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The Telephone on Main Street: Utility Regulation in the United States and Canada before 1900

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How would the history of telecommunications change if we centered our attention on something as mundane as the telephone pole? In this paper, I compare the first decades of telephony in the Midwestern United States and Central Canada, arguing for a "bottom-up" history of the information age rooted in local conditions and physical space. We may imagine the telephone as an "annihilator of space," but nineteenth-century telephony was profoundly shaped by its municipal milieu. Historians have chronicled debates over telecommunication at the federal and state or provincial levels. But there is a tumultuous history of local regulation and negotiation that preceded state commissions and national networks. The cities in which municipal government became actively engaged in telephony during the 1880s enjoyed earlier, wider access to telephone service, more interconnection between town and farm, and a less genteel culture of telephone use. Cities without active municipal involvement escaped the chaos of competition but saw more expensive service and less use of the telephone as a social medium. Local politics—and the politics of localism—had a lasting impact on the development of the industry and indeed the culture and meaning of telephone use.

"Our eyes . . . run through them," John Updike wrote of telephone poles in 1963. "They blend along small-town streets / Like a race of giants that have faded into mere mythology."[1] The novelty of a poem about telephone poles only underlines Updike's reflections on their invisibility. Today's communication networks are ubiquitous, but essentially unseen. Underground cables and satellite links render much of the telephone network literally invisible; the rest escapes our notice because of its reliability and

[1] John Updike, "Telephone Poles," in *Telephone Poles and Other Poems* (New York, 1963), 43.

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familiarity. In the late nineteenth century, telephone poles and wires were neither reliable nor familiar. The low-tech elements of the era's high-tech communication networks were much harder, both physically and politically, to ignore. Before about 1900, almost all telephone lines ran above ground, and every private phone required a separate wire. In large cities like New York or Chicago, downtown telephone poles stood up to 90 feet high and blackened the sky with thousands of wires.

FIGURE 1
Sleet storm in Fergus, Ontario, 1906

Source: Bell Canada Historical Archives.

It is difficult to appreciate the intensity of feeling and debate that poles and wires once provoked. The *Montreal Star*, only half in jest, listed a docket of charges against telephone and telegraph poles in the early 1880s:

> Boys can't fly kites for these wires; good natured gentlemen slightly at sea can't steer their way home through the poles in early morning. Housewives can't see what's going on in the streets from their windows; tobogganing is fatal; policemen can't catch thieves; runaway horses smash their vehicles; and the poles don't understand the damage they are doing, and therefore it is useless to berate them as we do our equally wooden City Council.[2]

The *Star* found humor in the interaction of wooden poles and city councils, but emotions on this subject often ran high. Journalists called the multiplying poles eyesores and traffic hazards. Vigilantes tore them down by night, and workers snuck out to erect new ones under cover of darkness. Sometimes municipal governments ordered their fire departments to chop down offending telephone poles; sometimes company linemen perched atop those poles to prevent firefighters from chopping. Farmers accused telephone and telegraph wires of altering the weather. During an 1885 small-pox epidemic in Quebec, rumors spread that the disease was transmitted over telephone wires, and an angry mob attacked the Montreal telephone exchange.[3]

A great cliché of the late nineteenth century was that the telephone, like the telegraph and the railroad before it, was "annihilating" space—linking cities and markets, erasing sectional differences, rendering isolated communities obsolete in the face of technological change.[4] To a considerable extent, the history of the telephone has been written in this spirit. One set of scholars examines the history of the telephone as a national network, in particular the rise to dominance of the American Telephone and Telegraph Company. Another stresses the agency of individual consumers, but eschews analysis of politics or collective action.[5]

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[2] Quoted in Robert Collins, *A Voice from Afar: The History of Telecommunications in Canada* (Toronto, 1977), 122.

[3] See, for example "Telephone Poles Cut Down," *New York Times*, 3 July 1883, p. 2; "Telegraph Poles Cut Down," *New York Times*, 4 Nov. 1883, p. 9; "An Inside View of the Telephone Business," *Indianapolis Daily Sentinel*, 8 April 1886, p. 4; *Telephone History of London, Ontario* (Montreal, 1972), 2; "Wiggins's Great Discovery," *New York Times*, 21 June 1891, p. 17. On the Montreal smallpox riot see William Patten, *Pioneering the Telephone in Canada* (Montreal, 1926), 74; Collins, *A Voice from Afar*, 120-24.

[4] For discussion of this phrase see Leo Marx, *The Machine in the Garden: Technology and the Pastoral Idea in America* (New York, 1964); Daniel J. Czitrom, *Media and the American Mind: From Morse to McLuhan* (Chapel Hill, N.C., 1983); Stephen Kern, *The Culture of Time and Space, 1880-1918* (Cambridge, Mass., 1983).

[5] There are too many to list, but good examples of the first group include John Brooks, *Telephone: The First Hundred Years* (New York, 1976); Robert W. Garnet,

How would the history of telecommunications look if we centered our attentions on something as prosaic as the telephone pole? Wooden poles on town and city streets rooted the late nineteenth century's new networks of communication in the local and the political, arenas many scholars have overlooked. The first telephone systems in the 1870s and 1880s were undeniably local affairs. They were small, scattered networks, providing only short distance service, usually franchised by municipal governments and often operated by local firms. They were also inescapably political. Even if operated by private companies, telephone networks were creations of a complex political environment where rival corporations had to contend with each other, with consumers, and with public officials from multiple levels of government.

Historians have chronicled debates over telephone regulation at the federal and state or provincial levels.[6] But the political history of the telephone did not begin with the establishment of regulatory commissions in the early 1900s. There is a tumultuous history of local regulation and negotiation that preceded state commissions, though the invisibility of municipal politics to most historians, like the invisibility of telephone poles, has obscured it.[7] In this paper, I aim to retrieve from obscurity the history of telephone communication and construction that preceded long distance networks, state and federal regulation, and the unification of the Bell System. It is anchored by comparative case studies of two communities—Muncie, Indiana, and Kingston, Ontario, and the larger regions of which those cities were a part. I compare the political and cultural history of a new technology in two countries, the United States and Canada, identifying ways that national and local culture informed regulatory choices, but also the ways in which local politics and the politics of localism shaped the culture and meaning of telephone use.

"They are ours," Updike wrote of his telephone poles. "We made them." His poem offered a succinct statement of the social construction of technology—"the Nature of our construction"—twenty years before Wiebe

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The Telephone Enterprise: The Evolution of the Bell System's Horizontal Structure, 1876-1909 (Baltimore, Md., 1985); Kenneth Lipartito, *The Bell System and Regional Business: The Telephone in the South, 1877-1920* (Baltimore, Md., 1989). Good examples of the second group include Michèle Martin, *Hello, Central? Gender, Technology, and Culture in the Formation of Telephone Systems* (Montreal, 1991); Claude S. Fischer, *America Calling: A Social History of the Telephone to 1940* (Berkeley, Calif., 1992).

[6] Alan Stone, *Public Service Liberalism: Telecommunications and Transitions in Public Policy* (Princeton, N.J., 1991); Jeffrey E. Cohen, *The Politics of Telecommunications Regulation: The States and the Divestiture of AT&T* (Armonk, N.Y., 1992); Paul Teske, *American Regulatory Federalism and Telecommunications Infrastructure* (Hillsdale, N.J., 1995).

[7] This argument is made for utility regulation in general in George L. Priest, "The Origins of Utility Regulation and the 'Theories of Regulation' Debate," *Journal of Law and Economics* 36 (April 1993): 289-329.

Bijker and Trevor Pinch met over pink champagne in the Burg Landsberg.[8] Telephone poles and the networks they supported were both socially and politically constructed. Chestnut and cedar tree trunks sunk into city streets rooted the new "space-annihilating" technology of the telephone in both physical spaces and local political milieus. Poles became the principal site of conflict and negotiation among local governments, the telephone industry, and the public. By looking at old poles with "our eyes washed clean," we may rediscover the local and political character of the first telephone networks.

The Telephone in Indiana and Ontario

In the spring of 1905, the Canadian Parliament organized a special commission to investigate the telephone industry in Canada. After two months of hearings and testimony, the acting chair of the commission posed a glaring question to his colleagues. "What I cannot understand," said Adam Zimmerman, "is why the people in the United States find so much more use for the telephone than they do in Canada. There must be some reason for it." In the state of Indiana, Zimmerman noted, there was by 1905 one telephone for every twelve people. In Zimmerman's own province of Ontario, there was only one phone for every ninety people—and populous, prosperous Ontario was well ahead of most Canadian provinces in this regard.[9]

Other Canadians wrestled with Zimmerman's question. F. Page Wilson, secretary of the Canadian Independent Telephone Association, pressed his colleagues to explain:

> There is no reason on earth why the province of Ontario should not have just as many telephones to the square mile as, say, the state of Indiana. Conditions are just as good; the density of population about the same; the intelligence and enterprise of its inhabitants by no means inferior. Why, then, are we . . . unable to show similarly splendid results?[10]

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[8] The meeting (along with the champagne) is cited as the genesis of the social construction of technology (SCOT) school in *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*, ed. Wiebe E. Bijker, Thomas P. Hughes, and Trevor J. Pinch (Cambridge, Mass., 1987), 1.

[9] House of Commons, Select Committee Appointed to Inquire into the Various Telephone Systems in Canada and Elsewhere, *Report*, 2 vols. (Ottawa, 1905), 1:7, 827. The committee was presented with figures showing one telephone for every 63 residents in British Columbia, one phone for every 89 residents in Ontario, every 102 residents in Quebec, every 122 residents in Nova Scotia, and every 129 residents in New Brunswick. Representatives for Bell Canada challenged these figures, and indeed they are lower than the national aggregates provided by Bell Canada and the Census Bureau would suggest. Still, there is no question that by 1905 the diffusion of the telephone in the United States and the Midwest in particular had far outpaced development in any part of Canada.

[10] F. Page Wilson, "Telephone Requirements in Canada," *Telephony* (March 1908), 190-92.

Telephone technology arrived in Indiana and Ontario at the same time. The first telephones were installed in 1877, with private lines strung across rooftops. The first true telephone networks, with switchboards at a central office and poles erected along city streets, began appearing after 1879. The telephone industry in both countries would come to be dominated by affiliated corporations built around Alexander Graham Bell's original patents on the telephone. The American Bell Telephone Company of Boston leased its phones to dozens of local and regional affiliates across the United States. (After 1900, the American Telephone and Telegraph Company [AT&T] strengthened and centralized its control of the loosely affiliated Bell system.) In Canada, Alexander Bell's patents were held by the Montreal-based Bell Telephone Company of Canada, a semi-independent subsidiary of Boston's American Bell.

As Wilson argued, Central Canada and the Midwestern United States were broadly similar in population and geography. There was little to distinguish a city like Muncie, Indiana—the famously average "Middletown" of Robert and Helen Lynd—from Kingston, Ontario, or indeed from a hundred similar communities across Central Canada and the Midwestern United States.[11] Yet the shape of the telephone industry and indeed the very culture of telephone use developed differently in each locale.

An undeniable excitement, fueled by advertising and publicity, surrounded the first telephones in Muncie. The local newspapers called the telephone a "marvelous invention," "truly wonderful," "destined to be a great institution." All were encouraged to try the device and to visit the telephone exchange.[12] Kingston's first encounters with the telephone were quieter than Muncie's, less breathless, and more reserved. Certainly, the city's leading newspaper managed to contain its excitement. "The telephone has become a most useful instrument in other cities," allowed the *Daily British Whig* on the eve of the telephone's arrival, "and its value has been appreciated by a few who have already experimented with it here."[13]

The percentage of Muncie residents with telephones was nearly double that of Kingston residents in 1900, and more than triple in 1910. These

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[11] Robert Staughton Lynd and Helen Merrell Lynd, *Middletown: A Study in Modern American Culture* (New York, 1929); *Middletown in Transition: A Study in Cultural Conflicts* (New York, 1937). The Lynds came to Muncie, Helen recalled, "precisely because there was nothing exceptional about it." Helen Merrell Lynd, *Possibilities* (Bronxville, N.Y., 1983). On Kingston as a representative Canadian community, see G. J. Levine, R. Harris, and B. S. Osborne, *The Housing Question in Kingston, Ontario, 1881-1901: A Report of an Investigation* (Kingston, Ont., 1982), 5-6. For detailed descriptions and comparison of Muncie and Kingston, see Robert MacDougall, "The People's Telephone: The Politics of Telephony in the United States and Canada, 1876-1926" (Ph.D. diss., Harvard University, 2004), 33-84.

[12] *Indiana Farmer*, 6 Oct. 1877, p. 1; *Muncie Daily News*, 4 March 1880, p. 1; *Muncie Daily News*, 8 March 1880, p. 1.

[13] *Kingston Daily British Whig*, 22 April 1881, quoted in Nick Mika and Helma Mika, *Mosaic of Kingston* (Belleville, Ont., 1969), 97.

numbers tell only part of the story. The demographics of early telephone use were strikingly different in Central Canada and the American Midwest. Wealthy citizens of both countries were able to afford telephone service before their less affluent neighbors. In Muncie and the Midwest, however, middle- and even working-class citizens became telephone subscribers long before their counterparts in Kingston and Central Canada.

In 1911, professionals—doctors, lawyers, professors, and the clergy—made up less than 3 percent of Kingston's working public, but accounted for over 20 percent of Kingston's residential phones. In Muncie, the professional class was also over-represented on the Bell network but not by nearly as much; professionals owned 9 percent of the city's phones. By then, over 35 percent of the Bell telephones in Muncie belonged to farmers, tradespeople, and unskilled laborers—a group that accounted for only 13 percent of Kingston's residential phones.[14]

Telephones moved from the office to the home more quickly in Indiana than in Ontario. They spread from towns and cities into rural areas much sooner and with more success in the American Midwest than in Canada or indeed in any other part of the United States. The number of women with telephone service in their own name was higher in Muncie than in Kingston, and, while it is difficult to track telephone use by non-subscribers, telephones in the Midwest seem to have been used more commonly by women, children, and servants than telephones in Central Canadian offices and homes.

The telephone also appeared in different kinds of public spaces at different times. In the American Midwest, telephones in the 1880s were often installed in saloons, stables, and barbershops. In Central Canada in the 1880s, the telephone remained largely a privilege of business offices and wealthy homes. Midwestern cities also had more public pay phones than Canadian cities, which provided service to many who could not afford a residential telephone.[15]

The cost of telephone service in each region contributed to these differences, but so did cultural choices and norms. The character of the telephone was shaped from the beginning by ideas about communication technology and assumptions made by telephone companies, consumers, and regulators about what and whom the new technology was for.[16] Commercial

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[14] MacDougall, "The People's Telephone," 76-83. A detailed picture of early telephone subscribers was developed by cross-referencing telephone directories with census data and other sources, especially the annual street directories published during these years. Random samples, each of ~400 names, were taken at ten-year intervals from Kingston and Muncie phonebooks. These subscribers were identified and categorized by occupation, gender, family status, and ethnicity.

[15] On the pay phone, see Richard John's forthcoming monograph, "Network Nation: How Politics Shaped American Telecommunications," chap. 8.

[16] On the social construction of telephony, see Martin, *Hello, Central*; Fischer, *America Calling*; Ronald R. Kline, *Consumers in the Country: Technology and Social Change in Rural America* (Baltimore, Md., 2000).

and cultural choices were always deeply intertwined. In Muncie and many other small to medium-sized Midwestern towns, telephone users paid a monthly rate for unlimited local service; telephone companies in larger cities were more likely to charge their customers by the call. These billing structures both reflected and encouraged at least two distinct cultures of telephone use. Adherents of what we might call a rural, flat-rate, party-line telephone culture embraced social and indeed frivolous uses of the telephone. They gossiped, courted, and sang on their telephones. Some made prank phone calls, and many eavesdropped on party lines. Adherents of a countervailing urban, measured-rate, private-line culture attempted to restrict such practices. They defined the telephone as a tool for business. They demanded higher standards of privacy and etiquette on the telephone, and some tried to keep women, servants, or children off the lines. Wired into commercial and technical choices were all manner of assumptions about the value and appropriateness of different social connections and different kinds of speech.

Adam Zimmerman and his colleagues could see—as Page Wilson and other struggling Canadian independents were bitterly aware—that all of these differences were related to the strength of independent competition in the Midwestern United States and its relative weakness in Central Canada. After Alexander Bell's American patents expired in 1894, the Bell telephone interests faced decades of vigorous competition in Midwestern states such as Indiana, Illinois, and Ohio. This opposition came from thousands of small, locally oriented telephone networks known collectively as the "independent telephone movement." In Canada, Bell's patents were actually overturned almost a decade earlier, in 1885, but Central Canada saw nothing like the rise of independent telephones in the United States. Bell Canada preserved its monopoly in almost all of Ontario and Quebec's urban centers, relegating competition to the peripheries of the industry and the nation.

It is tempting, therefore, to ascribe these differences—the more rapid spread of telephony in the Midwest, along with a more raucous and perhaps egalitarian culture of telephone use—to the presence of vigorous competition in the Midwestern United States and its relative absence in Central Canada. Yet this only begs further questions: Why did competition emerge in one region and monopoly in another? How can variation within these regions be explained? And why did rapid growth in telephony, if truly inspired by Midwestern competition, spread to other regions of the United States yet halt at the Canadian border?

The deeper variable, I argue, was as obvious, and as easy to miss, as telephone poles. The action and inaction of municipal governments in the years before telephone competition had a decisive impact on the development of the industry in both regions. In Muncie and across the American Midwest, local government was an active participant in constructing the telephone system, regulating services and rates, encouraging local ownership, and levying taxes and fees. In Canada, by contrast, local government had very little power to shape the telephone industry. Bell Canada's federal charter, which defined the telephone as a national rather than a local undertaking,

effectively immunized the company from virtually all municipal authority. In this difference lies the origin of two distinct ways of understanding the new technology.

There were basic regulatory differences between the United States and Canada, but those differences also turned on the question of telephony's local nature. Was the telephone a local, regional, or national project? What level of government had authority over a technology whose wires annihilated distance while its poles were firmly rooted in local space? Political contests in the 1880s forced governments, courts, and companies to debate those questions. Different answers in different regions set the telephone on two distinct trajectories. All of the contests revolved, in one way or another, around the everyday telephone pole.

Poles and City Councils

In September 1882, Connecticut telephone executive Morris F. Tyler reported to his fellow telephone company managers on the state of telephone legislation across the United States. "Municipal or local legislation has been more abundant and . . . much more onerous or threatening to the business than any State action," Tyler said. There was no federal legislation regarding the telephone, and the amount of state legislation was, he thought, "astonishingly small." However, municipal activity was both persistent and severe. Tyler also noted the regional character of municipal activism. "This tendency has appeared more clearly West than East," Tyler said. "In New England there has not been much of it. . . . The further west we go, the worse this becomes."[17]

Municipal governments in Indiana were active in telephony from the industry's start. Even before the first telephone exchange in Indianapolis began operations in 1879, the Indianapolis city council reviewed applications and passed individual ordinances permitting or prohibiting each private telephone line. In December 1878, the city council voted against allowing the Indiana District Telephone Company to construct a telephone exchange in Indianapolis. Only after the Fire Board drafted a detailed ordinance regarding the placement of poles and lines could the company begin operations.[18]

Smaller cities like Muncie, Indiana were equally active. Muncie's city council passed its first telephone-related ordinance in February 1880, a month before the opening of the city's first exchange. That ordinance asserted the municipal character of telephony and set a precedent for active control over the telephone by city government. It granted a franchise to the Muncie Bell Telephone Company, a local concern, but gave the city final

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[17] National Telephone Exchange Association [hereafter, NTEA], *Report of the Proceedings of the National Telephone Exchange Association* 4 (1882): 18-21.

[18] Indianapolis Common Council, *Proceedings of the Common Council, Board of Aldermen, and the Joint Conventions of Said Bodies* (1878-1879), 646-49, 674, 692, 774-75.

authority over the location of all telephone poles and wires, reserving the right to move them or remove them "in any manner, at any time."[19] The city council also reserved the right to grant any other telephone company the use of Muncie Bell's poles if they judged such action to be in the public interest. Such a bylaw practically invited competition; whatever capital the telephone company might invest in building its network would not pose a barrier to the entry of other firms.[20]

Though local companies established the first telephone exchanges in Indiana, consolidation of those systems into larger units moved corporate control of the industry out of smaller towns and cities and ultimately out of the state. In the spring of 1883, Muncie Bell Telephone sold its plant and franchise to the Midland Telephone Company of Chicago.[21] In July of that year, Midland merged with two other Midwestern firms to form the Central Union Telephone Company. Based in Chicago, Central Union consolidated all the Bell licenses in a territory spanning most of Indiana, Illinois, and Ohio.[22] The Central Union purchase and merger were part of a nationwide pattern of reorganization and consolidation. "As methods are devised for making the telephone commercially useful over long lines, the advantages of this centralization of management will be still more apparent," said American Bell Telephone's 1883 *Annual Report*.[23]

Local regulation of, and agitation against, growing companies like Central Union invariably revolved around telephone poles. The poles were widely regarded as unsightly and dangerous. They were one aspect of the new communication network that all city residents—not simply the small fraction

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[19] City of Muncie, *Records*, 16 Feb. 1880. Details of the ordinance also appear in "The Telephone Company Granted the Right of Way through the City," *Muncie Daily News*, 17 Feb. 1880, p. 1. Muncie Bell was not a direct subsidiary of the Bell Telephone Company of Boston, but an independent local company that leased its telephones from the Boston firm. This pattern was repeated across the country. The Bell Telephone Company of Boston was still a minor concern, without the capital or personnel to construct telephone systems everywhere. It relied on individual agents around the country who leased patent rights from Boston and invested their own capital to promote and operate the telephone in their home towns. See Rosario Joseph Tosiello, "The Birth and Early Years of the Bell Telephone System, 1876-1880" (Ph.D. diss., Boston University, 1971), 81-91.

[20] The Central Union Telephone Company, which absorbed Muncie Bell in 1883, insisted it was technically impossible to grant competing companies the use of its wires in this way, but the ordinance remained on Muncie's books until 1890.

[21] "100 Years of Telephone Service," *Muncie Star-Evening Press*, 12 March 1976, p. 24; Frank D. Haimbaugh, *History of Delaware County* (Indianapolis, 1924), 398.

[22] *Annual Report of the Directors of the Central Union Telephone Company*, various years. Chicago remained separate from the Central Union territory, as did the southern part of Indiana, served by Nashville-based Cumberland Telephone and Telegraph.

[23] *Annual Report of the Directors of the American Bell Telephone Company to the Stockholders* (1882), 3; (1883), 4.

who were telephone subscribers—encountered. They provided an easy target close at hand for municipal governments seeking leverage against telephone companies often based in distant cities and states. Municipal governments passed innumerable ordinances regarding pole placement, height, condition, and even color. In December 1889, a city electrician told the *New York Times* that of 20,000 telephone poles in the city of New York, "it is safe to say that 15,000 of them violate some regulation or rule and must therefore be removed."[24]

The "severest attack" from municipal governments, Morris Tyler said in 1882, was the demand by several large cities for removal of downtown poles and underground burial of all telephone lines. Chicago's city council passed an ordinance requiring these actions in 1881. New York passed similar legislation in 1884, and several cities such as Pittsburgh, Philadelphia, and Indianapolis considered doing so. Telephone company managers insisted that underground lines were technologically unworkable, but gradually, under constant municipal pressure, telephone poles were removed from the downtown sections of most large cities and wires buried underground.[25]

Tyler and his fellow telephone company managers understood that municipal grandstanding about unsightly telephone lines or improperly placed poles was not only about civic beautification or even public safety, but also about money and relative power. "In almost all cases," Tyler said, pole ordinances were "attempts to get more or less out of the companies."[26] Raising revenue was a major issue in late nineteenth-century urban politics—perhaps the critical issue underlying the era's municipal reforms. State constitutions and electoral politics both limited the sources of money available to municipal governments. Rapid urban growth and ever increasing demand for city services drove urban governments to press for new revenue from anywhere they could find it. Unpopular "foreign" utility monopolies, based out of city or out of state, were an obvious choice.[27]

In 1890, Muncie passed a civic beautification law that ordered the removal of all telephone poles from the downtown sections of Main and Walnut streets. What every member of the council knew was that Central Union's local switching office was located at the corner of Main and Walnut, so every telephone wire in the city had to pass along one of those two streets. After months of negotiating, Central Union convinced the city council to amend the ordinance, but only after agreeing to supply free telephone service to the mayor, the fire chief, and every schoolhouse in the city.[28] This pattern

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[24] "With Axes and Nippers," *New York Times*, 15 Dec. 1889, p. 5.
[25] NTEA, *Proceedings* (1882), 22; (1885), 93; (1887), 24; Indianapolis Common Council, *Proceedings* (1881), 603, 693, 824, 856, 866.
[26] NTEA, *Proceedings* (1882), 20.
[27] David Paul Nord, *Newspapers and New Politics: Midwestern Municipal Reform, 1890-1900* (Ann Arbor, Mich., 1981), 23-24; Morton Keller, *Affairs of State: Public Life in Nineteenth-Century America* (Cambridge, Mass., 1977), 324-26.
[28] City of Muncie, *Records*, 8 Aug. 1890.

of negotiation and manipulation was repeated in communities all over the West and Midwest as local governments secured financial "perks" and political points by leaning on the telephone company. When negotiations broke down, western cities were not shy about tearing down poles and wires. Executives at Bell's regional operating companies grumbled that such tactics amounted to "local blackmail." Municipal governments preferred to describe it as "stand-ing up for the people."[29]

These contests played differently in Central Canada. Whereas Muncie asserted its authority over the telephone before the city's first exchange was even built, the Kingston, Ontario, city council took no action on any telephone issue until November 1883, when the city's system had been in operation for over two years. Unlike Muncie's 1880 ordinance, Kingston's first telephone bylaw did not purport to authorize the existence of the Bell exchange. The city claimed no power over the placement of Bell's telephone poles and no authority to make Bell carry the wires of other companies.[30] Kingston was typical of mid-sized Central Canadian cities in this regard. Only a few cities in Ontario and Quebec launched their own telephone exchanges in advance of Bell Canada. Those that did soon folded their operations into Bell Canada's, and the company did not subdivide its territory in Ontario and Quebec as American Bell did in the United States. One year after securing a generous federal charter, Bell Canada's manager Charles F. Sise could report to American Bell in Boston that "we now have the entire field in Canada."[31]

Central Canadian cities also clashed with telephone companies over the placement and upkeep of telephone poles, but they had much less power in those fights than their Midwestern counterparts. Even modest provisions, such as a Kingston bylaw prohibiting the placement of more than one row of poles on any street, proved impossible for city governments to enforce. It remained an open question in Canada whether Bell was required to submit to municipal regulation at all.

The reasons for this doubt were Bell Canada's federal charter, granted by Parliament in 1880, and an 1882 amendment to that charter declaring the company "a work for the general advantage of Canada."[32] The phrase comes from the British North America Act of 1867, which delineates the separate powers of Canada's federal and provincial governments. The British North America Act gives the Canadian federal government the power to bring any local public enterprise under exclusive federal jurisdiction by declaring it a

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[29] Charles N. Fay, "Telephone Subscribers as Knights of Labor," in NTEA, *Proceedings* (1887), 22-34; *Muncie Daily Times*, 24 June 1887, p. 2.
[30] City of Kingston, *Bylaws*, no. 29, 27 Nov. 1883.
[31] Charles F. Sise to William H. Forbes, 20 April 1881, Sise Letterbooks, Bell Canada Archives, Montreal, Quebec [hereafter, BCA]. Bell Canada did, however, cede the Atlantic Provinces in the East and British Columbia in the West to other firms.
[32] *Statutes of Canada*, 1880, 43 Vic., c. 67; *Statutes of Canada*, 1882, 44 Vic., c. 95.

work for the general advantage of the nation.[33] Bell Canada's original charter granted the company permission to operate a telephone business in all parts of Canada. Exactly what authority this conveyed in provincial and municipal jurisdictions was not clear, so the company petitioned Ottawa for the general advantage declaration in 1882. It also asked the provincial governments of Ontario and Quebec for legislation reaffirming its authority to erect poles and wires on Central Canadian streets.[34]

The immediate inspiration for Bell's "general advantage" petition was a dispute over telephone poles in Quebec City. James Carrell, the publisher of Quebec's *Daily Telegraph*, launched a crusade against Bell Canada and its "great big unsightly ship's masts" after a pole was erected directly in front of his office. In 1881, Quebec City's municipal government banned telephone poles from its streets. Carrell immediately took an axe to the pole outside his door. When the telephone company sent a dozen workmen to raise a new pole in the middle of the night, they were stopped by police and a number of angry citizens. The Bell manager for Quebec, Sigismund Mohr, was arrested for unlawfully opening the street. Bell Canada appealed to the Quebec provincial government, insisting that its federal charter gave it the authority to erect poles and wires without municipal permission. The province upheld Quebec City's actions, basing its reasoning on the local character of early telephony. Because the Quebec City telephone exchange did not have long distance connections with points outside the borders of the province, provincial authorities ruled the telephone was a local enterprise under local jurisdiction and deemed Bell's federal charter invalid.[35]

Bell Canada went to the federal government in 1882 to reaffirm its charter and to secure insulation against future municipal activism. As in Quebec, discussions in Ottawa turned on whether telephone systems were local enterprises or something larger. "Telephone companies are purely local undertakings, as a rule, and intended for carrying on local business," said one senator. But Bell's sponsors assured Parliament of the company's intent to extend telephone service into rural districts and to build long distance lines

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[33] In this way, Canada's regulatory structure differs from the United States. In the United States, the federal government regulates interstate commerce, while the individual states have jurisdiction over almost all economic activity within their borders. Thus, different activities of the same corporation—or different circuits of the same telephone network—are routinely subject to regulation by different levels of the American federal system. In Canada, by contrast, each company is, in theory, the creation and jurisdiction of only one government. Thus, all of Bell Canada's activities are subject to federal jurisdiction, whether or not they cross provincial lines, while all the activities of a smaller telephone company chartered in Ontario would be regulated by the Ontario provincial government alone. In practice, this division of powers is often contested, but the principle is there.

[34] Christopher Armstrong and H. V. Nelles, *Monopoly's Moment: The Organization and Regulation of Canadian Utilities, 1830-1930* (Philadelphia, 1986), 72.

[35] Patten, *Pioneering the Telephone*, 99; Collins, *A Voice from Afar*, 122-23.

between provinces, and the company procured its declaration, effectively reversing the province's decision, without much serious debate.[36]

The city government of Toronto tested Bell's immunity to municipal regulation again in the years that followed. In 1900, the city ordered its engineers to prevent Bell Canada from erecting poles without a permit. That case ultimately went to the Judicial Committee of the Privy Council in London, which ruled in Bell Canada's favor in 1904, agreeing that Bell's federal charter and the "general advantage" clause placed the company's activities beyond municipal or provincial jurisdiction.[37]

The effect of these decisions was to severely limit the power of Canadian municipalities and, to a lesser extent, of Canadian provinces over Bell Canada's affairs. The telephone company did not need, and need not seek, municipal permission before breaking up streets to erect poles or wires. Town and city councils had little leverage over Bell's activities and little recourse if unhappy with its actions. One testament to the declaration's significance was the steady queue of gas companies, electric companies, and railways that petitioned Ottawa for a similar declaration in the 1890s and 1900s. Another was the relative ease with which Bell Canada weathered the end of its patent monopoly in 1885 and marginalized telephone competition in Ontario and much of Quebec.

"It is certain," said American Bell president William Forbes in 1886, "that one decision by the United States Court invalidating our patent would be enough to flood the country with competing companies."[38] Bell's Canadian telephone patents were overturned by a court challenge in 1885, but the decision did not produce anything like the great wave of competition Forbes imagined or the actual flood of competition that eventually swept the American Midwest.

Its patents invalidated by a federal judge, Bell Canada defended its monopoly at the municipal level. In the few places where the company did face direct competition after 1885, its tactics were aggressive. It slashed its prices or even offered free service until smaller rivals went bankrupt. In most Central Canadian cities, however, Bell was able to preempt competition before it even began by convincing town and city governments to grant the company an exclusive franchise. Municipal politicians agreed to these contracts, often without enthusiasm, because they had so little other leverage over Bell Canada. In exchange for granting exclusive franchises, Canadian

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[36] Senate, *Debates*, 27 April 1882, p. 438; 5 May 1882, p. 612; see also House of Commons, *Debates*, 13 March 1880, pp. 624-25.

[37] Patten, *Pioneering the Telephone*, 99-100; Armstrong and Nelles, *Monopoly's Moment*, 164-65.

[38] *Annual Report of the Directors of the American Bell Telephone Company to the Stockholders* (1886), 14.

municipalities gained some financial concessions and some ability to negotiate the placement of poles and wires in their streets.[39]

Bell Canada's 1892 contract with Kingston was fairly typical. It gave the company exclusive rights to the telephone business in Kingston for seven years, in return for $400 per year. This was agreeable to Bell Canada; $400 represented only about 5 percent of the company's gross annual revenues in Kingston. The company paid the same proportion for an exclusive franchise in Toronto. In many smaller cities it bought its monopoly for no more than a couple of free phones.[40] Besides the $400, Bell Canada made Kingston few concessions. The company promised not to raise its rates, but only until Bell deemed it necessary to modernize Kingston's lines. Bell agreed to observe city bylaws on the placement and painting of telephone poles, but was careful to stipulate that this was a voluntary agreement on its part; the company never admitted in principle that it was bound to municipal bylaws.[41]

In Canada after 1885, it was not federally enforced patents, but semi-voluntary municipal agreements that preserved Bell's monopoly on the telephone. By 1905, Bell Canada had secured exclusive franchises with thirty-six towns and cities in Ontario and Quebec. By 1910, it had negotiated over seventy, preserving or restoring its monopoly in every major urban market in Central Canada.[42] These municipal contracts served, Charles Sise boasted, "to stop competition in embryo." Bell Canada's would-be competitors could only agree. In 1908, Canadian independent F. Page Wilson called such contracts "the Bell's strongest point in Canada" and "the greatest need of the Independent movement."[43] Independent telephony in Central Canada was largely restricted to remote and rural areas. In sharp contrast to the American experience (in particular the experience of the American Midwest), direct competition between telephone systems occurred in only a handful of Canadian locales.[44]

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[39] Some of Bell's opponents in Ontario tried to argue that, if municipalities had no jurisdiction over Bell Canada, they should not have the power to grant it an exclusive franchise. In 1894, however, Bell induced the government to pass a bill specifically authorizing this municipal right.

[40] On Toronto, see Armstrong and Nelles, *Monopoly's Moment*, 110. For other contracts, see Select Committee on Telephone Systems, *Report*, 1:660-66; and Board of Railway Commissioners, *Papers*, vol. 530, Exhibit 65, 7 Jan. 1907, RG 46, National Archives of Canada, Ottawa, Ont.

[41] Kingston, *Bylaws*, no. 441, 28 Sept. 1892.

[42] Select Committee on Telephone Systems, *Report*, 1:660; Collins, *A Voice from Afar*, 172.

[43] Charles F. Sise to John E. Hudson, 5 Jan. 1895, BCA; Wilson, "Telephone Requirements in Canada." See also A. F. Wilson, "The Relation of Rural Telephones to Towns and Cities," *Telephony* (Jan. 1907), 42-44; and Francis Dagger, "The Common Cause," *Telephony* (April 1908), 262-64.

[44] Robert E. Babe, *Telecommunications in Canada: Technology, Industry, and Government* (Toronto, 1990), 73-90; MacDougall, "The People's Telephone," 166-76, 273-99.

Rate Regulation in Indiana

By the mid-1880s, state legislatures in the United States were moving toward regulating the fast-growing telephone industry, but even as they did, municipal governments remained prime movers behind those efforts. By 1885, legislators in Indiana, Illinois, Massachusetts, Ohio, New Jersey, and New York had all drafted bills to limit or reduce telephone rates.[45] The only state to pass such a law, however, was Indiana, and the fight there became a crucial test case for telephone rate regulation around the country. It also illustrated the crucial role of municipal activism in the early telephone industry in the Midwest.

In April 1885, the Indiana state legislature passed a law fixing $3 per month as the maximum rate companies could charge for telephone service in the state.[46] Executives at the two Bell affiliates operating in Indiana—Chicago-based Central Union and Nashville-based Cumberland Telephone and Telegraph—denounced the legislation as blackmail cooked up by rival telephone promoters from outside the state. Chicago's Charles N. Fay was outraged that, "on the mere demand of a blackmailer, backed by the personal spite of a legislator, the whole of the best portion of the business community . . . were ready to take this corporation by the throat." The sponsor of the legislation was state representative Samuel Wardell Williams. According to Charles Fay, Williams owed $100 to the manager of a telephone exchange in his hometown of Vincennes, Indiana. Pressed for payment of the debt, Fay claimed, Williams vowed to revenge himself on the telephone monopoly.[47] Whatever the truth of this story, as Fay himself acknowledged, Williams' telephone bill was widely supported by influential citizens in Indiana, especially in Indianapolis, where the Central Union Telephone Company's rate for telephone service had recently increased to $5 per month. Although Fay believed that Williams was acting as the agent of business interests from outside the state, hostility to Central Union, and pressure to regulate its rates, had been building in Indiana for some time.

This movement had not been highly visible in the state legislature, which had barely mentioned telephone matters before the first reading of Williams' bill. It had been visible, however, in Indiana's towns and cities, and particularly in the municipal government of Indianapolis. In 1881, the Indianapolis city council drafted and debated an ordinance requiring telephone and telegraph companies operating in the city to pay the city 5 percent of their gross receipts. After city attorneys advised the council that they had authority to tax the company's tangible property, but not its business receipts, that ordinance was revised to charge telephone and

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[45] "The Telephone in New England and Illinois," *Electrical World* (23 May 1885), 208; "Legislation in Massachusetts," *Electrical World* (6 June 1885), 229; "A Bluff Game," *New York Times*, 4 March 1886, p. 4; "Telephones in the West," *New York Times*, 15 March 1886, p. 4.

[46] Indiana, House of Representatives, *Journal*, 54th Session, House Bill no. 44.

[47] Fay, "Telephone Subscribers as Knights of Labor," 28.

telegraph companies $2 per year for every pole they erected on the city's streets.[48] In 1884, the common council voted to charge the Central Union Telephone Company an additional $5 per telephone per year, but city aldermen, fearing the company would simply pass the charge on to its customers, struck down the ordinance.[49]

Efforts to exact revenue from the telephone company were not separated in city politics from efforts to regulate its service or control its rates. Council members questioned the legitimacy of the company's rates and sought devices to control them. Complaints about the quality of telephone service in the city and arguments about the placement or upkeep of telephone poles routinely triggered, or were used to justify, new taxes and fees. In December 1882, the city council declared that the telephone company was "unreasonably extorting unjust demands" from the people of Indianapolis by requiring subscribers to pay for their telephones for three months in advance. The council members threatened to revoke the company's franchise unless it agreed to accept payment of only one month's advance.[50] In January 1884, after lobbying by the *Indianapolis Daily Sentinel* and local business leaders, Indianapolis' aldermen passed a resolution that "the [Central] Union Telephone Company does not give satisfaction to its patrons," and that "great complaint is made by the public on account of the delay and annoyances arising from such inadequate service." The board instructed its judiciary committee to determine what political remedy could be devised for this state of affairs.[51]

One remedy proposed by the committee was competition. In the spring and summer of 1884, Indianapolis granted telephone franchises to three different companies, with the intent that they should offer competing service to Central Union.[52] But legal action from the American Bell Telephone Company, which held exclusive patent rights to Alexander Graham Bell's invention until 1894, prevented any of these companies from beginning operations.[53]

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[48] Indianapolis Common Council, *Proceedings* (1881-1882), 693, 856, 866, 1091, 1128-29, 1220-21, 1475, 1545, 1549.

[49] Ibid. (1884), 101, 210, 230, 342-43, 356, 411-12. Indianapolis had a bicameral city government, with a mayor, a board of aldermen representing city districts, and a separate common council elected at large.

[50] Ibid. (1882-1883), 759.

[51] Ibid. (1884), 81.

[52] The companies named were the Indiana Overland Telephone and Telegraph Company, the Pan-Electric Telephone Company, and the American Co-operative Electric Company. The city also granted telegraph franchises to the Bankers and Merchants Telegraph Company and the Baltimore and Ohio Telegraph Company. Indianapolis Common Council, *Proceedings* (1884), 211, 212, 600, 671, 761.

[53] As the commercial value of Bell's invention became clear, imitative devices appeared everywhere. Particularly in the West and Midwest, there were many companies willing to challenge the Bell patents by using a slightly different device or by finding an inventor who claimed priority over Alexander Graham Bell. Between

Another remedy considered by the city was direct regulation of Central Union's rates. In August 1884, the city council proposed, but did not pass, an ordinance to regulate telephone rates, setting $3 per month as the maximum charge for residential service in Indianapolis and $5 per month for business service. In January 1885, the council took up the rate regulation proposal as General Ordinance No. 1, its first order of business for the year. However, a city assessor warned the council that, short of repealing Central Union's franchise altogether, the municipal government did not have the legal right to regulate the company's prices. Such regulation would, he thought, require state legislation. Nine days after the Indianapolis city council debated General Ordinance No. 1, Samuel Williams proposed his bill to limit telephone rates to the Indiana state legislature.[54]

The measure was widely supported in Indianapolis and around the state, and House legislators approved the Williams bill by a vote of 66 to 9.[55] Central Union and American Bell immediately challenged the law, denying both its wisdom and its constitutionality. "Why should the telephone business be regulated as to price more than other industries?" asked American Bell president William Forbes. "Sound public policy is surely against the regulation of the price of any class of commodities by law."[56]

In February 1886, the Supreme Court of Indiana upheld the constitutionality of the legislation.[57] After consultation with American Bell, Central Union's management announced that they would shut down any telephone exchanges that could not be operated profitably under the new rates. Cumberland Telephone and Telegraph terminated all its operations in Indiana, leaving the southern portion of the state entirely without telephones.[58] With legislation to reduce telephone prices pending in New

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1878 and 1894, American Bell Telephone, the holder of Graham Bell's patents, famously filed over six hundred lawsuits to preserve its monopoly over the telephone. Many companies folded immediately when sued by American Bell, and many more settled quickly out of court. However, in the mid-1880s the impregnability of Bell's patents was by no means assured. Frederick L. Rhodes described the most important telephone patent battles in *Beginnings of Telephony* (New York, 1929), 49-75, 207-24.

[54] Indianapolis Common Council, *Proceedings* (1884), 206, 769, (1885), 18, 68; Indiana, House of Representatives, *Journal*, 14 Jan. 1885, p. 117.

[55] Indiana, House of Representatives, *Journal*, 3 April 1885, pp. 1435-36; 11 April 1885, p. 1565. House and Senate debates on the bill are reprinted in the *Indianapolis Daily Sentinel*: "Telephone Rents," 4 April 1885, p. 3; and "Telephone Rentals," 13 April 1885, p. 3.

[56] *American Bell Annual Report* (1886), 19-22.

[57] *Hockett v. State*, 5 N.E. 178, 182 (Ind., 1886). Justice W. E. Niblack's decision is reprinted in "The Record of the Courts," *Indianapolis Journal*, 22 Feb. 1886, p. 3.

[58] "Going Out of Business," *New York Times*, 3 March 1886, p. 3; "Telephone Tinkering," *Indianapolis Daily Sentinel*, 4 March 1886, p. 4; "The Telephone in Indiana," *New York Times*, 5 March 1886, p. 1; "The Telephone Situation,"

York, Massachusetts, and Ohio—all states more populous, more urban, and more important to American Bell's balance sheets than Indiana—the Bell interests felt it imperative to fight. Bell executives expressed regret for the inconvenience these actions would cause, but said the company was "helpless to give relief."[59]

Some accounts of the Indiana rate law say, erroneously, that all telephone exchanges, but the ones in Indianapolis, were shut down between 1886 and 1889.[60] In fact, Central Union was able to keep many of its small town exchanges open during the three years the legislation remained in effect. Indianapolis, the state's largest city and the company's most important urban market, was in fact one of the first exchanges to begin disconnecting subscribers, and the city became the main battleground in the political fracas that followed. Though the state legislature had passed the law, the Indianapolis city council remained Central Union's principal antagonist in this fight. The Indiana state legislature sat only from January to April of every other year. It passed the Williams bill on the very last day of its 1885 session, and it was not sitting when the state Supreme Court upheld the law or when the contest between city and company reached a boiling point in the spring and summer of 1886.

Central Union began disconnecting telephones in Indianapolis on April 6, 1886. By the middle of that month, more than 250 telephones had been removed—about one-quarter of the telephones in the city. At that point, the company stopped disconnecting telephones, arguing that it could not remove any more until its contracts with individual subscribers expired in June or July. The city council declared this a violation of the new state law and voted unanimously to revoke the company's municipal charter. On April 16, Indianapolis ordered Central Union to remove all its poles and wires from the city within fourteen days.

Matters grew increasingly heated, confused, and complex. Large "indignation meetings" were held at which city officials and the public denounced the telephone company and demanded its immediate capitulation to the law.[61] At the same time, other groups of telephone subscribers petitioned the city council to leave their telephones in operation, offering to pay double the legal rates if necessary. Though the Indianapolis board of alderman delayed the city council's order to chop down Central Union's poles

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Indianapolis Journal, 1 April 1886, p. 8; "Taking Out the Telephone," *Indianapolis Journal*, 7 April 1886, p. 5.

[59] "The Telephone in Indiana," *Electrical World* (26 Sept. 1885), 132; *American Bell Annual Report* (1886), 19-21.

[60] F. E. Swearingen, ed., *Indiana's Telephone Industry* (Indianapolis, 1966); Stephen R. Shearer, *Hoosier Connections: The History of the Indiana Telephone Industry* (Indianapolis, 1992).

[61] *Indianapolis Journal* and *Indianapolis Daily Sentinel*, various dates. The quoted phrase is from John Caven, president of the Citizens' Cooperative Telephone Company, quoted in Indianapolis Common Council, *Proceedings* (1886), 514.

and wires, the council invited applications from any other parties willing to provide telephone service at the prescribed rate. Several companies, from both inside and outside the state, announced their willingness to try. Central Union, however, promised to prosecute any companies that infringed on the Bell patents. "The Bell has not permitted any company to operate anywhere undisturbed," observed the *Indianapolis Journal*. It warned entrepreneurs petitioning the city council for a franchise that such a charter would earn them only "the right to be sued by the Bell company."[62]

On April 23, the city council held a special meeting on the telephone controversy. Central Union president George Phillips was there to request more time from the city, but, "perceiving the temper of the body towards his corporation," as the *New York Times* put it, Phillips withdrew from the meeting. The city council voted to grant a new telephone franchise to a syndicate of local business people calling themselves the Citizen's Cooperative Telephone Company. The council's special telephone committee believed their instruments were different enough from the Bell telephone to withstand Central Union's inevitable patent challenge. The city council then hedged its bets, however, by amending that ordinance, requiring the new telephone company to provide access to its poles and wires to any other company that sought to compete with it. Such a restriction, the Citizen's Cooperative complained, made the ordinance practically worthless, and they declined to accept the franchise they had just been given. "The result of tonight's action is to leave the situation more muddied and unsatisfactory than ever," declared the *Times*.[63]

The chaos of the Indianapolis situation derived, in large part, from confusion over which level of government had authority over the telephone, and by what regulatory devices the telephone industry might be controlled. The city of Indianapolis provoked the fight with Central Union and was the most active body in prosecuting it. However, the city's franchise power was a blunt instrument. Short of chopping down telephone poles, a threat the city made repeatedly yet never carried out, the municipal government found it had few ways to coerce a truly recalcitrant monopoly. The state legislature, for its part, had the authority to limit telephone rates, but no power to make a telephone company operate at those rates if it did not wish to do so.

The stand-off was ultimately settled at the federal level in March 1888, when the U.S. Supreme Court ruled in American Bell's favor on a cluster of patent cases, ending an eight-year legal battle and dismissing several of the most persistent challenges to the Bell patents. With this decision, the security of American Bell's patent monopoly was assured and the leverage of the Indianapolis city council over Central Union largely removed. Deflated

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[62] "A Violation of the Orders," *Indianapolis Journal*, 16 April 1886, p. 8; "The Telephone Question," *Indianapolis Journal*, 23 April 1886, p. 4.

[63] Indianapolis Common Council (1886), 867; "Indiana's Telephone Muddle," *New York Times*, 24 April 1886, p. 2; "An Undesirable Franchise," *Indianapolis Journal*, 1 July 1886, p. 8.

legislators repealed the telephone law in February 1889. Central Union resumed telephone service in Indianapolis at a new rate of $7 per month.[64]

The company had won a considerable victory. It maintained its monopoly, defeated regulation in Indiana, and discouraged similar laws in other states. Legislators in Ohio and Iowa postponed pending telephone legislation immediately after viewing the stalemate in Indiana. Similar bills were ultimately defeated in New York, Massachusetts, and Illinois. The failure of rate regulation in Indiana does not seem to have discouraged municipal action toward the telephone, however. If anything, municipal governments in Indiana were more active in telephone matters after the rate law was repealed. Certainly, the Indianapolis city council had learned a great deal about telephone patents and competition. In addition, the experience confirmed for many Hoosiers the dangers of out-of-state monopolies and the virtues of local control.

After the 1880s

The "flood" of competition that William Forbes had predicted in 1886 came after 1894, when Alexander Graham Bell's American patents expired. By the end of that year, independent telephone systems had been established in over one hundred American towns and cities.[65] By 1897, about 25 percent of American cities with a population of 5,000 or more had competing telephone systems. By 1902, more than half of American cities had two or more competing telephone lines. The independents reached their zenith in 1907, when they controlled more than half of the six million telephones then operating in the United States.[66]

Competition in the United States dwarfed anything seen in Canada. Even the most generous estimates place the number of independent phones in Canada at this time between 18,000 and 20,000—under 10 percent of the nation's phones.[67] Per capita, there were fifteen times as many independent phones in the United States as in Canada. Writing from Montreal, Charles Sise urged his American colleagues to follow Bell Canada's example in securing exclusive contracts with the municipalities they served.[68] A number

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[64] Indiana, Senate, *Journal*, 26 Feb. 1889, p. 941; *Indianapolis Journal*, 27 Feb. 1889, p. 4; *American Bell Annual Report* (1889), 8.

[65] Harry B. MacMeal, *The Story of Independent Telephony* (Chicago, 1934), 39.

[66] Milton L. Mueller, *Universal Service: Competition, Interconnection, and Monopoly in the Making of the American Telephone System* (Cambridge, Mass., 1997), 61.

[67] Other sources estimated only about 12,000 independent telephones in Canada at this time. H. D. Fargo, "The Canadian Convention," *Telephony* (Oct. 1907): 216-18; W. R. Rutherford, "Canada's Second Independent Telephone Convention," *American Telephone Journal* (14 Sept. 1907), 168-69; M. C. Urquhart, ed., *Historical Statistics of Canada* (Toronto, 1965), S323-31.

[68] Charles F. Sise to John E. Hudson, 5 Jan. 1895, BCA; Charles F. Sise to F. G. Beach. 5 Jan. 1895, BCA.

of Bell operating companies in New England and the Northeast negotiated such contracts, but Midwestern towns and cities had little reason and less inclination to agree to similar deals.

The independents' greatest success came in the Midwest, both in the industrial cities around the Great Lakes and in the farming areas of Kansas, Iowa, Missouri, Indiana, Illinois, Ohio, and Pennsylvania. In Indiana in 1907, three-quarters of all telephones belonged to independent firms. That year, 84 percent of Iowa's telephones belonged to the independents, along with more than 80 percent of the telephones in Kansas and more than 60 percent of the phones in Ohio.[69]

Americans in the early years of the twentieth century, and historians since, often echoed Forbes in calling the rapid rise of independent competition after 1894 a "flood," an "eruption," or an "explosion"—metaphors suggesting a sudden and spontaneous arrival. It may have seemed that way at the time, but the local history of telephony in the Midwest demonstrates that competition was not without antecedent. The "flood" of independent telephone companies after 1894 was really the continuation of an ongoing struggle between local and outside interests that went back to the telephone's earliest days.

The local business interests that promoted independent telephone companies in the Midwest were closely tied to the municipal politicians who had clashed with Bell operating companies in the 1880s. Often, they were the same individuals. While municipally owned telephone systems were rare in the United States, municipal governments in the Midwest regulated commercial independents even more actively than they had regulated the original Bell companies. Many independent telephone systems were bound by their municipal franchises to maximum price limits or minimum subscriber levels. Some were permitted to sell or issue stock only to residents of the city they served.[70]

The communities and regions where independent competition thrived after 1894 were those in which municipal governments had been most actively engaged in telephony during the 1880s. And even where lively competition did not emerge, those communities with early and active municipal engagement in telephony seem to have constructed telephone networks and telephone cultures more like Muncie, Indiana than Kingston, Ontario—that is, with wider, earlier access to telephone service, more interconnection between town and farm, and a less genteel culture of

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[69] U.S. Bureau of the Census, *Telephones and Telegraphs and Municipal Electric Fire-Alarm and Police-Patrol Signaling Systems: 1912* (Washington, D.C., 1915), 35.
[70] See for examples MacMeal, *The Story of Independent Telephony*; Dan Schiller, "Social Movement in Telecommunications: Rethinking the Public Service History of U.S. Telecommunications, 1894-1919," *Telecommunications Policy* 22 (May 1998): 397-408; and the various independent telephone journals.

telephone use.[71] In towns and cities without such active municipal involvement in the industry's early days, telephone networks and cultures like Kingston's appear more common, with a better quality of equipment and transmission, but more expensive service and less penetration as a social medium.

These trajectories highlight the role of government, in particular of local government, in shaping the development of the telephone. This is in itself a useful contribution to the existing literature on telephony and to the histories of business and technology more generally. Scholars in the social construction mode have discredited the old deterministic approaches to the history of technology with the insight that new technologies are not independent of society, but rather products of the social and cultural contexts in which they are formed. Yet, while constructivists have rightly situated social and cultural factors at the center of their work, they have been slower to investigate relationships between politics and the shaping of new technologies. At the same time, it is common outside the academy to imagine that even the largest governments are impotent in the face of rapid technological change. However, in the story of the telephone, the high-technology communications revolution of its day, we see active and important engagement by the very lowest levels of government.

Municipal governments in the 1880s and 1890s were limited in the ways they could control outside companies such as Bell Canada or Central Union. They could not set telephone prices, and they could not overturn Bell's patent monopoly. However, they seized what powers they did have—sovereignty over their own streets, sidewalks, and skies—and leveraged them for every advantage they could exact. The town and city councils that put their stamp on the development of North American telephony were not wealthy, powerful, or technologically sophisticated. Nor were their motives always salutary. They did, however, have a genuine and lasting impact on the development of the industry and the shape of telephony in North America. The history of their efforts may offer caution and insight for our own era of supposedly space-annihilating communication and rapid technological change.

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[71] Chicago and San Francisco, for example, built large and broadly used telephone networks with many of the features common to Western and Midwestern telephony, without direct independent competition. Both cities, however, saw active municipal regulation of telephony in the 1880s and 1890s and/or innovative efforts to forestall such regulation by the Bell-affiliated companies there.