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Stephen Lax, *Beyond the Horizon – Communications Technologies: Past, Present and Future* (Luton: John Libbey Media, 1997), 133pp. ISBN 1 86020 514 3.

Reviewed by Michael Klontzas

*Beyond the Horizon* is a long awaited attempt to help the uninitiated to understand the underlying technologies of mediated communication. While terms like digital broadcasting, compression, set-top box, optical fibre, multimedia, convergence and Internet ever more often find their way into our scholarly as well as everyday vocabulary, the task of defining these technologies becomes, perhaps, more important than ever before. Following and contributing to the current policy debate requires an insight into the technical characteristics and limitations associated with different options. This aspect has traditionally been considered irrelevant and redundant among scholars, which created an evident gap in the existing literature. The author identified this gap and responded with a well-researched book that seeks to explain how different communications technologies work, to eliminate common false assumptions and answer embarrassing questions. In this latter sense, *Beyond the Horizon* could alternatively be entitled: 'Everything you always wanted to know about communications technologies (but you were afraid to ask)'.

Written in an accessible, inviting style, this up-to-date book primarily targets the media and communications students. Technical details that could alienate the reader are kept to the necessary minimum, without however resorting to gross oversimplification. The author is not content with the common, patronising 'you don't need to know why' practice of merely describing different technologies in terms of their comparative advantages. He goes beyond the discussion of, for example, digital television as a mode of delivery which is simply superior to its analogue predecessor, by using the difference between digital and analogue signals as his starting point and building up from there (ch. 5). Later in the text, it appears to be only natural and self-evident that digital television provides more efficient use of the electromagnetic spectrum, more channels, interference-free reception and compatibility with digital devices like computers.

However, since we are used to perceiving each stimulus as a continuum, ranging between a minimum and a maximum from small to large, light to heavy, short to long and so on, the task of explaining how such analogue phenomena as sound and video can be expressed by means of binary digits often proves very difficult. The employment of metaphors drawn from more tangible realities becomes necessary and, here, the 'digital arrangement' of lights is an excellent example of such an explanatory model (pp. 51-53).

Structurally, each technology is contained in a separate chapter and each chapter is developed along historical and complexity lines, starting from the early/basic and moving towards more recent/integrated concepts. The same principle determines the order of chapters, with the first ones introducing telephony, radio and television and the last ones dealing with digitisation, audio-visual distribution systems, data recording and storage, multimedia and virtual reality, and data communications and the Internet.

The social science perspective is evident throughout the book and particularly in the last chapter, where technology is placed firmly into its socio-economic context. The combination of a historical and critical approach to how different technologies evolved serves to raise a

number of very important issues, which are consistently brought up at different points in the text. For example, it helps to demonstrate how technology is the result of a gradual dynamic socio-economic process, which develops and integrates previous innovations into new configurations. Thus, the popular myth of people who perform an impressive leap by simply stumbling on breakthrough inventions becomes less convincing (pp. 109-110). Similarly, focusing on the multimedia content makes '[...] the differences between the "old" media and the "new" become more trivial than fundamental', whereas examination of new media applications, use patterns and penetration reveals the exaggerations of techno-hype (p. 89).

Having said that, we should not go as far as to describe the transition to the 'new' media in linear, quantitative terms alone. The difference between 200 television channels and five channels is more than just a factor of 40. For better or worse, the emerging media landscape corresponds to a completely new socio-cultural experience, economic arrangement, possibilities and policy considerations. When this reductionism is extended indiscriminately to the technical nature and, more importantly, the social uses of the new technologies, we are bound to end up with awkward assessments: 'It is striking that most information products for the home [video recorders and cameras, computers, satellite and cable systems] are actually enhancements of the television set' (Webster as cited in BTH, p. 109, insertion by Lax). What do a computer and a television set have in common apart from the CRT screen, which is only of secondary importance to the function and purposes of a computer? If sending an email or participating in a discussion group over the Internet is the same as sending a fax or writing a letter to a specialist magazine, respectively, how can we explain that people who would only occasionally send a letter or fax, send and receive tens of email messages every day?

Stephen Lax's scepticism is an effective antidote to the received wisdom of political, economic and industrial discourse. Pervasive claims to self-evident truths are persistently questioned: 'To understand the social role of a technology it is necessary to look at who owns it, who uses it, what it is used for, and more importantly, who decides these things' (p. 107). The effort of contextualising technology cannot but deal with the set of theories of technological determinism and the supposed inevitability of progress and its consequences. The author rightly suggests that new technologies do not emerge in a vacuum. To a large extent they are the product of specific social, macro/micro-economic and political considerations. However, although he points out the role of the Internet as a potentially 'enabling' factor (p. 115, 118) and identifies the inescapable impact of global competition on the strategies of national players (p.110), he plays down the relative autonomy of technological change in favour of socio-economic determinism. Technology is certainly embedded into, and expresses, a certain society, but we should not forget its (re)productive social character. In this sense, technology is an active systemic variable in a dialectic relationship with the socio-economic configuration. Seeking to establish a (predominantly) unidirectional, causal relationship misses the interaction between technology and its social context. Local and international activist movements that developed around cable television, the Internet and even satellite distribution of content demonstrate how important the 'enabling' quality of communications technologies can be, as well as that the effects and uses of these technologies cannot always be prescribed, predicted or contained.<sup>1</sup> The fact that the Internet is often used for 'swapping anecdotes or insults on newsgroups' (p.119) or that the unprecedented proliferation of television channels amounts to 'more of the same' (ch. 6, passim) does not mean that the advent of the 'new' media technologies should be dismissed as irrelevant. 'Noise is just the price we pay for signal. [...] Without junk there is less chance for real quality to emerge...' (Garcia).

In a nutshell, this is an essential reference book for media students and a very good starting point for a disillusioned understanding of the social role of communications technologies.

The inability of the dominant market players to determine the exact course of technological development is also noted by Lax (p. 111).

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### Endnotes

1. David Garcia, *'A Pirate Utopia' for Tactical Television*, <<http://www.desk.nl/~hksteen/articles/tactics.htm>>, 06/06/97.

Nicole Smits and Raul Marroquin, *'Technological Experiments on Amsterdam Local Television'*, <<http://www.desk.nl/~hksteen/articles/wired.htm>>, 22/2/1997.

Open Channels, <<http://www.openchannel.se/links5.htm>>

The Dutch federation of local radio and television stations (Olon), <<http://www.olon.nl/>>

The Participatory Communication Research Section and Network (PCR) of the International Association for Mass Communication Research (IAMCR), <<http://www.kubrussel.ac.be/psw/pcr/websites/pcrweb.html>>

OneWorld Online, <<http://www.oneworld.org/>>