

The Changing Environment of Audiovisual Media

New Technologies, New Patterns of Consumer/Business Behaviour and their Implications for Audiovisual Media Regulation

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One could say that the first technological empowerment of the viewer took place with the invention of the TV remote-control in the 1950s.¹ It allowed consumers for the first time without substantial energy loss to *choose* between programmes (probably between only a couple in the beginning to more than hundred now) and led to serious shifts in consumer behaviour patterns, which ultimately resulted in changed content producers', advertisers' and distributors' strategies. The Video Cassette Recorder (VCR) was perhaps the second technological means endowing choice and control to individual consumers.

In the present article, we look into technological advances, indefinitely more complex than the remote-control or the VCR that are transforming consumer and business models in the audiovisual media industries and questioning conventional rationales of media regulation.

In addressing these issues, the article is structured in four parts. Part one looks into the new technologies relevant in our context and defines their parameters. In a second step, some novel phenomena and processes, stemming from the depicted technological advances and dramatically changing the existing consumer and business behaviour patterns are examined. The implications of these for the audiovisual media landscape are subsequently outlined in part three. Part four puts forward some questions as to the appropriate media rulebook and speculates on the future.

I. Which New Technologies?

While the precise limits of the cluster of technologies we shall discuss here may be hard to define, the roots of all phenomena undoubtedly lie in the process of **digitisation**.² Digitisation allows for the expression of every type of content (be it audio, video or text) in a line of zeroes and ones and thereby creates a **universal code for all information**. The ability of digital systems to handle an ever greater amount of multimedia content at increasingly lower cost is a product of the exponential progress in the processing power and memory of microchips.³ As a third element of this technological matrix, one needs to consider the perfection of optical

Zusammenfassung:

Digitales Fernsehen mit 200 Kanälen und 500 Filmen auf Abruf, Podcasting, Mobil-TV, alle zwei Sekunden ein neuer Webblog – dies sind nur einige der gegenwärtigen Entwicklungen im Bereich der audiovisuellen Medien in einer digitalen Umgebung. Der vorliegende Artikel nimmt sich einiger dieser technologischen Errungenschaften an und beleuchtet deren Auswirkungen auf die Märkte für Medieninhalte, insbesondere was neu auftretende Formen des Konsumenten- und Geschäftsverhaltens anbelangt. Im Zentrum steht letztlich die Frage, ob und inwiefern die existierenden regulatorischen Modelle für audiovisuelle Medien, die vorwiegend immer noch auf analoge Medien ausgerichtet sind, durch die fortlaufende Transformation der digitalen Umgebung überflüssig (beziehungsweise revisionsbedürftig) geworden sind.

1 See http://en.wikipedia.org/wiki/Remote_control. All web addresses as accessed on 30 October 2007.

2 In its simplest form, a digital code is a binary bit or digit indicating one of two alternatives (either 0 or 1) to denote the presence or absence of an electrical signal or two different voltage levels. Binary bits can be grouped in various combinations to represent numbers, alphabetical characters, symbols or any other type of information. Through a combination of microprocessors and sophisticated algorithms, these bit streams can be compressed to manageable lengths, thereby allowing a wide range of content to be stored, retrieved and transported.

3 MILTON L. MUELLER, «Digital Convergence and its Consequences: A Report on the Digital Convergence and Market Structures», 1999, available at <http://dcc.syr.edu/miscarticles/rp1.pdf>. GORDON MOORE of Intel postulated in 1965 that the transistor density on a single integrated circuit microchip would double approximately every eighteen months. This rule showing the incredible pace of technological advance became known as Moore's Law and (as unlikely as it may seem) is still valid. On Moore's Law, see ROB FRIEDEN, *Managing the Internet-Driven Change in International Telecommunications*, Boston/London 2001, at pp. 17 *et seq.*

Résumé: La télévision digitale avec 200 canaux et 500 films à la demande, le podcast, la télévision mobile, l'apparition d'un nouveau blog toutes les deux secondes; voilà quelques-uns des développements actuels dans le secteur des médias audiovisuels de l'environnement numérique. La présente contribution se focalise sur certaines de ces innovations technologiques et envisage ses conséquences sur le marché des contenus, en particulier du fait des nouveaux comportements de consommation qui voient le jour et de nouvelles formes de promotion. La question centrale est de savoir si et dans quelle mesure les modèles actuels de régulation des médias audiovisuels – lesquels visent pour l'essentiel des formes analogiques de diffusion – sont devenus désuets ou doivent subir une révision.

fibres,⁴ which enhanced the capacity of networks⁵ and made the conveyance of digitised information at high speed possible.

This three-prong technological matrix enabled and spurred the development of the

Internet⁶ as a global, publicly accessible network of interconnected computer networks, which transmit data by packet switching using a standard Internet Protocol. Upon this network of networks spreads the world wide web as a logical layer of interlinked, hypertext documents, allowing us to reach to the multi-faceted and ever diversifying application and content layers.⁷

Without further ado about these technological matters, it is vital to note that they are not to be taken as mere static apparatus (such as the remote-control) but as **dynamic processes** that constantly evolve and have multiple spillover effects. Such an effect of critical importance in the presently discussed context is the process of **convergence**, which can be, in its broadest meaning, defined as the merging of telecommunications, media and information technologies sectors.⁸

In the following sections, we focus our attention upon the effects of the above digital technologies and processes, which we loosely define as «digital environment», and look into its impact. We do so however not in the sense of building some grand theory of the new Network/Information Society⁹ but examine narrowly and specifically the effects of digital advances upon the markets for content and the content production modes, which are of relevance to audiovisual media platforms and ultimately, to their regulation.

II. The Impact of Digital Technologies upon Markets for Media Content

A. New Mechanisms / New Diversity

In the not so distant past, the markets for media content were dominated by analogue media. People had access to a limited number of outlets, such as television or cinema, and to a limited variety of content. Technical advances and the liberalisation and deregulation of media markets made the number of outlets larger (e.g. while in 1989, 90 TV channels were available in the EU15,¹⁰ over 860 channels with potential national coverage were broadcast in the 2004¹¹). Paradoxically, the availability of multiple channels has not led to diversity. The opposite was even true: In the European television market, for instance, the quality and the range of programmes have deteriorated.¹²

4 The concept was originally developed at Standard Telephones and Cable Ltd. See DAVID GILLIES/ROGER MARSHALL, *Telecommunications Law*, Vol. 1, 2nd ed., London 2003, at p. 19.

5 Metcalfe's Law holds that the potential value of network increases by square of number of nodes, while the Fibre Law holds that capacity doubles every nine months. See CHRIS MARSDEN/JONATHAN CAVE/EDWARD NASON/ANDREW PARKINSON/COLIN BLACKMAN/JASON RUTTER, *Assessing Indirect Impacts of the EC Proposals for Video Regulation*, RAND Europe, 2006, at pp. 72 *et seq.* Currently, almost all networks (in developed and even in developing countries) have become IP-based. See OECD, *Information Technology Outlook 2006*, Paris 2007.

6 For a brief history of the Internet, see the Internet Society's account at <http://www.isoc.org/internet/history/brief.shtml>.

7 See TIM BERNERS-LEE *et al.*, *Architecture of the World Wide Web*, Vol. 1, W3C Recommendation, 15 December 2004, available at <http://www.w3.org/TR/webarch/> and JEREMY G. BUTLER, «The Internet and the World Wide Web» in DAN HARRIES (ed.), *The New Media Book*, London 2002, pp. 40–51.

8 On convergence, see COLIN R. BLACKMAN, «Convergence between Telecommunications and Other Media» (1998) *Telecommunications Policy*, Vol. 22:3, pp. 163–170; P.H. LONGSTAFF, «New Ways to Think about the Visions Called «Convergence»: A Guide for Business and Public Policy», Program on Information Resources Policy, Harvard University, April 2000; MILTON L. MUELLER, «Convergence: A Reality Check» in DAMIEN GERADIN/DAVID LUFF (eds.), *The WTO and Global Convergence in Telecommunications and Audio-Visual Services*, Cambridge 2004, pp. 311–322.

9 See MANUEL CASTELLS, *The Information Age*, Vol. 1: *The Rise of the Network Society*, 2nd ed., Oxford 2000. For an overview of the theories, see FRANK WEBSTER, *Theories of Information Society*, London 1995.

10 STYLIANOS PAPATHANASSOPOULOS, «European Television in the Digital Age», Cambridge 2002, at p. 14.

11 European Commission, *Fifth Report on the Application of Directive 89/552/EEC «Television without Frontiers»*, COM(2006) 49 final, 10 February 2006, referring to European Audiovisual Observatory, 2004 Yearbook.

12 PAPATHANASSOPOULOS, *supra* note 10, at pp. 18–19, referring to JAY G. BLUMLER, «Vulnerable Values at Stake» in JAY G. BLUMLER (ed.), *Television and the Public Interest*, London 1992, pp. 22–24; YVES ACHILE/BERNARD MIÈGE, «The Limits of Adaptation Strategies of European Public Service Television» (1994) *Media, Culture and Society*, Vol. 16, pp. 31–46. On the «multi-channel paradox», whereby despite the diversity of channels, there is no actual diversity of content, see MÓNICA ARIÑO, «Competition Law and Pluralism in European Digital Broadcasting: Addressing the Gaps» (2004) *Communications and Strategies*, No 54, pp. 97–128, at pp. 98 *et seq.*

Due to the dominant pursuit of maximisation of profits and minimisation of financial risks, the formats and contents of TV programmes, films and shows have indeed become increasingly **homogeneous**.¹³ The emergence of global media giants going beyond national and sectoral boundaries, placing the same content in all available distribution channels and formats, has only aggravated the situation.

The reasons for this bleak picture lies not (or at least not only) in the uniform tastes of the public or the lack of cultural creativity. Simply put, it has to do with the **economics of scarcity in media** and the nature of distribution of media content in a «push», **point-to-multipoint mode**. To convey it figuratively, where storage and distribution costs are high, the «shelf» place is limited and it makes sense (especially to the large profit-maximising media conglomerates) to put up only those products that sell best – the hits, i.e. uniform content that, subject to the lowest-common denominator, appeals at a certain moment in time to the largest possible audience.¹⁴ As a result of this scarcity intrinsic to analogue media markets, the sales and correspondingly the consumption are concentrated in a **miniscule** part of all the available content: Bluntly put, 20% of the produced content (be it a film or a song) generate 80% of all the sales in that market. The rest 80% of existing content never actually make it to TV or cinema screens, the CD or DVD shop shelves, or find only marginal public in unpopular outlets.¹⁵

The digital environment has given however new dimensions to this underlying 80/20 rule and has most importantly in our context, **modified the rules of supply and demand for content**, making a whole lot more of it available and accessible. This paradigm change has become known as «The Long Tail» theory and was coined by the editor of the Wired magazine, CHRIS ANDERSON in 2004,¹⁶ although it builds upon substantiated prior and parallel research.¹⁷

A few salient characteristics inherent to the digital environment have made the long tail real:

(i) On the supply side, the key factor determining whether a long tail will form or not

is the **cost of inventory storage and distribution**. Where the latter is insignificant, as it is in the digital space, it becomes economically viable to sell relatively unpopular products. As already mentioned, this compares to the substantial storage and distribution costs of the offline world, where the shelf place (be it TV prime time or a Christmas cinema weekend) is limited and so is the choice.

The comparison between the offline and online availability of content may indeed be quite striking: A large CD shop may hold about 40'000 titles, while an online music store will have about 20 times more. A TV station can broadcast only one particular film in the 20 o'clock slot, while its catalogue of digitally stored and distributed films may amount to more than 500 titles.¹⁸ Moreover, one should note that these are contradistinctions relating to only one particular distribution channel, while in the reality of the digital environment, these are multiple and simultaneously accessible.

- 13 On the homogeneity of content, see CHRISTOPH BEAT GRABER, *Handel und Kultur im Audiovisionsrecht der WTO. Völkerrechtliche, ökonomische und kulturpolitische Grundlagen einer globalen Medienordnung*, Berne 2003, at pp. 18 *et seq.*
- 14 «For too long we've been suffering the tyranny of lowest-common-denominator fare, subjected to brain-dead summer blockbusters and manufactured pop. Why? Economics. Many of our assumptions about popular taste are actually artifacts of poor supply-and-demand matching – a market response to inefficient distribution.» CHRIS ANDERSON, *The Long Tail: Why the Future of Business Is Selling Less of More*, New York 2006, at p. 16.
- 15 This distribution reflects in fact the well-known 80/20 rule, which was formulated by the Italian economist Vilfredo Pareto in 1896 to describe the allocation of wealth among individuals. The 80/20 rule has been observed in many areas, such as physics, biology, geography, economics and linguistics, and depicts a frequent situation of extreme distribution, whereby a relatively small proportion of elements generates a large proportion in distribution.
- 16 CHRIS ANDERSON, «The Long Tail», *Wired*, Issue 12.10, October 2004. It became later a more comprehensive book (*supra* note 14).
- 17 See in particular ERIK BRYNJOLFSSON/YU HU/MICHAEL D. SMITH, «Consumer Surplus in the Digital Economy: Estimating the Value of Increased Product Variety at Online Booksellers» (2003) MIT Sloan Working Paper No 4305-03; ERIK BRYNJOLFSSON/YU HU/MICHAEL D. SMITH, «From Niches to Riches: The Anatomy of the Long Tail» (2006) *Sloan Management Review*, Vol. 47:4, pp. 67-71; ERIK BRYNJOLFSSON/YU HU/DUNCAN SIMESTER, «Goodbye Pareto Principle, Hello Long Tail: the Effect of Search Costs on the Concentration of Product Sales», February 2007, available at <http://ssrn.com/abstract=953587>.
- 18 Bluewin TV, for instance, which is a service of Swisscom AG, currently offers its subscribers more than 500 video-on-demand films and over 100 TV channels and 70 radio channels, including additional gadgets such as an electronic programme guide, a live pause function and remote recording via mobile phone or the Internet. See *Neue Zürcher Zeitung*, «Bluewin-TV von Swisscom geht auf Sendung», 31 October 2006. See also <http://www.tv.bluewin.ch/>.

(ii) On the demand side, the costs of searching and finding are crucial for the materialisation of the long tail (especially as variety becomes greater). On the one hand, this means the time invested in search; on the other hand, its efficiency. The Internet is a vast complex nonlinear network that allows however to be searched through a single point of entry. Search engines help us locate content within the huge volume of dynamic information, turning into linchpins of the Internet.¹⁹ The increasing availability of new tools, such as samples, feedbacks, recommendations enable users to find the desired products and even new ones.²⁰ Furthermore, advanced search tools, such as «Amazon user review» or «Yahoo! Music ratings» emerge as new orientation institutions.

They are manifestations of a novel type of collective intelligence (the so-called, wisdom of crowds²¹), which creates effective filters of information that are essential in an ocean of data. The search and interaction facilitators of the Web 2.0,²² a phenomenon discussed in the next section, contribute additionally to sharing experience and intensify the information flow.

One must also acknowledge here that both the supply and demand side factors, as sketched above, are essentially dynamic. Firstly, because with the rapid advance in digital technology, the storage and distribution costs of products, and even the production expenses (e.g. digital films), are consistently falling; and secondly, because of the learning experience²³ and the expansion of the network²⁴ on the demand side.

This simple set of economic and technological drivers may have far-reaching implications for businesses, consumers and the economy as a whole.²⁵ As ANDERSON rather prophetically puts it, «[w]hen you can dramatically lower the costs of connecting supply and demand, it changes not just the numbers, but the entire nature of the market. This is not just a quantitative change, but a qualitative one, too. Bringing niches within reach reveals latent demand for non-commercial content. Then, as demand shifts toward the niches, the economics of providing them improve further, and so on, creating a positive feedback loop that will transform entire industries – and the culture – for decades to come».²⁶

B. New Modes of Content Production

With the sophistication of networks and growing adoption of the Internet (especially broadband),²⁷ the content layer has become particularly «dense» and miscellaneous. Essentially, everything is online and some things are **only online**. Different media, such as video gaming, music, radio and newspapers are widely accepted as substitutes for traditional analogue media.²⁸ The digital processes have not however stopped with the mere creation of parallel communication and information channels but have led (and continuously lead) to the emergence of new types of communication modes amongst users, new types of creativity and content production.

- 19 JAMES GRIMMELMANN, «The Structure of Search Engine Law», New York Law School Research Paper Series 06/07, No 23, at p. 2, referring to JOHN BATTELLE, *The Search*, New York 2005; DAVID VISE/MARK MALSEED, *The Google Story*, New York 2005. A survey shows that only the act of sending or reading email outranks search engine queries as an online activity (PEW Internet and American Life Project, *Search Engines*, 2002, all PEW reports available at <http://www.pewinternet.org/>).
- 20 See BRYNJOLFSSON *et al.*, «From Niches to Riches», *supra* note 17. Experience with P2P networks shows equally that the initial experience of users focusing on hits is supplanted rapidly by more varied choice of content, and by adaptation and «mashing» of content into new forms. See MARSDEN *et al.*, *supra* note 5, at p. 23.
- 21 See JAMES SUROWIECKI, *The Wisdom of Crowds: Why the Many Are Smarter Than the Few and How Collective Wisdom Shapes Business, Economies, and Nations*, New York 2003.
- 22 In the context of search, «tagging» may be identified as an important Web 2.0 effect. Tagging, which is basically a process of creating labels for online content by attaching a keyword to a piece of information (a picture, article or video) is «a kind of next-stage search phenomenon», whereby online searching is advanced and personalised and digital material is organised in a tailored manner on top of existing formally defined classification schemes. See PEW Internet and American Life Project, *Tagging*, January 2007 and DAVID WEINBERGER, *Everything Is Miscellaneous: The Power of the New Digital Disorder*, New York 2007.
- 23 See PEW Internet and American Life Project, *The Broadband Difference: How Online American's Behaviour Changes with High-Speed Internet Communications at Home*, 2002.
- 24 On positive network effects, see e.g. CARL SHAPIRO/HAL VARIAN, *Information Rules*, Cambridge 1999, at pp. 173–225.
- 25 BRYNJOLFSSON *et al.*, «From Niches to Riches», *supra* note 17, at p. 1.
- 26 ANDERSON, *supra* note 14, at p. 26. See also BRYNJOLFSSON *et al.*, *ibid.* at pp. 6–8.
- 27 For excellent examples, see OECD, *Digital Broadband Content: Mobile Content. New Content for New Platforms*, DST/ICCP/IE(2004)14/Final, 3 May 2005; OECD, *Digital Broadband Content: The Online Computer and Video Game Industry*, DST/ICCP/IE(2004)13/Final, 12 May 2005; OECD, *Digital Broadband Content: Music*, DST/ICCP/IE(2004)12/Final, 13 December 2005.
- 28 EDWIN HORLINGS/CHRIS MARSDEN/CONSTANTIJN VAN ORANJE/MAARTEN BOTTERMAN, *Contribution to Impact Assessment of the Revision of the Television without Frontiers Directive*, RAND Europe, 2005, at p. 6. See also Pew Internet and American Life Project, *More Online, Doing More*, February 2001 and *Internet Penetration and Impact*, April 2006.

Due to the decreased costs of identifying like-minded groups of individuals and of communicating and acting together in the digital environment,²⁹ multiple virtual communities and social networks have arisen.³⁰ Next to these new forms of social interaction and much more critically for our present context, people online also create **new content** turning the web into a **participative web** (enabled by the **Web 2.0** tools³¹).

Besides the intensified individual creation of content,³² a commons-based production of information, knowledge and entertainment emerges,³³ where «individuals band together, contributing small or large increments of their time and effort to produce things they care about».³⁴ Data on content creation, when available, is quite impressive.³⁵ The mere fact that by the second quarter of 2006, 50 million blogs were created, new ones being added at a rate of two per second,³⁶ exemplifies the dynamism of the processes.

Only lately have the economic and social virtues of common ownership and production begun to be explored.³⁷ A recent OECD report does however already acknowledge the enormous potential that user created content has and states that, «[t]he Internet as a new creative outlet has altered the economics of information production and led to the democratisation of media production and changes in the nature of communication and social relationships [...]. Changes in the way users produce, distribute, access and re-use information, knowledge and entertainment potentially gives rise to increased user autonomy, increased participation and increased diversity. These may result in lower entry barriers, distribution costs and user costs and greater diversity of works as digital shelf space is almost limitless».³⁸

A cogent example of the above outlined phenomena is **podcasting**, which has indeed emerged as a new medium enabled by digital technologies. Podcast(ing) is a term coined in 2004 through an analogy to the iPod device to denote both a content distribution method and the content itself. It originally referred to audio programmes only, but now applies to video-based programming as well. A podcast can be distinguished from other digital media formats

by its ability to be **subscribed to** and downloaded automatically to a portable device, personal computer or a mobile phone. All major TV channels have made video podcasting available on pay-per-view or a free basis,³⁹ in addition to radio stations and non-traditional media companies.⁴⁰ Besides this standard commercial «push» model of content delivery, the long tail has made itself visible in the proliferation of podcasting of **niche content**, such as ar-

- 29 URS GASSER, «Social Structures in Cyberspace: The Design and Function of Digital Institutions», Discussion Paper, 9th Annual Conference of the International Society for New Institutional Economics: The Institutions of Market Exchange, 22–24 September 2005, Barcelona, at para. 1. See also MARSHALL VAN ALSTYNE/ERIK BRYNJOLFSSON, «Global Village or Cyber-Balkans? Modeling and Measuring the Integration of Electronic Communities» (2004) *Management Science*, Vol. 51, pp. 851–868.
- 30 See most prominently <http://www.myspace.com/> or <http://www.facebook.com/>. To reveal the sheer dynamism of these networks, O'Reilly Radar shows that during the first quarter of 2006, 280 000 new users signed up each day to MySpace and it had the second most Internet traffic. See JOHN MUSSER/TIM O'REILLY, *Web 2.0: Principles and Best practices*, O'Reilly Radar, November 2006, at p. 4.
- 31 Web 2.0 is a phrase coined by O'Reilly Media (<http://www.oreilly.com/>) in 2004. Proponents of the Web 2.0 concept say that it differs from early Web development (labelled Web 1.0) in that it moves away from static websites, the use of search engines and surfing from one website to the next, towards a more dynamic and interactive World Wide Web. See TIM O'REILLY, «What Is Web2.0?: Design Patterns and Business Models for the Next Generation Software», 30 September 2005, available at <http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html>. See also OECD, *Participative Web: User-Created Content*, DSTI/ICCP/IE(2006)7/FINAL, 12 April 2007.
- 32 See TOM O'REGAN/BEN GOLDSMITH, «Emerging Global Ecologies of Production» in HARRIES, *supra* note 7, pp. 92–105.
- 33 The content covers a wide range of types. OECD identifies eight categories: (i) text, novel and poetry; (ii) photo and images; (iii) music and audio; (iv) video and film; (v) citizen journalism; (vi) educational content; (vii) mobile content; and (viii) virtual content. See OECD, *Participative Web*, *supra* note 31, at p. 15.
- 34 YOCHAI BENKLER, «Freedom in the Commons: Towards a Political Economy of Information» (2003) *Duke Law Review*, Vol. 52, pp. 1245–1276, at p. 1261.
- 35 See OECD, *Participative Web*, *supra* note 31, at pp. 9–12. See also PEW Internet and American Life Project, *Content Creation Online*, 29 February 2004.
- 36 See MUSSER/O'REILLY, *supra* note 30.
- 37 See e.g. YOCHAI BENKLER, «Coase's Penguin, or Linux and the Nature of the Firm» (2002) *Yale Law Journal*, Vol. 112, pp. 369–446; CAROL M. ROSE, «The Several Futures of Property: Of Cyberspace and Folk Tales, Emission Trades and Ecosystems» (1998) *Minnesota Law Review*, Vol. 83, pp. 129–182; YOCHAI BENKLER, *The Wealth of Networks: How Social Production Transforms Markets and Freedom*. New Haven 2006.
- 38 OECD, *Participative Web*, *supra* note 31, at p. 5.
- 39 The Swiss Television (SF), for instance, offers as a rule the last four episodes of a selected number of its house productions for free (see <http://www.sf.tv>). The Swiss Radio (DRS) offers the last five broadcasts free of charge, while the previous programmes can be purchased (see <http://www.drs.ch/podcasting.html>).
- 40 MARSDEN *et al.*, *supra* note 5, at pp. 24–25. See also COLETTE VOGELÉ/MIA GARLICK, *Podcasting Legal Guide*, version 1.0, available at http://mirrors.creativecommons.org/Podcasting_Legal_Guide.pdf and the Wikipedia entry at <http://en.wikipedia.org/wiki/Podcasting>.

chived interviews, local news or cooking programmes, with authors ranging from heavy metal bands through the University of Chicago to the World Trade Organization. Via the multiple podcast directories,⁴¹ one can sample, search and subscribe to literally millions of podcasts. Furthermore, there is an amazing abundance of non-commercial, user-created content, often released under the creative commons (cc) licence⁴² and allowing subsequent distribution, reuse and/or remix.⁴³

III. The Transformed Media Landscape

The above sketch of technologies, processes and applications is only a **miniscule** part of the complex puzzle of the digital environment, where numerous forces of economic, social and cultural nature are at play. Yet, it does show that digital technology-induced changes go beyond the mere creation of new distribution channels that exist in parallel to «old» media. As further-reaching salient features of the digital environment of immediate importance to audiovisual media, we can identify:

- (i) the proliferation and diversity of content;

- (ii) its accessibility;
- (iii) the empowerment of the user to choose and pull the desired content (from the desired platform); and
- (iv) the new modes of content production, where the user is not merely a consumer but an active creator, individually or as part of the community.

While some of these developments are in their infancy and their precise shape and form are still in the predictions zone, it is sufficiently clear that the transformation of the digital environment is likely to continue gradually but profoundly.⁴⁴ In the specific domain of audiovisual media, this translates in the first place **into a continued multiplication of the channels for content distribution** and a **full digital switchover**.⁴⁵ Upon this transition, households will receive between 20 and 40 free TV channels, and about 200 upon a subscription fee payment.⁴⁶ The total audience share of the primary channels and the share of individual channels are accordingly prone to shrink. Audience fragmentation will persist with new media distribution channels, above all broadband internet, drawing consumers away from traditional entertainment media. The move from a «push» to «pull» mode of content consumption will become more pronounced and induce changes in the business models of content providers, distributors and advertisers, further fragmenting the media environment.⁴⁷

Finally, whichever pattern of access to and use of audiovisual content prevails,⁴⁸ it is apparent that the split between multi-channel and analogue households, which is already a reality, will be exacerbated.⁴⁹ If Internet penetration stabilises at 65–75% by household and mobile phone penetration at 85%,⁵⁰ this means that a substantial proportion of people will remain offline – a minority, which is «both the most vulnerable in society and least likely to change (typically comprising the most elderly, non-formally qualified and/or poorest quartiles)».⁵¹

To sum up, the broader picture of the transformed audiovisual media landscape will thus be one of **increasing fragmenta-**

41 See e.g. <http://podcast.com/>; <http://www.podcast.net/>; <http://www.podfeed.net/>.

42 See <http://creativecommons.org/>.

43 See <http://creativecommons.org/podcasting>.

44 For evidence in the audiovisual media context, see HORLINGS *et al.*, *supra* note 28, at p. 5.

45 HORLINGS *et al.*, *ibid.* at p. 13. For Switzerland, where the digital switchover is about to be completed by 26 November 2007, see <http://www.digitalesfernsehen.ch/>.

46 DAVID GRAHAM & Associates, Impact Study of Measures (Community and National) Concerning the Promotion of Distribution and Production of TV Programmes Provided for under Article 25(a) of the TV Without Frontiers Directive, Final Report Prepared for DG Information Society, 24 May 2005, at Section 3.5.1.

47 See JOHN NAUGHTON, «Our Changing Media Ecosystem» in ED RICHARDS/ROBIN FOSTER/TOM KIEDROWSKI (eds.), *Communications: The Next Decade*, London 2006, pp. 41–50.

48 RAND Europe outlines three plausible scenarios for the digital future of audiovisual media: (i) Linear Continuum: where the citizen behaviour will change at the margins, but media consumption will remain a largely linear experience; (ii) Digital Content Divide: where the digital «haves» will experience greatly increased interactive media use, while an equal number of «refuseniks» will continue exactly as before to rely on offline media and public service broadcasters; (iii) Time Shifting Linear Consumption: where the majority of the population will use broadband and mobile or in-home devices to time-shift their media to suit their schedule instead of that of the broadcaster. HORLINGS *et al.*, *supra* note 28, at p. 8.

49 HORLINGS *et al.*, *ibid.*

50 HORLINGS *et al.*, *ibid.* at p. 6, referring to the Oxford Internet Survey (OxIS), February 2005, available at <http://www.oii.ox.ac.uk/>.

51 HORLINGS *et al.*, *ibid.*

tion of audiences and widening gap between the digital «haves» and «have-nots». In parallel, a concentration amongst the diverse market players, both horizontally and vertically, is expected, so they can make better use of all the existing channels (e.g. by placing a single video clip on broadband, mobile and digital TV networks) and benefiting from economies of scale.

Undoubtedly, such an environment makes the design of an appropriate regulatory model extremely difficult, in particular where the objective of catering for public interests is concerned. It puts forward the question of whether the existing media regulation, which is primarily analogue-based, is still «up to the job».

IV. A Need to Re-Write the Media Rulebook?

The original reason for media regulation was admittedly not technologically based. It was driven by the intrinsic for democratic societies need of securing certain fundamental rights and freedoms, most notably freedom of expression and its institutional dimension of pluralism.⁵² In economic sense, the objective of audiovisual media rules, besides regulating the use of the scarce spectrum, was to «correct» market failures, providing the merit good of high-quality broadcasting and ensuring a better-informed citizenry.⁵³

While the reality of the digital environment does not change these underlying values, it may be suggested that it already delivers them and thus renders the interventionist approach of conventional media rules (which is also quite costly) obsolete.

Being fully aware of the magnitude of the digital environment transformations, we would still not share such a position. Rath-

er, we argue that, in the new audiovisual media landscape and taking account of the changed patterns of viewers' and businesses' behaviour, a set of **new priorities** is emerging, which may require a **readjustment of the tools of media regulation**.

In no particular order and with the benefit of generality, these priorities involve:

- (i) rethinking the role of public service broadcasters in the new media setting;⁵⁴
- (ii) creating proper incentives for the production of high-quality programmes;
- (iii) making full use of the phenomena of digital media distribution and content creation in the sense of prolonging the long tail, which may include inter alia digitisation of all content, search facilitation, and creating public awareness in this respect;
- (iv) stimulating the Web 2.0 effects in user-generated content creation and harnessing the new creativity;
- (v) reducing the asymmetry of information between the digital «haves» and the digital «have-nots». This may include provision of diverse content in non-digitised form but more importantly, active promotion of media literacy. ■

52 YOCHAI BENKLER, «Communications Infrastructure Regulation and the Distribution of Control over Content» (1998) *Telecommunications Policy*, Vol. 22:3, pp. 183–196, at p. 183.

53 CAROLYN FAIRBAIN, «Serving the Public Good in the Digital Age: Implications for UK Media Regulation» in RICHARDS *et al.*, *supra* note 47, pp. 73–86, at p. 75.

54 For the activities of the BBC in this regard, see ASHLEY HIGHFIELD, «The BBC in the Digital Age», speech given at the IEA Future of Broadcasting Conference, 27 June 2007, available at http://www.bbc.co.uk/pressoffice/speeches/stories/highfield_iaa.shtml.