European Union ICT Policies: Neglected Social and Cultural Dimensions

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Introduction

For more than a decade now, existing ICT research and information society policies have generally been subjected to sharp and strong critique by social and cultural theorists. The latter have tended to criticise such policies for a lack of attention to social and cultural concerns, or at least for their inadequate treatment of such issues. My own view is that such critiques have been, for the most part, perfectly valid and justified in their essence and orientation. But they have often been conducted at a highly abstract level and thus fail to engage directly with the empirical or descriptive levels of the policies in question.

In this chapter, I want to start with a descriptive review of the EU's ICT research policies and related information society strategies from the mid-1990s up to the early years of the new century. In section two, I will attempt to describe the key aims, orientations and financial resource allocations associated with these overlapping policy initiatives. Here, I will seek to describe the evolution of the EU's ICT research policy agenda and its linkages, the notions or construction(s) of an 'information society' and/or 'knowledge-based' society in Europe. I will also consider the manner and extent to which such policy initiatives address the domains of technical knowledge on the one hand and those of culture and other forms of information 'content' on the other.

Having undertaken this empirically-focused, descriptive review of the EU's ICT research and related information society policies, I will then move on to consider some of the more important strategic stakes and criticisms. The treatment here will be necessarily brief for reasons of space, and so I propose to highlight a few key issues that seem relevant to the wider policy debates in the run up to the WSIS conferences.

In what follows, I should flag at the outset that my attention will focus on European Union level policy thinking and practices. It should be borne in mind, however, that this is not merely a matter of considering or criticising the actions of some nameless Eurocrats based in Brussels or Luxembourg. It must also be remembered that the core orientations and direction of EC level policies are, in practice as well as in principle, subject to the approval and decision-making of national government representatives, especially in the powerful if secretive arena of the ministerial councils of the EU. They are also subject to the lobbying and pressures of interests that reside in and operate at the national level throughout the member states of the Union. Thus, it is important to note that the flaws and weaknesses evident in selected aspects of 'Europe's way to the information society' as discussed here, also reflect and express those which generally prevail at the national level throughout this major world region. In addition, the research and writings of colleagues elsewhere suggests that most, if not all, of the critical comments concerning the EU's ICT research and related policy strategies in this chapter can be equally applied to national-level strategies and initiatives across most member states.

Overview of the EU's ICT Policies & Initiatives since early 1990s

'Not everything that can be counted counts and not everything that counts can be counted.' (Albert Einstein)

Role of ICT Research and the 'Framework' R&D Programmes

Educational exchanges and research collaborations across the member states have been important elements in the overall project of constructing a more integrated European Union in recent decades. Since the 1970s, the European Commission has launched a number of successive initiatives which aim to promote exchanges of students between educational institutions and especially to foster collaborative research projects or knowledge sharing between researchers based in universities and related institutions. Indeed, the Treaty establishing the European Community (part 3, title XVIII, art. 166, page 114) provides for the creation and funding of multi-annual research and development (R&D) initiatives, generally known as 'framework programmes'. The Fifth Framework programme (FP5) covered the period 1998–2002 and the Sixth programme (FP6) will span the period 2002–2006.

Considerable resources have been invested in the EU's fourth and fifth framework R&D programmes since they commenced in the 1980s. The total budget for the

Fifth Framework programme amounted to 14.96 billion euro and that planned for the Sixth Framework programme amounts to 17.5 billion euro or 3.9% of the EU's total budget, as indicated in Table 1.

Table 1
FP5 & FP6: The EU's Framework Programmes for Research and Development

	FP5 (1998-2002)	FP6 (2002-2006)
'Framework' R&D Programme Budget	**14.96 Bn Euro**	**17.5 Bn Euro**
Share of total EU budget	**4.0 %**	**3.9 %**

Source: EU IST directorate's 'Factsheet'

The particular field of research concerned with the development of new information and communication technologies (or ICT) has been accorded a major role within the overall budgets of the EU's framework programmes since the 1980s. The term new ICT is now usually taken to refer to this cluster or interrelated system of technological innovations in the fields of microelectronics, computing, electronic communications including broadcasting and the Internet. Thus, new ICT comprises the cluster or family of interrelated technical innovations, based around 'a common digital' mode, and they are generally concerned with the handling, storing, processing and distribution of information or, as some would have it, 'knowledge'. The term new IT was first used to refer to this field of technological innovations in the 1980s (e.g. Hall and Preston, 1988). But this term was gradually changed to new ICT as the communicational dimension became increasingly significant (Preston, 2001).

New ICT may be also defined as one of those relatively rare major new technology clusters or systems which have *a pervasive applications potential*. This notion suggests that they can or may be applied or adopted across a very wide range of industrial, social and cultural activities, in much the same way as electricity at the turn of the twentieth century, for example. However, the forms and extent of such applications, no less than the origins or supply-side aspects of new ICT, are not determined by any single technological 'logic' or trajectory. Rather these are and will be influenced by a wide set of institutional, socio-economic, policy and other factors, In any case, although researchers may disagree about the precise role

and influence of technological and/or other factors in this process, new ICT has been widely viewed the most significant contemporary technology cluster with important economic, social cultural and policy implications (Preston, 2001).

Thus it may not be surprising to find that technological research related to the new ICT field has been a key focus within the successive 'Framework' programmes since the 1980s. Indeed, it is estimated that this particular field of technological research received EC funding of some 12.5 billion euro between 1984 and 2002 (EC, 2000a: 1).

Because of its contemporary role and importance, research related to the development and production of new ICT (hardware and software) devices and systems can be found in many sub-programmes or research fields within the EU's framework programmes. But a large (unknown) portion of ICT related research is funded via one specific sub-programme or research stream in the most recent Framework programmes. Within the Fifth Framework programme (FP5) covering the period 1998–2002, the 'User-friendly Information Society' was the main research stream concerned with the development of new ICT and this was allocated some 3.6 billion euro. The successor 'Information Society Technologies' research stream within the Sixth Framework programme (spanning the period 2002-2006) is scheduled to be allocated some 3.625 billion euro. Further details on the categories of research and distributions of funds under these two most recent Framework programmes can be found in Table 2.

Table 2
Key Themes & Budget Items in EU's 'Framework Programmes' 5 & 6

FP5 (1998-2002)	Budget (Euro M)	FP6 (2002-2006)	Budget (Euro M)
.1) R&D & demonstration activities	**10,843**	**.1) Focusing & Integrating Community Research** (a	**13,345**
.1.a) Quality of Life & Management of living resources	2,413	.1a) Life Sciences, gneomics & Biotechnology for health	2,225
.1b) User-friendly Information Society	3,600	.1b) Information Society Technologies	3,625
.1c) Competitive & sustainable growth	2,705	.1c) Nanotechnologies and nano-sciences, materials etc	1,300

.1d) Energy, Environment & Sustainable Development	2,125	.1d) Aeronautics & space	1,075
		.1e) Food Quality & Safety	685
		.1f) Sustainable development, global change & ecosystems	2,120
		.1g) Citizens & governance in a knowledge-based society	225
		.1h) Activities 'covering a wider field of research'	1,300
		.1k) Non-Nuclear work of JRC	760
.2) International role of Community Research	**475**	**.2) Structuring the Euro-pean Research Area**	**2,605**
.3) Promoting Innovation & SME participation	**363**	**.3) Strengthening the foundations of the ERA**	**320**
.4) Human research potential & socio-economic knowledge base	**1,280**	**.4) Nuclear Energy Programme**	**1,230**
.5) Direct Actions : JRC	**739**		
.6) EurAtom programme	**1,260**		
Overall Total	**14,960**		**17,500**

Notes: a) A more detailed breakdown of FP6 sub-categories is available from source.
Source: Author's re-working of data downloaded from EC's CORDIS web site [13 Dec. 2002]

Technological Projections: From ICT to IS, eEurope & the ERA

So much for the key formal or explicit research policies related to the development of ICT. But these do not mark the limit or boundaries of 'new ICT-related policies' and initiatives within the European Union, or indeed, in most other regions of the contemporary world. The scope, role and implications of new ICTs are now (and, especially since the early 1990s) widely perceived and taken to apply to a whole range of other policy discourses and practices. One expression or manifestation of this shift can be found in the very titles given to the ICT-related research streams within the EU Fifth and Sixth Framework programmes. These successive EU

technical research initiatives are referred to as 'the User-friendly Information Society' and 'Information Society Technologies' sub-programmes respectively.

There are several reasons why the apparent scope and role of new ICT-related research and other policies have expanded significantly in my view. In part, this is because of the contemporary role and pervasive applications potential of new ICT and in part, it reflects the fact that these technologies are precisely concerned with the handling and processing of one other pervasive resources that is also heavily laden with conceptual difficulties: information and/or knowledge.

But there is a further reason which I will briefly flag here but examine further in subsequent sections. This refers to the fact that the thinking and practices of the relevant industrial and policy elites are generally stamped by a very particular set of conceptualisations or understandings of the role of new ICTs and their socio-economic and policy implications on the one hand, and the notion of an emerging information society on the other.

To return to the development of the EU's ICT research and related policies, we can note a significant turn in the 1993–94 period. This was the time when the same time as the Commission was preparing plans for the Fourth framework R&D programme and just as the Internet, helped by its World Wide Web overlay interface, began its rapid diffusion phase. It was also when some influential politicians got bitten (or 'byten') by the digital deliria bug--that is quite some time before the stock market and private sector analysts caught the dot.com goldrush fever of the late 1990s. Al Gore had successfully managed to co-pilot the Clinton-Gore electoral-promise wagon via the virtual reality of an 'information superhighway' in the USA. Now, as US vice president, he was by 1994 seeking to project his vision-thing to a more global audience. In the run up to the Kyoto conference of the International Telecommunications Union (ITU), Al Gore, declared to the wider world that it must now build and run nothing less than a Global version of the Information Infrastructure (GII):

'*'The linking of the world's people to a vast exchange of information and ideas is a dream that technology is set to deliver. President Bill Clinton and I believe that the creation of a network of networks, transmitting messages and images at the speed of light across every continent, is essential to sustainable development for all the human family… It will bring economic progress, strong democracies, better environmental management, improved healthcare and a greater sense of shared stewardship of our small planet…legislators, regulators and business people must now build and run a Global Information Infrastructure (GII)…..All governments, in their own sovereign nations and in international co-operation*, …[must] *build this infrastructure…it must be*

a co-operative effort and it must be democratic… The economics of networks have changed so radically that a competitive, private market can build much of the GII… this is dependent, however, upon sensible regulation". (Al Gore, 'Plugged into the world's knowledge', in '*The Financial Times'*, 19 Sept. 1994).

The political and industrial elites involved in shaping the EU's research and related industrial and communications policies were not deaf to such promises and challenges originating from the other side of the Atlantic—or to their rhetorical and material implications. For such actors, after all, the core stakes boiled down to economic interests and crucially involved transnational trade and investment policy considerations, whatever the technology-centred vision-ware might suggest. They were, no doubt, aware that a full decade before Al Gore graced the vice-presidential electoral stage, US industrial and foreign policy strategists had identified communication networks, ICT-related services and the notion of an 'information society' as 'a strategic new element in the American global equation' (see Preston, 2001).

Even before that, the European Commission's research and industrial innovation strategy, much like the EU's overall project for greater economic integration, was essentially based on the view that this would enhance the competitiveness of European industry *vis-a-vis* US and Japanese competitors. Besides, the EC had commenced a programme for a radical re-regulation of the telecommunications sector in 1988 that was very similar to the competitive vision of a 'network of networks' which was instituted in the USA only a few years previously. In addition, the industrial and policy elites on both sides of the Atlantic were also actively re-positioning their international trade and industrial policies following the GATT (later WTO) 'Uruguay Round' of negotiations. The latter had established a new regime for the liberalisation of trade and investment in services, where telecommunications and other ICT-based services, alongside financial, media and other 'information' related services were perceived to play an increasingly important role in the revised rules of the economic competition game. This was echoed by new initiatives in the early 1990s to further deepen the regional globalisation economic, political and indeed cultural 'integration' at the EU level and to create 'a single market' for all kinds of services, including the media and cultural industries.

The interwoven narratives around the deepening globalisation of trade and investment, the liberalisation of regulation, telecommunications and information services policies and EU 'competitiveness' were brought together and explicitly expressed in a number of important EU policy documents published in the 1994–94 period. First, there was the Commission's strategic white paper on

Growth, Competitiveness and Employment--Challenges for entering in the 21st century, colloquially called 'the Delors Report' (EC, 1993a). This was closely followed by a report from the powerful Commissioner responsible for industrial and telecommunications affairs entitled *Europe and the Global Information Society: Recommendations to the European Council* (EC, 1994a). Often referred to as 'the Bangemann Report', this document was more than an EU retort to the somewhat short-lived G7 and other 'global information society' initiatives which followed in the years immediately after Al Gore's original proposals. The 'Bangemann Report' had more major and lasting influences on the framing of subsequent EU policies for ICT research and communication services. Indeed, for some years following its publication, this report was repeatedly cited as a sort of 'bible' or master mantra by Commission documents and officials dealing with a very wide spectrum of industrial and social policy initiatives. For example, it was explicitly invoked as a framework for an important 1994 document setting out a new industrial and policy strategy for the audio-visual sector in the European Union's single market context (EC, 1994b).

In the EU's R&D, industrial and communications policy *arenae*, the Bangemann report's most obvious influence was to insert the term 'information society' as the key term in the vocabulary rather than IT or ICT. This semantic shift was meant to reflect a greater emphasis on demand-side rather than technology-centred approaches to R&D and a more (neo-)liberal view of the role of market forces and competition in the allocation of economic resources, including those related to telecommunications and to the selection and direction of new technological developments. The approach was also intended to signal a response to the criticisms of prior EU framework research programmes which had highlighted a predominant focus on the further development of scientific and technical knowledge and relative lack of attention to industrial applications or demand-side aspects of ICT or other technological fields.

At the same time, not least for those associated with 'the Social Europe' agenda, the shift in vocabulary was taken to imply something rather different. It was taken to imply that there was or may be something special about more 'Europe's Way' to the information society which reflected a traditional orientation towards a robust welfare state and a social democratic conception of citizenship rights (EC, 1996a, 1996b).

Even if such shifts in vocabulary were too late to influence the terminological framing of the EU's Fourth Framework R&D programme they were clearly manifest in the two subsequent programmes (as indicated in Table 2). Despite these semantic shifts however, the impacts of the post-Bangemann report policy shifts

appear to be less evident in the core R&D policy arena than in other areas of communication and information services policy. For example, there has been no significant shift in the character or orientation of the research activities funded under the Fifth framework programme compared to the previous programmes. Despite the substitution of information 'society' for 'technology', the vast majority of the funding remains allocated to the scientific and technical activities concerned with the further development of new knowledge or technologies. The shift to applications is more pronounced in the vocabulary framing the various research action lines than in the substance of the work undertaken.

Despite much rhetorical emphasis on the importance of the social and economic applications and implications of new ICT and an emerging 'information society', there has only been a small increase in the share of funding allocated to social science or humanities based research in FP4 and FP5 compared to earlier programmes. One estimates suggest that explicit socio-economic research activities accounted for about 1% of the Fifth Framework R&D programme's overall budget (EC, 2002a:22).

But even that minor shift seems very temporary as the penultimate draft documents for the new Sixth Framework programme signal a much reduced role for socio-economic research compared to the previous programme.

Over the past couple of years and in the run-up to the launch of the FP6, the EU's research and technology policy agenda has been increasingly framed around two other related master concepts: *e*Europe and the European Research Area (ERA). Both have been directly influenced by the proceedings of the European Council meeting held in Lisbon in 2000 which expressed the ambitious aim of making Europe "the most dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion" (EC, 2002a:7). This goal has been linked to an expanding emphasis on the role of R&D for European competitiveness, especially at the the European Council's Barcelona meeting in 2002 where the "Heads of State and Government committed themselves to investing 3% of GDP in R&D by 2010", (ibid: 7). Policies to develop and promote moves towards a more integrated European Research Area (ERA) are viewed as essential or closely linked to the EC's declared ambition to "become the most competitive and dynamic knowledge-based economy of the world" (EC, 2002a).

In December 1999, the Commission launched its *e*Europe initiative. This has the declared aim of ensuring that "the European Union fully benefits for generations to come from the changes the Information Society is bringing" (cited in Arlandis et al.,

2001:19). Over the past two years, the *e*Europe initiative and its action plan have been refined through a number of subsequent documents. The *e*Europe action plan is defined as 'part of the Lisbon strategy to make the European Union the most competitive and dynamic knowledge-based economy with improved employment and social cohesion by 2010' (EC, 2002b: 2). A subsequent document states that *e*Europe "is not only about making European industry more competitive; it is also about ensuring that all citizens… have access to modern communications technologies to improve the quality of life" (EC, 2002c:3). Indeed, it suggests that "the new knowledge-based society must be an *inclusive* society" and that "in emphasising digital inclusion, the European Commission aims to distinguish the European approach to the information society from other regions of the world" (EC, 2002c: 4).

EU policies for Information 'Content' and Culture

Since the early 1990s at least, many of the EU's ICT research, innovation and related industrial strategy documents have emphasised the growth potential of the information 'content' services sectors, especially those based on the application of new digital tools and systems. Indeed, the Bangemann report and other EU policy documents published in the 1993–94 period, emphasised the growth of 'high-level, grey-matter' occupations in such media and 'content' services, predicting that the number of such jobs in the EU area would double by the year 2000.

As we might well expect with research strategies increasingly framed around the notions of '*an information society for all'* and seeking to construct *'a knowledge-based eEurope',* recent EU R&D programmes have specific funding lines orientated towards information 'content' applications. The most important example here is the 'User-friendly Information Society' stream of FP5 (1998–2002) and, in particular, its key action or funding line entitled '*multimedia content and tools'*. A budget of some 564 million euro has been allocated to this research action in order to address 'the development of tools and systems for managing, disseminating and using digital content'.

The very title and key descriptors of the '*multimedia content and tools'* sub-programme would seem to suggest an equal balance between two separate but complementary streams of research and development activity: those concerned with the production of new digital media 'tools' on the one hand, and the new kinds of new knowledge, creative and innovative initiatives required to successfully adopt, combine and appropriate such tools for the production of digital content artefacts or services, on the other hand. But the more detailed descriptions of the kinds of activities targeted by this sub-programme, and the kinds of project

proposals actually selected for funding tell a very different story. They are more heavily biased towards the technical, engineering and programming knowledge fields concerned with development of digital 'tools' such as software and/or hardware-based devices, systems or platforms. Consequently, the equally important new kinds of knowledge and research activity related to the 'downstream' or application layers of innovation in the digital content field are relatively neglected.

Even in this sectorally targeted sub-programme, there is minimal recognition of the role and importance of the new creative and hybrid forms of knowledge directly related to the innovation process in the digital content field. These include research related to the specific authoring, design and textual strategies which best fit, match or mobilise the potentialities of the new technical systems, and/or to the new kinds of publishing, editorial, distribution and marketing strategies and business models appropriate for successful product and process innovation in the (still small and emergent) digital content sector.

Admittedly, some of these research agenda items are also addressed as minor themes in other EC programmes such as the MEDIA initiative, and they are formally part of the agenda in the *e*Content programme launched in 2001. (The MEDIA initiative will be discussed a little further on). The *e*Content programme is one of the two actions proposed in the '*eEurope Action Plan'.* Its main focus is on stimulating the digital content market through the following action lines: (a) Improving access to and expanding use of *public sector information;* (b) Enhancing *content production* in a multilingual and multicultural environment; and (c) Increasing dynamism of the *digital content market* (see Table 3 for more details on these two programmes).

The *e*Content programme, which has been allocated EUR 100 million for the period 2001–2005 "focuses on commercial use of European digital content". It aims to promote the production, use and dissemination of European digital products and services by "supporting cooperation between companies in the field and the public and private sectors". The key actions in receipt of funding relate, inter alia, to public-sector services which use the information and "the development of digital databases and the necessary software tools". The Commission states that this programme does embrace a concern for "multilingual access to multimedia products and services distributed via digital networks and adapting them to local cultural requirements". The research actions may "involve subjects such as art, cultural heritage, archives, libraries and tourism" (Commission's 'Europa' web site).

But the actual operation and implementation of the eContent programme so far does not appear to have been strongly orientated to cultural information. Overall, the major focus of the eContent programme appears to lie with 'producer' and instrumental forms of information services more directly relevant to industrial and organisational functions or uses.

Thus even in the case of EU programmes apparently orientated towards digital media, the level of attention and funding accorded to the new design, authoring, publishing of knowledge forms and competencies related to 'content' production activities by the mainstream ICT research programmes is relatively small. The extent to which these properly 'content' -related knowledge and activity fields are neglected, least compared to the activities and knowledge domains directed at the further development of technical systems and tools, is quite striking. Indeed, it is all the more so given the context of EU policy discourses which appear to place so much emphasis on '*an information society for all'* and seeking to construct *'a knowledge-based eEurope'.*

Table 3
EC's Major Programmes related to 'Culture' & 'Content'

Programme	**Focus and Scope** (a	**Perio d**	**Budget** (M Euro)
.A) 'CULTURE' Related (b			
Culture 2000	This programme 'helps to finance cooperation in all areas of the arts' and 'aims to promote the cultural diversity of the European Union, creativity, exchanges between those involved in the cultural sector in the EU, and to make culture more accessible to the public'	2000--2004	**167**
MEDIA-3	The MEDIA programme 'supports the development, distribution and promotion of European audiovisual works'. The sectors concerned are fiction (cinema & TV), creative documentaries, animation and multimedia.	2001--2005	**400**
.B) 'CONTENT' Related			
FP5 Multimedia Content & Tools Programme	The FP5 IST research stream relates to 'the development of tools and systems for managing, disseminating and using digital content'. The programmes brief cites some examples of content with a cultural	1998--2002	**564**

	theme:		
FP5 Energy, Environment & Sustainable Developmen programme	This programme includes a key action called "The city of tomorrow and cultural heritage". About one third of the budget goes towards 'identifying and assessing damage to cultural heritage, whether built or movable heritage'. The action 'promotes the protection and sustainable management of cultural heritage, its preservation and development, and steps to make it more accessible to the public'.	1998--2002	**170**
The 'eContent ' programme	This programme 'focuses on commercial use of European digital content' and 'aims to promote the production, use and dissemination of European digital products and services by supporting cooperation between companies in the field and the public and private sectors'. tourism. It is 'also concerned with multi-lingual access to multimedia products and services distributed via digital networks and adapting them to local cultural requirements'.	2001--2005	**100**
The 'TEN-Telecom' programme	TEN-Telecom **'**promotes the marketing of European digital goods and services in areas of common interest', including education and culture. Providing funding of up to 50% for feasibility studies and 10% of the necessary investment, it 'aims to help European companies through the critical phase of launching these services'.	2000--2006	**276**

Notes:
a) This table reflects the EC's own claims about the scope of its key 'culture' and content-related activities**.**
b) In addition, we should note the EC's education and training programmes, SOCRATES and Leonardo da Vinci (allocated respectively EUR 1.85 & 1.15 billion for 2000-2006). Both cover a range of disciplines and provide funding for projects in the field of education and training, including educational projects in schools on cultural themes and those which raise cultural awareness. One of the key themes of the programmes is language learning. Also, the 'Youth' programme 2000-2006 (budget of EUR 520 M) plays a part in the cultural field by financing youth exchanges.
Source: Author's estimates and tabulation based on EU documents.

Implications for the domain of ‘culture’

I will now wind up this descriptive review of the EU’s ICT-related policies by considering their implications for the domain of ‘culture’. This is a rather elusive if important arena where there are important overlaps with the discussion of information and content matters immediately above.

As the Commission itself acknowledges, it is difficult to provide a succinct “overview of the European Union's various cultural activities and programmes” (Commission’s ‘Europa’ web site) . Perhaps, the most prominent and culture-specific activity or programme of the EC is the “Culture 2000” programme. As the title suggests, this initiative specifically targets cultural cooperation--I will address its key features in more detail a little later. But, in addition, the Commission itself tends to emphasise that many of its research and other policy programmes embrace a strong cultural agenda or orientation. For example, it claims that “many European programmes have a cultural dimension in various areas of activity: support for the cultural industries, technological research, education and training in the arts, regional development, cooperation with third countries, and so on” (Commission’s ‘Europa’ web site). The Commission recognises that these programmes are managed by different Directorates-General and departments within the European Commission and that these may well “have their own rules regarding operation and eligibility”. Here, we might also add, that they have their own priorities and orientations which are far removed from the cultural domain as conventionally defined. (See Table 3).

For example, the Commission points to “elements of the Framework R&D programme (1998–2002) , especially… the key action ‘multimedia content and tools’, which has been allocated EUR 564 million, and in particular its cultural heritage components” (Commission’s ‘Europa’ web site). But as noted above, this research action line is more strongly focused on the development of digital tools and platforms that content design and production activities per se. The Commission also points to another element of FP4, ‘the Energy, Environment and Sustainable Development programme’ because this features a research stream called ‘The city of tomorrow and cultural heritage’, for which 170 million euro have been earmarked. Around a third of this sum goes towards identifying and assessing damage to cultural heritage, ‘whether built or movable heritage’. This research action line seeks to “promote the protection and sustainable management of cultural heritage, its preservation and development, and steps to make it more accessible to the public” (Commission’s ‘Europa’ web site). Thirdly, it is suggested that funding may be provided under the FP4 for ‘certain cultural projects involving ‘international cooperation activities’, particularly with the Mediterranean countries.

Finally, we may note that the EU's main educational exchange and training programmes, SOCRATES and Leonardo da Vinci , do provide funding particularly for projects in the field related to the arts and culture. These include educational projects in schools on cultural themes and projects to raise cultural awareness, and indeed language learning. But as suggested earlier, only a tiny portion of the research-related resources in these programmes are directed at the knowledge, competencies and activities involved in the design and production of new media-based cultural content compared to the sums devoted to the technical and scientific knowledge fields.

Apart from such 'side-shows' in policy terms, we really end up with two major EC programmes that are directly and explicitly engaged in supporting culture-specific activities: the *Culture 2000* programme and the *MEDIA* programme.

The European Commission's 'Culture 2000' programme helps to finance Community cooperation in all areas of the arts, such as the performing arts, visual and fine arts, literature, music, history and cultural heritage. Its declared aims are to promote the cultural diversity of the European Union, creativity, exchanges between those involved in the cultural sector in the EU, and to make culture more accessible to the public. The programme has been allocated 167 million euro for the period 2000–2004 . Financial assistance is awarded to projects selected on the basis of a call for proposals, which is published at the beginning of each year.

The MEDIA programme provides financial and policy support for the audio-visual and related industries. The latest phase of this programme has been allocated a budget of 400 million euro for the period 2001–2005, supports the development, distribution and promotion of European audiovisual works. The sectors addressed by this initiative comprise fiction (cinema and television), creative documentaries, animation and multimedia. The MEDIA programme also earmarks 50 million euro for business and legal training (marketing, intellectual property law), training in technology (computer graphics, multimedia) and courses in how to write screenplays for foreign audiences.

In essence, the *MEDIA* and the *Culture 2000* initiatives comprise the two major EU programmes directly concerned with 'culture' and related 'content' . In combination they provide an annual average funding resources of 142 million euro over the 2000–2004 period. These sums are relatively tiny when compared to the resources devoted to the technical knowledge fields involved in the design and development of new digital and other technologies (see Tables 2 and 3).

These statistical indicators suggest that the levels of attention and funding accorded to the domains of culture and other content production activities by the mainstream ICT research programmes are relatively low. They are tiny compared to the resources allocated to the activities and knowledge domains involved in the further development of technical systems and tools. Again, this is all the more so when considered in the context of EU policy discourses which place so much emphasis on '*an information society for all'* and seeking to construct *'a knowledge-based eEurope'*. These and other quantitative indicators all seem to underline the fact that the official project for constructing a new 'knowledge-based' European Union is a peculiarly lopsided one. In terms of material resources and surrounding policy frameworks and supports, it is heavily biased towards one end of the knowledge production and distribution spectrum. As with 'content' and information structures relative to technical infrastructures, the creative and cultural components of new knowledge creation and distribution are relatively neglected—and this more than two decades after one of the founding fathers of the European Union integration project had declared that, if beginning again, he would 'start with culture'.

EU's ICT & IS Policies: Towards a Critique and Evaluation

Having presented an empirically focused, descriptive review of the EU's ICT research and related information society policies, I will now move on to consider some of the more important strategic stakes and criticisms. The treatment here will be necessarily brief for reasons of space, and so I propose to highlight two key sets of issues that seem relevant to the wider policy debates in the run-up to the WSIS conferences.

Technology-Fixated Versus Socially-Centred Visions & Imaginations

The first major point of criticism I wish to identify in relation the EU's research and information society policies focuses on their predominant fixation with technology-centred concerns and their consequent un-social or a-social character. This strategic criticism applies despite all the ritualistic genuflections towards a 'social' dimension in EU policy documents since the mid-1990s and in more recent reports related to the newer *e*Europe initiative. I have already indicated how this is manifest in the tendency of successive EU research programmes to privilege the

design and production of new ICT devices and systems over the application and use of existing technologies for social and cultural ends.

Despite some growth in the 1990s, the recognition and funding of socio-economic research, even that which is directly related to the presumed significant socio-economic implications of new ICT as a major new technology system, remains small in relative terms. Some EC estimates suggest that explicit socio-economic research activities accounted for 1% of the Fifth Framework R&D programme's overall budget and that this will grow to comprise some 2% of the Sixth Framework programme (EC, 2002a). But my own reading of the latter's documentation suggests a reduction rather than increase in such research funding over the next few years.

When it comes to the arena of 'information society' policies-- where we might expect to find broader concerns with, or discussion of, social development paths or alternatives—the situation is really no different. On the one hand, we have the implied message that we confront the emergence of a radically new and distinct kind of social formation, but on the other, this is defined and measured solely in terms of changes in the supply and use of new technological infrastructures or services. For all operational purposes, the information society, no less than the successor concept of *e*Europe, is fundamentally framed, imagined and measured in terms of the maximum production and use of new ICTs. The same applies to the sister concept of a 'knowledge-based' Europe, where once again the predominant emphasis falls upon the production and dissemination of one particular sub-category of knowledge: the scientific and technical (Preston, 2002a).

In other words, what seems like a concept, strategy and debate concerning future society-wide development and change is reduced to a highly freighted technology-centred discourse and one-sided conception of knowledge creation. What is initially presented as a radical or significant societal change turns out to be largely a case of 'business as usual', except that we must all produce and use new ICTs more widely and avidly. In essence, we are presented with an impoverished, and essentially a-social, vision of the scope or potential for future societal development. Technology and instrumental technical knowledge becomes not merely the means but is substituted as the key measure and goal of societal development (Preston, 2001: especially chaps. 9 and 10; Preston, 2002a).

This is certainly a much reduced and impoverished vision compared to the initial conceptions of an emergent 'information society' which were first advanced by social theorists in the 1970s, even if we recognise that these were much criticised by other sociologists and theorists subsequently. The US sociologist Daniel Bell (1973) is usually designated as the author of the most robust early information

society theory--even if Adam Smith could prior lay claim to a pioneering prognosis of the 'knowledge economy' phenomenon (Preston, 2001).

Certainly, we can find some clear echoes and borrowings from the work of Daniel Bell in the information society discourses favoured by the political and industrial elites in Europe. (These are also manifest in the writings of many contemporary postmodern and 'cultural turn' theorists, even if these are self-defined as critical theorists.) One core example is the determinist view that changes in the technological infrastructure and in the division of labour are inherently transformative, liberating and presumed to lead to a significant reduction in material 'scarcity' or needs. The growth of jobs defined as information or knowledge-intensive is deemed to lead to much greater individual autonomy and power in the workplace. Another borrowing here is the assertion that material issues (such as those pertaining to wealth and income) or the 'politics of distribution' are now much less salient compared to 'the politics of representation', or in extreme cases, compared to the 'end of politics' in the modern sense. Another echo comprises a set of presumptions about the decline (if not death) of larger-scale 'modern' social solidarities and integration mechanisms, and an increasing obsession with individual consumer(ist) or small discrete group identities or cultures. (Taken together, these do not merely reflect the borrowings of contemporary EU policy discourses from older academic theories of an emerging information society. In addition, they also provide some striking commonalities between the core tenets of official information society discourses, based around the now dominant political economic theory of neo-liberalism on the one hand, and those of postmodern or cultural turn theorists, on the other hand.)

However, such borrowing by contemporary information society policy discourses reflect only some highly selective elements of the seminal post-industrial thesis advanced by Daniel Bell. A more rounded engagement with Bell's thesis, however, would reveal that whatever its analytical flaws and conservative ideological leanings, it was certainly not singing along to the 'there is no such thing as society' hymn sheet which has become the increasingly dominant anthem of our own times. Its core analysis concerning the post-industrial society as a just or progressive society was not solely predicated on changes in the technological infrastructure or division of labour or the newly influential role of intellectual knowledge. Rather it placed an equal emphasis on the continuing, if not growing, role of the socially-progressive, Keynesian welfare state policy regime which prevailed during the post-war boom period and a concomitant decline in the sway of markets relations and of unregulated economic rationality. In essence, Bell's 'venture in social forecasting' was also predicated on a trend towards reducing economic inequalities within an increasingly meritocratic order. It was precisely and only in such a social and political context that Bell envisaged the new role or social character knowledge and planning as a direct

counter to the economic rationality of the market and competitive capitalism (Preston, 2002b, Seville).

Of course, much has changed since Bell first advanced his thesis in the early 1970s, not least the increasing sway of economic rationality and market forces over all forms of knowledge and information production. Hence, the highly selective contemporary borrowings from the post-industrial society thesis, as advanced by the elite information society discourses (or indeed, the cultural turn literature) are highly partial. Indeed, as cultural productions of a sort themselves, they can hardly be understood as innocently accidental or politically neutral, but highly attuned to the political and economic sensibilities and pressures of their times. What we are presented with is an impoverished and hallowed-out version of an emergent information society compared even to that advanced in Bell's seminal work (despite its undoubted flaws) -- or even compared to the social rights dimension of citizenship which prevailed in many EU member states during most decades of the twentieth century (Preston, 2002b).

In essence, we find little by way of sustained discussion or attention to the question of what is or might be special about 'Europe's way to the information society', to quote a phrase from some of the earlier EU policy documents in the mid-1990s (Preston, 1998; 2001). We may note 'significant silences' or absences especially in relation to the implications of the strong tradition of social democratic politics and associated social citizenship rights which key features of the political culture in many member states. Of course, as indicated earlier, we may note certain semantic shifts and genuflections towards a 'social Europe' agenda within the EU's research and information society policy documents, including the more recent spate of *e*Europe policy reports. But these seem little more than occasional rhetorical gestures in the midst of policy concepts and practices that are fundamentally embedded in the neo-liberal ideology which celebrates a 'market-driven' information society and which privileges consumer identities and roles over those of citizenship. Indeed, we may note that the elite discourses surrounding new ICT and the information society have provided important ideological *arenae* for the general promotion of neo-liberal ideas and policy practices. This, of course, does not reflect or contribute anything along the lines of a distinctive 'Europe's way…' to societal development, nor does it indicate any serious attempt to address the new and alternative developmental possibilities opened up by a large and increasingly integrated economic union embracing some 320 million people. Rather it indicates a certain poverty of political imagination on the part of elites who rely so heavily on the importation or universalisation of ideas and practices developed elsewhere.

Finally, we should briefly also note here that this impoverished approach to a European social development strategy has serious implications for evolving forms of social inequality, of which the much debated 'digital divide' is but one aspect. The wider adoption of neo-liberal policy ideas and practices in the EU area, not least via the frequent presumptions of a necessary or beneficial linkages between new ICT and a 'market-driven' vision of societal development, have had major impacts with respect to deepening social inequalities. Of course, this particular attack on the prospects for any meaningful 'social Europe' policy strategy has nothing to do with technology per se. Rather, it comprises the impacts and intentions of a particular political-economy regime which has been increasingly hegemonic over the past two decades.

One of the major and most obvious consequences has been a significant increase in inequalities with respect to the distribution of income and wealth. But, we should also note, this has accompanied the push to commodify an ever greater number of services and functions which comprise the evolving basket of 'socially-necessary' goods (i.e. those which are required to match/access prevailing consumption norms) or indeed, which are required for effective exercise of citizenship rights in contemporary society. Thus the extending sway of the 'naked cash nexus', alongside growing material inequalities, now impacts upon the levels and modes of access to a growing number of services and functions in areas such as health, education, legal services as well as in the arena of information and communication services. Considerations of the nature and origins of the so-called 'digital divide' and effective policy responses must be framed as but one manifestation or expression of these wider developmental trends and contexts.

Information 'Content' and Culture Matters

The second selective focus of my criticism concerns the implications of EU policies for information 'content' services and the domain of culture. As noted earlier, EU research and information society policies, since the early 1990s at least, have tended to emphasise the beneficial implications of new ICT for the growth potential of downstream (or application) fields such as information content services, including cultural and media-related services (EC, 1993a; 1994a, 1994b; 1997a, 1997b, 1997c). They have also emphasised the beneficial implications of new ICT for greater diversity of cultural and other media content services. In keeping with the technology-centred vision discussed earlier, key EU policy and research reports have also assumed or asserted the rapid replacement of the old media by new/digital media and a radical 'convergence' or blurring of boundaries between previously separate communication services (EC, 1997a, 1997d; Techno-Z FH, 1997; TechServ, 1998*).*

Whilst the range of new ICT-based 'content' delivery systems and networks has expanded rapidly over the past decade, the optimistic forecasts of a doubling of the numbers of 'high-level, grey-matter' and labour intensive jobs in the media content services sector by the year 2000 have failed to materialise. The reasons why this is so are multiple and quite complex (Preston, 2001). One key factor has been the tendency for key EU research and policy reports to embrace the transformative, determinist visions of ICTs and their implications for the media and content sectors associated with the digital deliria of the late 1990s. Another has been the failure of EU policies to adequately recognise or address the distinctive economic and social characteristics of the cultural and other media content services. Instead, the tendency has been to extend the very same technological and economistic logics relevant to the new ICT (tools and systems) supply sectors (where economies of scale, standardisation and scope are highly relevant) to the very different goals and requirements of the cultural and media content domains (where diversity and difference rather than standardisation should be taken as the overriding goals). These flaws are linked to the tendency of EU research and information society policies to neglect the specifics of the innovation and production processes involved in the new media domain, as already indicated in section two above. The implied assumption is that the supply of new ICT-based devises and networks will somehow 'automatically' create the new content forms and texts appropriate to the new technical capacities or potentialities. The privileging of technical domains of new knowledge within the EU research and related policy programmes tends to neglect the all-important 'downstream' or application layers of innovation processes in the domain of media and content. It implies a de-valuing and neglect of the various other domains of new expertise, competencies and creativity required to successfully explore, test and develop the relevant new authoring, design and textual strategies, editorial and publishing models etc. (Preston and Kerr, 2001; Williams and Slack, 1998).

Concluding Comments

This brief account of the EU's research and information society policies has been both selective and highly critical in its content and tone. I do not, however, mean it to be totally negative, either in the sense of being anti-technology (or against new ICT in particular) or of being opposed to the very principle of an EU research and development policy in this field. In my view, both the further development and application of new ICT and the role of EU-level policies in this field are important endeavours. Indeed, both have the potential to contribute to improved living and working conditions for citizens, workers and consumers in an increasingly integrated Europe and global society. My main problem with the thrust of the

existing policies and initiatives is that they appear to deliver so very little by way of realising such potential. And, as stated at the outset, the key sources of this problem do not lie with some remote or all-powerful Eurocrats based in Brussels. Rather they reflect the wider patterns of political vision, policy strategies and decision-making related to new ICT or an emergent new information or knowledge-based society at the local and national level.

At root, the most significant criticisms and challenges posed in this chapter have little or nothing to do with technology per se. The crucial and critical issues are to do with how we, or more precisely those in possess the relevant resources of economic, political and discursive power in our society, think about, discuss and seek to address the 'impacts' or implications of such technologies for the living and working lives of citizens and consumers in Europe and the wider world. One of the biggest challenges or ironies here is the dominant elites' vision of new ICTs inaugurating a radical shift to an allegedly new kind of social formation on the one hand, and on the other, the portfolio of highly conservative and extremely old-fashioned social and political doctrines they proffer at the same time. In part at least, the success of the New Right in Europe no less than the USA rests on its successful packaging together of the enthusiastic embrace of new technological developments (especially ICTs) in combination with some of the oldest and crudest ideas concerning the supremacy of market-based economics and associated individualism (Kintz, 2002). The ultimate logic and political prescriptions here are the celebration of the individualised consumer in the marketplace and vehement opposition to social forms of collective identity, solidarities or action, for example on the part of workers, women, citizens or consumers (e.g. Toffler, 1993; Gilder, 1989).

As I see it, one key task for critical researchers and progressive civic organisations is to challenge the prevailing elite discourses which describe and prescribe a highly partial and impoverished vision of new ICT and to assert its relation to a more progressive and just emergent/future social order. This means challenging the prevailing assumptions and prescriptions that: (a) the maximum development and use of new ICT is the key measure, goal or end of social development, and (b) the effective development and use of new ICT is somehow necessarily bound up with the embrace of the neo-liberal doctrine of a 'market-driven' path to social development. It is only by challenging such technocratic, economistic and impoverished (but highly partial) political visions that the growth of social inequalities--including those embraced by the 'digital divide' -–may be addressed effectively, both within the European region as well as in the wider global level.

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