

The evolution of communication

by *Cara Williams*

The 20th century has seen enormous changes but probably none as rapid and all-encompassing as the revolution in communication technologies. The changes seen over the last 100 years have transformed the way we perceive things, the speed with which we do things, and our expectations. In the early part of the century, long-distance communications and the broadcasting of events could take weeks. Today, we are able to view images or correspond with someone from virtually anywhere in the world instantly.

As communication technologies evolve, they overlap as each succeeds (or supplements) the other. For example, while the telephone was introduced in Canada over 100 years ago and the newspaper over 200 years ago, they remain vital components of the communications array used today. Conversely, the telegraph, which is the ancestor of many of the current communication technologies, is obsolete.

Communication technologies can be divided into two distinct types. The first is the one-way broadcast of information (as found in newspapers, radio and television), which generally occurs in a very public forum. The second type of communication is two-way or interactive communication, which occurs in a quasi-public or personal forum. These media include the post, the telegraph, and the telephone. The Internet and e-mail act as one-way and two-way communications allowing for interaction as well as the broadcast of information.¹ This article discusses how the communication technologies used by Canadians have evolved and changed over the 20th century.²

And that's the news from here

Broadcast communications involve relaying information — there is no immediate interaction. Nevertheless, the information and the images beamed to us play a role in how we define ourselves as individuals and as a society. Undoubtedly, one of the major accomplishments of the 20th century has been the advancement in broadcast technologies. Through radio, television and newspapers, we have been told about events happening thousands of miles away. Canada has become part of a global society and Canadians have changed their way of thinking about themselves, their country and the world.

Stop the press! The newspaper stands the test of time

The first newspaper in Canada was the *Halifax Gazette*, which produced its first issue in 1752. Since then, hundreds of newspapers and periodicals have come and gone. Until Confederation, most newspapers were published only once a week, but, as Canada moved towards the 20th century, daily newspapers began to appear. By 1900, the country boasted about 112 daily newspapers.

Competition was fierce as each paper sought to expand circulation and capture much-needed advertising dollars. The number of dailies peaked in 1913 at 138, but by 1945 only 87 remained. This decline is largely attributed to the rise of radio and television as well as intra-industry competition. In the 1920s, newspapers jostled amongst themselves for advertising dollars, but with the advent of radio (and later of television), advertising revenue fragmented still further. Perhaps more

important than this, though, is that the Canadian public could now turn to other media to get the news.

One of the single most important features of a newspaper is that a significant portion of it is dedicated to local and community news. In addition to their comprehensiveness and portability, undoubtedly this is one of the reasons that the “old technology” newspaper remains popular. In fact, the newspaper industry saw a revival of sorts in the 1980s. The number of dailies grew to 110 in 1986, with a daily circulation of 5.7 million. At the same time, circulation of weekly community newspapers increased to 9.7 million in 1986. By 1999, the Canadian Newspaper Association reported that there were 104 daily general interest newspapers in Canada, with a daily circulation of more than 5.1 million. Interest in community newspapers remains strong, as indicated by the 1999 results of the Print Measurement Bureau study on Canadians' print media habits, which found that there were over 10.6 million weekly readers.

Radio signs on

Today's radio stations offer Canadians numerous choices, from “all news” to “easy listening”, in an effort to find and keep a steady audience. But to Canadians living on a homestead in

1. For the purposes of this article, the Internet and e-mail are included in interactive communications.
2. This article draws on numerous data sources. A full bibliography is available on the *Canadian Social Trends* Web site at www.statcan.ca/english/ads/11-008-XIE/index.htm

Saskatchewan or northern Quebec at the beginning of the 1920s, radio was an exciting new phenomenon. The first Canadian radio broadcast was transmitted by the Canadian Marconi Company in Montréal in 1919; regular programming commenced in 1920. At this time, stations were only on the air a few hours a day and many urban centers had two or more stations sharing a single frequency. This enabled broadcasting licence holders to lease time on existing stations. "Phantom stations", as they were known, began to emerge.

In 1922, broadcasting became regulated when the government granted 52 private commercial and amateur broadcasting licenses. Surprisingly, news content was minimal in these early years and radio stations did not challenge the dominance of the newspapers.

During the early years, radio programming was basically regional. The first national broadcast was not carried until 1927, with the coverage of the celebration of the Diamond Jubilee of Confederation and the dedication of the Peace Tower on Parliament Hill. In 1936, the government created the Canadian Broadcasting Corporation (CBC), making it responsible for providing national radio service in Canada; by the following year public radio reached 76% of the Canadian population.

The 1940s were the golden age of radio. Significant developments were made in radio during the Second World War, including the introduction of hourly news broadcasts and the development of mobile transmitters which allowed news stories to be broadcast on location, rather than just from the radio studio. During the 1940s, the radio was also an important source of entertainment. But by the early 1950s, television began to make significant inroads in the communications and entertainment industry, and evening radio programming, which consisted of variety shows and drama, lost much of its audience.

Radio was able to reinvent itself with the help of the car radio and the increasing number of people commuting to work. Additionally, the development of portable radios (beginning with the transistor radio) has helped to sustain some of the radio's appeal. Today's radio provides us with a variety of stations from music and news to "talk" radio, that we can listen to throughout our day. Indeed, in the fall of 1999, Canadians listened to the radio for an average of 20.5 hours per week, with adult contemporary as the most popular listening format.

The era of channel surfing

Television has played a profound role in changing our national and world-views. Beyond entertainment value, television brings images from around the world into our living rooms. These images have enabled us to witness events almost as they happened, making us not only instantly aware of world events, but also letting us discover how they affected peoples' lives. Television broadened Canadians' understanding of the world by expanding their scope of knowledge.

The first television broadcast in Canada did not occur until September 1952, but by then there were already 225,000 television sets in Canadian homes: people living close to the U.S. border were able to receive broadcasts from American stations and so purchased TVs. Canadian television broadcasting was launched with the debut of the CBC's television arm. The first private station (located in Sudbury, Ontario) followed about one year later in October 1953. In 1961, Canada's second privately-owned national network, CTV, made its debut. A strong base for another network certainly existed, since 83% of households (4 million homes) boasted a TV set by then. By 1972, over 88% of all Canadian households had at least one television and 20% of households had a colour set.

Cable television was first introduced in London, Ontario in 1952 with the aim of improving signal reception in rural areas. It had a relatively slow start, but companies decided that the solution was to enter large urban markets, and by 1975, 40% of households had cable.

The purpose of cable today is no longer simply to improve the reception of local channels but to increase the number of stations available to consumers. This has also entailed competing with the direct-to-home satellite and wireless cable services that are now available. The development of specialty channels and pay-TV, initiated in 1983 and supplemented by more channels in 1989 and 1995, has both led and followed the expansion of cable. In 1998, 73% of households (over 8 million) were cable³ subscribers receiving some level of cablevision. With the growth in the number and types of channels, the viewing audience has become increasingly fragmented as both conventional broadcasters and the specialty channels compete for the same audience.

With so many choices available, it is not surprising that Canadians watch a variety of programming. However, throughout the 1990s Canadians spent the lion's share of their viewing time watching drama and news programming (more than 50% over the decade).

Today, virtually all Canadians have at least one television in their home. Not surprisingly, the largest proportion of our leisure time is spent watching television — about 2.2 hours each day in 1998 — illustrating the central role that television has in our lives.

Hello... we're waiting for your response

Interactive communications allow us to stay in touch with each other — to talk

3. This includes the direct-to-home and wireless cable.

and listen, to send and receive. Two-way communication technologies have been developed for discourse. This type of communication has evolved to allow, and perhaps demand, almost instantaneous reaction. Included in two-way communications are the mail, telegraph, telephone and Internet.

Neither rain nor snow... The first pony express rider in North America

Before Confederation, the Post Office had links to both the United States and British postal services. Contrary to legend, the first pony express riders in North America did not gallop across the open plains of the American West, but rather traversed the rolling landscape from Halifax to Digby, Nova Scotia.⁴ The parcel of letters and news dispatches was then transferred to a boat bound for Maine, where the U.S. postal system took over delivery.

The Post Office Act of 1867 created the Canada Post Office, making the federal government responsible for both domestic and international mail. Service was limited, though, and it was not until October 1908 that rural mail delivery began. Even then, it was restricted to existing stagecoach routes, where mail was both picked up and delivered. Delivery was expanded in April of 1912, and the number of rural routes increased five-fold from 900 in 1912 to over 4,300 in 1933.

Given Canada's vast landmass, it was only a matter of time before the Post Office experimented with transporting mail by air and, in 1939, daily cross-country airmail service began. In 1948, Canada became the first country in the world to transport all first-class domestic mail by air.

After World War II, the volume of mail grew enormously, from approximately 2 billion pieces in 1945 to 4.8 billion in 1970. Because of the increase in volume, "next day delivery for the price of a stamp" became impossible. Private courier companies eager to tap

into this market began to compete with the post office's premium services, such as special delivery and courier services, challenging the government's monopoly on mail delivery.

By the beginning of the 1980s, the Post Office was running deficits of about \$600 million every year. In an effort to turn this situation around, postal services were taken out of the government department and made the responsibility of a Crown Corporation in 1981. By 1989, Canada Post Corporation had recorded its first profit.

In the 1990s, Canada Post faced competition not only from courier companies but also from electronic communications such as facsimile machines and e-mail, which provide almost instantaneous delivery of letters and documents. As these technologies became more widely accessible, the volume of mail processed by Canada Post and its affiliate courier services decreased from 10.4 billion in 1993, to 9.6 billion pieces in 1998.

Send money!

"Time continues to indicate that the transmission of the written word by telegraph is indispensable to trade, industry and social life. Its reliability, coupled with its accuracy and speed, undoubtedly will continue to retain for it a popularity over all other forms of written communication." – CPR Facts and Figures, 1937

As with so many predictions, this one was sadly incorrect. Nevertheless, it illustrates the important role that the telegraph played in the early part of the 20th century.

The first telegraph line in Canada was installed in 1846 between Toronto and Hamilton. At the beginning of the telegraph age, numerous companies sprang up, but, as services were consolidated, most small companies were bought out by larger ones. The federal government also operated a telegraph service. The Dominion Government Telegraph Service was designed to

furnish rapid communication for sparsely populated areas that private companies had no incentive to serve, such as the coast of Vancouver Island, the Peace River area of northern Alberta, and the coast of Cape Breton.

In 1912, over 10 million telegraph messages were transmitted over more than 182,000 miles of wire and almost 39,000 miles of telegraph lines. The telegraph remained a vital communications link during the Depression years and throughout the 1940s. In 1946 alone, over 18.4 million telegraph messages were transmitted.⁵ But the technology underlying the telegraph aided in the development of the telephone, since the telephone initially utilized existing telegraph lines. Gradually, the importance of the telegraph as the primary means of long distance communication began to fade. From a high of 21.8 million telegrams transmitted in 1951, the industry reported transmission of only 4.4 million in 1975. And while the telegraph no longer plays a central role in communications strategies, it laid the foundation for other technologies we use today.

At the beep, please leave a message

The telephone was introduced in Canada in March 1876 and the first long-distance phone call was made that August, between Brantford and Paris, Ontario — a distance of 8 miles. Ten years later, there were 13,000 telephones in Canada. We've been talking non-stop ever since.

The telephone was adopted so quickly that, by 1911, there were 537 telephone companies in the country. Within another two decades, the

4. The Canadian Railway Telegraph History Web site. <http://web.idirect.com/~rbur-net/trivia.html>

5. "Transmitted" includes messages sent in Canada or received in Canada. This does not include cablegrams or money transferred.

number had grown to over 2,400 companies, including three large provincial telephone systems in Manitoba, Saskatchewan and Alberta. In 1933, Canadians made an estimated 2.2 billion local and over 24 million long-distance calls.

In 1911, there were 4.2 telephones for every 100 people; by 1930, it was 14.1 telephones. In 1942, Canada ranked third in the world in telephone access behind the United States and Sweden. Although not every household has a telephone (99% of households do), there were more access lines than households in Canada in 1997 (107.3 per 100 households). These extra lines are mostly attributed to the growth in Internet access lines, facsimile and second voice lines.

The telephone has undergone its own profound evolution. A myriad of services such as call waiting, call forwarding, and call display can be added to individual lines. Additionally, the technology attached to our telephones has changed. When voice mail, modems and facsimile machines are connected to our phone line, the rotary phone is no longer adequate (indeed, it is virtually impossible to obtain a rotary or pulse line anymore). With the speed at which communications technology is changing, some people are getting left behind. The 1994 General Social Survey (GSS) indicated that income, education, and age play important roles in determining who uses everyday technology such as the answering machine. For example, only 37% of seniors had used an answering machine in the previous 12 months.

In 1985, the cellular phone was introduced to the communications market. Cellular telephones use wireless transmission technology to provide access through the public switch telephone network, thus making the phone handset mobile and their users accessible at all times. Canadians quickly embraced the cell phone; between 1994 and 1996, the number of cell phone

subscribers almost doubled to over 3.4 million. In 1997, 19% of Canadian households had a cell phone for personal use, up from 14% the previous year. It is estimated that by 2005, 11.7 million Canadians will be cell phone subscribers.⁶

Information overload

When a computer connects to a communications network to access the Internet, to use an e-mail account, to use electronic banking services or buy something from a Web site, computer communications occur. The Internet and e-mail have changed the speed at which we communicate and the volume of information we can send and receive. Where we once complained that information was scarce, many Canadians find that today the amount of information available is overwhelming.

The Internet had its inception in the mid-1970s with ARPANET. This precursor was successfully used by a small group of academics and scientists who shared information, accessed remote computers and routinely used e-mail. University researchers adopted the Internet early on, but in 1990 it was still an alien concept to the average person. Today, use of the Internet and the World Wide Web is standard in public schools and places of work, as well as universities. And because so many school children use the Internet to research their projects, it is fast becoming commonplace in many Canadian homes.

In 1999, 42% of all Canadian households used the Internet (either from home, work, school or the public library), up from 29% in 1997. The younger generation is more connected — Internet use in 1998 was highest (47%) among households headed by a 35- to 54-year-old, the households most likely to have children living in the home.

Computer communications in the home is also accelerating. In 1997, 16%

of households regularly used computer communications from home; by 1998, the figure was 23% (2.7 million households), and by 1999 this had increased to 29% of all households.

Not surprisingly, the most popular use of the Internet at home is e-mail. Fully 86% of those households that were “plugged in” used e-mail. General browsing, looking for information, getting medical information, and electronic banking are some of the other things for which households used the Internet in 1998.

Summary

Communication in a country as large as Canada is difficult, but crucial to a sense of well-being and social connectedness. Rural and remote regions require communication systems to hear what is happening in other parts of the country and the world. Early in the 20th century, the telegraph and the post office were the primary means of communications. As time progressed, new communication technologies bridged the distances faster. Today, we are able to speak with friends, relatives or conduct business across the country or around the world instantaneously. In fact, many contend that today we are too connected, and would just like to get away from it all into the vast open spaces our grandparents knew.

6. This assumes an S-curve pattern of product penetration rates. For more information, see Chodorowicz, D. August, 1998. “The cellular telephone industry: Birth, evolution, and prospects,” *Canadian Economic Observer*.



Cara Williams is an analyst with Housing, Family and Social Statistics Division, Statistics Canada.