

it is certainly not based on any of the detailed argumentation and analysis we see in his work on the 1880–1921 period.

Similarly, he wishes rather than reasons away any need for affordability to constitute any part of universal service. In support of his argument, he cites four recent studies, including a recent study he conducted with Jorge R. Schement, claiming that these showed that price of service alone is not the most important factor for disconnection, but that a range of other factors relating to credit management, bill payment, call control and usage costs issues are responsible. Certainly credit management and cash flow issues are critical to people on low-income staying connected to the telecommunications network, and this is well known by researchers and policy-makers, but affordability of service still remains important—as is evidenced in correlation between income and telecommunications access in most countries.

The other glaring shortcoming of Mueller's project is his lack of reference to universal service in any other country than the USA. This kind of parochialism is more acceptable when he restricts his focus to careful empirically inflected work on US telephony history. Its force is almost completely vitiated when he rhetorically inflates his peroration in the last chapter to encompass a vision of twenty-first century dual service for the rest-of-the-world. For scholars based in countries suspicious of American electronic empires, the lack of any comparative perspective on universal service is a serious problem—especially given the quite different histories of universal accessibility in other locations.

Are contemporary scholars and policy-makers who continue to insist on the relevance of universal service to be regarded as dupes, or are they instead informed by as complex and rigorous appropriation of the term as Mueller himself? Mueller's shortcomings make it clear that a new history of universal service in America is still required to complement his own—a future work that would focus in detail on the 1920–2000 period in comparative context. These caveats aside, his *Universal Service* is a remarkable achievement, and certainly one that will be required reading for some time to come.

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International Telecommunications Handbook

Rob Frieden

Boston and London, Artech House, 1996, xvi + 419 pp., US\$82.00, ISBN 0 89006 568 3

International Telecommunications Handbook is a volume that is worthy of its title. It is an ambitious work covering a vast array of issues pertaining to international telecommunications. As the author, Rob Frieden, states in the introduction

Universities have only just begun to address whether and how to support an introductory international telecommunications course ... This book attempts to identify both the broad subjects that international telecommunications careers will address, as well as some of the more focussed substantive issues currently debated in policy-making forums, courts and the marketplace. The book also provides some insight into the kinds of skills required in telecommunications and information-processing careers (p. 2).

Rob Frieden is an Associate Professor at Pennsylvania State University. He has an extensive background in law and policy studies and before taking an academic post was deputy director for international relations for Motorola Satellite Communications. The author's background is not incidental to the book's contents. The 18 extensive chapters emphasise legal and political issues in telecommunications together with their interaction with technology. In fact, there is much less on technology than there is on the legal and institutional framework shaping telecommunications. Rob Frieden's book is like a negative image (in emphasis) of the many books on telecommunications management written for aspiring engineering students. Such books devote most of their contents to technology and virtually nothing to policy and politics. *International Telecommunications Handbook* has a much better balance and this makes it all the more appealing and realistic.

The first four chapters of the book set up its basic framework. There is a relatively short introductory chapter which emphasises the interdisciplinary nature of international telecommunications. Chapter 2 introduces the set of descriptive elements that the author uses to make sense of what follows. He calls this the 'Role of MultipleCs' and lists terms such as consensus/compromise, collaboration, consultation, culture, clubbiness, cooperatives, constraints, cross-subsidies and others to establish his intellectual framework. These descriptors emphasise contradictions and tensions in international telecommunications. They are the machinery which drives Frieden's central narrative: the old monopoly system is slowly breaking down and being replaced by one which emphasises market access. Of course this narrative is not new and as a consequence his pluralistic political stance subtly comes through as pro-US. Chapter 3 deals with institutional models for organising telecommunications such as the PTT model verses one based on competition. Chapter 4, which is 10 pages long, is devoted to the technologies of modern international telecommunications such as satellites, submarine cables and 'enabling' technologies. The remaining chapters cover topics on an issue by issue basis: the International Telecommunication Union; standards; submarine cables; broadband networks; international toll revenue; trade in equipment services; development issues; international satellite law; satellite policy case studies; spectrum management; privatization; deregulation case studies; trade policy; and finally prevailing trends in the industry. All in all, we are presented with comprehensive overviews of issues in each of these areas. The chapters are extensive. Of course, the pace of change in the industry means that such a text will inevitably suffer from the passage of time.

In a work such as this, this reviewer is reluctant to find fault with the author who has put together a vast literature of largely contemporary issues and organised it in a coherent way. Yes, some chapters seem a little long-winded and repetitive but this is hardly a criticism. Strategic alliances in telecommunications are now quite prominent in telecommunications and perhaps if *International Telecommunications Handbook* were being written now, more space would have been devoted to this organisational form. But this too is not a serious criticism. My main concern rests with the meta-narrative of the book. It is largely pro-competitive and written from the US stand-point. While adopting an ideological stance in itself is not wrong, this reviewer feels that more effort should have been devoted to genuinely exploring the contradictions inherent in international telecommunications rather than glossing over them with the 'MultipleCs'. Two examples will suffice. In Chapter 2, Frieden cites Geoff Mulgan in a footnote (p. 25) on the point that the pervasiveness of telecommunications networks makes it potentially easier for governments to monitor and control its citizens. This issue is quickly dismissed on the grounds that the growing number of incidents where hackers have penetrated secure networks is a negation of the threat of control. This is a pity since power may have been a more

useful analytical descriptor that the C-words chosen by the author. Likewise, the chapter on development was less than satisfying. Frieden pushes the standard ITU and World Bank line in this chapter on the virtues of investment in telecommunications infrastructure as a means to promote development. Unfortunately, Frieden is too concerned with describing and has given himself little time to reflect and explain some of the central contradictions that continue to be evident in telecommunications development. It is hard to say why this is the case. Apart from explaining it away due to the author's background, it may be that there is little attention given in the text to locating telecommunications in the process of broader global economic change and shifts in production. Not even the information society, let alone the information economy are given attention in this book. The neglect of information as a factor that is relevant to telecommunications traps the narrative into one which constantly describes current telecommunications industry too much in terms of the old monopoly. The result is that we are left with a pluralistic account of change that is written from a US standpoint. For many countries and observers, this may not be the most advantageous position from which to observe the battle.

In sum, *International Telecommunications Handbook* is extensive in scope and provides an excellent introduction to the many interdisciplinary issues of international telecommunications. It is ideal for postgraduate students and is a valuable reference text for researchers in the area. However, its price is well beyond the reach of most students. Whether it ought to be used as a text for teaching will depend on whether description is favoured over analysis and whether a US stand-point is favoured. For this reviewer, who uses the text in teaching, it is best taken in small doses with a keen eye for contra-indications.

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A Philosophy of Intellectual Property

Peter Drahos

Aldershot, UK, Dartmouth Publishing Company, 1996, £42.50, ISBN 1 85521 240 4

A Philosophy of Intellectual Property by Peter Drahos presents a timely and perceptive philosophical guide to the underlying principles and interests which determine intellectual property rights. The Introduction alerts the reader to the key aims of the work, and to the strong need for interdisciplinary analysis. His primary goal is to develop a distinct theory of intellectual property as a guide to future directions in the field. In mapping out this guide Drahos studiously avoids the 'super theory' approach. The overall theme to emerge cautions against the development of intellectual property theory which is driven by the overriding values of proprietarianism. Rather, Drahos argues, rights must be replaced with the concept of privileges, and guided by the philosophy of instrumentalism.

In Chapter 1 Drahos introduces the reader to the various economic theories which support the justification of intellectual property rights, and their enforcement. Noting the imperfections of the neo-classical paradigm, Drahos is clearly conscious of the operation of power underpinning the traditional concept of the market. He recognises, nonetheless, the need for economic judgment based on cost/benefit appraisal. The theoretical viewpoint developed provides a challenging framework from which to test the