**Universal Service: Competition, Interconnection, and Monopoly in the Making of the American Telephone System**

Milton J. Mueller, Jr.

*Cambridge, MA, London, England, The MIT Press and Washington, DC, The AEI Press, 1997, xiii + 213 pp., US$40.00, ISBN 0 262 13327 X*

Self-consciously taking its bearings from present day debates over competition in telecommunications, Milton Mueller's *Universal Service* is a thoughtful and provocative revisionist history of universal service in a specific but significant nation-state, the USA. Mueller concentrates on an important and, surprisingly, often neglected epoch of American telecommunications history—the period of competition between the Bell System and independent telephone companies in the early 1900s.

Commercial development of the telephone as a business had begun in 1877, after it was patented by Alexander Graham Bell in 1876. Bell Co. erected a powerful interlocking business empire on these patent rights, including an equipment manufacturing business (Western Electric), national corporate management (American Bell or Bell Telephone), licensed local operating companies (now colloquially known as the 'Baby Bells') and the long-distance operating company, AT&T. This Bell System was able to stymie serious competition until 1894, when Bell's original patents expired. An independent telephone movement sprung into existence at this time, and by 1897 was going head-to-head with the Bell System, with both providing separate, closed telephone systems. This 'dual service' was an early forerunner of what policy analysts would now call facilities-based competition. At the turn of the twentieth-century in America, a telephone subscriber who had joined one of these systems could not place calls to a subscriber to the other network. For this reason many businesses and households subscribed to both systems and owned two handsets. This dual-service competition continued until the early 1920s, though most localities were serviced through a unified system by 1918.

This 20-plus years of competition in American telephony constitutes a fascinating case study for scholars a century on, as they grapple with the thorny conceptual and practical problems of evaluating the present worldwide vogue for market-based models in communications. One of the intellectual challenges—some might say obstacles—to this process is the need to understand and transform a dense 100 year heritage of telecommunications policy and knowledge rooted in the monopoly telecommunications paradigm. Mueller's strategy here is to construct a different sort of history of the present, leapfrogging the rich and somewhat stifling work associated with the heyday and eclipse of the Bell System and returning to an examination of its origins.

This is a necessary and important gambit. Every regime and episteme has its cherished myths, and often these are myths of origins, grand narratives of how we come to be; or in this case, Adamic myths of how Americans came to communicate with each other. Returning to these origins one often finds different sorts of founding narratives, which in turn suggest different ways of understanding the present—and this is precisely what Mueller has powerfully accomplished.

The common understanding of universal service in America is that it was a concept invented in the late nineteenth century by Theodore Vail, general manager of Bell Telephone from 1878 to 1887 (later president of AT&T) and later translated into the 1934 *Communications Act* as a foundational concept of modern access and equity. Different incarnations of Vail's universal service dictum are well-known, especially the flourish in the 1909 AT&T Annual Report: 'The Bell System was founded on the broad lines of

"One system", "One policy", "Universal service", on the idea that no aggregation of isolated independent systems not under common control, however well built or equipped, could give the public the service that the interdependent, intercommunicating, universal system could give'. Mueller convincingly argues that Vail's notion of universal service signified the interconnection of all telephone exchanges and users—but not a commitment to social ubiquity, in the sense we understand universal service from our historical standpoint in the late 1990s. In Mueller's view, Vail's rationale for universal service comprised four principles: network externality and the importance of an unfragmented telephone service; centralization of control; imperfection of competition in telephony; regulation as the alternative to competition. Universal service, then, was a sophisticated Bell System approach to responses from its competition; it was designed to ward off competitors who constructed alternative access networks to its own. It was, indeed, associated with the formation of a monopoly, but not in the sense that affordable access to telephony for everyone constituted the social contract into which a monopoly provider like Bell entered into with a regulator or government.

The core of Mueller's book—chapters four to twelve—is an impressive and detailed treatment of the growth of the American telecommunications network, through the lens of Bell's tireless competitive, legal and regulatory grappling with its independent telephone competitors, state and Federal government, and, increasingly in the twentieth century, the growing power of regulatory agencies. What emerges is the pre-history of contemporary preoccupations in telecommunications (and some apparently invariably recurring features of the behaviour of monopoly telcos in the face of competition), but what is especially noteworthy is the prominence of competition and interconnection in this early period. Thus Mueller's travails in the archives are a genuinely thought-provoking attempt to think outside the conceptual framework we inherit today.

Mueller is especially concerned to demonstrate the role that competition played in the rapid diffusion of telephony in America. He postulates that dual service competition was the key factor in the spread of service from obvious, more profitable markets in mid-sized towns and previously undeveloped areas to more remote, less densely populated areas of urban and rural America. The lack of interconnection between Bell and independent telephone systems—something unthinkable a century later—led to telephony's spread in the early years, according to Mueller. Had the two systems been connected, the 'Bell System might never have undertaken the massive capital investments required to enlarge its exchanges in outlying areas and its network of toll lines, as those investments would not have given it a competitive advantage over the less extensive networks of the independents ... Neither Bell nor the commercial independents would have been in any hurry to reach out to rural areas and small towns because it would not have mattered which system reached them first' (p. 80). In this way, Mueller seeks to debunk Bell claims that universal service in the modern sense oriented its policy from the beginning, pointing out that it was the exigencies of access competition rather than its own public-spirited commitment to universal coverage which was far more pivotal.

After providing a more complex, nuanced account of the historical origins of universal service from the 1880s to the 1920s, Mueller turns his attention in his following chapters to the 'reincarnation' of universal service (chapter thirteen), universal service in the 1990s (chapter fourteen), and the relevance of the earlier conception of universal service to today's situation (chapter fifteen). Mueller draws a distinction between the 'first-generation universal service debate'—the alternative meaning he argues universal service carried in the 1880–1920 period, and for roughly four or so decades thereafter—and the 'second-generation universal debate'. This second-generation meaning of universal service, with its acceptance of cross-subsidy of local call service and connection by

long-distance service in the name of affordability and accessibility, Mueller considers to have developed in the early to mid-1970s, when AT&T and regulators were forced by political pressures to find an explicit rationale for its monopoly: 'Regulated monopoly and its separations practices were retroactively credited with making telephone service universally available and affordable' (p. 163). On Mueller's account, this retroactive definition of universal service at this time took hold and rewrote history in order that regulated monopoly rather than access competition took much of the credit for the development of a ubiquitous telephone infrastructure.

From this stage in the book, Mueller moves to his end-game—providing a historical rationale for the virtues of competition over regulation in 1990s telecommunications policy. It is here that he starts to depart from his earlier careful analysis and imaginative reconstruction of the history of universal service, and begins to consolidate his reinterpretation of this for the purposes of present debates—something he foreshadows in the opening chapters and the theory of access competition he gives in chapter three.

What is apparent is that Mueller is hamstrung by a shallow notion of history, and one that does not account for the complex ways that historical knowledge operates. In chapter two, Mueller boldly declares his project as one of reframing the debate about universal service—as providing a history (really, *H*istory) of the telephone rather than interpretations of it: 'The important issue is whether decision makers will be guided by history or myth' (p. 10).

Yet this clarion call to Clio begs more than a few questions. Clearly what Mueller is doing is myth-making of his own. There is *prima facie* nothing wrong with this, given that all history is of necessity interpretative, shot through with the debunking of old myths and creation of new ones. Such myths, of course, do all sorts of analytic and ideological work, dovetailing with certain regimes and exuding hostility to others. In this light, it is hard to avoid making inferences as to whose interests Mueller's myths might give succour. One place to take one's cue is from the endpages of his book, which detail the members of the Board of Trustees of the American Enterprise Institute for Public Policy Research who have co-published this work with MIT Press. These people represent the sorts of large businesses of American corporations devoted to advocating and benefiting from the liberalisation of global markets: Proctor & Gamble, Forbes Inc., Motorola, American Express, Dow Chemical, Coca-Cola. With all its scholarly rigour and original research, Mueller's book, of course, cannot be so crudely assigned to the shifting business interests of such backers; for one thing, his arguments would often cut across their changing tactical considerations. What it does make visible for discussion and analysis is Mueller's own rhetoric of authority and his uses and abuses of history.

One can easily draw alternative conclusions based on Mueller's own historical archaeology to those he proffers. The real flaw in Mueller's argument is his telescoping of the period 1921–1996. He simplifies the development and change of the concept of universal service to a legitimate origin and a flimsy latter-day appropriation, for the most part excluding a middle period.

Moreover, Mueller does not engage at any length with contemporary scholars and policy-makers, many of whom have pursued their own critical and historically informed rethinking of universal service. (Although Mueller does provide an economic theory of access competition in chapter three of his book, in which he does consider recent debates on this topic). Mueller's critique in the last part of his book of the notions of universal service, competition and interconnection in the 1996 American *Telecommunications Act* is far too cursory. He dismisses the need for any redefinition of universal service to include advanced, new technologies, but what this really amounts to is, in principle, foreclosure:

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.

*Gerard Goggin*
*Southern Cross University*
*Lismore, Australia*

**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).