overall security, that a debate over whether public broadcasting is a substitute for a larger regulatory environment is, in effect, an exercise intended to narrow the terms of the debate over the multiple roles and functions of public broadcasting and the need for intervention in the marketplace to ensure a plurality of views in keeping with liberal democratic theory and practice.

The Vanishing Vision provides instructors and students with a range of perspectives on the need to rethink broadcast policy and regulatory regimes in what is commonly—if somewhat flamboyantly and misleadingly—described as 'a borderless communications environment'.

References

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Technopoles of the World: The Making of Twenty-first Century Industrial Complexes

Manuel Castells and Peter Hall

London, Routledge, 1994, x + 275 pp., AU$39.95 (pbk), ISBN 0-415-10014-3 (hbk), ISBN 0-415-10015-1 (pbk)

Castells and Hall have put together an original and important work for those interested in the relationship between high technology and regional development. They base their analysis on case studies gathered from a comprehensive international examination of numerous industrial complexes that have experienced or are pursuing regional development through high technology. In so doing, they provide a profitable historical profile of such development beginning with the almost mandatory examination of the Silicon Valley phenomena as well as charting lesser known developments around the world.

The nature of the topic covered here is innately multi-disciplinary and because of this the work is not readily categorised. It is best described as a planning/economics work because of its primary concern with determining how to generate regional economic growth through high technology industries. However, the significance of information itself and information flows to the processes described in the work ensure that sociological/historical aspects are not ignored. The authors recognise that innovation and enterprise are as much social phenomena as economic activity and as such the work draws on a variety of disciplines including; planning, economics, geography, sociology, history and business.

In the preface and first chapter, the book describes how '[c]ities and regions are being profoundly modified in their structure, and conditioned in their growth dynamics by the interplay of three major historical processes: technological revolution, the formation of a

global economy, and the emergence of an informational form of economic production and management' (pp. 2–3). This is an important statement because it outlines the fundamental analytical elements of the work, namely: the 'technological revolution' arising from advances in information technologies, the related globalisation of the world economy and the increasing significance in this information environment of these processes to 'economic production and management'. It is the links these processes have to the emerging importance of local/regional development in the modern economy that is a key concern of the authors.

The book has 10 chapters together with various figures and tables. The first and last two chapters offer the main analytical content with the intervening chapters providing case-study material. The opening chapter outlines the authors' concept of the technopole, a French word they appropriate which generally refers to 'planned developments' that tend to: group together on some form of park; be concerned with new technologies; and involve a significant level of cooperation between private and public sector. The authors use the term initially to describe a particular type of planned development, namely those that 'have resulted from various kinds of cooperation or partnership between the public and private sector ... [and are] ... promoted by central or regional or local governments often in association with universities, together with the private companies that occupy the resulting spaces (p. 1). However, they provide a more precise definition later in the chapter where the technopole is conceived as including 'various deliberate attempts to plan and promote, within one concentrated area, technologically innovative, industrial-related production: technology parks, science cites, technopolises and the like' (p. 8). The authors evoke this image of the technopole as the industrial descendent of the mines and foundries that so characterised the industrial age. The underlying implication being that a new industrial age—the informational economy—has replaced the former period with the technopole as the primary engine of innovation and economic growth. The substance of the first chapter is an overview and explanation of the technopole and its link to the three historical processes mentioned above. Essentially, this is an analysis of the manner in which these processes interact.

This chapter also raises the significance of innovation and information and the centrality of cities and regions in the new economy to technopole building. The authors outline the necessity to expand their analytical focus from technopoles to also include milieux of innovation because of the durability of older major metropolises as sites of innovation. They describe this second concept as 'pregnant but elusive' but seem to then go ahead and define it in not much less bloated and obfuscated terms. Specifically, as 'the social, institutional, organizational, economic, and territorial structures that create the conditions for the continuous generation of synergy and its investment in a process of production that results from this very synergistic capacity, both for the units of production that are part of the milieu and for the milieu as a whole' (p. 9). To be fair, while this is not a definition that particularly clarifies the milieux of innovation concept any more quickly, it does demand the kind of 'close analysis' the authors ask their readers to apply in a later passage they themselves quote (p. 225).

This initial chapter is followed by a quite comprehensive survey of case-study material which covers a large variety of types of technopoles and is useful for an overview of a subject that sometimes can seem somewhat amorphous because of its scope. The value of this section is not only in the analytical examination of these industrial complexes but also in providing an historical and social context locating them. The limitations of this review do not permit a comprehensive summation of this section but the overview it provides of the multifarious forms and developmental processes which technopoles take is well worth the reader's attention.

In the final two chapters, the authors seek to distil the lessons they have learned from their examination of technopoles and come to some mixed conclusions. They note the two extreme perceptions of the technopole. The first, is an over-enthusiastic, uncritical and misinformed fantasy perception in which technopoles are 'the panacea for countries, regions, and cities struck by the painful adjustments needed in an era of technological and economic transition' (p. 222). The second, is an equally over-enthusiastic denunciation of the technopole as an 'ideological myth'. Not surprisingly, the authors choose to occupy a middle ground that recognises the problems and fantasy without diminishing the potential and feasibility of technopole development.

In so doing, they first note that the motives for such development can occupy at least three different levels: reindustrialisation, regional development and 'the creation of synergy', where synergy is defined as 'the generation of new and valuable information through human interaction' (p. 224). The first motive, 'reindustrialization', refers to the desire to 'create new jobs in new industries [and], to replace old jobs in old industries that are contracting' (p. 223). The second motivation, regional development, has the objective of concentrating 'the process [of reindustrialisation] in those regions that appear to be most in need' (p. 223). The final motivation, 'the creation of synergy', is concerned with generating those elusive conditions that foster innovation and profitable collaboration. That is, to generate the milieux of innovation referred to above and which is fundamentally characterised by synergy.

For the authors, 'synergy is very often seen in terms of networks connecting individuals in many different organizations—public and semi-public and private, non-profit and for-profit, large-scale and small-scale—within a system that encourages the free flow of information and, through this, the generation of innovation' (p. 224). The state is also a major player in innovative advances, largely because of 'its ability to encourage research and development that could not be justified in a normal commercial balance sheet, because it is too large-scale or too high-risk, or both' (p. 229). Universities are often touted as major components in technopole development but the authors find that it 'takes a very special kind of university, and a very special set of linkages to industrial and commercial development' to justify such a claim. The role of the university in developing technopoles is threefold. First, they 'generate new knowledge' and thus it is 'research-oriented universities' which are integral to the informational economy where technopoles are the 'mines and foundries'. Second, universities have the critical role of providing and training the labour force needed for high technology enterprises, particularly 'start up technological centers' (p. 231). Finally, universities are increasingly able to 'assume a direct entrepreneurial role' in the commercialisation of internal research.

An important conclusion that the authors arrive at is the significance of social networks in the process of innovation. They consider the 'critical synergistic effects' necessary to such innovation as dependent upon 'specific forms of social organization and institutional support' (p. 233). However, they criticise the Silicon Valley mythology literature which makes a 'functional rule' out of Californian culture when it is actually 'a specific pattern of cultural behaviour' (p. 233). Despite the romanticised perceptions of informal and spontaneous information sharing in such literature, the authors recognise the 'crucial importance of mechanisms for creative interaction among innovators, including the informal exchange of strategically important information' (p. 233). They conclude, '[t]hus social networks are indeed essential elements in the generation of technological innovation, and they are the backbone of the social organization on any innovative locality' (p. 234).

Castells and Hall conclude the distillation of their lessons and their volume by submitting 'twelve pointers to policy' which they see as integral to technopole

building. In short, these include: (1) the presence of a 'clear development strategy'; (2) the capability to import technology ('branch-plants are better than no plants'); (3) the presence of 'synergy' between players; (4) the presence of 'long-term vision' to develop the region; (5) the identification of 'sources of innovation'; (6) the early establishment of networks ('mechanisms and channels for information to flow'); (7) appropriate distances of regions from core industrial centres; (8) the need for selectivity in 'longer-distance strategies' (that is, it may be necessary to focus on more appropriate areas that suit technopole development rather than use a 'scatter-shot strategy' that is politically acceptable but 'fails to build up momentum anywhere'); (9) 'major central inducements' (government funding); (10) capacity to 'identify new niches' (that is, a region is able to penetrate and capitalise on niche markets); (11) the presence of 'protective mechanisms' that will 'insulate the project, for a long period, against premature accusations of failure'; and finally (12) recognition that evaluation of regional development according to the 'most rigorous exclusive criteria' may overlook the possibility of other 'useful fall-out effects' (pp. 248–50).

The authors outline their intent in the opening paragraphs of their work as a desire 'to bring together in one descriptive–analytic account, the most important ventures in constructing technopoles worldwide' (p. 2). In the main, they follow truly to their course and although some may consider the work more descriptive than analytical there are valuable insights to be gleaned from the work. The authors handle the multi-disciplinary nature of their topic well, moving between economics, history, sociology, planning, business and geography with commendable adroitness. They explore weighty contemporary issues and do well to illuminate an area often subject to considerable verbiage but little enlightenment. Overall, the work is an important, readable and valuable contribution to the literature on high technology and regional development. It is well worth examining if the reader's interests lie in this direction.

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The Political Economy of Communication: Rethinking and Renewal

Vincent Mosco

London, Sage, 1996, x + 307 pp., AU$38.95, ISBN 0-8039-8561-4

The book is dedicated to students and so it is not unreasonable for students to ask: 'what does political economy have to do with communication?' In this book, Mosco responds to the question by offering a guide to political economy and how it can be used to study the media and communication.[1]

From classical to postmodern theorists, Mosco takes on 'an inclusive, open, and non-reductionist perspective' into the study of the political economy of communication. While touching on various theoretical viewpoints, Mosco, nonetheless, provides some practical applications of the field.

The book is divided into two parts. In Part I, Mosco maps the political economy of communication and adopts a 'historical, descriptive and critical' approach. He starts off with the question 'What is Political Economy?' and defines it in terms of power relations between the production, distribution and consumption of resources. He proceeds on with a discussion of its central characteristics—social change and history, social totality, moral