houses and similar sectors.

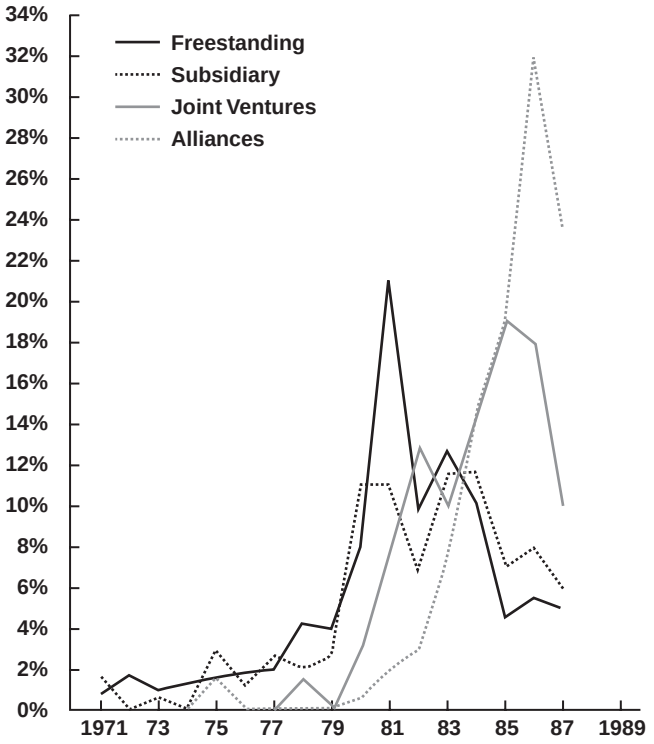
These specialist funds should be managed mainly by finance houses, including those based outside the UK, but possibly also by universities or trades unions. Institutions wishing to manage a fund would put forward bids, and the chosen institution would be the one with the best combination of track record, knowledge of the sector, imaginative management approach, and willingness to share risks as well as rewards.

- From my experience, the single most important factor in the success of network-based industry is the entrepreneurial skill and motivation of the people involved. Although a network-based business culture, like that of California, is the real provider of skilled and motivated people, the education system, particularly higher education can help in meeting this need. Stanford University has been a major influence in creating the entrepreneurial culture of the San Francisco Bay Area.

  At present, business school students in the UK are mainly trained for firm-specific jobs, and particularly for the finance aspects of these. The combination of technical education with business education, which works so well in California, is a minority choice in the UK. Business education geared to other network-based areas, like publishing, films, theatre, music and the visual arts, is also relatively rare in this country. A fairly small amount of government funding could transform this situation. The success of the Sainsbury family's charitable funding of business education for UK engineers has shown what can be done.
- Academic institutions should be pushed to raise the standards of their industrial liaison and technology interaction systems and to make these more entrepreneurial, rather than responding mainly to a few large firms, often overseas-based. They should be staffed by people who know what is involved in starting an innovative and ambitious new business, and who are able to inspire university teachers

and researchers, and students, with the excitement of doing this.

- Public purchasing policies should be developed that support network-based industry, rather than favouring established firms.
- There is little doubt that an orientation towards defence-related industries has a bad effect on the commercial skills in the economy of any country. A lot of UK engineering



Source: Nohria and Eccles, 1992

Figure Proportion of commercial biotechnology firms in the US with strategic alliances.

industry is involved in the arms business, and an overnight change is not possible without serious effects on employment. But de-emphasising the sector, plus a pan-European orientation for defence procurement, might offer longer-term advantages for the UK, possibly including the release of engineering talent into commercially orientated, network-based enterprises.

Conclusions

For a country like the UK to compete internationally – by attracting investment, creating well-rewarded jobs, maintaining a healthy balance of trade – innovation is essential. Work that can be routinised will increasingly flow to countries whose wage levels are far below the levels of the UK's worst-paid workers. This is obvious for manufacturing industries, but it is becoming increasingly so for service industries as well. For instance, converting written records into digitised from is a service that India and the Philippines are now able to offer very competitively, and information technology makes irrelevant the distance of those countries from Europe or the US. It is true that some services, like catering or childcare, are necessarily local, but Britain's international competitiveness cannot depend on these.

The evidence in science-based industries, such as electronics and pharmaceuticals, is that the most innovative parts of industry are increasingly adopting a network mode. The model, so powerful in the early decades after World War II, of large industrial R&D laboratories, or of large film studios, is giving way to independent creative groups, sometimes assembled just for a single project, but drawn from a continuing network of skilled and resourceful people.

Large scale firms will continue to be important, because some economies of scale persist, and because worldwide marketing often needs a large organisation. The UK needs to retain and attract the headquarters and the branches of large businesses. But these large firms will be symbiotic with a host of small ones, with the small firms providing much of the innovation the large firms exploit worldwide. By having

thriving innovation networks, the UK might attract large firms wanting to tap this resource.

Limited, but properly organised, government involvement in venture-orientated agencies, on both a regional and a sector basis, could catalyse private sector development of network-based industry. Changes in higher and further education, developing the skills needed for networks, could play a key role. And public purchasing, including defence purchasing, needs to adapt to the network-based future.

By concentrating on this future, UK industrial policy might get ahead of the world, helping to create a strongly innovative economy. And network-based industry might bring other benefits – its openness, lack of hierarchy, resourcefulness and creativity could be a model for a better society.

Focusing the DTI on markets

George Guise

If we had to invent the DTI from scratch, what would we do? The Civil Service is a machine for identifying the strongest vested interest whenever objectives conflict and ensuring that interest prevails. Occasionally, the winner is a strong, determined minister, such as Bevan or Thatcher. Normally, it is a producer, such as a teaching or health union, the Bar Council, the CBI (Confederation of British Industry), or the NFU (National Farmers Union). With John Major's administrations, the prevailing interest has often been the public purse in the form of its staunch champion, the Treasury. Despite popular myth, the machine is efficient and operated by energetic, first class minds with monastic disdain for visible self-aggrandizement. Venal ministers easily become glove puppets worked by officials and sometimes struck down by the crossfire between warring departments. Recent examples include the beef crisis and the Scott findings.

How could one use such powerful machinery to build and operate a DTI which would be of real value? *A priori,* it should never attempt industry's own job of forecasting, investing and managing. This was the great post-war mistake which destroyed British electronics, vehicle

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manufacturing, shipbuilding and nearly did the same for steelmaking, telecommunications, and mining until they were returned to private ownership. It also cossetted our defence industries with wasteful cost plus contracts like Nimrod until the medicine of foreign competition and takeover began to revitalise them. The DTI should have five missions:

- The *regulation* of free markets in goods and services which covers the existing Corporate and Consumer Affairs division as well as the Investigations branch. A single fused division would be set up encompassing the regulation of City institutions, monopolies and mergers, safety and compatibility standards for manufactured goods, and the pursuit of commercial fraud.
- The facilitation of *international trade* on behalf of British companies. Many governments which are signatories to the GATT (General Agreement on Trade and Tariffs) obstruct free trade either through turning a blind eye to restrictive practices by local companies or by permitting their own agents, such as customs authorities, to impose improper bureaucratic delays. This applies even within the EU when, for example, a car or television set is manufactured in Britain by an exporter whose ultimate owner is Japanese. Currently, Britain has to negotiate through the commercial section of the Foreign Office, whose ineffectiveness at defending Britain's business interest is notorious, especially when this conflicts with 'higher' diplomatic goals.

There is also much confusion about Government policy on arms exports and whether overseas aid should be linked to British commercial interests. British overseas trade would therefore be enormously advantaged if all commercial responsibility were to be transferred from the FCO (Foreign and Commonwealth Office) to the DTI, as recommended by Michael Heseltine in 1987. This would give the DTI independent access to the highest levels of diplomatic pressure when

our exporting industries were hampered by breaches of international agreements by indolent foreign officialdom.

- The responsibility for *science and technology* has only recently been transferred to the DTI, possibly as an afterthought during the change of ministerial responsibilities following the Prime Minister's successful leadership contest. There is potential danger to the science base in making the DTI the adjudicator of spending decisions between basic, curiosity-driven, research from which every epoch transforming discovery has derived, and utilitarian research which some industries would prefer the taxpayer to finance rather than shareholders. Examples include the failed Inmos and Alvey programs, the fast breeder reactor and the billions wasted on vehicle and electronics research. The Office of Science and Technology (OST) should operate in a completely hands-off manner within an overall budget set by Parliament. It is to Parliament that the Director General of the Research councils should account, not to a junior minister who may not even know the valency of carbon. If the OST must be parked within the DTI, it should only be for supplies and rations.

The Government's Chief Scientific Adviser should be totally outside the DTI or any other department. His relationship with the Prime Minister is paramount and is necessarily a matter of personal chemistry. The moment the PM is too busy or preoccupied to give direct personal attention to the Chief Scientific Adviser, long-term national harm is likely, as sectional vested interests fight for the research budget, with the bully normally prevailing over the thinker. If Churchill had sent Lindemann off to some junior minister rather than listening himself, Britain could have lost the war through not having developed radar, and through starvation from the continued torpedoing of food convoys (since the decoding of German submarine messages would not have taken place). The vested interests of the day would rather have spent resources on tank and aircraft development.

- *Innovation.* The Department should have no responsibility for causing innovation in the sense of being a prime mover, a forecaster of winning new technologies, or an investor of other people's money. The market place, if left alone, will destroy those businesses which do not innovate and nourish those which do more effectively than any government department. However the DTI should do all in its power to facilitate industry co-operation on development, especially international marketing, where the product is at the pre-competitive stage. The investment itself must always come from industry, unlike a recent case where the DTI was actually discovered spending taxpayers' money on developing lightweight shafts for golf clubs – three cheers from the management and shareholders of Dunlop!

The Americans have been good at the hands-off fostering of innovation since the war, although there have been some bizarre ideas from the Clinton administration about 'the need' to set national priorities and provide government support for, e.g. flat screen manufacture and the development of intelligent vehicles. Presumably, Congress will save America from such folly by withholding funding. I mention these American projects because they are good examples of exactly what any DTI should not do, much though it might delight GEC, Rolls Royce, British Aerospace, or the 'old' Rover.

- There should be *co-ordination of international* projects in, for example, space, electronics, telecommunications, or biotechnology, particularly in standard setting, where the ultimate spenders are the industries themselves. A good example is the European *Esprit* program which is industry funded and contrasts so favourably with the various *Framework* programs which have wasted billions of Ecus from member state taxpayers. *Framework* is a constant source of frustration as British negotiators try to extract value for money rather than 'free' higher education for Portuguese and Greeks at northern universities.

There is therefore ample scope for an effective DTI harnessing government powers behind British industry, with neither doing the other's job. The trade and innovation sections would be staffed largely by industry secondees who would continue to receive market salaries even if this caused anomalies across broader civil service pay scales. The civil service must absorb this philosophy if it is ever to modernise and shed the mantle of cloistered and exclusive self-sufficiency.

All other activities should be stopped. The licensing of oil, gas and coal production are ultimately matters of environmental impact as is the decommissioning of old Magnox reactors. Responsibility should pass to the DoE whose function should be the preservation of a satisfactory environment through top quality research and effective regulation.

Following the privatisation of British Energy, all the attendant fuel cycle activities at BNFL and Nirex should either be privatised or closed down. The Post Office would already be privatised were it not for the mischief of 'Clause 4 Conservatives' because it is no part of a modern government's job to deliver letters. Until this becomes politically possible, Post Office operations should be contracted out to private firms as is now done by efficient local authorities for their procurement activities.

The regional and small firms department would go, but much of their positive activity would be expanded within the trade and innovation sections. The DTI sponsored laboratories, where capable of profitable operation, would be privatised and the remainder closed. However, the National Weights and Measures Laboratory and the Patents Office, which fulfil the Department's own regulatory mandate, would remain. The DTI supports many quangos of dubious usefulness such as the National Consumer Council and the Design Council whose retention would depend upon whether and how effectively they support the department in its prime missions.

The DTI currently supports one Cabinet minister, the so called 'President', and seven ministers whose principle function is external representation. It would not matter greatly whether this complement were maintained but, ideally, it should be halved.

Within the department there would be much change, starting with the Permanent Secretary who would not be permanent but appointed

for a fixed five year term. He would normally be a top industrialist under a transfer arrangement which would not discourage high earners. Imagine James Goldsmith, Owen Green or John Harvey-Jones in such a role ten years ago, or Richard Sykes or Branson today!

There would be four rather than eight Deputy Secretaries who could either be internal or external appointees. Remuneration would be performance related and independently adjudicated. There would be many casualties and the present headcount of 11,000 excluding agencies would fall. There would not be a commensurate fall in running costs because high performance would be rewarded as in private industry.

I have discussed what the DTI should do and how to structure it. In closing, I should like to re-emphasize what it should never do. That is to inject taxpayers' money into industry itself whether in the funding of near market research, the support of failed companies like Rolls Royce, the coercion of the armed services into purchasing poor cost-performance British equipment like Nimrod or Challenger, or interfering in the ownership of helicopter companies. To those who disagree, I ask three interrelated questions:

- Why have the physics based industries, such as electronics and heavy manufacturing which have gorged state funds since the war, all but disappeared unless foreign companies have re-established them?
- Why have the chemical and pharmaceutical industries which have never asked the state for support, except for patent protection, thrived?
- Could it be that taxpayers' money is like heroin which distorts the judgement and destroys the fibre of all who consume it?

There's no such thing as a free market: the case for tougher competition policy

Perri 6

Competition is something that most people are in favour of until it applies to them. Recently, its real value has been questioned from a number of quarters, and competition laws and competition authorities have been criticised. In this article, I review the challenges to competition policy, and then argue that none of them should lead us to relax our vigilance against cartels, monopolies and anti-competitive practices. I offer a defence of the continuing importance in the 1990s of tough competition law against attacks from both the right and the left, from fashionable management theories and from special pleading by big business interests.

Most developed countries now have competition laws that provide regulators or the courts with the power to prevent collusion and cartels between firms or by professional bodies or industry associations, and break up monopolies and prevent mergers where these practices work against the public interest.

The United States has had 'anti-trust' laws since the end of the last century; Britain's 1973 Fair Trading Act, 1976 Restrictive Practices Act and 1980 Competition Act provide its framework of powers for the Office of Fair Trading to investigate, and for the Trade Secretary to refer suspect practices to the Monopolies and Mergers Commission;

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in Germany, post-war laws give the *Bundeskartellamt* wide-ranging powers; in the European Union, Articles 85 and 86 of the Treaty of Rome give the Commission powers to enforce competition.[1] These legal systems vary, and some are more obviously effective than others.

The enforcement of these laws has probably become more effective and more consistent across the world than ever before.[2] Monopolies have been challenged; cartels broken up; exclusive distribution agreements struck down; professional monopolies opened up. The result is not only more competition in many markets, but more rapid economic growth.

On the other hand, egregious examples of cartels persist. De Beers has recently successfully re-established its infamous international diamond cartel by striking deals with Russian producers. Real competition between airlines in Europe is feeble, in part because of national state subsidy. Professions such as doctors and dentists have managed to sustain their monopolies against various competitors for decades, such as osteopaths and acupuncturists and homeopaths, denturists and dental implantists.

Yet the debate about competition policy appears to be going backwards. Seven main arguments for repeal or relaxation have been offered in recent years. I shall call these (from the right), the arguments from *regulatory capture,* from *ignorance* and from *property rights*, and (from the left), the arguments from the *knowledge economy* and the *new protectionism,* and (usually, but not always, from special business interests), arguments from *globalisation*, and from *the information society.* Fashionable theories from studies of Japanese management to the new biological and ecological models of how markets work are often lazily cited as arguments for relaxing competition policy, when they rarely support such arguments at all.

I first deal with three support such arguments from the right, all of which are arguments from theory at a high level of abstraction.

Regulatory capture

It is a common enough phenomenon that industries or leading firms 'capture' the agencies – whether they are dedicated regulatory bodies

or the courts – that are supposed to keep them in line. This is very rarely achieved by outright corruption: indeed this is a strategy that usually fails. Rather, people in industry associations or leading firms are the ones on whom regulators depend for information, or else are the ones most likely to have the resources to bring cases before the courts. They are always able to produce an argument to the effect that the public interest is best served by something that generally suits their commercial interest. Some commentators suggest that this process of regulatory capture is inevitable in any system of regulation, and largely undermines the value of the effort to regulate; since, in general, government failure is worse than the market failure it is trying to correct, it is better not to try to correct the abuses of competition that occur, because the result will only be even worse distortions and resources wasted on lobbying and litigation.[3]

The general point is certainly sound. Regulatory capture goes on everywhere, and government failure is frequent. The problem with the argument is that it is insufficiently differentiated. Government failure is much worse in some areas of policy toward business than others. In short, *positive regulation* is generally more likely to fail and cause intolerable distortions than *negative regulation.* By positive regulation, I mean attempts made by governments to privilege particular firms, particular ways of producing goods and services, particular ways of relating to 'stakeholders'. Examples abound. Everyone now understands the dismal failure of policies that sought to 'pick winners', identify 'national champions' and even 'European champions'. Although there are advocates of Japanese MITI-style planning',[4] even Japanese attempts to privilege certain technologies such as high definition television and fifth generation artificial intelligence have been less than impressive. Even if these prove to be the technologies of the future, it is not clear that Japanese government support was the best strategy for developing them.

Competition law, however, is the case of *negative* regulation, *par excellence.* The point of the policy is not to pick winners, but to get markets that have gridlocked moving again. It is to prevent incumbents exploiting their position, not to privilege challengers and entrants. To be sure, there have been cases where competition law courts and regulators have

been captured by incumbents. In the USA, Britain and the European Union, critics can find examples of kow-towing to vested interests. But there have been successes and cases where lazy or greedy cartels have been effectively broken up. The real lesson from regulatory capture is not to abandon competition policy but to reform the institutions of enforcement, and reinforce their commitment to their mission and their independence from special interests. I set out some elements of a reform strategy below.

Property rights

The simplest argument of the right against competition law is that it is a form of expropriation of the property rights of shareholders in companies that have chosen to engage in certain forms of market practice. Forced divestment or coerced competition not merely undermines the freedom of the marketplace but the principle of freedom of contract.[5]

No one denies that freedom of contract is important or that government must think long and hard before it violates the property rights of anyone, but it does not follow that this consideration logically trumps every other. 'Property rights' are not fixed once for all, but are social and constitutional constructions, and it is perfectly reasonable to regard competition laws as one of the necessary qualifying clauses that go into making up what property rights mean in any modern economy. In the same way, the divorce laws provide for property settlements made by court order, tax laws provide for limited expropriation of private property to finance government, company law provides for certain qualifications on the right of shareholders to dispose of their assets, and stock market rules restrict the right of shareholders to trade under certain conditions. The absolutist position about property rights, is in effect, a statement of philosophical singlemindedness, and uninteresting for practical policy.

Ignorance

The economic philosopher Friedrich von Hayek argued that competition law is a misplaced intervention, because no regulator or court can

possibly know enough about relative prices or market conditions, to substitute a better outcome for the outcome that the unfettered market produces, whatever that turns out to be. If monopoly or collusion is what we get, then monopoly is what there ought to be.[6]

The central difficulties with the Hayekian argument are twofold. The first is that it assumes that outcomes *in* markets are the outcomes *of* markets. That is, there are many cases where competitors gain an advantage by the use of strategies that certainly do not reflect the simple response to price signals by which firms in the Hayekian world are supposed to operate. Real markets exhibit everything from industrial espionage to cartel formation. The point is not that such practices are *unfair:* Hayekians reject the notion of fairness. It is that at best they undermine the 'spontaneous order' which Hayek believed that markets ought to produce and which is supposed to be superior to any other outcome. Secondly, it is simply not the case that government is always ignorant of market conditions, and that no regulator can obtain a workable overview. Perfect knowledge is neither available nor necessary, but there are occasions when it is plain to a regulator on the basis of evidence independently available that what markets deliver is failing the customer and the public because of lack of competition.

I now turn to the arguments of the left.

Networks and the ecology of the knowledge economy

There are many on the left who argue that the emerging knowledge economy is one based around networks of firms, co-operating in research and even in development, either across industries or within industrial regions such as the 'Third Italy', Silicon Valley, Baden-Wurttemburg, various east Asian regions, or even the M4 corridor, and that competition policy which harms such co-operative networks undermines growth in the new economy.[7] Those who want to present the case on an industry-wide basis generally point to 'knowledge-based' fields like biotechnology, in which co-operative networks

appear to be the norm,[8] or to multimedia where 'strategic alliances' between computer, graphics and animation and telephone companies are common, and where these links can be seen as efficient ways to disseminate knowledge. Critics of competition policy generally draw the conclusion that either *de facto* or in law, competition policy should exempt collusion in research, in research and development, or within certain industrial regions.

Dense local ecologies of organisations usually contain extensive competition alongside which co-operation can fruitfully be undertaken.[9] Some people appeal to biological and ecological models[10] for this kind of economic and organisational activity to try to argue that competition law should be relaxed. Of course, there are both co-operative and competitive models of behaviour drawn from biology, and it is easy to pick ones that suit one's argument. Certainly, those who take an evolutionary and ecological view of markets do not unanimously argue for relaxation of competition. For example, some evolutionary modellers looking at the semi-conductor industry conclude that lack of competition in the European market was a significant part of the explanation for its failure to sustain innovation and adaption.[11] In practice, then, it is no easier to know what kind of ecological model to apply than to know what kind of economic model to apply in order to answer the hard policy questions – what market to measure competition across, and what is the nature of any anti-competitive practice or structure?

Co-operation is as common as competition in many knowledge-based industries and regions. What is not clear, is either that these are going to be the dominant forms of economic life, or that all these systems of co-operation necessarily deserve protection, or that all of them necessarily violate the principles of competition law.

The biotechnology example is a particularly poor one, since very few biotechnology firms have yet turned a profit. Co-operation may help disseminate knowledge in this area but it is not clear that it is yielding very much for investors and consumers.

Certainly, there is nothing specific to knowledge based firms that makes co-operation in the general case more desirable than

competition. After all, firms of lawyers, auditors, management consultants, publishers, engineers and architects – all carrying out knowledge-based work – have competed for the public good for hundreds of years.

Regions and their networks vary enormously, but co-operation in research of the kind observed in Silicon Valley or the M4 corridor does not usually produce situation that most competition laws would in fact strike down. There is a danger of mistaking extensive sub-contracting (Third Italy), innovation within common paradigms, contractual relationships to franchise technologies (German *Mittelstand*), and long-term relations with suppliers (Japan) for collusion of the kind that prevents any regional competition. Most modern competition law systems, it should be recalled, contain a 'rule of reason': only where a collusive practice or monopoly is against the public or consumer interest can it be struck down.

Long-term relationships with suppliers need not violate any principle of competition law. Provided that such relationships are entered into following competition and remain contestable over the long term, a rule of reason would in most cases regard them as consistent with competition principles.

If there are lessons for policy from the development of a knowledge-based economy, then they are more likely to be about re-thinking the ownership framework for ideas than about tolerating cartels. In theory, systems of patenting and copyrighting enable those who can establish that their ideas have been plagiarised to charge the plagiariser. These are temporary derogations from competition policy in the form of time-expired monopolies over particular, narrowly defined markets. One can argue about whether they should be tightened or relaxed, without affecting the wider principles of competition policy. For example, if one takes the view that Microsoft took the basic idea for its Windows operating environment from Apple or from Xerox, one can argue either that it should or that it should not have paid them for the use of the concept, in each case without reneging from the principle that these software companies should not collude. Collusion is not necessary to ensure the efficient diffusion of ideas.

The return of protectionism

The spectre of protectionism has come firmly onto the agenda again since the early 1990s. In retrospect, the signing of the NAFTA (North American Free Trade Area) and GATT (General Agreement on Trade and Tariffs) agreements and the creation of the World Trade Organisation seem to be the high water mark of free trade. Today, in Gaullist France as much as in Ross Perot's or Pat Buchanan's America, the 'yellow peril' is being evoked as a rationale for protectionism and either 'fortress Europe' or 'American first'. Such arguments almost inevitably entail a relaxation of competition laws at home, because what gets protected in practice is never the national market, but always the incumbent national firms.

Of course, in the French and American debates, protectionism is the intellectual property of the right. However, in the UK as in much of the rest of the world, it is just as often the territory of the left (Sir James Goldsmith is only a partial exception here, since there is a leftish strand in his protectionism which comes from environmentalism, as well as a nationalist streak). The left in Europe tend to pick up on protectionism because they imagine, mistakenly, that behind the tariff or quota walls of a fortress Europe, nations would remain prosperous enough to afford its present welfare state provision. In practice, as was seen clearly in the 1920s and 1930s, protectionism and trade bloc confrontation simply impoverishes everyone and diminishes the tax-raising capacity needed to afford welfare provision.

Arguments for protectionism have been refuted so many times that the case hardly bears rehearsal.[12] All that is new in the 1990s is a sense that, even if it makes bad economics, protectionism is becoming good politics, a policy made inevitable by the rise to global dominance of the east Asian economies. The argument, however, is based on very little serious consideration of the political demand for protectionism. In fact, that demand comes generally not from popular groundswell of concern either among workers or consumers – environmental protectionism remains a fringe and minority view even within green opinion – but from incumbent businesses alarmed at competition and unable or unwilling to face the challenge with global strategies of their own.

I now turn to the arguments usually put by special interest groups.

Globalisation

It has become a fashionable argument in some circles that the emergence of a global economy in which transnational corporations and money markets move huge quantities of resources around the globe at vast speed, is an economy in which the traditional regulatory instruments of governments are now neither relevant nor usable.[13]

National competition law is, on this argument, no longer usable, because private market activity now escapes the control of any government in the medium term. Government action to break up monopolies, for example, will be punished by capital flight and perhaps by the gilt bond markets. Governments must compete for foreign direct investment, and relaxed competition law is only one of the incentives that they must now offer.

Furthermore, the national market is no longer the relevant unit over which one might want competition in any case. The whole globe is now the only relevant market over which to want competition, and even if some international competition policy treaty were to be proposed, the idea would face severe difficulties because it is impossible for any authority to know when global cartels or monopoly or restrictive practices are in the global public interest or in the long run consumer interest, and when they are not.

However, the argument is a weak one. First, the premise is suspect. Studies have found that most markets are not fully global, that many businesses are still closely bound to their 'home' markets, and that even the money markets are 'sticker' than one might imagine. Consumer demand remains fragmented by local culture and distinctive national tastes, and trade barriers, fortunately or otherwise, continue to be important.[14] Therefore national and regional markets remain important units over which to measure competition, concentration and collusion.

Secondly, the logic is faulty, and it is this that makes the argument from globalisation into a form of special pleading. Just because some or many firms have to compete at the global level, it does not follow that

competition within national markets is irrelevant.[15] The idea that the firm best placed to compete internationally is the one that faces no challenge at home is entirely outdated. Indeed, it can be the risk of losing significant share in the home market that keeps a firm on its global toes.

Rather, the right lesson from globalisation is that regulators should take a broader measure of the market over which they measure concentration or the scope of anti-competitive practices. This would not be a relaxation but a re-targetting of the policy.

The information society

Those who have not been living in a hermetically sealed vat for the last decade will no doubt have heard that the planet will shortly be connected up with fibre-optic cable of near infinite capacity and that the computer, the telephone and the television will merge into one. This 'infrastructure', it is often argued, ought to be built and owned in ways that ensure that information can be exchanged in open systems, based on shared technical standards, which can only be done if competition law gets out of the way of some common standards.

The argument that anything that can be called 'infra-structure' is a natural monopoly and that competition authorities ought to accept the power of incumbents in such areas and, at most, hand the problem over to industry regulators, is one that has long been abandoned in many other areas. In the USA, for example, some of the road network is privately owned and there is competition between toll highways; in the UK, there is increasing competition in the markets for telephone and cable television 'infrastructure'.

Equally, there is nothing analogous to the traditional gas pipe network about the software platforms or technical protocols on which the 'information society' will be based. For example, the US Justice Department recently considered whether to proceed under competition law against Microsoft. Whatever one thinks of the calibre of Microsoft's Windows operating environment, the software is not 'infrastructure' in the same senses as the physical tracks of the rail network are. Indeed, if it were found that Microsoft's own applications made use

of undocumented features of its Windows operating environment that were not made known to programmers with other companies, there would be grounds for action against the company under competition law. Far from the idea that the information society requires relaxed competition law, there are strong arguments for considering ways to ensure open competition, in which near-monopoly operating environment producers are unable to secure an advantage by anti-competitive practices that are not open to their competitors.

The dangers of the argument that 'the information society' requires collusion and monopoly are threefold. First, it tends to suggest that there is a steady state to be achieved and then 'run', which cannot be right. Second, it plays into the hands of those firms that are already incumbents and are likely to play a defensive game. Third, everything that we know of high technology markets suggests that the sorts of technical innovation and investment levels necessary to bring to fruition the ideas of visionaries are possible only under conditions of fairly intense competition.

Buttressing competition law

None of the arguments for weakening competition law, whether based on the virtues of knowledge-based 'net-works' or the dynamics of the information-society, or on general ideological views about property rights or community identity, stand up. Far from being a time to relax our vigilance, this is the time to strengthen and extend competition policy and law.

Some of the issues discussed above, such as regulatory capture and globalisation present real challenges that should give rise to reforms. British law is deficient in one crucial respect: too much action depends on the executive. It is for the Secretary of State to decide whether to refer a case to the Monopolies and Mergers Commission (MMC) or to act on the recommendations of the Director-General of Fair Trading (DGFT). The record of the MMC in recent years has been unimpressive, and many DGFTs have found their powers limited. Unlike the US or the European Union, there is no right for an individual or a company

to bring an action in its own name, save by way of judicial review of the authorities. This vast administrative discretion effectively insulates regulatory capture from challenge, and should be reformed, according to the points below:

- Individuals and companies should have the right to bring a case before the competition authorities.
- There should be a single integrated competition body, taking the form of an inquisitorial tribunal.[16] It should not be handed over to the courts, where the delays, form-filling and adversarial nature of the process would make for soaring costs, as in the USA.
- This integrated body must be wholly independent from the executive, and especially from the Secretary of State, if it is to be seen to act on grounds of competition and to be cushioned from interference by politicians open to direct lobbying by special interests.
- The same principles should be extended to the European Union. Competition policy enforcement and implementation should become independent of the Commission.
- If and when the World Trade Organisation proves itself competent in the handling of its present brief, consideration should be given to a new treaty that would extend its role into global competition law, with the same relationship to national law as Articles 85, 86 and 92 of the Treaty of Rome have to national law within the EU.
- Competition authorities should try to develop through case decisions, a body of principles relating to the application of the 'rule of reason' specifically to knowledge and information issues, such as co-operation in research and development and fibre-optic cable network ownership.

The Department of Trade and Industry seems to be making some small steps in the right general direction. The recent consultation paper proposes a new and general prohibition on anti-competitive agreements

that would bring British law more closely in line with European law, to replace the cumbersome machinery of the Restrictive Trade Practices Acts of 1976 and 1977.[17] It would be sensible to draft this incorporating a 'rule of reason', although the government seems oddly reluctant to do so. Nevertheless, the government has yet to show itself capable of more root and branch reform, to integrate the enforcement authorities, give them substantive independence and provide individuals and companies with a right to bring enforcement actions in their own names.

Competition law, fitted with new and sharper teeth, should be the cutting edge of any modern 'industrial policy' for the information age. Those who would weaken it in the name of the age of information, the age of networks or the age of community, should be seen for what they are – ideologues of the left, ideologues of the right, or just incumbent special interests.

Notes

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3. For example, see Bishop, M., 1995, 'Regulation: an owner's manual', in *Demos Quarterly 8: Missionary Government*, 46–48.
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5. The argument is an extension of Friedman's polemic against interference with the sanctity of property rights, although not one made by Friedman in that volume (Friedman, M., 1962, *Capitalism and freedom*, University of Chicago Press, Chicago).
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evolutionary perspective', in Baum, J.A.C. and Singh, J.V., eds., 1994, *Evolutionary models of organisations*, OUP, New York; 167–178.

12. See e.g. Bhagwati, J., 1990, *Protectionism*, Massachusetts Institute of Technology Press, Cambridge, Massachusetts.
13. The general argument that globalisation has rendered government impotent is associated with the name of Kenichi Ohmae. For example, 1995, *The end of the nation state: the rise of regional economies*, Free Press, New York.
14. Hirst, P. and Thompson, G., 1996. *Globalisation in question*, Polity, Cambridge and Blackwell, Oxford.
15. For a review of the links between trade policy and competition policy, see Scherer, F.M., 1994, *Competition policies for an integrated world economy*, Brookings Institution, Washington D.C.
16. Former Director-General of Fair Trading, Sir Bryan Carsberg, has recently argued for an integrated independent competition authority and an overhaul of British law, in order to get politicians out of enforcement decisions. Carsberg, B., 1996, *Competition regulation the British way: jaguar or dinosaur?*, Institute for Economic Affairs, London. Boscheck, R., 1996, 'Competing in spite of the law', *Financial Times*, 'Mastering management', Part 19, 15.3.96; 7.
17. Department of Trade and Industry, 1996, *Tackling cartels and the abuse of market power: implementing the government's policy for competition law reform*, Department of Trade and Industry, London.

Facts

- Services now account for approximately two thirds of the UK Gross Domestic product compared with one half in 1950. Manufacturing contributed less than one quarter of GDP compared with over a third in 1950.[1]
- In the first six months of 1995 there were 50 armed robberies of Silicon Valley high tech firms, with the average heist netting $40,000.[2]
- In a sample of over 1000 manufacturing and service companies only 25% of people reported that they believed their organisation had concern for their employees, and 90% said they could not count on their employers to give them a fair deal.[3]
- In 1994, members of the UK Management Consultancies Association billed British clients £1,000 million, and overseas clients £150 million.[4]
- The first edition of the magazine *Cosmopolitan* recently released in Russia sold out in days at a street corner value of $11.[5]
- The Merry Hill Shopping Centre at Dudley in the West Midlands attracted 25 million customers in 1994.[6]
- The JMIS (*Journal of Management Information Systems)* reports that CIM (Corporate Integrated Manufacturing) has joined the ranks of other performance improving

programmes such as JIT (Just-in-Time Manufacturing), TQM (Total Quality Management), DFM (Design for Manufacturing) and DFA (Design for Assembly) by co-ordinating CNC (Computer Numerical Control), CAD (Computer Aided Design), CAM (Computer Aided Manufacturing), CAE (Computer Aided Engineering), CAPP (Computer Aided Process Planning) and MRP (Material Resources Planning) through EDI (Electronic Data Integration) in LANs (Local Area Networks).[7]

- Britain has 1% of the global population, and is the 5th largest trading nation in the world.[8]
- Surveys over a 40 year period repeatedly and consistently show individual's perceptions of their own wealth and that of their country's do not correlate with objective GDP statistics.[9]
- There were 4.5 million mobile phone users in the UK as of September 1995.[10]
- An American Management Association study of 1000 large and mid-size companies in the United States conducted between June 1994 and June 1995 showed 50% of companies were eliminating jobs and 60% were recruiting for newly created jobs. Among those organisations eliminating jobs, 58% had a substantial number of newly created jobs on offer, hiring and firing at the same time.[11]
- In 1990, Germany overtook the United States to become Britain's biggest overseas market, taking 13% of British exports in 1994. Germany is also Britain's largest single supplier, supplying 15% of UK imports.[12]
- Since 1979 the UK government has privatised 48 major businesses with net proceeds at the end of 1995 of £60,000 million.[13]
- United Airlines is 55% owned by employees, Northwest Airlines is 45% owned by pilots, cabin crew and ground staff and 26% of the equity of Trans World Airlines is controlled by the staff.[14]

- 84 million plastic cards linked with financial services were in circulation in the UK during 1995. As of the end of 1994 there were 19,000 ATMs in operation in Britain.[15]
- 22% of the adult population of the United Kingdom – about 10 million people – hold shares in business.[16]
- Each month 2000 businesses join the 20,000 plus businesses that presently maintain a web-site on the Internet.[17]
- BT still retains close to 90% of the telecoms market in Britain today, after more than a decade of competition. Last year it made £2.7 billion profit before tax, yet has been accused by market analysts of producing 'paltry returns' for its shareholders.[18]
- Contrary to much popular economic wisdom, Britain's share in world services has in fact been declining since 1960.[19]
- The most recognised brand name in China is Hitachi (which 65% of Chinese people have heard of), closely followed by Coca-Cola (62%) and Panasonic (60%). Mickey Mouse came a respectable 7th, recognised by 54%.[20]
- A number of studies, including one recently published by the OECD, have failed to find a positive link between innovation and corporate performance.[21]
- Only 750 collaborations between companies were formed in the US in the 1970s. Nowadays US companies form thousands every year. The top 1,000 US firms now draw nearly 6% of their revenues from alliances, a fourfold increase since 1987.[22]
- A recent survey found that just 17% of US managers thought strategic alliances were effective, and 31% thought they were dangerous. Even so, another study showed that the companies most active in forming strategic alliances produced returns 50% higher than other large companies.[23]
- The average pay of UK company directors in 1970 was £11,000 (worth £87,000 today), while in 1995 the figure is nearly £250,000.[24]

- The UK is the most successful country in Europe at attracting foreign direct investment: in 1993, the UK assets of foreign companies were over £100 billion. Overseas direct investment by British companies is also high, at nearly 3% of UK GDP (compared with less than 1% in Italy, France, Japan, Germany and the US).[25]
- UK companies invest less in their home market than those in other industrialised countries. On average, 16.5% of GDP is invested in this country, compared with 22% for all the other members of the OECD.[26]
- Foreign-owned companies now provide almost 20% of all the manufacturing jobs in Britain, a quarter of the UK's net output, and about 40% of manufactured exports. A third of all UK's manufacturing investment is also now carried out by foreign companies.[27]
- There are now 225 Japanese plants in the UK.[28]
- In a 1993 listing of the world's top quality automobiles, ten out of the top twelve were Japanese.[29]
- The Asian 'tiger economies' and China now export more to the US than the whole of Europe.[30]
- Over the last decade, foreign firms have paid $316 billion to acquire American companies. Nearly 5 million Americans now work in foreign-owned companies or their US affiliates.[31]
- The Boston-based giant Gillette now sells more than 70% of its products abroad, with 75% of its employees working outside the US.[32]
- Throughout history, the most advanced economies at any given time have always grown between 1% and 3% each year.
- Microsoft has gross profit margins estimated to be in the region of 80%, while Intel's margins are estimated to lie between 40% and 50% on its new chips. IBM's Personal Computers have margins of around 30%, a huge fall from the margins of up to 90% which were usual when they sold mainframe computers.[33]

- Only one in ten attempts to develop a marketable product in biotechnology is successful. This means the normal R&D cost lies between $100 and $150 million. In the traditional pharmaceutical industries, one 'try' in 10,000 was the general success rate: a cost of between $250 and $350 million per product.[34]
- From 1981 to 1991, only 12 biotech products were approved for general marketing in the US.[35]
- From 1900 to 1980 the number of information workers in the US – i.e. those, like teachers, engineers and middle management, who produce, process, analyse, distribute or diffuse information – increased from 3.7 million (12.8% of the workforce) to 46.3 million (or 46.6% of the workforce).[36]
- Sales people have the highest rates of job turnover in the UK, closely followed by people in unskilled professions, professionals and operatives. Management has the lowest rate of job turnover.[37]
- Employment in grocery retailing in the UK has grown 12% since 1983 – equivalent to 50,000 jobs.[38]
- The first few years of the 1990s witnessed huge job losses in the banking and financial services sector in the UK. In 1991 alone, there were 23,238 job losses in banking, and from 1990 to 1995, a total of 93,145 jobs lost in banking. In the same period, 1200 bank branches were closed.[39]
- The share of total employment in the UK engaged in manufacturing has fallen from 34.5% in 1954 to 18.6% in 1993 to a projected 16% in 2001. At the same time, employment in business and miscellaneous services is projected to rise to 22.5% in 2001, compared with a mere 8.4% in 1954.[40]
- The main areas of employment growth to the year 2001 are expected to be amongst the managerial, professional and associate professional occupations. Employment in these categories is expected to increase by 2 to 3% each year to 2001.[41]

- Between 1990 and 2005, jobs for systems analysts and computer scientists are predicted to increase by 78.9% in the US, and by 56.1% for computer programmers.[42] Despite the recession, employment in the computer industry rose by 200,000 in Britain between 1991 and 1993, to 2.4 million.[43]
- Between 1984 and 1994, visits abroad by UK residents increased by 81% to almost 40 million each year, and are set to rise even further. The number of visits to the UK also rose by 54%, creating a market in tourism worth £9 billion.[44]
- From 1960 to 1988 the real cost of international travel fell by nearly 60%. During the same period, the number of foreigners entering the US for business purposes rose by 2,800%.[45]
- Jobs for managers and administrators grew by over a million in the UK between 1981 and 1991.[46]
- 2 out of 3 British workers report that the level of skills required for their job has increased in the last 5 years.[47]
- 65% of British 25 to 34 year olds in and out of work have not received any training or education in the last 12 months. Employers train only 4% of their staff with no qualifications.[48]
- By 2001, 28% of all workers will be part-time, compared to 23% in 1991.[49]
- 44% of all professionals are forecast to be women by 2001.[50]
- Between 80 and 90% of new jobs in the UK will go to women, according to recent predictions, mainly because women are far more likely to take part-time work, or short term contracts in the service sector.[51]
- In the US, women-owned businesses now employ more people than the whole of the Fortune 500, with sales exceeding $1 billion in 49 metropolitan districts.[52]
- The number of women managers in Thailand increased fivefold between 1974 and 1990, compared to only a doubling of male managers.[53]

- In 1992, American universities granted citizens from other countries 59% of doctorates in engineering and 42% in business.[54]
- A survey of leading companies in 1993 found that one-third have or are developing codes of conduct.[55]
- On average, 45% of European companies have ethical codes of conduct.[56]
- 69% of senior management in Japanese subsidiaries in the US is Japanese, whereas only 20% of the management of US subsidiaries in Japan is American.[57]
- There were 1600 new business books released in 1990 alone.[58]

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Notes

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Signs of the times

Business re-engineering	Change management
Golden handshake	3rd Age consultancy
Plan	Vision
Production line	Production keiretsu
Glass ceiling	Opting out
Cash in hand	E-cash™
US dollars	IBM dollars
Watermark	Digital signature
Meeting	Videoconference
Cartel	Strategic alliance
Macho women	Feminine men
Office	Work-pod
The three R's	The four S's
MBA	Unipart U
Red brances	Jeans on Friday
Boardroom	Virtual project group
Property rights	Digital rights
Information	Knowledge
Service	Personal assistance
Business guru	Business guru
Economy	Ecosystem
Hierarchy	Distributed control
Ordered	Chaordic
Contract	Network
High-fliers	Techno-nerds
Power breakfast	24-hour e-mail
Lunch is for wimps	Lunchtime learning

Self-made entrepreneur	Knowledge-broker
Share giveaway	Share option
Advertising	Relational marketing
Brand recognition	Blue Pepsi
Soap opera	Olympics sponsorship
Database	Neural network
Z-88	Windows 98
Satellite TV	Video-on-demand
Rupert Murdoch	Rupert Murdoch
Core competence	Multi-tasking
Staff	Sub-contractors

Book reviews

Competing for the Future

Gary Hamel and C.K. Prahalad

Hamel and Prahalad ask, 'After restructuring and reorganising – now what?' They argue that having learned to cut costs, organisations have forgotten how to generate income. Described as 'a handbook for industry revolutionaries', the authors provide senior managers with a route map for getting off the treadmill of re-structuring and onto the elusive path of corporate revitalisation. Adding to the concepts of core competencies and 'strategic intent' laid out in their first book, the authors introduce new additions to the vocabulary of management, such as 'industry foresight' and 'corporate imagination'. In order to 'get to the future first', companies must learn to forget basic assumptions and presuppositions inherent in their 'corporate genetics', and discover new ways to generate competitive space, and new approaches to reengage cynical employees.

(1994, Harvard Business School Press, £21.95)

The Seven Cultures of Capitalism

Charles Hampden-Turner and Fons Trompenaars

Who are the best capitalists – the Americans, the Germans, the Japanese, the British, the French or the Dutch? This book examines the

value systems behind the creation of wealth in seven countries drawing on data from a massive survey of 15,000 senior managers. Using a rich collection of stories and data from their study and those of others, the authors argue that the real answers to why some are more successful than others is not found in 'values empty economics' but in the business cultures which influence behavior.

(1993, Piatkus, £12.99)

World Class: thriving locally in the global economy

Rosabeth Moss Kanter

The threat from foreign trade and hyper-productive Asian economies has terrified business people and politicians alike. Harvard business guru Moss Kanter gives a staunch defence of the rigours of a global marketplace, and analyses how firms and regions can profit from the immense opportunities which are produced. At the centre of her argument are the three 'Cs': concepts, competence and connections. If communities and nations can maximise the human resources at their disposal to produce goods and services of 'world class' standards, then jobs and living standards will flourish. Kanter justifies her argument with anecdotes, statistics and a thorough examination of successful local economies. In conclusion, she stresses the importance of businesses working with communities to develop amenities and resources – raising issues that spread far from global economics to politics at the most local level.

(1996, Simon & Schuster, £17.99)

The Rise and Fall of Strategic Planning

Henry Mintzberg

Does planning pay?' Not necessarily' according to Mintzberg's review of strategic planning history, which shows planners as often discouraging commitment, impeding serious change and encouraging organisational politics. Crammed with his celebrated harsh criticisms and radical prescriptions, the central message of the book is that the

process by which strategies are created must be reconceived. Mintzberg argues that strategy cannot be planned since planning is about analysis and strategy is about synthesis. A new role for planners is described, one which takes into account factors such as informal learning and personal vision.

(1994, Prentice Hall, £21.95)

Information Space

Max Boisot

This book lays the foundation for the new political economy of information. Employing a variety of models, Boisot provides frameworks for thinking about an economy in which information is rapidly replacing energy as the primary source of wealth. The book explores the production of information, and the ways information becomes knowledge, arguing that institutions are an outcome of information production and exchange processes. 'I-space' and its importance is illuminated through a case study of China's modernisation, in which an interpretation based on information is developed and contrasted with the conventional economic view.

(1995, Routledge, £25.00)

The Loyalty Effect

Fredrick Reichheld

Reichheld contends that the business world has given upon loyalty. Citing a 50 per cent turnover of employees in major US corporations every 5 years and a 50 per cent turnover in investors every year, the author argues for a profitable alternative to the economics of 'perpetual churn' – namely, loyalty-based management. The book promises to change the reader's way of thinking about loyalty by demonstrating how small improvements in areas such as customer retention can lead to doubled profits. Also contains an interesting collection of

organisational case studies, including Toyota/Lexus, John Deere and Leo Burnett.

(1996, Harvard Business School £18.95)

Wellsprings of Knowledge

Dorothy Leonard-Barton

Leonard-Barton's aim is to provide insight into processes for creating and nurturing experience and accumulated knowledge into renewable assets. Using numerous case studies of successes and failures in product development projects, a set of core capabilities to innovate are outlined including a skills and knowledge base, physical systems, managerial systems and the role of values and norms. The author demonstrates how these capabilities can also act as 'rigidities' that result in knowledge-blocking activities which prevent innovation. New concepts in thinking about innovation such as 'creative abrasion', 'empathic design' and 'falling forward' are also introduced.

(1995, Harvard Business School Press, £23.95)

Sensemaking in Organisations

Karl Weick

Wisdom from the master of sensemaking, presented in the form of intense conversations which trace the history of thought and of how people individually and collectively make sense of experience. A heavy read, but well worth the effort, since it brings a deeper understanding to current attempts to explain what is happening in organisations. A reference book for the serious minded, and a source that can be revisited over the years whenever one is trying to make sense of life in organisations.

(1995, Sage paperback, £14.95)

Cultures and Organisations

Geert Hofstede

Why do Northern Germans love set honey and abstain from the runny variety, in complete contrast to Southern Germans? Why do the French adore four-cheese pizza? According to Hoftstede, it's all be a question of culture. Businesses ignore the importance of culture at their peril: it determines not only what you can sell, but how your organisation works and where its strengths lie. Hofstede attempts to put some flesh on these insights, by giving the reader a breakdown of what culture 'means'. He places a number of chosen countries on a culture map, discusses the meaning of different cultural outlooks, and provides tips for managers at sea in an intercultural morass. A valuable addition to the debate over culture in business and how it affects global operations, but somewhat marred by limited evidence (a survey of IBM employees round the world).

(1994 HarperCollins, £9.99)

Evolutionary Dynamics of Organisations

edited by Joel A.C. Baum and Jitenda V. Singh

Some of the most promising models of how businesses and industries behave are now coming from biology, ecology and evolution. Unlike the economic focus on the individual firm, ecological models start with the whole population of organisations in a field. By examining the consequences of the 'density' of the populations in a field, and by looking at the balance of specialist and generalist firms in a population, these models often better explain how many firms will fail, how many will enter and how this is related to the market conditions. This book brings together a series of studies combining these biological models with analysis of the cultures, institutional characteristics and the directions of 'evolution' that fields or industries exhibit. The result is a powerful understanding of the long run dynamics of competition.

A rigorous and fascinating new paradigm for understanding the organisational nature of change in business.

(1994, Oxford University Press, £25.95)

Institutional Environments and Organizations

edited by W. Richard Scott and John W. Meyer

Organisations in the public and private sectors are fundamentally shaped by the culture that surrounds them. This is the unifying theme of Scott and Meyer's edited collection of essays, which explores the forces that make and unravel the structures of organisations. Much previous work on organisations took little account of the cultural environment; this book is an essential corrective, helping to explain why so many organisations are similar to each other (though they need not be), and how professional and craft values can mould organisations. The huge organisational changes and rise in complexity in recent years are traced to the ascent of individualistic ideologies within institutions and society. Survey data and case studies of particular organisations in the US, like the mental health system, illuminate this argument in an compelling fashion.

(1994, Sage, £18.95)

Beyond the Hype: rediscovering the essence of management

Robert G. Eccles and Nitin Nohria

A refreshing alternative to the shelves of business books advocating 'redesign' and 're-engineering'. Eccles and Nohria take a sober look at what management actually involves, and dissect it into three main components: rhetoric, action and identity. These terms are discussed in the book, and their meaning elucidated through close studies of new knowledge-intensive firms. No simple prescriptions for managers are reached. Each manager must respond to the particular situation he or she is in

rather than reach for an archetypal 'design', and employ the mediums of action, rhetoric and identity to put ideas into practice. In short, Drucker meets Demosthenes.

(1992, Harvard Business School Press, £12.95)

Networks and Organisations

edited by Nitin Nohria and Robert G. Eccles

Nohria and Eccles again, this time with a weighty edited collection of essays on networks: how to identify and measure them, the roles they play inside and outside organisations, the way they underpin economic arrangements. A central theme is the need to understand social networks not only as part of the economic landscape, tying colleagues, suppliers and customers together, but also as a tool for strategic thinking. Co-operative networks have proved essential to the organisation of a growing number of 'knowledge' industries such as biotechnology; several authors note how many other industries could also profit from the 'Silicon Valley' model of competitive co-operation and the rich information spread through networks.

(1992, Harvard Business School Press, £34.95)

Women as Entrepreneurs

T. Cannon and S. Carter

Female entrepreneurs are vastly under-researched in the UK and this book is widely regarded as the most comprehensive study dealing with the challenges specific to women who start and run their own businesses. Through a series of real life case studies it investigates the problems they face and how they deal with success and failure. The study also looks at how businesswomen have been treated by mainstream business organisations and suggests how they could be better supported in the future.

(1992, Academic Press)

Women Managers Moving On

Judi Marshall

In America and in Britain, there has been much speculation about whether women are leaving management jobs in significant numbers. Much less work has been done on the experiences of women managers who, having broken through the glass ceiling, have paused to review their careers. Judi Marshall explores in detail the experiences of 16 women who had reached middle or senior management. She examines the experience of working in male dominated cultures, their experience of promoting change, how and why they decided to leave and the careers they have pursued subsequently. An excellent second generation study of women pioneering their way in an economy which has yet to feminise itself at its upper reaches.

(1995, Routledge £13.99)

Women in Management: current research issues

Edited by M. J. Davidson and R. Burke

This book synthesises the work of academics studying women in management. It provides a comprehensive overview of the current international research findings. An international group of eminent contributors highlight the major barriers and problems facing managers, discuss the organisational and individual consequences and finally recommend organisational and legislative changes.

(1994, Paul Chapman Publishing)

Book reviews by David Cannon, Ivan Briscoe, Helen Wilkinson and Perri 6.

Media Watch

Missionary Government,

Demos Quarterly No. 7

Published December 1995

A comprehensive collection of articles detailing the extent of government's effectiveness and locus of control. Peter Riddell in *The Times* wrote that it contained 'a core of shrewd insights about the limits to the current drive to reinvent government'.

The Building Society Bounty: The case for member philanthropy

by David Shutt

Published February 1996

In the year that Britain's largest building societies plan to convert into plcs, David Shutt argues that the existing society members should be given the opportunity to contribute some of their windfall to local communities. The argument was covered in *The Times*, *The Guardian*, *The Yorkshire Post*, *The New Statesman*, *The Observer*, and *Third Sector.* Northern Rock has recently announced its intention to establish a charitable fund.

After Social Democracy: Politics, capitalism and the common life

by John Gray

Published January 1996

Gray argued for a new agenda, 'communitarian liberalism', based on distinct principles of fairness appropriate to the different contexts of schools or benefits systems, health or employment. The book was excerpted in *The Guardian* (and another article in *The Guardian* referred to it as 'brilliant'), and discussed in articles in the *Financial Times*, *The Times*, *The Independent*, *the New Statesman*, *Prospect* and *New Times.*

Parental Leave: The price of family values?

by Helen Wilkinson and Ivan Briscoe with an appendix by Martin Kaye

Published March 1996

This interim report of Demos' Parental Leave project set out the policy issues facing Western industrialised nations. The report was excerpted in *The Independent,* and covered in *The Times* (with an editorial and news story), *The Scotsman* and *The Western Mail.* It has also been covered in *Business Age* and *Personnel Today.* The report was also extensively covered on BBC Radio.

General Press

Other recent press coverage of Demos ranges from *Good Housekeeping* and *Harpers and Queen* to *Ceramics Review,* as well as a steady stream of academic and specialist journals. We have also monitored coverage in the daily press in Australia, Norway, Canada, India, Germany and Sweden.

Projects update

- **Parental Leave** – the UK's first systematic study of the costs and benefits of different forms of parental leave. First report spring 1996, final report autumn 1996.
- **Young Men** – fieldwork and policy analysis on young unemployed men in the UK. Report autumn 1996.
- **The Common Sense of Europe** – 18 month study on reconnecting Europe to its citizens and rethinking Europe's identity. Involving published essays, collections and primary research with a network of other institutes around Europe. First publications summer 1996, completion autumn 1997.
- **Smart Public Works** – innovative approaches to linking job creation and the environment. Demos is developing both the theory and a series of practical pilot projects around the UK. Beginning June 1996.
- **Smart Cards and ID Cards** – a study of the key policy issues surrounding smart card technologies: what are the key uses, how can public trust be guaranteed, how should data protection principles be revised, should government impose its own smart ID card? First report May 1996, project continuing through 1997.
- **Drugs Policy** – a study of the interaction between drugs policy and the cultures underpinning drug use.

A combination of primary and secondary research. The project will begin in July 1996 and continue for 12 months.

- **Savings Policy** – a study of the failure of recent savings policy, examining alternative policy approaches to encouraging savings. This will be followed by a study of insurance models and risk. First report summer 1996.
- **Information Society Futures** – application of the Demos 'serious futures' approach to information society issues such as schooling, exclusion and work.
- **Health Futures** – application of the Demos 'serious futures' approach to health policy, with one module currently focusing on dentistry supported by Denplan.
- **Changemakers** – a task force on schools and the community chaired by David Hunt MP. This will be launched in mid-1996, with a major conference in November 1996 with the Secondary Heads Association.

Demos staff

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