

## 5 American historians and the concept of the communications revolution

Richard R. John

### I

For more than 50 years, it has been conventional for historians to posit that the United States experienced a 'communications revolution' at some point between the eighteenth century and the present day. Though the concept is not, as its originator conceded, 'particularly euphonious' (Albion 1932: 720), it has played a prominent role in a variety of notable studies of American life (Bledstein 1976; Chandler 1977; Formisano 1983; Susman 1984; Brown 1989; Gilmore 1989). Indeed, it would be hardly an exaggeration to suggest that the concept has played for historians of communications a role analogous to that which the notion of the frontier has played for historians of the American West.

Like 'industrialism', 'mercantilism', and the other general concepts that historians invoke to explain the large-scale processes that have figured so prominently in the making of the modern world, the idea of the communications revolution has eluded precise definition. Most would probably agree with the British literary critic Raymond Williams that it has been a 'long' revolution in the sense that it occurred over a relatively extended period of time (Williams 1961). Few would deny that it has come to exert a profound influence not only upon politics and the economy, but also upon the very way we think about the past. Yet there is no consensus as to precisely which sequence of events it is meant to explain or even, for that matter, when it began. Until recently, there was even some disagreement as to how it ought to be spelled.<sup>1</sup>

This chapter seeks to clarify what historians of the United States have meant when they have written about the communications revolution. No attempt has been made to be comprehensive. Rather, it is my intention to sketch a few of the more influential ways in which

this concept has been deployed and to suggest how insights drawn from historical sociology and literary theory might help us to improve our understanding of the phenomenon that it seeks to explain.

### II

The first historian to write extensively about the idea of the communications revolution was Robert Albion, a maritime historian who is best remembered today as the author of the *Rise of New York Port, 1815-1860* (Albion 1939). According to Albion, the concept described a constellation of changes that had taken place in Great Britain and the United States in the period between 1760 and the present day (Albion 1932, 1933). Albion chose 1760 as his starting point because of his conviction that it marked a decisive turning point in the *speed* with which information, people and goods moved through the economy. Prior to 1760, Albion explained, the maximum speed rarely exceeded 20 miles per hour, which was, as he put it, 'not impressive' (Albion 1933: 14). For Queen Elizabeth no less than for Emperor Augustus, the fastest means of communication was a mounted horse express.

In the late eighteenth century, all this would change. In 1760 and each following decade a 'greater development' occurred in the speed with which people, information and goods could move through the economy than had taken place during the preceding 1,500 years (Albion 1933: 13). To make his point, Albion listed a dozen technological innovations that had, in one way or another, increased the speed of movement over space (Albion 1933: 16). Year after year and space-destroying innovation after space-destroying innovation, one improvement succeeded another in a seemingly inexorable upward spiral of people, places and dates. At the top of Albion's list was the completion of the Bridgewater Canal in 1761 and the beginning of 'scientific' road construction in 1803. Next followed the steamboat, the railroad, the electric telegraph, the transatlantic cable, the telephone, the interurban, the automobile, wireless transmission, the airplane and the radio.

Albion's preoccupation with speed led him to highlight the importance of the communications revolution in the United States. In Great Britain, Albion observed, it should come as no surprise that the communications revolution was closely linked with, and largely dependent upon, a prior revolution in industry. After all, given the small size of the country, there was simply not that much space to destroy. In the United States, in contrast, the enormous size of the

country meant that the industrial revolution could not take place until a communications revolution had already occurred. Here, Albion observed, improvements in communications technology had 'performed wonders' while the enterprises that would spark the industrial revolution remained nothing more than 'infants' (Albion 1932: 719).

Albion's preoccupation with communications technology might lead one to suppose that he would place special stress upon the constructive role of public policy. After all, most of the communications technologies that Albion listed had either received massive amounts of public support or, in the case of the postal system, were under direct government control. Curiously, however, Albion said surprisingly little about who funded these innovations – or, for that matter, precisely why they came into being when they did. At no point, for example, did he draw any special attention to the fact that, at least in the United States, the rapid expansion of the postal system and the boom in internal improvements coincided almost exactly with the establishment of an effective central government following the adoption of the federal constitution in 1788.

Even more troubling was Albion's almost obsessive preoccupation with speed. While it might seem plausible to lump together all communications innovations as space-destroying, this notion cannot withstand close scrutiny. For one thing, it is open to the charge of anachronism. In 1760, at the start of Albion's communications revolution, no contemporary observer would have perceived communications as slow. After all, there had never been a time when it had been faster (Steele 1978, 1986). In addition, it greatly oversimplifies a complex process by assuming that a wide variety of innovations can be grouped together under a single rubric. Roads and canals were important for many reasons that had little to do with the speed with which they moved information, people and goods, from place to place. After all, the coal barges that passed through the Bridgewater Canal were pulled by horse, a means of transportation that was hardly new in 1760. Far more important was the role of the canal in increasing the capacity of this movement and its penetration into the hinterland. Similarly, the postal system facilitated not only the rapid movement of information over space, but also the regular and reliable transmission of information touching on commerce and public affairs (Mueller 1986; John 1989).

A further problem with Albion's approach can be traced to his extraordinarily wide-ranging discussion of the effects that this communications revolution supposedly wrought. In analysing the innovations themselves, Albion focused quite narrowly on their role in

increasing the speed of movement over space. In commenting on their effects, however, he was decidedly less restrained. New York City, Albion proclaimed was 'essentially' a 'product' of the communications revolution. By the early nineteenth century, Albion added, the United States had entered a veritable 'age of speed' (Albion 1933: 21). It was almost as if, in describing these effects, Albion found himself overwhelmed by a kind of millennial zeal.

Albion may have been the first historian to describe the role of communications technology in such expansive terms. Yet he was by no means the first to rhapsodize about their effects. From the postal system and the electric telegraph to the telephone and the computer, every major innovation in the transmission and processing of information has been hailed by contemporary observers as a harbinger of a new order of the ages (Czitrom 1982; John 1988, 1990). In 1832, moral philosopher Francis Lieber praised the postal system as 'one of the most effective instruments of civilization' whose effects were comparable to those of the printing press and the mariner's compass (Lieber 1832: 289). Five years later, travel writer Francis Grund hailed the postal system and the press for having 'revolutionized' the world (Grund 1837: 120, 389). Lieber and Grund, it might be noted, wrote long before the commercialization of the electric telegraph in 1844, the event that is often hailed as the starting point for the contemporary preoccupation with communications technology as an agent of change (Czitrom 1982).

In one respect, Albion's treatment of these effects was understandable. As cultural historian Dolores Greenberg has observed, economic historians often rely upon the language of contemporary discourse to make sense of the large-scale processes that they describe (Greenberg 1990). Albion was well aware of this and, at one point even went so far as to quote approvingly an effusive paean to communications technology that had been penned by writer Jack London (Albion 1933: 24). Indeed, Albion may well have obtained the germ of his concept from the flamboyant rhetoric that he would have encountered in the course of his research for his book on the port of New York. In another sense, however, it is curious that Albion proved so unwilling to break with convention. After all, to a far greater extent than most historians of his day, he was sensitive to the importance of infrastructural innovations whose effects had little to do with speed. Given this circumstance, Albion's reluctance to dissent from orthodoxy provides yet another example of the remarkable extent to which historians are constrained by the narrative strategies upon which they rely in making sense of the past.

## III

While Albion himself did little to answer the myriad questions that his essays had posed, later historians would transform the concept of the communications revolution into a valuable analytical tool. Among those historians to grapple with Albion's concept, perhaps the most imaginative was Alfred D. Chandler, Jr. That Chandler should find merit in Albion's ideas was hardly surprising. During the 1940s, when he was a graduate student at Harvard, Chandler served as Albion's teaching assistant and learned at first hand about his expansive ideas regarding the role of communications in the shaping of the American past.<sup>2</sup>

In certain respects, Chandler's formulation of the concept was similar to Albion's. Like Albion, he emphasized movement over space and, in particular, what he termed 'economies of speed'. Chandler also followed Albion by placing great stress on technological innovations such as the steam railroad and the electric telegraph. He even retained Albion's spelling: in contrast to most recent historians, he continued to spell 'communication' as a singular noun, that is, without the 's'.

Chandler also shared Albion's sensitivity to the importance of infrastructural innovations in communications technology. Indeed, Chandler was among the first historians to introduce the concept of a communications infrastructure to the historians' lexicon (Chandler 1977). None the less, at various points Chandler came close to treating these innovations as nothing more than the product of prior changes in transportation or industry. For example, in his discussion of the postal system, Chandler treated the establishment of a network of specially designated distribution centres as the product of changes set in motion by the coming of the steam railroad even though, in point of fact, these centres had been in existence for over 50 years (Habersham 1800: 38). Similarly, Chandler treated the express industry as little more than an ancillary arm of the steam railroad, even though the former operated independently of the latter from the 1830s until the First World War.

On the critical issue of periodization, however, Chandler broke new ground. For Albion, the communications revolution was a product of the eighteenth century, and, in particular, of the radical transformation in the movement of information, people and goods that began with the completion of the Bridgewater Canal. For Chandler, however, the revolution had to wait until the nineteenth century and a sequence of events that included the commercialization

of the electric telegraph in 1844. The critical constraint, according to Albion, was the slow speed with which information, people and goods moved through the economy before 1760. For Chandler, it was the absence of new sources of energy before 1840 and, in particular, the absence of electricity and the inaccessibility of a cheap supply of coal (Chandler 1977: 76, 192).

Chandler was not the first historian to tinker with Albion's periodization in this way. As early as 1951, Lee Benson had proposed that the concept of the communications revolution be confined to the period after 1850, a suggestion that a number of historians have since seen fit to adopt (Benson 1951; Schonberger 1971; Bledstein 1976; Susman 1984; Schlereth 1992).<sup>3</sup> None the less, in at least two respects, Chandler's formulation marked a distinct conceptual advance. First, while Chandler was by no means insensitive to the importance of the postal system and internal improvements, he gave greater prominence to innovations that were dependent upon new forms of energy like the steam railroad and electric telegraph. Second, Chandler broke the link that Albion had made between communications and transportation. In the spirit of a venerable eighteenth-century tradition, Albion had presumed communications to embrace the movement not only of information but also of people and goods. Following what was rapidly becoming a twentieth-century convention, Chandler confined it to the movement of information, and, above all, to information relevant to commerce and industry. To explain the parallel transformation in the movement of people and goods, he borrowed the concept of the 'transportation revolution' from George Rogers Taylor, who had included it in the title of a survey of the early nineteenth-century American economy that he had published in 1951 (Taylor 1951).

Far different in his approach was Thomas Cochran. Like Chandler, Cochran was a business historian who had done a good deal of original research on the nineteenth century. Unlike Chandler, however, Cochran retained Albion's traditional preoccupation with the period before 1840. In a notable essay on the 'business revolution' that Cochran published in 1974, as well as in a later book, Cochran devoted special attention to the changes in the American economy that occurred in the period between 1790 and 1840 (Cochran 1974, 1981). Despite the fact that Cochran refrained from using the concept of a communications revolution in either his essay or his book, there can be little question but that the changes that he described had much in common with those that Albion had focused on over 40 years before. Though Cochran cast only a perfunctory glance at Albion's

corpus in his notes, he acknowledged a major debt to Allan Pred, a historical geographer whose own study of interurban information flows in the period between 1790 and 1840 had been heavily influenced by Albion's *Rise of New York Port* (Cochran 1974: 1451, 1464; Pred 1973).

Cochran's business revolution echoed Albion's communications revolution in a number of respects. Like Albion, Cochran highlighted the period prior to the coming of the railroad and telegraph. And like Albion, Cochran accorded enormous significance to speed – or, as Cochran put it, the 'increase in the tempo of business activity' that made it possible for entrepreneurs to make decisions based on 'better information', including 'more up-to-date knowledge of the state of the market' (Cochran 1974: 1463–4).

Notwithstanding these similarities, Cochran flatly rejected Albion's focus upon technological innovation. For Cochran, this focus upon technology overlooked the role of more fundamental changes originating in 'social structural conditions' such as the 'demands' placed on technology by 'new elements' in the 'business-political-social system' (Cochran 1974: 1449). Above all, Cochran rejected Chandler's focus upon technological innovations based on new forms of energy such as electricity and coal. The 'most important' factor in American economic development, Cochran proclaimed, had *nothing* to do with industry or, for that matter, with 'machinery using nonmanual power' (Cochran 1974: 1463, 1449). Rather, it was a social structure that facilitated the rapid processing of business information and a cultural environment conducive to entrepreneurship.

Chandler and Cochran exemplify two of the principal ways in which American historians have drawn upon Albion's seminal insight into the role of the communications revolution as an agent of change. Historians sympathetic to Chandler's preoccupation with the role of technological innovation in the historical process tend to treat the communications revolution as a product of the changes set in motion by the steam railroad and the electric telegraph. This is true even of those historians who, like Warren Susman, are far more interested in popular culture than in the dynamics of technological change (Susman 1984). On the other hand, historians interested primarily in culture or social structure tend, like Cochran, to focus on the period prior to 1840. This is also the case for those who, like Ronald Formisano, remain highly sensitive to the role of institutional innovation as an agent of change (Formisano 1983).

## IV

Although Chandler and Cochran are often understood to exemplify antithetical approaches to the study of economic development, their treatment of communications shares a number of common features. Both identify communications primarily with the movement of information over space and both presume changes in communications technology to follow changes originating in some other realm.

Far different in this regard is the historical sociologist Daniel Bell. Though Bell's interests are confined almost exclusively to the twentieth century, his insights into the communications revolution during this period have much to offer historians of the less recent past (Bell 1979). Central to Bell's approach is the concept of a 'communications infrastructure'. By this, Bell means something more than a discrete technological innovation such as the electric telegraph or even a single technological attribute such as speed. Rather, he means a complex configuration of interrelated components that follows its own internal logic and that facilitates the processing of information as well as its movement over space. It is, in short, less a product of changes occurring elsewhere in the economy than an autonomous agent of change. To illustrate what he means, Bell highlights the myriad implications of the gradual merger of telecommunications and teleprocessing that has come to be known as communications.

Bell is surprisingly vague about precisely how and why this infrastructure came into existence when it did. One thing is certain: though Bell concedes that public-policy considerations may come to loom large in the future, he is convinced that they played at best an incidental role in the past (Beniger 1986: 184–6). As an alternative, Bell points to the impetus that this infrastructure received from a fundamental transformation in the character of work. In the nineteenth century, Bell posits, work continued to be measured in terms of the physical labour it demanded. In the twentieth century, however, work has come to be based upon the knowledge it embodied. The communications infrastructure, Bell explains, is a product of this epochal social change (Bell 1979).

Few historians are likely to share Bell's dismissive attitude toward the communications infrastructure in the less recent past. None the less, his description of the communications infrastructure as a configuration of interrelated components complements the more narrowly focused accounts of Chandler and Cochran. In this way, by drawing our attention to the autonomous role of the

communications infrastructure in the present, Bell points us towards a fuller understanding of its importance in the past.

## V

If Bell highlights the importance of the communications infrastructure as an agent of change, James Carey highlights the decisive role of public policy in setting this infrastructure in motion (Carey 1989). At first glance, nothing would seem to be further from Carey's intentions. A communications critic interested primarily in the explication of texts, Carey is hardly the sort of scholar one would assume to have valuable suggestions for historians interested in the dynamics of institutional change.

None the less, it is here that Carey makes what is perhaps his most notable contribution. Like Albion, Carey is much impressed by the distinctive space-binding character of long-distance communications in the United States. Yet while Albion takes this circumstance more or less for granted, Carey treats it as a problem to be explained. Carey's interpretation hinges on the highly suggestive contrast he draws between a communications policy intended to facilitate the transmission of information over space, and a policy intended to serve as a container for shared community values. Like the great Canadian economic historian, Harold Innis (Innis 1951), to whom Carey acknowledges a major debt, Carey is convinced that the communications infrastructure in the United States has systematically subordinated the promotion of community values to the conquest of space. Indeed, so pronounced is this shift that Carey goes so far as to hint that, were he to 'flirt' with 'more deterministic language', he might well want to describe the United States as the 'product' of a communications policy that had consistently promoted 'literacy, cheap paper, rapid and inexpensive transportation, and the mechanical reproduction of words' (Carey 1989: 2).

In explaining this outcome, Carey looks neither to culture and social structure nor even to technology. Instead, he turns to what might best be described as political fiat. In particular, Carey raises the distinct possibility that the American communications infrastructure was the product less of unintended consequences than of deliberate design. Though Carey is vague about who brought this outcome about, his scattered references to the intentions of the Founding Fathers suggest that he would direct our attention to the decade immediately following the adoption of the federal constitution in 1788. This is a most valuable lead. After all, it was during the

1790s, more than half a century prior to the coming of the steam railroad and the electric telegraph, that Congress made its pivotal public-policy decisions regarding the postal system and the press, the two most important elements of the post-constitutional communications infrastructure. And it was in this decade, rather than in the 1760s or the 1850s, that the modern American communications infrastructure was born (Pool 1983; John 1993).

Carey's analysis is not without its problems. At times, his account of the alternative, community-based communications policy verges on the sentimental. It is worth remembering that the staunchest nineteenth-century advocates of the policy for which Carey expresses such evident admiration included southern slaveholders wary of the influence of ideas that might prove subversive to their enormous investment in slaves. In addition, Carey completely overlooks the pivotal role of the postal system, the principal post-constitutional long-distance communications technology. Indeed, when Carey postulates that the commercialization of the electric telegraph marked a 'decisive and cumulative break' in American history by serving as the 'critical instrument' in expanding the price system into the hinterland, one is tempted to observe that Carey himself has fallen victim to the very rhetoric of the electrical sublime that he himself has so persuasively debunked (Carey 1989: 214, 222).<sup>4</sup> Long before the advent of commercial telegraphy, the postal system had created a national market. And for many decades after the commercialization of the telegraph, the postal system remained a far more important link to the wider world for the vast majority of the inhabitants of the United States (John 1993).

## VI

Notwithstanding these shortcomings, Carey does highlight, to a far greater extent than Chandler or Cochran, the crucial role of human agency in the making of the communications infrastructure in the United States. Indeed, it would not be too much of an exaggeration to suggest that it was precisely the space-binding communications policy that Carey has so perceptively described that best explains the space-destroying communications revolution that Albion so enthusiastically sketched. Carey himself would presumably be wary of making such a linkage, sceptical as he is of the merits of ideas such as the communications revolution (Carey 1989: 2). Yet there is good reason to hope that historians, preoccupied as they are with a somewhat different set of concerns, may well choose to follow his

lead. Like so many of the catch phrases that historians invoke to make sense of the past, the concept of the communications revolution was devised to explain a phenomenon that unquestionably occurred. By returning the concept to the period for which it was initially devised and by reorienting our sights to embrace not only technology, culture and the social structure but also the communications infrastructure and public policy, it may well become possible to improve our understanding of this important, yet little understood, transformation in the making of the modern world.

## NOTES

- 1 Prior to the Second World War, it was customary to spell 'communication' without the final 's'. Since that time, however, most historians have added a final 's', and for the sake of consistency I have followed this convention throughout.
- 2 Alfred D. Chandler, Jr, to Richard R. John, 19 June 1992.
- 3 Benson, however, later changed his mind and decided to locate the beginnings of the communications revolution in the years immediately after the Treaty of Ghent in 1815 (Benson 1961: 13).
- 4 Illustrative of Carey's neglect of the postal system is his claim that the receipt of a letter through the postal system is an 'old habit' while the receipt of a newspaper is 'modern' (Carey 1989: 1). In reality, the opposite is closer to the truth. Following the enactment of the Post Office Act of 1792, with its generous subsidies for the newspaper press, thousands of Americans grew accustomed to receiving a newspaper through the postal system who seldom, if ever, received a letter that had been sent through the mail.

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