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The Information Society : Myth or Reality

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The Information Society: Myth or Reality?

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This panel has been asked to present and examine the various models used to analyse the relationship between ICTs and society. I have chosen to focus on the Information Society. I think this focus is particularly important because the model or concept of the Information Society is at present the dominant way of thinking both among academics but also within the corporate and political arenas, not just about the relationship between ICTs on the one hand and communication and culture on the other, but about the nature, and development dynamics, of society per se. It is a model now widely mobilised not just to understand the world but also to change it. In assessing its accuracy as a model more is therefore at stake than merely theoretical disputes among scholars.

Before analysing the roots of this model, what it claims and the extent to which those claims match social reality it is important to distinguish between two different types of explanation of the relationship between ICTs and society which are often confused. Their easy confusion can be illustrated by the fact that I would associate one type of explanation with the work of Innis and the other with the work of McLuhan when it is conventional to see McLuhan as deriving from Innis. The first type of explanation is socio-economic and structural. It sees ICTs as tools of social interaction. It argues that developments in ICTs change the relations between social actors and thus structures of power. The second type of explanation is epistemological. It sees ICTs as tools for thinking, as tools for representing the world. Each type of explanation uses a different sense of the word media. In the first the mediation is between people. In the second between people and their worlds. I make this distinction because the concept of the Information Society which I will examine is of the first type and it is important not to confuse it with much current thinking about cyberspace which is of the second type and lies within a tradition which argues that societies are distinguished by world views which are in their turn based upon the epistemological structures embedded in 'languages' in the widest sense of that term. I have my views on the validity of such hypotheses but it would I think confuse matters to enter into them here. I just want to make it clear that I am leaving such theories to one side.

Let me then turn to look at theories of the Information Society. What kind of relationship do they posit between ICTs and social structure and development?

Once again we need to distinguish between two types of theory. There are those which focus on the direct impact of developments in ICTs – now often dubbed 'new media' – upon politics and culture. And there are those which focus on the impact on the economy or mode of production – here the information society describes or makes claims about the wider social effects of an information economy. The distinction between these two types of theory mirrors an important fault line in study of the media. Most media studies has been overwhelmingly focussed upon media as political and cultural forms and upon those forms of media consumed by people in their leisure time – to use economist's terminology on the media as consumer goods and services – to the neglect of the media as a forces of production. Yet, as Charles Jonscher long ago showed, in economic terms the growth of media and the use of ICTs which is often taken to be the empirical underpinning of the Information Society has been overwhelmingly in the corporate sector as producer goods and services not within the media sector as more conventionally defined. This is important because it has led to serious misunderstandings as to the implications of the Information Society concept and to the difficulty that most media studies has had in analysing the social implications of ICTs.

The strand of Information Society theory which focuses on the direct impact of ICTs on politics and culture takes as its model the impact of printing in early modern Europe. According to this argument it was printing that created the modern world by making knowledge cheaply and thus widely available to the

general populace thus breaking the hierarchical power of both church and absolutist state. While this argument ignores the complexities of the actual economic, social and cultural processes involved in the transition to modernity as well as the inconvenient counterfactual case of China it underpinned the argument of such influential books as Ithiel de Sola Pool's *Technologies of Freedom* as well as the work of such popularisers as Alvin Toffler central to whose concept of the Third Wave was a general demassification and dehierarchisation driven by cheaply available information. The same core idea underpins the work of Lyotard on post-modernity and much of the utopian writing about the Internet. It now powerfully informs debates on the future of education. Common to this whole strand of thought is the view that problems of social and cultural inequality can be solved and barriers to full political participation removed by technologies for the production and distribution of information. Put the processes of democratic politics on-line and full political freedom will be achieved. Put University and school courses on-line and the age of universal education will finally arrive. Such a view is not only of mere academic interest. It leads to public policy priorities and investment. In particular it is one of the foundations of the push for universal broadband access.

Influential as the above strand of thought about the Information Society has been I think that it is the second strand, that sees the Information Society as based upon an Information economy, that currently dominates thinking about the impact of ICTs on society and resulting policy. Although often in political presentation the two lines of thought are intermingled and confused. What then are the core features of this line of thought against which we might judge its realism as either a description of contemporary society or as a prescription of where it should be heading?

This perspective on the Information Society and current analysis of what is now variously described as the 'digital', 'weightless', 'e' or simply 'new' economy largely stem from the concept of post-industrial society as developed in particular by Daniel Bell. Bell's argument, based quite explicitly on both Marx and Weber, was a stage theory of social development. Capitalism was moving from a stage of industrial capital based upon the exploitation of matter and human energy to a post-industrial stage based upon the exploitation of what Bell called 'organised knowledge'. The core resource shifted from monetary capital to knowledge and this was associated with a shift in class power from owners of capital to possessors of knowledge. It is important to stress that ICTs played only a marginal role in the original theory, which developed in part out of previous studies of the impact of automation on US industry. Organised scientific discovery, including social science and thus management science, was the key and computers were a mere tool of this discovery. Universities and their employees, as the creators and guardians of much of this scientific discovery were seen as central institutions. In short a Marxist stage theory of economic history was linked to a Weberian theory of rationalisation and bureaucratisation.

In the development of Information Society theory this approach was then linked with two other strands of thought - analysis of the Service Economy and transaction cost economics. In fact one could justifiably claim that much talk of an Information Society is just the Service economy relabelled.

The rise to dominance within advanced capitalist economies of the service sector presented two problems. First one of labour intensity and low productivity. The driving force of the capitalist economy and of rising living standards is the rising productivity of labour largely due to investment in labour saving technology. Much service sector work was not susceptible to this process. It was inherently labour intensive and involved a person to person relationship that could not be mediated or speeded up by machine. Second there was a problem of control and thus of the full commodification of both labour and the product. Many service workers - particularly for instance in the professions - had considerable autonomy because of the nature of the work and their output was not easy to quantify. Motivating the influential study of the Information Economy by Porat and its attempt to categorise and then quantify different information sectors and types of information worker was a concern with the US's falling rate of productivity growth which was attributed to low productivity in the expanding service sector. In particular against the background of a political concern with tax rates the low productivity of the public sector was of special concern. Thus from this perspective ICTs were seen as technologies for raising the productivity of information workers and thus of the service sector. This is crucial because arguments about productivity remain central to the debate over the Information Economy. A central plank in New Economy thinking has been the claim that

investments in ICTs have caused a major upward step change in the productivity of the US economy with which then other national or regional economies have to catch up.

Transaction cost analysis approached the problems of productivity and control from a different angle. Coase had famously argued that in an economic system supposedly based upon market competition one had to explain why firms existed since firms were institutions which removed their internal activities from the market and thus the effects of competition. For economists and policy makers who believed in the supreme virtues of competition this presented particular problems in economies increasingly dominated by large vertically and horizontally integrated firms. A key explanation for the existence of firms and the ways in which they were structured was transaction costs i.e. the costs of managing and co-ordinating the various economic actors and activities necessary for a firm's operations. The choice was between contract or hierarchy. If the relationship was contractual the relation was managed on a market basis, if hierarchical on a direct command and control basis. The problem with contract was seen to be the information costs involved in defining precisely the nature of the transaction and ensuring compliance. In brief firms existed because the costs of hierarchy were less than contract. In addition when economic competition between firms was seen from a game theory perspective information was itself a strategic resource which it paid a firm to keep in house. From this perspective ICTs have been seen as technologies for managing these relationships and for reducing the information cost element of transaction costs. This in its turn leads to an argument for the Network firm, for out-sourcing and at the extreme for the growth of so-called portfolio careers i.e. people working on a permanent short term consultancy basis for a number of firms rather than just one and thus links up with theories of the domination of knowledge work and the knowledge worker.

The next important input into Information Society thinking is Schumpeterianism. Schumpeterian theory rose to prominence against the background of stagflation in the world's leading economies in the early 70's. Up until then economic policy thinking had been dominated by either Keynesian macro demand management or liberal, laissez-faire, market equilibrating neo-classicism. Schumpeter's contribution has been to stress the dynamic nature of capitalist development and the role played in that process of what he called 'creative destruction' by innovation driven by entrepreneurs. This analysis then became linked to Kondratieff long-wave theories and the concept of the socio-technological paradigm. In brief this argued that economic growth came in long waves each structured around the development and general mobilisation of a core technology - steam power, electricity and the internal combustion engine and now ICTs. This general approach led to a stress on technological innovation as the key to the key to competitive success and on the need to adapt social systems of economic behaviour and regulation in order to maximize receptiveness to innovation in general and technological innovation in particular. A number of things followed from this. First was the close link between Information Society thinking and reregulation. ICTs were seen as liberating because they supposedly undermined previous forms of regulation, while at the same time their benefits could not be enjoyed and the economy in question would slip behind if the so-called digital revolution was held up by red tape and needless protectionist barriers.

In addition ICTs were seen as both a symbol of innovation with Moore's Law being much touted and as a means for ensuring rapid innovation. Thus firms were encouraged to invest in ICTs in order to ensure they made the most efficient use of available information and became - the new buzz word - more flexible, a flexibility enabled it was argued by the rapid communication flows that digitalisation now made possible. In a world some dubbed post-fordist the firm became an information manager - the model often used being Benetton - responding rapidly to ever changing consumer demand and out sourcing the messy business of the production, distribution and sale of the actual material goods. What this whole Schumpeterian approach neglected with its stress on innovation was the other side of the coin of a sustainable mode of production, the boring business of actually building and running things in a sustainable way over time. This it seems to me is one of the important lessons that the recent dot-com fiasco and the current deep crisis in the telecommunications industry has demonstrated. Those making claims for the Information Society and for the Internet as its central enabling technology and symbol seemed to forget that the Net requires a hugely expensive physical infrastructure for which someone in the end has to pay. They also seemed to forget that just because a business shifts some of its transaction processes to the Net does not mean that you do not still need customers who are prepared to pay more than the cost of production and delivery of the good or service.

Because the terms Information Economy and Information Society are in general, especially in policy discourse, used more as vague mantras than precise analytical concepts, and because of these different strands of thought that have fed into them, it is difficult to pin them down enough to demonstrate their empirical inadequacy. But I would like to end by indicating the areas where we might start.

First the claim to productivity growth. This has been central to the advocacy of the New Economy. In Castells recent influential account of the Network Society it is a claimed leap in productivity stemming from the use of ICTs upon which the whole theoretical edifice rests. Now I agree that the issue of productivity is central. The nature of our industrial capitalist society rests on long term sustained growth in labour productivity. It is this that has released us from the subsistence maintaining toil that characterised previous societies. The problem is that the evidence for this change is weak. Most of the recent rise in US productivity can be explained cyclically and is anyway only catching up to the rates achieved in the long boom of the 1950's. The remainder is entirely concentrated in the ICT producing industries, especially micro chips and can be accounted for the very peculiar nature of chips as a product and the resulting operation of Moore's law. One good sign that ICTs are not in general productivity enhancing is the observable trend towards longer working hours among knowledge workers who should be the beneficiaries of this enhanced productivity. Something doesn't add up here.

Second claims as to the centrality of Knowledge work and workers. The problem here is in part one of definition. In its origins in Daniel Bell the term referred to a highly restricted scientific and planning elite. It has been subsequently widened to refer to anyone whose work does not primarily involve the manipulation of physical objects. This is a category in an advanced economy so wide as to be meaningless. It can be used to refer to anyone from someone working a checkout till to a Nobel prize winner. It covers most service workers. All the professions of law, medicine, accountancy. All white collar work within manufacturing and agriculture. It is sometimes taken to mean that the growth areas of employment at which, for instance, education and training should be directed, are those involved directly with ICTs i.e computer programmers, system analysts etc or those working in the Information Industries. For those planning education and training policies this is seriously misleading; for those planning their careers it can be a cruel deception. While there was during the dot-com boom a temporary shortage in some ICT skill areas the current labour market scene in Silicon Valley shows how short term that was. There is and has never been a skills shortage in the media industries. Moreover if you look at the labour market figures for the US – supposedly the most advanced Information Society which all others must emulate – the major growth areas are health care and truck drivers. In fact most of the talk about information workers and the stress on education and the development of human capital as part of national economic policies is a response to unemployment which essentially blames the unemployed for their lack of appropriate skills. It was striking how soon this argument disappeared as unemployment melted away in the recent US boom. Human capital is undoubtedly of central importance in economic development and growth but that it is any more central than it has always been or that this has anything to do with ICTs is extremely doubtful.

Third globalisation. It is often claimed that a key attribute of ICTs is the 'death of distance' and thus they have been the fundamental cause of an irreversible intensification of global processes - economic, social and cultural – of such magnitude that we can now be said to live in a global economy and society rather than a series of national economies and societies. It is undoubtedly true that some economic processes and networks of production and distribution are more global in character. It is also true that some information and some cultural products flow more swiftly and widely around the globe than they used to. And this is in part enabled by advanced communication networks. But this should not be exaggerated and distinctions need to be made. Economically the main effect has been the globalisation of financial flows. Global trade in goods has only recently overtaken the level reached in 1914. And most of that trade is between the major economic blocks. Most services cannot be traded internationally. Yes there are global flows of labour but they are highly restricted by immigration policies and are arguably no greater in scale than previous flows. Again the cultural products with truly global reach are very restricted and ICTs have done as much to aid local production as to encourage global flows.

In short in my view the argument that ICTs have caused an epochal shift in either economy or society are largely specious. In the face of this barrage of propaganda we need in assessing impacts to be much more careful in distinguishing between different technologies and their use within the ICT envelope and between

different economic and social activities. Thus the impact of computing is likely to be different from the impact of digital networks from the impact of mobile telephony. At the same time the impact of the use of the Internet on business is likely to differ as between sectors and even firms just as the impact on family life will differ from that on public life or work life. Nothing useful is served, and much harmful confusion is likely to arise, in lumping this all together under the Information Society umbrella