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**LIVING ELECTRICALLY:
THE BRITISH COLUMBIA ELECTRIC RAILWAY COMPANY AND THE
DEVELOPMENT OF THE DOMESTIC ELECTRIC APPLIANCE MARKET IN
VICTORIA, 1919-1939**

By

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Thesis submitted to the School of Graduate Studies and
Research in partial fulfillment of the requirements for the
degree of Master of Arts in History

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Abstract:

This thesis examines the introduction of electric household appliances in Victoria, British Columbia between the world wars. As of 1919, electric lighting had already replaced gas, but electric appliances were still uncommon. Expensive to buy and use, their diffusion was further retarded by poor household wiring standards and uneven service from the monopoly utility, the British Columbia Electric Railway Company (BCER). This firm at first showed little interest in developing the domestic market. However, problems with industrial and corporate customers showed that household customers provided more stable and reliable revenues. Simultaneously, time payments, standardized electrical outlets, and improved wiring standards made its service more attractive to Victoria's consumers. Even so, the BCER remained cautious in developing this market though, maintaining high rates and at first discouraging the spread of electric ranges, as these intensified peak demand.

Overall, one does not find a patriarchal, manipulative corporation imposing appliances on Victorians. Consumers, women in particular, were more autonomous than most scholars suggest. Electrical capitalists trailed behind rather than led demand.

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CHAPTER 1: INTRODUCTION

This thesis closely examines the conditions that facilitated or hindered the development of the market for domestic electricity in Victoria between World War I and World War II. A single utility controlled the generation and sale of electricity, as well as sales of coke and coal gas. This company, British Columbia Electric Railway also became the city's leading appliance retailer, thus playing the greatest role in the development of the market for electric appliances and domestic electricity in Victoria.

Many of the struggles that shaped the use of electricity in the household occurred at what Ruth Schwartz Cowan has called the "consumption junction," that is at the point where consumers themselves choose from competing options.¹ Competing options embody competing visions of how household tasks are to be organized, carried out, and shared. Over time, however, the cumulation of many consumer and producer decisions leads to a narrowing of options, which closes off lines of future development. Hence the consumption junction

¹Ruth Schwartz Cowan, "The Consumption Junction: A Proposal for Research Strategies in the Sociology of Technology," Weibe E. Bijker, Thomas P. Hughes and Trevor J. Pinch, *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*, (Cambridge, Mass: MIT Press, 1987).

is amongst the most interesting and most fecund of insights into the forces that socially shape technology at the moment when consumers had a maximum of choice.

For household appliances, the era of the shift from competing to diminishing options occurred between World War I and World War II. In no other time period were there more new products available, more competition among technologies, and more changes to housework. It is in this period that consumers, manufacturers, retailers, and utilities made the choices which established the modern appliance market, standards of housework, and kitchen designs. The period before World War II was perhaps the last time in North America when there was a large diversity of standards and equipment being used in housework. In the decades following, housework became so standardized that differences in the techniques and values of housework across socio-economic divisions largely dissolved.²

The "inter-war" period has also been used by other authors to denote a significant period of change from nineteenth-century to twentieth-century values. Cowan identifies this as a period where investors and entrepreneurs

²Joanne Vanek, "Household Technology and Social Status: Rising Living Standards and Status and Residence Differences in Housework" *Technology and Culture* 19 (3) July, 1978, p. 362; Christine E. Bose, Philip L. Bereamo, and Mary Malloy, "Household Technology and the Social Construction of Housework," *Technology and Culture*, 25 (January 1984): 53-82; Tanis Day, "Capital-Labour Substitution in the Home," *Technology and Culture* 33, 2 (April 1992): 302-327.

specifically designed technological systems with the idea of engendered "separate spheres" in mind, along with a much expanded consumer culture.³ British authors Arnold and Burr say that this period was marked by a rise in higher domestic standards through the domestic science movement, and the emergence of the idea attached to the consumer culture of "progress without limit."⁴ Veronica Strong-Boag calls this era the transition from an ideology that demanded economic thrift to a consumer culture based on expanding production and extended credit.⁵

This thesis draws from three historiographical fields: the history of electric utilities, the history of household technology, and a third field that synthesizes aspects of the first two in order to achieve a social history of electrification.

The questions formed in the first field have largely revolved around questions of economics, technology, and regulation. Thomas Hughes' *Networks of Power* posited that electric utilities differ from other businesses in that they

³Cowan, *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave*, (New York: Basic Books, 1983), p. 69.

⁴Erik Arnold and Leslie Burr, "Housework and the Application of Science," in Wendy Faulkner and Erik Arnold (eds.) *Smothered by Invention: Technology and Women's Lives* (London and Sidney: Pluto Press, 1985), p. 144.

⁵Veronica Strong-Boag, *The New Day Recalled: Lives of Girls and Women in English Canada, 1919-1939*, (Toronto: Copp Clark Pitman, 1988), p. 113.

operate as a system driven by technological imperatives, so by understanding these factors we understand the evolution of these companies.⁶ He borrows from physics to argue that large technological systems develop vested interests that give them considerable, inertial momentum. Once in motion, they are hard to stop or deflect. The managers assigned to maintain a system will do whatever is necessary to keep it growing, or at least viable. This model can be successfully applied to BCER. When the utility saw its industrial sales shrivel during the economic slumps just after World War I and again during the 1930s, BCER's managers naturally scrambled to find substitute markets. Hence they became interested in the domestic market. As we shall see, they did not so much impose electric appliances on Victoria's households to respond, belatedly, to pre-existing demand for them.

Many histories of electric utilities in Canada have been written but they have almost exclusively been corporate and political histories. Although works of this type add to our understanding of material history, they tend to be one-dimensional. They extensively research the corporate side of the equation, but devote little or no attention to the consumers of power who were important to corporate revenues.

⁶Thomas P. Hughes, *Networks of Power: Electrification in Western Society, 1880-1930* (Baltimore: Johns Hopkins University Press, 1983), and "Technological Momentum," in Merritt Roe Smith and Leo Marx, ed. *Does Technology Drive History? The Dilemma of Technological Determinism*, (Cambridge, Mass: The MIT Press, 1995).

More broadly, they largely ignore the socio-technical dimensions of electrification, and how electrification affected households.⁷ In the case of British Columbia, such deficiencies are compounded by the conspicuous lack of a monograph on the history of electrification in the province.

Some of the best information on consumers of electricity comes from works on the history of domestic technology and housework. Feminist authors of the 1970s and early 1980s writing on the history of housework and domestic technology made sharp criticisms of the failures of domestic technology to liberate women. Joan Rothschild showed that household technology had strengthened sex divisions and patriarchal-capitalist control.⁸ Joanne Vanek and Christine Bose both took this conclusion farther arguing that appliances, despite

⁷See for example, Merrill Denison, *People's Power: The History of Ontario Hydro*, (Toronto: McClelland, 1960); W.R. Plewman, *Adam Beck and the Ontario Hydro*, (Toronto: Ryerson Press, 1947); John H. Dales, *Hydroelectricity and Industrial Development in Quebec, 1898-1940*. (Cambridge, Mass: Harvard University Press, 1957); A. Kenneth Bell, *Getting the Lights: The Story of Electricity on PEI*. (Charlottetown: Prince Edward Island Museum and Heritage Foundation, 1989); W.E. Hawkins, *Electrifying Calgary: A Century of Public and Private Power*. (Calgary: University of Calgary Press, 1987); Clinton O. White, *Power for a Province: A History of Saskatchewan Power*. (Regina: University of Regina Press, 1976); Melvin Baker, *The Illustrated History of Newfoundland Light and Power*, (St. John's, Nfld: Creative, 1990); *A History of Electric Power in Manitoba*, (Winnipeg: Manitoba Hydro, 1994); John Negru, *The Electric Century: An Illustrated History of Electricity in Canada* (Toronto: The Canadian Historical Association, 1990).

⁸Joan Rothschild, "Technology, Housework, and Women's Liberation: A Theoretical Analysis," in Joan Rothschild, ed., *Machina Ex Dea: Feminist Perspectives on Technology*. (New York: Pergamon, 1983).

being advertised as liberating women from housework, actually were responsible for enslaving women to housework.⁹

The most important work in the history of housework and technology has been Cowan's 1984 Dexter prize winning book *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave*.¹⁰ Cowan points out that "work-liberating" technology often merely raised standards so work was not eliminated. And though some tasks were removed from the home others were introduced or reorganized.

In the 1990s, there has been more criticism of feminist historians and sociologists for overstating the impact of domestic technology on housework. Judy Wacjman believes that many of the authors writing on technology have mistaken the influences of social, cultural and economic forces for those of domestic technology.¹¹

The major questions asked are to what degree do sex and technology determine the state of the lives of women. When looking at the history of electric appliances, feminist authors tend to construe electric utilities as elements of a

⁹Joanne Vanek, "Household Technology and Social Status,"; Christine E. Bose, "Technology and Changes in the Division of Labour in the American Home," *Women's Studies* vol. 2, no.3 (1979): 295-304.

¹⁰Ruth Schwartz Cowan, *More Work For Mother: The Ironies of Household Technology from the Open Hearth to the Microwave*, (New York: Basic Books, 1983).

¹¹Judy Wacjman, *Feminism Confronts Technology*. (University Park, Pennsylvania: The Pennsylvania State University Press, 1991).

grand patriarchal-capitalist system. As a result, electric utilities are accorded too much power and details of the complexities that fuelled their decisions are ignored.

Looking at the development of the appliance market requires a closer inspection of the relationship between consumers and industry to see the complexities in the process of electrification that might otherwise be ignored. For this reason, a social history of electrification--which offers a detailed analysis of electric utilities while at the same time stressing the importance of understanding consumers--is particularly desirable. To date the best work in this regard has been David Nye's *Electrifying America*.¹² Nye identifies the technological and economic problems introduced by Hughes but adds details of the effects on consumers and households along the lines of what Cowan has done. Mark Rose's *Cities of Light and Heat* also shows domestic customers as an important part of the evolution of electric utilities.¹³

In Canada, Dianne Dodd has been one of the few to adequately describe consumers and electric utilities in her dissertation on Ontario.¹⁴ This thesis seeks to expand on this

¹²David Nye, *Electrifying America: Social Meanings of a New Technology, 1880-1940*, (Cambridge, Mass: MIT Press, 1990).

¹³Mark H. Rose, *Cities of Light and Heat: Domesticating Gas and Electricity in Urban America* (University Park, Pennsylvania: The Pennsylvania University Press, 1995).

¹⁴Dianne Dodd, *Delivering Electrical Technology to the Ontario Housewife, 1920-1939: An Alliance of Professional Women, Advertisers and the Electrical Industry*, (PhD. Thesis, Carleton University, 1988).

work by providing a more focused look at the conditions in Victoria.

Studying Victoria has many advantages. The records of the electric utility in Victoria are unusually extensive, so information on the electric utility is readily available. Victoria also serves as a good city to make comparisons with the work done on Ontario, which to date has the most studied history. Given the climatic and geographical differences, it was not obvious that Victoria would simply repeat the Ontario experience. It was especially worth asking whether electrification of the home took the same pattern in a city with a private utility as in a province serviced by Ontario Hydro, then a public cooperative.

Studying history at a local level is important in the history of electrification: it enables us to understand the flavour of development and to get useful information about consumers. Electrical development was not a uniform process; different challenges appeared in different localities. To gain any perspective from consumers, detailed information is also needed that cannot adequately be found in national sources. The natural unit of study is a city, given that electrical markets in this period were still mostly controlled and developed at the local level.

The BCER's own records form the great bulk of primary source information for this study. They are found at the provincial archives, at Special Collections at the University

of British Columbia, at the B.C. Hydro Library, and at the library of the British Columbia Legislature. They give us a very good picture of the BCER's perspective but inevitably, a somewhat sketchier view of the perspectives of other groups affected by electrification. Notably, other businesses such as electrical dealers and electrical contractors had an interest in the Victoria electrical market but are described here only through the BCER's records. Similarly, customers are known largely through these records, often only in aggregate statistics, or as described by the BCER managers. However, the thesis also uses more direct information about housewives and living conditions in Victoria from Barbara Riley's research project *Behind the Kitchen Door*.¹⁵

This thesis seeks to further understand the development of the domestic market for electricity by concentrating on the needs and desires of both the electric utility and consumers. Specifically, the central questions asked are: (1) What conditions affected the development and direction of the household electrical market in Victoria? (2) When did individual adoption of electric appliances grow to such an

¹⁵The main part of the project consisted of oral interviews conducted with women who lived in Victoria, roughly between 1910 and 1940, describing the material conditions of their households and housework. Other reports were made for the project which looked at electrification in Victoria, the use of sawdust burners, advertising of household equipment, and domestic science education. The tapes of the oral interviews are available at the British Columbia Archives and Records Service in Victoria. Copies of other reports are held at the Canadian Museum of Civilization in Ottawa.

extent that one can say that a qualitative change in the domestic use of electricity had occurred? To answer these questions the chapters in this thesis follow a thematic approach to describe different aspects of the consumption junction. These are supply, promotion, and demand. Chapter two starts by looking at the supply side of the equation: the physical and technological problems faced by the BCER's power system and the policies the BCER enacted in response to these problems. Starting with a brief history and historiography of the company, this chapter sets the stage for examining the growth of the domestic market for electricity. Several technological barriers hindered the expansion of domestic power use, especially in the early twenties.

The narrative of this chapter sets out the periodization of domestic electrification in Victoria. We find that there are three important transition points where company policies toward the domestic market were changed. The first period came just after World War I, the second in 1925, and finally, a third period commencing around 1930-1931, after the onset of the Depression to 1931. The chapter shows how these changes in policy were guided by technological and economic imperatives.

Chapter three explores the content of the BCER's promotional efforts, putting these activities into the context of the events outlined in chapter two. The BCER employed a variety of conventional and innovative means to

entice consumers to buy electrical goods. For example, contests were held to promote products, a Home Service Department was made available to customers for free advice on using appliances, an electric home was constructed to showcase electric devices, a bimonthly promotional magazine was sent to customers homes, and elaborate cooking schools were arranged. Over time the promotional efforts grew in quantity and sophistication to meet the prevailing challenges to the company.

Chapter four examines the last part of the consumption junction: consumer demand. Focusing on consumers and their reaction to BCER policies and promotion, it presents some novel information about the early adopters of electric appliances in Victoria. It also considers the quality of appliances and how their use affected household work and living arrangements. Costs of buying and using appliances affected their popularity and diffusion. This chapter provides sales data that tells us the relative popularity of various appliances, and in some ways tells us when households changed from not using appliances to coming to rely on them.

Finally, the Conclusion will summarize how the experience in Victoria was both unique from, and exemplary of, the history of household electrification in North America. The BCER operated within a continental industry that cooperated and shared ideas and information. The economic and technological pressures to develop the domestic market in

Victoria, while they may have been different in degree from other places, did not depart very far from the norm. This chapter concludes with the observation that the history of electric appliances has thus far been too deterministic in ascribing social changes to appliances, when those appliances are best understood as a product of those changes, rather than their cause.

**CHAPTER 2:
THE BCER AND THE EVOLUTION OF THE DOMESTIC MARKET**

While the expansion of the household market for electrical goods in retrospect seems to have been inevitable, a natural evolution of electrical technology, for the managers of the BCER in Victoria the dominance of this market was far from assured before the 1920s. Nearly everyone in the city was a user of electric light, but there was little immediate prospect of selling many household appliances. Domestic customers were expensive customers who required high levels of service and provided a small return on investment. They were frugal, tried to keep their consumption low, and complained whenever the utility imposed minimum charges and meter rental fees.

For a private monopoly utility like the British Columbia Electric Railway company, a greater penetration into the domestic market was also an invitation for more public complaints and public regulation. Industrial and business customers, by contrast, consumed large amounts of power with little service needed. A single line could serve a foundry or cement plant which would sometimes supply its own transformer,

even as it consumed as much as one thousand domestic customers who would require miles of line, utility built transformers, meter reader men, a billing office, and extra service personnel. Business customers were also less likely to complain of high rates¹⁶ or threaten the utility with regulation or takeover by the city council.¹⁷

To be sure profits could be derived from domestic lighting customers, but only by charging high rates and enforcing monthly minimum fees. Consumers tended to balk at these charges and the high initial expense of purchasing appliances. Electric appliances thus were out of reach of most of the BCER's customers. Hence, the company did not immediately see a great future in this market.

The BCER to World War I

Little has been written on these barriers to the development of a market in B.C. Many writers have written on some aspects of the history of the BCER, but there is as yet no authoritative, published historical monograph on this company. Early works on the history of the company were produced under company sponsorship or by company employees.

¹⁶The rate charged for large power users was considerably lower.

¹⁷Though the BCER enjoyed good relations with the provincial government, conflicts often arose with the municipal council. High domestic lighting rates were the principal source of problems.

Cecil Maiden's *Lighted Journey* written in 1948 gives only a brief outline of the company history. T.R. Myers, who worked for the BCER in Victoria produced a volume that chronicles his notes and reminiscences but provides no narrative or analysis. The best work to date on the history of this company is Patricia Roy's unpublished PhD dissertation, *The British Columbia Electric Railway Company, 1897-1928*.¹⁸

These sources tell us that the British Columbia Electric Railway was an English company formed in 1897 to buy existing street railway and electric utilities in Victoria, Vancouver, and New Westminster. R.M. Horne-Payne led the Board of Directors in England that kept close control of operations in B.C. Company managers had to seek approval from London for most matters of policy or expenditure.¹⁹ The company quickly established itself as a regional monopoly by buying out all competition. In Victoria, the company purchased the Consolidated Railway and Light company in 1897, the Victoria Gas Company in 1905, and the Victoria Electric Illuminating Company in 1907.²⁰ After this last purchase in 1907, the BCER was the only company that generated and sold electricity in the city.

¹⁸Patricia E. Roy, *The British Columbia Electric Railway Company, 1897-1928: A British Company in British Columbia*, (Unpublished PhD Thesis, University of British Columbia, 1970).

¹⁹*Ibid.*, p. 52.

²⁰*Ibid.*, p. 401.

Most of the power generated by the BCER in its early years was used for its street railway system, though its electricity also provided illumination. British Columbia's first hydro-electric generating plant was built by the company in 1898, on the Goldstream river.²¹ After ten years of operation, demand had grown to such an extent that this plant no longer met power requirements.²² On the Jordan river two additional 5,500 horse power generators were installed in 1912.²³ To ensure continuous service, a steam plant was built at Brentwood Bay, which was called into service whenever Jordan River could not meet demand. The Jordan River development had a small water shed vulnerable to changes of precipitation. A dry year could substantially reduce the output of the hydro plant. Consequentially, the Brentwood steam plant was called into service frequently through its lifetime.

Only two years after the Jordan River generators were brought on line, the project had to be expanded as industrial demand for power grew rapidly after the outbreak of war in Europe. High energy customers, the largest being the local Portland cement plant, looked to the BCER to provide large

²¹Cecil Maiden, *Lighted Journey: The Story of the B.C. Electric*, (Vancouver: B.C. Electric Co., 1948), p. 51.

²²*Ibid.*, p. 66.

²³Maiden, p. 76. Roy, *The British Columbia Electric Railway Company*, p. 188.

amounts of power. For the first time, industrial customers became significant to the BCER's revenues. To keep up with demand three extra generators were added to the Jordan River plant and engineers increased the water storage capacity by building extra diversion dams.²⁴

The need for this extra generating capacity proved short-lived. At the close of World War I electric utilities across Canada were faced with a sudden cessation of demand for wartime production without a compensating increase in civilian production.²⁵ This left the BCER in Victoria with unproductive and unprofitable generating capacity at war's end. To compound their troubles the company's managers had to contend with declining ridership and profitability in the street railway. Ridership had been falling as the popularity of private automobiles rose, and attempts to increase street rail fares to pay for capital costs met with fierce public resistance.²⁶ Victoria's street rail system was further burdened by an ill-conceived and expensive extension of its lines up the Saanich Peninsula made by the BCER in 1913.²⁷

²⁴*Ibid.*

²⁵British Columbia Electric Company Papers, 1861-1944. Add.Mss.4. British Columbia Archives and Records Service, Vol 330, Folder 7/90 [hereafter abbreviated BCE papers followed by the volume and folder numbers.] Letter to "The President and Members, the Canadian Electrical Association" Montreal, June 9, 1919.

²⁶*Ibid.*

²⁷Maiden, p.77.

This extension, abandoned in 1924, left a considerable debt on the books.²⁸ By contrast to the street railway and industrial setbacks, the household demand for electricity remained stable, even as the general economy declined. It was in this context that the BCER's managers looked more seriously at their domestic customers.

Yet domestic customers also presented a problem for the electric utility. The electrical system in Victoria had been firmly established by 1915 in that most homes within 3 miles of the city centre had electric service but this service was primarily designed to provide household lighting.²⁹ Before World War I almost no housing was constructed with convenience outlets for appliances. The few exceptions had been equipped with a diversity of standards, as each appliance manufacturer had its own.³⁰ A person installing convenience outlets in his home would be limited to buying those appliances that fitted that outlet's unique specifications.

The light socket plug provided manufacturers a compromise solution to the problem of conflicting electrical outlet

²⁸Henry Ewert, *The Story of the B.C. Electric Railway Company* (North Vancouver: Whitecap Books, 1986), p. 167.

²⁹BCE Papers 336:8/68 May 29, 1920. In 1910, the city had 5,791 users of electricity. That figure more than doubled by 1915 to 13,413, which was very close to the total number of households in the city.

³⁰Fred E. Schroeder, "More 'Small Things Forgotten': Domestic Electrical Plugs and Receptacles, 1881-1931." *Technology and Culture* 27 (July 1986), p.540.

standards. Most small appliances such as irons or coffee percolators could be connected to a standard light socket. This characteristic meant that instead of a power cord being plugged into a wall near the floor out of sight it hung noticeably from a ceiling lamp socket. Without an extra attachment to split a drop cord into two or more sockets only one appliance could be used at a time in a given room and its use would be at the expense of having electric light. Given these practical difficulties of using appliances there was a limited potential for mass marketing electrical goods.

Even so, there was one appliance that had been successfully mass marketed in Victoria before World War I. In 1909, the BCER had sold electric irons to its customers in Victoria and Vancouver.³¹ Because the company was in the business of selling power, the managers decided that the irons should be sold without regard to merchandising profit.³² An iron cost the company \$4.45, which they sold for \$5.00, barely covering the selling costs.³³ The company justified their sale at cost because they calculated they stood to gain more by selling the electricity that the irons would require. Unlike electric light, housewives used the irons during the daytime

³¹BCE Papers 144/41 Manager Light & Power, Vancouver to Goward, April 19, 1909.

³²*Ibid.*

³³The selling costs included shipping, advertising, salesmen, and showroom space.

when they consumed off-peak current. The power consumed by these irons, being surplus, cost no more to produce and distribute; yet the consumers of the power would pay the same rate for it. In essence, it cost nothing for the utility to provide the electricity for these appliances since unused power was lost as it could not be stored for later use. The electric generators on the Jordan river cost the same to depreciate whether they operated at 50 percent capacity or at 100 percent capacity. Increased sales of off-peak power thus produced almost pure profit for the utility. This principle applied to other small appliances that could be used during the daytime; but no others sold as well as the electric iron.

The BCER in Victoria needed very little in the way of sales facilities for the irons. The company kept a small stock of small appliances on hand at their offices on Langley street, but they employed no salesmen outside that location. Instead, the company relied on the city's six independent electrical retailers to make appliance sales.³⁴ The provision of appliances for electricity customers was partly for the interests of the company and partly as a service to consumers. Small appliances did generate some off-peak power sales, but were not so important that the BCER did much to promote them. Electrical dealers in Victoria sold \$79,455 worth of appliances in 1920, of which the BCER accounted for only

³⁴BCE Papers 336:8/68 Letter to E.H. Adams from S.J. Halls, Aug. 18, 1920.

\$8,000.³⁵

Another constraining factor in the expansion of the domestic market was the price of electricity in Victoria: it was quite high when compared with other cities. Granted there were utilities that charged their customers more than the BCER in Victoria. Table 2.1 shows that utilities in the Atlantic Provinces charged more per kilowatt hour, and on the west coast, San Francisco's Pacific Gas and Electric charged the same rate. However, Victoria's rates were higher than most of the utilities surveyed here.

³⁵BCE Papers 336:8/68 "Approximate value of electrical appliances sold by the Electrical Dealers for the year ending June 30, 1920."

Table 2.1 Domestic electricity rates in various cities, 1921			
City	Population	Company	Rate (¢/kwh)
Calgary	43,704	Calgary Water and Power	2
Halifax	46,619	NS Tramway & Power	8
Hamilton	81,969	Hamilton Cataract Power Light & Traction	2 per H.P
Los Angeles	535,485	Southern Cal. Edison	4.5
Montreal	470,480	Montreal Light Heat & Power	NA
Oakland, CA	206,405	Great Western	3
Ottawa	87,062	Ottawa Electric	1.3
Portland	308,399	Portland Rail-way light & Power	5
Quebec	78,710	Quebec Railway Light & Power	3
San Francisco	421,023	Pacific Gas & Electric	7
Seattle	366,445	Puget Sound Light & Power	3.5
St. John	42,511	New Brunswick Power Co	12
Toronto	376,538	Toronto & Niagara Power	1.5
Vancouver	100,401	BCER	5
Victoria	31,660	BCER	7
Winnipeg	136,035	Winnipeg Electric	3
Source: BCE papers 342:10/29. Population estimates: Canada - June 1, 1911 Census; USA estimated July 1, 1917.			

Complaints about the BCER in Victoria were often heard, relating to both their light and power operations and transportation services.³⁶ In 1917, S.J. Halls, the BCER Light

³⁶Christopher Armstrong and H.V. Nelles, *Monopoly's Moment: The Organization and Regulation of Canadian Utilities, 1830-1930* (Toronto: University of Toronto Press, 1988), p. 207.

and Power department's sales manager, reported that he had received many complaints from consumers about power rates after the issue had been raised in the provincial legislature.³⁷ In that same year, the legislature commissioned Dr. Adam Shortt to make an investigation of the operating conditions of the BCER (Vancouver and Victoria branches) and its rates.³⁸ Shortt concluded that Victoria's rates were unnecessarily high and should be lowered to encourage more consumption. He also criticized the BCER for inflating its lighting rates in order to subsidize the company's unprofitable street railway operations.

The BCER's Local Manager in Victoria, A.T. Goward, was disappointed with Shortt's recommendation on rates. He had hoped that the poor economic conditions and demands for higher wages that his branch was experiencing would influence Shortt to qualify his remarks on Victoria's high lighting rates.³⁹ Goward's conservative views regarding rates was consistent with the BCER's lack of interest in developing the domestic market. Though Shortt's reasoning that revenue losses from

³⁷BCE Papers 199:133 Halls to Goward. May 16, 1917.

³⁸Dr. Adam Shortt, *Report on the Economic Conditions and Operations of the British Columbia Railway Company and Subsidiary Companies* (Vancouver: BCER, 1917) also published by King's Printer in 1918.

³⁹Goward wrote to the BCER's president, George Kidd, to ask him to try and use his influence to get Shortt to soften his recommendations on Victoria's rates. 199:133 Goward to Kidd. Oct. 5, 1917.

lower rates would be made up by increased demand was sound, it also reflected his belief that expanding the market was a public good, and should be done even if there were no profit in it.

The BCER, grudgingly accepted that its role as a monopoly utility required it to accommodate the public interest, not just its own profitability, but did not see expanding domestic consumption as either an economic or civic priority. In a 1920 article for the Canadian Electrical Association, the company's Light and Power Manager, S.J. Halls, characterized small consumers of electricity as an obligation with little or no profit.⁴⁰ But B.C. Electric as a regulated public utility had to provide electricity to everyone regardless of whether an individual account was profitable. Failure to do so would have been an open invitation for stricter regulation or municipal takeover.

"Local conditions" was the consistent defence raised by the BCER's managers in Victoria for the high rates they charged.⁴¹ These conditions included high wage rates, and a small population that ensured that local street railways would lose money. The biggest local problem, though, was a limited power supply because of the small watershed on the Jordan

⁴⁰BCE Papers 336:8/55 "Seasonal Loads and Surplus Power Contracts," Article by S.J. Halls.

⁴¹BCE Papers 251:710a Comments on Beck's Report to City, December 1938.

River. But privately, the managers admitted that the Victoria rates were sometimes "difficult to justify."⁴²

A substantial increase in demand would have forced the company to increase its generating and water storage capacity much more rapidly than it did, which would have adversely affected profits in the short term. Since the BCER consistently managed a safe rate of return, it chose not to jeopardize that by speculating on increasing generating capacity ahead of demand; especially when the company could sell most of its capacity at high rates. It had little incentive to lower its domestic charges.

1919-1924

After World War I, the household market for electricity expanded quickly thanks to increased standardization, lower rates, and consumer credit. A breakthrough came in 1917 when electrical manufacturers agreed on a standard electric convenience outlet for North America.⁴³ This was the familiar standard two-prong design that allowed manufacturers to standardize their designs, so that eventually the ceiling drop cord plug would become obsolete.⁴⁴ However, it took some time

⁴²BCE Papers 220/205 G. Kidd to Goward, Jan. 22, 1923 "Re December Results"

⁴³Schroeder, p. 540.

⁴⁴The third prong (the ground wire) was not added until 1962. [Schroeder, p. 542.]

for homes to adopt the standardized outlets.

In Victoria, the cost of using appliances was significantly reduced in 1920. After years of criticism from the city and consumers about the high charges for home electricity, the BCER reduced its rates in December 1920 to 7 cents/kwh from 11 cents/kwh, as part of an agreement whereby the BCER rid itself of jitney⁴⁵ competition on street car routes.⁴⁶

Standardization and more reasonable rates produced an expanding market for domestic appliances. In response, company policies regarding appliance sales had become more generous by 1922. Following the lead of Vancouver, time payment schemes were now offered to customers wishing to make major purchases. For example, customers received six to ten months to pay for vacuum cleaners: a \$74.00 vacuum could be purchased for \$10.25 down and ten monthly payments of \$6.75, a total of \$78.00.⁴⁷ Light and Power Sales Manager, S.J. Halls was quite receptive to the use of time payments for purchasing

⁴⁵A jitney was a private automobile that picked up passengers along makeshift routes, usually charging a five cent fare. The cars would pick up passengers on the BCER routes, which the company saw as poaching on their exclusive transportation franchise. Donald F. Davis, "Competition's Moment: The Jitney Bus and Corporate Capitalism in the Canadian City, 1914-20," *Urban History Review* (1979).

⁴⁶BCE Papers 336:8/62 Walker to Halls, Dec. 7, 1920. Henry Ewert, *Victoria's Street Car Era*. (Victoria: Sono Nis Press, 1992), p. 74.

⁴⁷BCE Papers 348:11/31 Price quotes sent to Mr. George B. Lindsay. Jan. 16, 1922.

appliances. He noted that from the company's perspective, business was being stimulated during a poor economic period and the company had incurred "practically no bad debts" on account of such sales.⁴⁸ He explained that time payments allowed those with limited incomes to "gradually acquire at least a complete outfit of the more useful and necessary electrical conveniences for the home."⁴⁹ The use of time payments should be expanded and be made more generous, he said, to benefit the average household.

Time payment plans were indeed expanded, through the direction of the Vancouver branch, which set the financing policy for Victoria. In the mid-twenties, the BCER's carrying-charge policy was to add 50 cents a month to appliances costing \$100 or less, \$1.00 a month for ones costing \$100 to \$300, and \$2.00 a month for those costing more than \$300.⁵⁰ For smaller items (under \$25) customers were simply allowed to spread payments out on their regular electricity bill over six months, after putting a down payment of 25 to 33 percent.⁵¹

⁴⁸BCE Papers 380:16/36 Response to a survey for *Electrical News*. June 6, 1922.

⁴⁹380:16/36 S.J. Halls, Response to survey for *Electrical News*. June 6, 1922.

⁵⁰377:16/1 Bulletin #43, Re Carrying Charges of Electric Ranges, Water Heaters, Washing Machines, Dishwashers, Ironers.

⁵¹BCE Papers Bulletin #44 Re Deferred Payments on Miscellaneous Small Appliances.

There were restrictions on who could apply for time payment purchases. Company policy limited this option to customers who had paid their bills on time for at least twelve months. It was also limited to whites, as the Vancouver office ruled that "appliances will be sold to Negroes, Chinese and Japanese for cash only. In exceptional cases credit may be allowed by approval of the Credit Department."⁵² This policy revealed pure prejudice, since it had no basis in experience. In the case of Victoria's Chinese residents, S.J. Halls publicly praised them for being reliable bill payers -- quite a contradiction to the attitude exemplified by the credit policy.⁵³

The company also promoted appliance sales by holding regular marketing campaigns during which specific appliances were heavily advertised and promoted at certain times of the year, usually with the participation of the manufacturer.⁵⁴ The various campaigns were made seasonal; thus, cleaning apparatus such as washers, vacuum cleaners, and ironers were promoted more vigorously in the spring time, when

⁵²Terms for time payments were determined by the head office in Vancouver. BCE Papers 236:455 Bulletin no. 308, March 1, 1930. From Vancouver office, Signed by Newell (VP), Adams (VP), and Mainwaring (President).

⁵³BCE Papers 199:133 "Selling Lamps and Electric Service to the Heathen Chinese." by Sydney James Halls. "How-I-Did-It": *Short stories of Lamp Sales Told by Salesmen to Salesmen*. Oct. 1917. V.2, n.2. p.5-8.

⁵⁴BCER *Annual Report*, 1919-1924.

traditionally housewives conducted annual spring cleaning of their homes.⁵⁵ Small appliances, such as toaster, small grills, coffee percolators and curling irons were promoted during the most popular month for weddings, June, and during the Christmas season, when these small items could be sold for gifts.⁵⁶

The BCER saw the possibility of increasing domestic revenues in other ways as well. Electrical service was extended into rural areas.⁵⁷ Reflecting the company's conservative outlook, line extensions were only undertaken when new customers agreed to pay for a minimum amount of power each month for up to three years.⁵⁸ These contracts ensured that extensions would be paid for within three years at little risk to the company. If a lighting extension cost more than the expected revenue, then the customers had to pay the difference if they wanted to keep their service. Rural

⁵⁵BCE Papers 372:15/21 Part of short article sent to *Journal of Electricity* for a Feb. 1, 1926 edition on western power companies promotions.

⁵⁶BCE Papers 331:7/153 Halls to Canadian Westinghouse, Vancouver, Nov. 10, 1919.

⁵⁷"Rural" for the distribution system was defined as anywhere outside of a three mile radius of city hall. Where service was not yet available, the householder would have to pay for line poles, if they were needed to access their property and they had to guarantee a minimum usage to cover the costs of the BCER. The three mile radius was also used as a basis for rate differentials. Rates and service charges outside three miles were significantly higher than within.

⁵⁸ "Company has Sound Policy on Residence Extensions" *B.C. Electric Employees Magazine* VIII,4 (July 1925).

customers then were always adding extra revenue, and with little risk to the utility.

1925-1929

By 1925 the BCER had decided to promote domestic consumption more intensively: a large showroom was built at a prominent location at the corner of Douglas and Pandora streets; a new department was added with a Home Economist to advise BCER customers; and a company magazine began to be distributed to all customers to promote electricity use in their homes.

As the rest of the world experienced the economic boom of the 'roaring twenties' the economy of Victoria also expanded. Increased business in the capital, while not as great as other parts of North America, meant that there were more customers for commercial and industrial power. The amount of electricity consumed by residential customers also significantly rose during these years. Yet as demand for power increased, the BCER found itself in a poorer position to provide it. The limitations of the Jordan River hydro development became evident, as lower-than-average rainfall resulted in power shortages. The auxiliary steam plant at Brentwood had to run for twenty-four hours a day. Even this plant was not enough to meet demand. The crisis, endemic after 1925, peaked in 1929 when a major drought hit the entire

Pacific Northwest.⁵⁹ All utilities had to ask customers to cut back on demand. As the electric utility with the smallest water shed, Victoria's BCER had the worst power shortage. Some industrial customers were required to curtail their operations for four to six hours a day, and the owners of electric water heaters were told to disconnect them.⁶⁰

The Victoria branch had tried earlier to promote electric ranges, only to drop the promotion due to lack of interest.⁶¹ By 1926, though public interest in electric ranges was much greater, the company rejected manufacturers' entreaties to promote electric ranges because they would need electricity the company was not in a position to provide.⁶² J.I. Newell, an engineer at BCER's Vancouver branch wrote a report highly critical of promoting ranges at all.⁶³ Though an electric range in a home meant instantly doubling (or more) the amount

⁵⁹"Light and Power Industry in 1929 Reviewed," *B.C. Electric Employees Magazine* XII, 12 (March 1930).

⁶⁰UBC Special Collections, BCER President's Office files. Box 52. Light and Power Sales Department: Memo from Mr. E.E. Walker, to Mr. E.H. Adams, August 9, 1940.

⁶¹Electric ranges were first promoted in 1915, but the BCER found they could not generate interest in them. [BCE Papers 194:133a Halls to Goward. Jan. 15, 1915. Re: electric cooking].

⁶²BCE Papers 372:15/22 Halls to Gardner of Canadian Westinghouse, Vancouver. Re electric range campaign. May 14, 1926.

⁶³BCE Papers 229:349 Report written by J.I. Newell (Vancouver), submitted to Mr. Kidd, copy sent to Victoria (to Tripp, General Superintendent). May 14, 1926.

of power consumed in a household, that increase was almost entirely used on peak, when generating capacity was taxed the most. Though the Sales Department was anxious to get the additional revenues from large consumption appliances, the Engineering Department, which was responsible for supplying that power, was apprehensive about meeting the costs of that demand. Beyond the expensive peak current, Newell also reminded his colleagues that electric ranges required a more substantial distribution system, which the company was obligated to build and maintain. Given that cooking received a preferential rate (3 cents/kwh in Victoria, and 2 cents/kwh in Vancouver) Newell believed that ranges did not actually produce any profit.⁶⁴

Victoria's General Superintendent of the Engineering Department, G.M. Tripp, agreed with Newell's caution and advised Halls that the Victoria branch should not promote the range business.⁶⁵ The poor revenue profile of the range, and the lack of surplus power in Victoria due to weather conditions made the range particularly undesirable for the utility. As a result, though ranges were still sold in Victoria at this time (by the BCER and other dealers) the BCER

⁶⁴The cooking rate was lower than the regular lighting rate because electric ranges consumed so much power that their use at regular lighting rates was too expensive to interest customers.

⁶⁵BCE Papers 229:349 Memo: Tripp, General Superintendent, to Goward, May 20, 1926.

refused to offer incentives or to run promotions to increase their sales.

The electric refrigerator had a more appealing load factor profile. Brought onto the North American market in 1926, the electric refrigerator was touted by manufacturers as one of the best possible revenue producers for electric utilities. Instead of consuming power only during a narrow period, it used power regularly over the course of the entire day, so that it acted to even out the demand for household power. An article in the *B.C. Electric Employees Magazine* compared the average electrical consumption of an electric refrigerator to that of an average city of Baltimore consumer.⁶⁶ It found that while an average Baltimore household uses 428.4 kilowatt hours per year, an electric refrigerator averaged 650 kilowatt hours per year by itself. Thus, an electric refrigerator had the potential to double consumption with minimal effect on the peak load.

Despite the refrigerator's remarkable potential as a revenue builder, the BCER in Victoria did not expect it to become an important source of revenue in the late twenties.⁶⁷ Refrigerator sales were quite slow in Victoria from 1926 to

⁶⁶*BC Electric Employees Magazine*, Aug. 1926 (Vol. IX, no. 5). "Electric Refrigerator Load Highly Attractive."

⁶⁷BCE Papers 393:18/19 Statistics for questionnaire, January 17, 1929.

the mid-thirties. It was an expensive⁶⁸ and unproven technology that the Light and Power department in 1929 predicted would not become a significant commodity until the late 1930s.⁶⁹ Unsurprisingly, the BCER's marketing efforts for refrigerators were minimal in the 1920s. The sales department limited its pitch to existing range owners, who numbered only about five hundred in 1926.⁷⁰

The BCER made preparations to deal with this chronic power shortage in Victoria. In an attempt to keep up with demand, construction began in 1928 to add generators and increased storage capacity at the Jordan River dam. As well, the BCER began to consider developing the Campbell River, 167 miles up Vancouver Island.⁷¹ This new site had double the potential output as the Jordan River.

In addition to increasing its generating capacity, the BCER also looked to improving its distribution system. The antiquated Rock Bay substation, the distribution point for Victoria's power supply, was replaced in 1929 by a new substation on Bay Street. The company also began to overhaul

⁶⁸In 1926 the installed price for Servel Refrigerators ranged from \$390.00 for the L-5 to \$602.00 for the E-9. [Source: BCE Papers 372:15/18 Walker to Halls, March 30, 1926.]

⁶⁹BCE Papers 393:18/19 Statistics for questionnaire. January 17, 1929.

⁷⁰BCE Papers 372:15/18 Halls to Hubbs, April 26, 1926.

⁷¹T.R. Myers, "Vancouver Island Needs More Power" *B.C. Electric Employees Magazine* Vol. XII, no. 3 (June, 1929) p.6.

its distribution system by replacing old three-wire, 2,300 volt "Delta" lines with a four-wire, 4,150 volt "Star" system.⁷² This upgrade gave the distribution system a 70 percent increased capacity, which allowed additional growth and better regulation of electrical transmission, while extending the area of service.

Before these improvements to the electric system, the utility found itself barely keeping up with demand. Indeed, it sometimes fell behind it. Both industrial and domestic power demand steadily increased from 1925 to 1929. [see figures 2.1 and 2.2] While the Sales Department experienced steady growth and earnings, the Engineering Department had to contend with the problem of supplying the power to an ever expanding market.

By the late 1920s the BCER in Victoria had invested a considerable amount in merchandising, running promotional campaigns, expanding showrooms, and hiring extra salesmen. Mainly small appliances were sold, such as irons, toasters, electric grills, and coffee percolators, but other larger items were popular, especially electric washing machines and vacuum cleaners. The BCER accounted for about two-fifths of appliance sales in the city by 1929, up from only 10 percent

⁷²"Island Distribution System Grows: This Year Sees Completion of New Bay Street Substation and Cut-over to 4,150 volts." *B.C. Electric Employees Magazine*, Jan. 1931 (XIII, 10).

Figure 2.1
Industrial Accounts: Consumption of Power, 1918-1937* (in Kilowatt Hours)

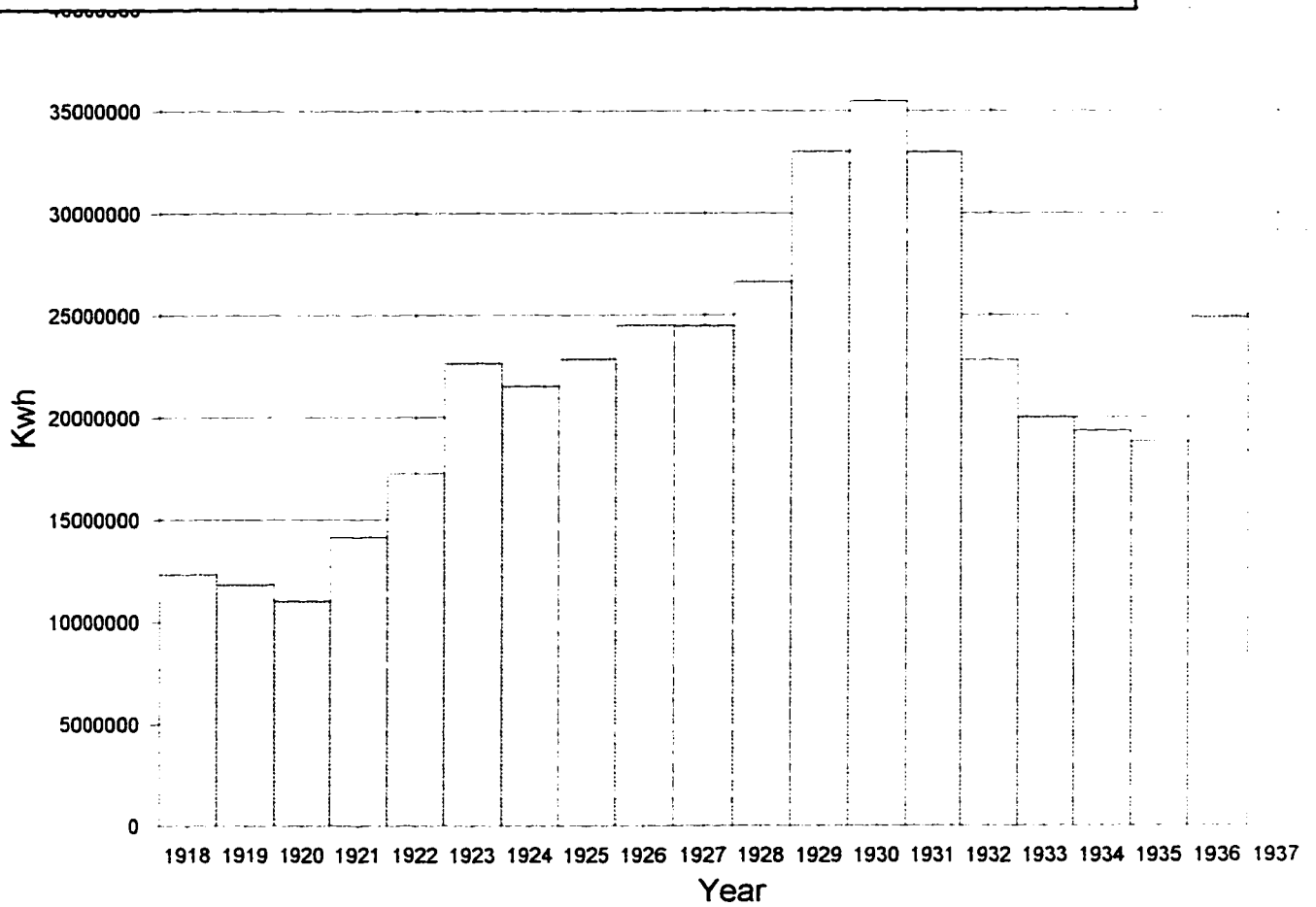
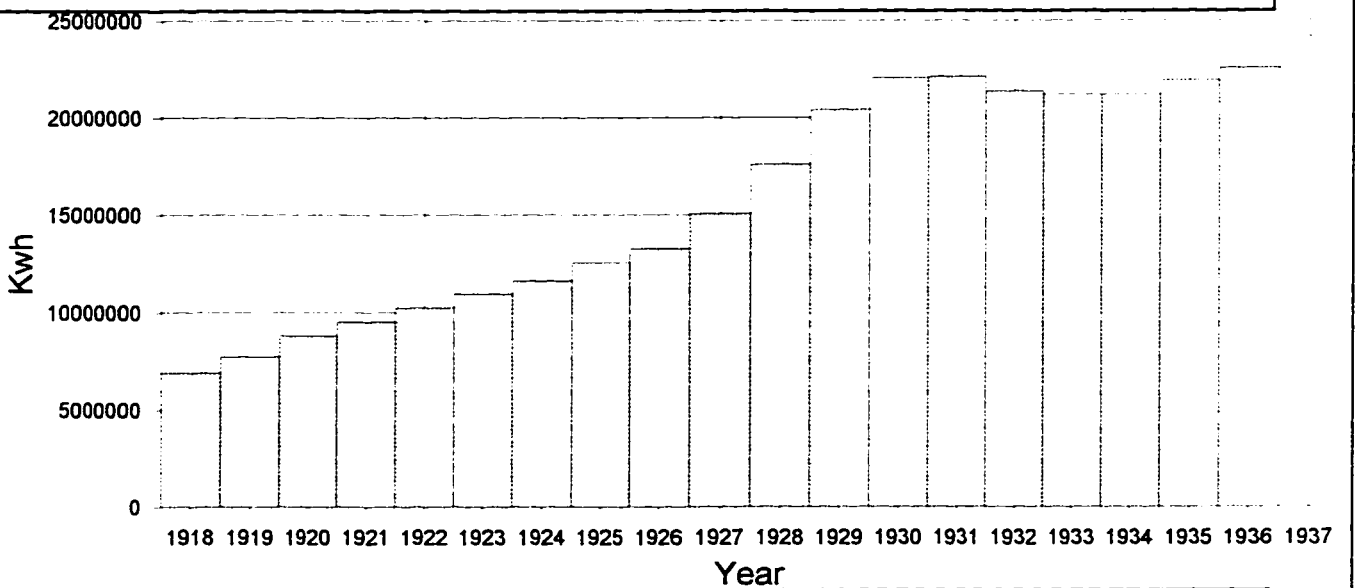


Figure 2.2
Electric Lighting Accounts: Consumption of Power, 1918-1937* (in Kilowatt Hours)



*Note: Figures for 1921 were not available, and therefore are an average of 1920 and 1922. [Source: BCE Papers, BCER Annual Reports, 1919-1937.]

Figure 2.3:
BCER Industrial Power Earnings, 1918-1937* (in dollars)

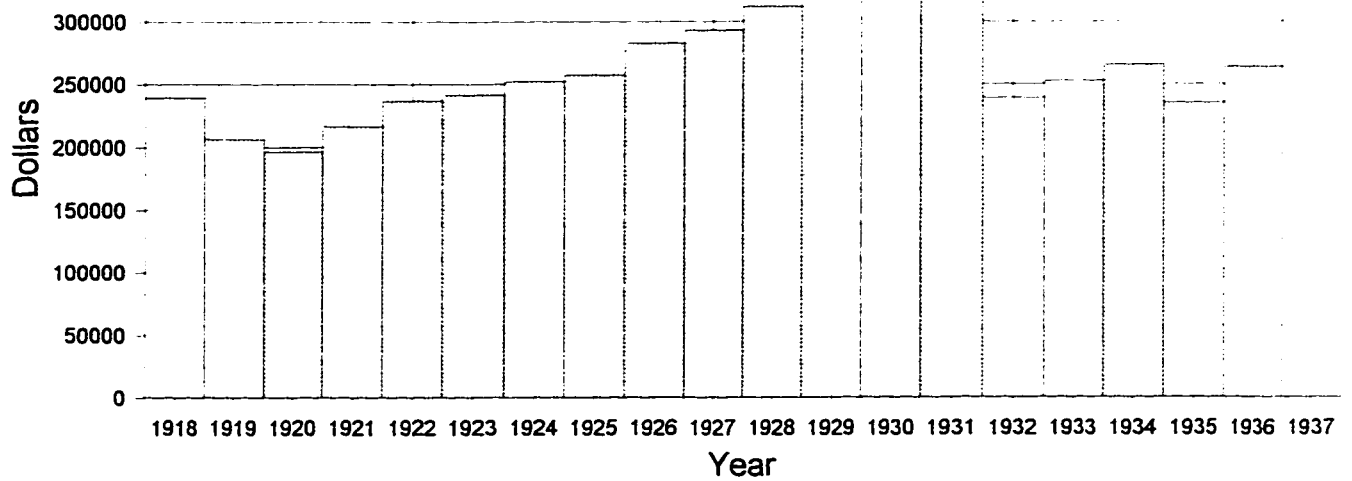
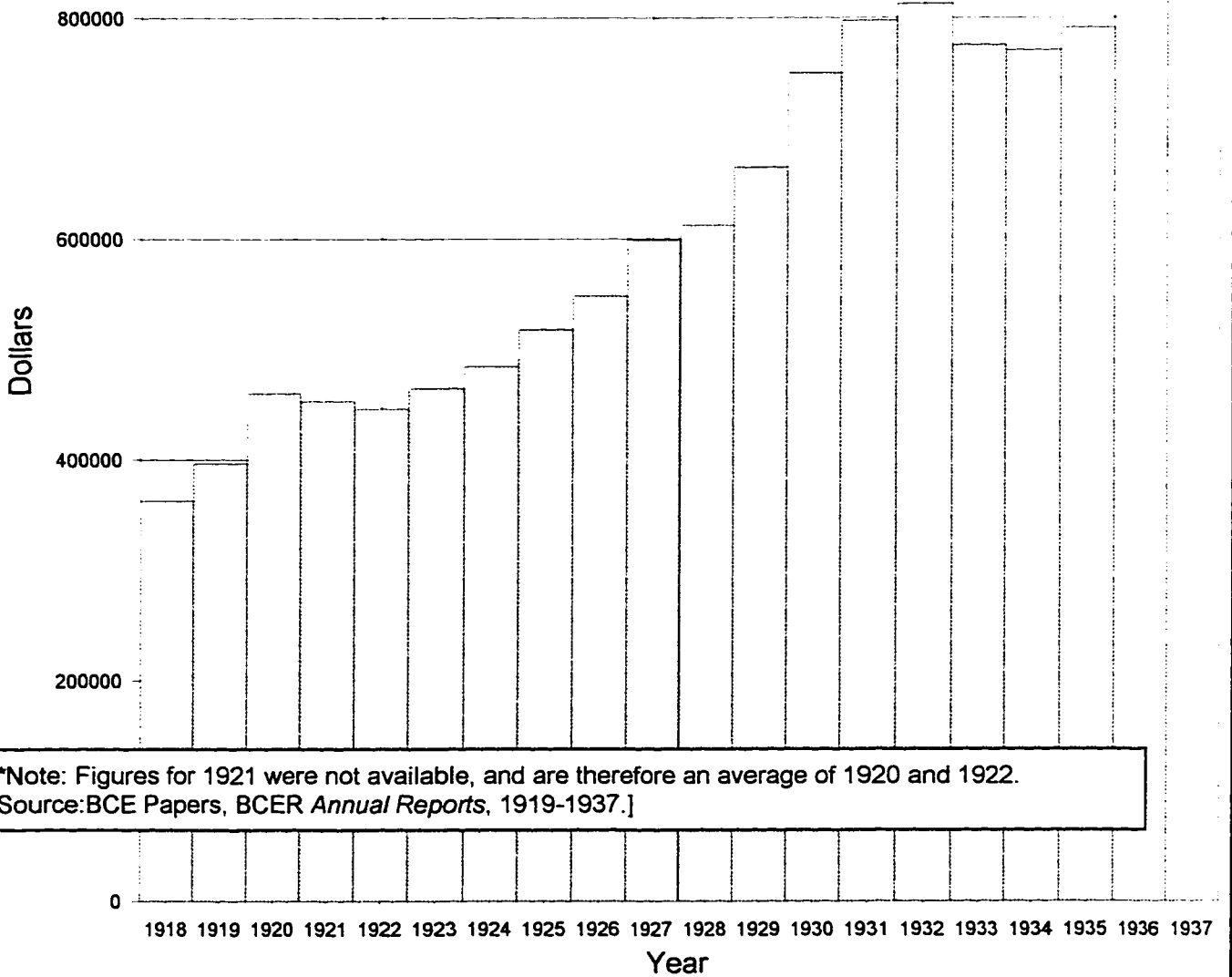


Figure 2.4:
BCER Lighting Earnings, 1918-1937* (in dollars)



*Note: Figures for 1921 were not available, and are therefore an average of 1920 and 1922.
[Source: BCE Papers, BCER Annual Reports, 1919-1937.]

in 1920.⁷³

Despite these promotional efforts directed toward the domestic market, the management of the BCER in Victoria was conservative in its expansion. Usually the company merely followed demand. And in the case of electric ranges, the company actually retarded the diffusion of a technology because of its poor load factor.

The Depression

In the closing months of 1929, the salesroom staff at Pandora and Douglas began to see a change in buying patterns. They remarked that the large appliances were no longer attracting as much attention as the smaller, less expensive ones. People were more interested in the toasters and irons than washers or electric ranges. They also noted that "there seems to be a lot of people looking around, but very few buying."⁷⁴ The managers of the BCER realized that they were seeing the beginning of an economic downturn, although they could not foresee its extent. The annual report predicted improved sales in the coming year.⁷⁵

What was readily apparent to the utility by 1931 was that

⁷³BCER *Annual Report*, 1930.

⁷⁴BCE Papers 392:18/17 Memo for McKitrick. December 21, 1929. Report for the week of Dec. 16 to 21, 1929.

⁷⁵BCE Papers 393:18/19 Reply to *Electric West Survey*, December 19, 1929.

commercial and industrial customers were cancelling service at an alarming rate.⁷⁶ The industrial load had grown at a steady rate from the depressed period of the early twenties to the end of 1929. In that time, industrial earnings advanced from a low of \$196,419.72 in the year ending June 30, 1920 to close to double that amount in the 1929 year-end of \$354,297.09.⁷⁷ There came a crash by 1931, when industrial earnings dropped to \$238,949.86, almost completely dispensing with ten years of steady growth within a year and a half. The only consolation for the BCER was that Victoria had a meager industrial base, and the BCER had not built up a very large reliance on its industrial customers. Also, because of the limitations of the power supply in the area, it had always limited the scope of its industrial business.⁷⁸

In contrast to the devastation seen in sale of power to industrial customers, the domestic business remained stable. While merchandise sales fell, electric current consumption appeared unaffected. Unlike industrial sales, the revenues from the lighting accounts increased even in 1931.⁷⁹ It was

⁷⁶BCER, *Annual Report*, 1931.

⁷⁷BCER *Annual Reports*. Note that all figures provided are for year ends ending June 30.

⁷⁸336:8/55 Halls to Walker, January 15, 1920.

⁷⁹Note: the term "lighting accounts" refers to commercial and domestic accounts, and includes the use of appliances as well as light. It does not cover commercial power sales such as elevators.

not until the year ending June 30, 1933 that lighting account revenues fell for the first time in ten years. Even then, at the nadir of the Great Depression, revenues decreased by only \$37,027.11, from \$812,897.70 in 1932 to \$775,870.59 in 1933. This 4.5 percent drop in earnings compared to an almost one-third loss in industry revenues.⁸⁰ BCER management already knew that domestic accounts tended to be more stable than industry ones, but the onset of the Depression made that difference stand out even more. Given the stability and growth of the domestic market, and the small size and lack of stability of industry in Victoria, domestic customers were now seen as the primary hope of securing revenues, and extra efforts were made to expand that market. With industry using 40 percent less power than in 1929, and with the recent upgrading of both extra generating equipment and the distribution system the electric system was left with a large unused capacity that was no longer threatened to push its peak-use period close to the maximum available.

The BCER began actively to promote the sale of electric ranges in 1930. M.C. Trueman, the Assistant Sales Engineer, in outlining a new marketing agreement with the Canadian Westinghouse company commented: ". . . It is our intention to foster electric cooking within our territories strongly, and [we] will push the sale of all types of Electric Ranges which

⁸⁰BCER *Annual Reports* 1932 and 1933.

we carry without favour."⁸¹ At the end of 1931, Halls wrote to E.E. Walker, the Sales Engineer in Vancouver:

In reviewing the whole situation, I have come to the conclusion that the Electric Range still offers the best opportunity for us to bring back and develop our business. . . . I think something in a comprehensive way has got to be undertaken to materially improve conditions and with our generating and distribution investment already made to take care of much greater business.⁸²

Now, suddenly, the electric range was considered the potential savior for company revenues. The debate within the BCER departments about the costs and benefits of electric range use had been silenced by the change in economic conditions. With the cancellations by industrial customers, load factor was no longer a question since the generators on the Jordan River were not nearing their capacity.⁸³ The engineering department calculated that the costs of upgrading the distribution system to accommodate a range could be paid for through a customer's revenues within eighteen months.⁸⁴

To encourage increased use of domestic electricity the floor area rate was adopted in 1931. This rate structure had been previously adopted in many jurisdictions in Canada and

⁸¹BCE Papers 403:19/31 Trueman to G.N. Gardner, Canadian Westinghouse. April 2, 1930.

⁸²BCE Papers 411:20/38 Halls to E.E.Walker, Sales Engineer, Vancouver. December 30, 1931.

⁸³BCE Papers 413:20/34 "Vancouver Island Activities During 1931 by S.J. Halls."

⁸⁴BCE Papers 419:21/39 Halls to W.C. Mainwaring, Merchandise Manager, Vancouver. December 14, 1932.

the United States, including Vancouver in 1924.⁸⁵ E.E. Walker of the Vancouver Sales Department explained that:

it was primarily to promote a greater customer "off-peak" use of electrical energy in excess of the normal requirements for house lighting. Our records of residence consumption checked with Goad's Insurance Maps for areas, indicated that 3 KWH per 100 square feet approximated the normal consumption of current for lighting.⁸⁶

Men were sent out to measure each house, and consumers were charged a rate for the first few kilowatt hours based on the size of their home. Any excess consumption was charged a much lower rate. For example, a one-thousand square foot house would be charged 6 cents for the first 30 kwhs used and any excess at 3 cents per kwh. Thus consumers who decided to use electric appliances in the daytime would be charged half as much for their use. A few years later in 1935, the secondary rate of 3 cents/kwh was lowered further to 2 cents as part of the company's effort to encourage electric range use.

Beyond trying to increase the daytime use of appliances the best load builder was the high energy consuming electric range. In a meeting of Light and Power managers, S.J. Halls and his Vancouver counterparts came to the conclusion that the high cost of installing the range with proper wiring was one of the greatest impediments to people choosing an electric

⁸⁵UBC Special Collections, BCER President's Office files. Box 52. Light and Power Sales Department: Memo from Mr. E.E. Walker, August 9, 1940. To Mr. E.H. Adams, Vice-president and comptroller. [Lower Mainland].

⁸⁶*Ibid.*

range.⁸⁷ The company knew that range sales were being hampered by the expense of the customer having to pay for the upgrading of the wiring in their home to fit a range. An upgrade cost the customer about \$45.00,⁸⁸ and unlike the range price, time payments did not usually apply to this sum. To overcome this hurdle to range sales, the company introduced free range wiring in 1932.⁸⁹

Because the free range wiring campaign was part of a program to sell more power, rather than to sell merchandise for its own sake, an allowance for free wiring was also extended to other dealers and contractors. The company estimated that if 300 ranges were sold under this program, it would cost the company \$10,500 to pay for the wiring.⁹⁰ The estimated revenue from those same 300 ranges, at an average of \$54.00 per range per year, would yield \$16,200 in one year.⁹¹ Clearly, the expense of free wiring was more than compensated. Moreover, the sale of ranges also fostered the use of electric water heaters. Hot water heater heaters were often sold with

⁸⁷BCE Papers 419:21/39 Notes from meeting held at Head Office on Tuesday, March 1, 1932. S.J. Halls, Victoria, W.C. Mainwaring, Merchandise Manager, and E.E. Walker, Sales Engineer, were present.

⁸⁸An electric range averaged \$180.00 in the early 1930s.

⁸⁹BCE Papers 419:21/39 Notes from meeting held at Head Office on Tuesday, March 1, 1932.

⁹⁰*Ibid.*

⁹¹*Ibid.*

the range because people used their old coal/wood stoves to heat water through coiled pipes that passed through the range. With the loss of the old range, a new method of heating water was required. The BCER estimated the sale of 150 hot water heaters would produce an additional \$5,400 in electric revenues.

Although the BCER extended the free wiring program to local dealers, the latter were displeased with its details. The wiring allowance for the dealers was set at only \$10.00 per range; whereas the actual cost for such work was closer to \$35.00 to \$45.00. Part of the problem with the difference was that the free range policy was set for the entire BCER service area, which was primarily Mainland Vancouver, where distances were much shorter from utility poles to homes, and where there was a less amicable relationship between the BCER and local dealers.⁹² The Victoria branch of the company had always had a more cooperative relationship with local dealers, and sought to keep that relationship on good terms. Halls used his influence to get the wiring allowance doubled to \$20.00, but even this concession did not satisfy Victoria's dealers.⁹³

Local dealers in Victoria complained to Halls about what

⁹²BCE Papers 199:133 George Kidd, General Manager, Vancouver, to Goward.

⁹³BCE Papers 419: 21/40 Letter from Jameson Motors and other Victoria Electric Dealers to Halls, Re Range Campaign. April 18, 1932.

they saw as unfair practice on the behalf of the BCER.⁹⁴ They pointed out that they could not make reasonable profits under the conditions set up by the utility. "This, therefore, is not a merchandising proposition but is a campaign to sell power," they concluded in a 1932 letter, "and under these circumstances we feel it should make no difference to you who sells the range and it therefore appears to us that in any campaign such as this the full cost of the wiring should be absorbed by your company, whether the sale is made by you or any other dealer."⁹⁵ Halls wrote to the Vancouver Merchandise Manager, M.C. Mainwaring, to suggest that during the next range campaign, set for the Spring of 1933, the dealers should be put on an equal basis as the BCER with regard to wiring allowances:

I consider, therefore, particularly as the outlook is certainly not encouraging for obtaining new power business; also taking into consideration the fact that we have ample power available, that we would be justified in recommending another free wiring campaign, as once an installation is made it is probably good for from fifteen to twenty years' service in the same location, a much longer period of time than most of our small industrial power consumers remain in business.⁹⁶

Mainwaring, though appreciating the logic of Halls' arguments,

⁹⁴*Ibid.*

⁹⁵BCE Papers 419: 21/40 Letter from Jameson Motors and other Victoria Electric Dealers to Halls, Re Range Campaign. April 18, 1932.

⁹⁶BCE Papers 419:21/39 Halls to W.C. Mainwaring, Merchandise Manager, Vancouver. December 14, 1932.

remained opposed to putting the dealers on equal footing with the BCER. Even so, during the 1933 campaign, he did authorize a doubling of the wiring allowance to \$20.00, partly recognizing the different conditions in Victoria.⁹⁷ By the next year, the Victoria branch negotiated a separate arrangement with their dealers, under which the entire wiring cost was covered by the BCER, no matter who sold the range.⁹⁸

The company manager in Victoria had always had a more cooperative relationship with local electric appliance retailers, than did Vancouver's: cooperative campaigns were arranged, and the BCER even allowed other dealers to use its demonstration facilities to make sales. The economic pressure brought by the Depression tended to strain this relationship. Because the electric utility's primary concern was selling power, it put that business ahead of making profit on merchandise. Thus, the BCER could justify prices and terms for appliance sales that would not be profitable for a retailer. In January 1931, the concerns of the dealers in Victoria began to be heard. Aware of what was happening in Vancouver, where the company was aggressively selling appliances, using high-powered campaigns and very long payment

⁹⁷BCE Papers 421:22/13. Summary of activities, BCER Victoria, 1933.

⁹⁸BCE Papers 439:24/47 Meeting with Retailer/Dealers, Re: Electric Range Campaign, March 27, 1934. Present: Halls, McKitrick, Myers and Trueman: HBC; Murphy Electric; H.D. Mainwaring Co.; Jameson's Electric; Fletcher Bros.

terms, the dealers wrote to A.T. Goward for assurance that the local branch of the BCER would not be following Vancouver's lead.⁹⁹ The dealers pointed out that cooperation was in the best interest of both the BCER and the dealers: "It certainly is a great advantage to the central station to have electrical appliances displayed and offered for sale in as many prominent locations as possible. These displays, between them, offer a greater range in kind, quality and price than could reasonably be offered by any one company."¹⁰⁰

As the Depression worsened, the BCER became more generous in its promotion activities. Halls discovered from talking to local merchants that retail business was down about 30-50 percent in November 1932, compared to the same month a year before.¹⁰¹ In 1934, the company's power earnings had dropped to a level below what they were in 1918. Also, in 1933, the company began to see a threat to their range expansion campaign from the oil burning range.

By 1933, the BCER estimated that Victoria was home to fifteen-hundred oil burning ranges, or about a 150 more than it had electric. While the company was confident that the oil

⁹⁹BCE Papers 236:463 Letter to Goward from Victoria Electrical Association, January 22, 1931, Signed by: Grant Electric, Hawkins & Hayward, ltd., Crother Bros., Murphy Electric, H.D. Mainwaring & Co., and Oak Bay Electric.

¹⁰⁰*Ibid.*

¹⁰¹BCE Papers 421:22/10 Halls to W.C. Mainwaring, Merchandise Manager, Vancouver, December 6, 1932. Re: November Merchandising Results.

burners were not taking away existing gas or electric customers, it was very concerned that prospective customers were opting for oil burning ranges.¹⁰² Oil burning ranges and attachments were out-selling electric and gas by a factor of three to one.

To meet this competition, the BCER, in 1933, began to look at greater incentives to get customers to choose electricity or gas. It studied two proposals: free trials and range rental.¹⁰³ The free trial plan would have allowed a customer to try a gas or electric range at no charge, except for the cost of gas or electricity consumed. While this plan was not in the end adopted, the power revenues derived from ranges would have allowed the company to give away ranges, free of any charge, and still recoup their costs within a few years.¹⁰⁴ The range rental plan that was adopted allowed a customer to rent a gas or electric range, with no money down, for \$2.00 a month for the electric or \$1.50 for gas. If the customer rented for five years, then ownership of the range would pass to the customer. The company estimated that over the five-year period they would lose about \$20 on each range, but in the same interval would collect \$210.00 in revenue from

¹⁰²BCE Papers 241/564 Letter from Goward to W.G. Murrin, President of BCER, October 18, 1933. "Re installation of Oil Burners."

¹⁰³BCE Papers 439:24/47 Electric and Gas Range Rental Purchase Plan.

¹⁰⁴*Ibid.*

the electric range or \$150.00 from the gas range.¹⁰⁵

Instead of a rental plan the company adopted a new a long-term payment plan in 1935, which made provisions to include the retail dealers in the city.¹⁰⁶ For this plan only two ranges would be made available: the Hotpoint 32RA52 "BEECEE" (electric) and the Findley C415C "GASCO" (gas). The installed price for the electric range was \$160; for the gas range, \$105. This amount was paid by the company and the customer was responsible for making monthly payments of \$2.00 a month for sixty-five months for the electric range and \$1.50 a month for sixty months for the gas range. The BCER would absorb the difference between the payments and the cost of the range. If a dealer made the sale, the BCER set aside \$12 of gas or electricity revenue to be paid to the dealer.

This cooperative scheme between the BCER and dealers set the stage for the resolution of the antagonism that plagued the relationship between the BCER and the retail electric dealers in the 1930s. The company management in Vancouver came to realize that it was in the best interest of the company to cooperate fully with the dealers in marketing electric appliances. To this end, a Retail Dealers Sales Plan was developed to provide complete cooperation and information

¹⁰⁵BCE Papers 439:24/47 Electric and Gas Range Rental Purchase Plan.

¹⁰⁶BCE Papers 445:25/50 1935 Electric and Gas Long Term Payment Plan for Dealers. Commences March 1, 1935.

sharing between the dealers and the BCER.¹⁰⁷ From then on, the BCER made all incentives initiated to increase sales available to dealers as well. Wiring allowances for ranges were set at \$50.00, no matter who sold the range. Dealers were also encouraged to take full advantage of the Home Service Department to instruct customers on the use of appliances and kitchen management. In return, the dealers supplied the BCER with sales data which the company could use to estimate the diffusion of various appliances. The BCER used this information to plan sales campaigns and future load requirements in various districts.

Chapter Conclusion

The market for domestic appliances started slowly before World War I. Electricity was expensive, the lack of standardized electrical outlets hampered convenient use, and the electric utility had little interest in promoting the use of appliances. After World War I ended, a standard electrical outlet had been chosen, time payments were made greater use of to promote appliance sales, and declining industrial power sales during the immediate postwar economy lent greater interest by the BCER in domestic customers. The BCER's efforts to promote home appliances peaked in 1925, just before power shortages began to develop in the drought-ridden late

¹⁰⁷BCE Papers 485:33/55 1938 Retail Dealers' Sales Plan.

1920s. Water shortages subsequently restricted promotional activities to smaller, off peak items, and not the most power-hungry of domestic appliances, the electric range.

However, the restriction on range promotion was cast aside in 1930-1931, when the depressed economy forced the BCER to become far more pro-active to maintain revenues. The apparent stability of the domestic market induced the company to concentrate its efforts on increasing household consumption to make up for lost industrial revenue. In the early 1930s, the marketing efforts of the BCER to sell more power caused increased friction between the company and local electric appliance retailers, because the BCER, interested primarily in selling power, was selling some appliances at reduced prices. By the late 1930s however, the BCER and dealers had agreed to share marketing campaigns and sales information. By then the domestic market had become the most important part of the electric utility's operations, accounting for over \$800,000 in annual revenue.

Chapter three will explore further the BCER's efforts to promote electric appliances in Victoria. We shall see that most households were unfamiliar with electric appliances in the 1920s and had to be educated in their use. To help promote the idea of using appliances the BCER used innovative techniques, most importantly, the adoption of domestic science.

CHAPTER 3: PROMOTING ELECTRICAL LIVING

As the post-World War I depression persuaded the BCER that their domestic customers showed the most promise for increasing revenues, the company became more interested in promoting appliances and electricity use in the home. Innovative promotional activities were undertaken to develop this emerging field. Internally the company talked of the need to "sell the idea" and "educate the public." The BCER believed the public to be already sold on the idea of electricity, at least for lighting, but still needed to be convinced of other possibilities. While these promotions were instituted for the long term selling of electrical living, the actual arrangements were closely tied to the immediate needs of the utility. Economic conditions, and the capacity of the distribution system affected the promotional strategies of the BCER.

In the period of 1919 to 1924, the company went from having neither salesmen nor showroom to having a small showroom at their Langley street headquarters with a small staff of salesmen.¹⁰⁸ The BCER put appliances in the public

¹⁰⁸BCE Papers 340:10/13 Letter for Manager, Light & Power Department Victoria, March 18, 1921.

view through holiday parades and displays and the annual agricultural exhibition. Small, regular advertisements ran in the daily newspaper to remind customers to replace burnt-out lamps or to advertise a small electric appliance. Promotion in this period was relatively low key.

Competition for selling appliances in Victoria was not fierce in the 1920s either. Dealers were in general agreement that list prices should be strictly followed so that discounts and sales were rare.¹⁰⁹ When Hotpoint announced a sale on their line of appliances, the BCER and other electric dealers in the city complained to the company and refused to cooperate.¹¹⁰ Beyond the obvious fear of having to reduce their profit margins, maintaining list prices was thought to be important because in the early twenties there were a variety of brands of varying quality. If price became the focal selling point, then low quality goods would flood the market, resulting in many unsatisfied customers.

Advertising

Advertising in Victoria came from many sources including the BCER, appliance manufacturers, and local retailers. Most often the message of the appeals came from manufacturers who

¹⁰⁹BCE Papers 340:10/13 Various correspondence relating to David Spencer, Ltd., 1921.

¹¹⁰BCE Papers 340:10/13 BCER to Westinghouse, September 9, 1921.

provided copy to the utility which had space to add its name and logo.¹¹¹ The BCER's advertisements thus contained the usual themes found by historians of the commercial literature of the 1920s.¹¹² The principles of efficiency and modernism pervaded their advertising copy. The advertising also spoke of reducing labour (electricity as a servant), saving money (refrigerators reduce food spoilage), health/guilt (you must protect your family from germs; your children's schooling and eyesight will suffer without proper lighting), and electricity is clean and cool.

In his book *Advertising the American Dream*, Roland Marchand illustrates many trends in North American advertising in the 1920s and 1930s.¹¹³ Consumerism began to come of age in this period, and its driving force came from advertising.

¹¹¹Marion Brown, "Report on Domestic Electrical Service and Kitchen Appliance Promotion and Sales by the Victoria Branch of the British Columbia Electric Railway Company, with Proposals for Further Research Including BCER Vancouver-area Records," National Museum of Man/COSEP Historical Research Project: Domestic Food Preparation in British Columbia, 1886-1930 (September, 1981) [Unpublished], p. 15.

¹¹²For examples see: Roland Marchand, *Advertising the American Dream: Making Way for Modernity, 1920-1940* (Berkeley: University of California Press, 1985); Jackson Lears, *Fables of Abundance: A Cultural History of Advertising in America* (New York: Basic Books, 1994); Stuart Ewen, *Captains of Consciousness: Advertising and the Social Roots of the Consumer Culture* (New York: McGraw-Hill, 1976); Mary Vipond, "The Image of Women in Mass Circulation Magazines in the 1920's" in Alison Prentice and Susan Mann Trofimenkoff (eds.) *The Neglected Majority: Essays in Canadian Women's History*. Vol 1, (Toronto: McClelland and Stewart, 1977).

¹¹³Marchand, *Advertising the American Dream*.

There is little doubt that advertising was a very successful tool in promoting products, but it did not have the power to sell products people did not really want.

A 1931 BCER advertisement for lighting, pictured a boy and girl at a table doing crafts and asked parents "What is their health worth to you?"¹¹⁴ Without diffused light from "correct lighting fixtures" children were prone to nervousness, irritability and poor eyesight. Marchand calls this type of advertisement the "parable of the raised hand," where the advertiser uses guilt and worry about the welfare of a child to promote a product.¹¹⁵ Here it is used for adequate lighting but it was also used to sell oatmeal and toilet paper.¹¹⁶

Similarly, electric advertising spread fear of germs. Women were warned that they should take measures to protect their family from this unseen menace. An article in BCER's *Utility Topics*¹¹⁷ told customers that, as part of the modern age, they should become "refrigerator minded" and aware of the dangers that germs and bacteria pose to health.¹¹⁸ Only the

¹¹⁴*Utility Topics* Vol. 4, no. 8 (April 1931).

¹¹⁵Marchand, p. 297.

¹¹⁶Without these products, it was alleged, children would do poorly in school. *Ibid.*

¹¹⁷*Utility Topics* was the Vancouver counterpart to *Home Service News*.

¹¹⁸*Utility Topics*, Vol 4, no.9 (June 1931).

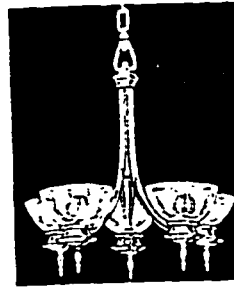


... The B. C. Electric Fixture Department retains a staff of illumination specialists—at your service to advise on home lighting problems, without obligation to you. Phone Seymour 5000.

WHAT IS THEIR HEALTH WORTH TO YOU?

WHAT do you hope for their futures? Do you want them to go through life nervous and irritable . . . handicapped by poor eyesight? Of course not! Then we urge you to look to your lighting. If it is free from harsh glare, if there are no damaging shadows—if the lighting in your home is correct, the soft, generous flood of diffused light that is produced by *correct lighting fixtures* . . . then we have nothing to offer. But if your lighting fixtures are not scientifically designed to produce non-harmful, non-injurious light, we respectfully suggest that you see the correct fixtures we now display.

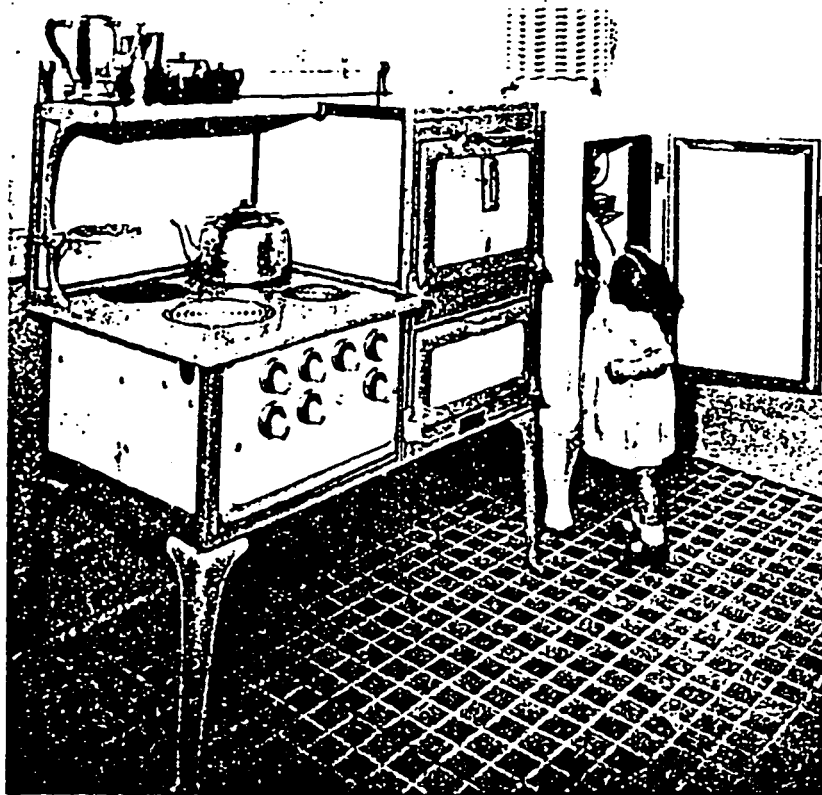
Below: An attractive, correct fixture priced at \$29.95.



B.C. Electric
STORES
FIXTURE DEPARTMENT

BRITISH COLUMBIA ELECTRIC RAILWAY CO. LTD.

Figure 3.1: An advertisement from *Utility Topics*, April 1931. (BC Hydro Library)



MAKING IT SAFE TO BE HUNGRY!

Figure 3.2: A refrigerator advertisement from *Utility Topics*, October 1931. (BC Hydro Library).

electric refrigerator could guarantee temperatures low enough to keep food consistently safe. Manufacturers also claimed that by reducing food spoilage, a refrigerator was not really an expense, but instead a profitable investment.¹¹⁹

Electricity was also touted as a "servant" in the house. The work was done magically, leaving the housewife free to pursue other interests. One Westinghouse advertisement in the Vancouver press pictured a woman enjoying an afternoon at the theatre while her clock-equipped range cooked dinner for her.¹²⁰ One was left with the impression that with an automatic range no personal work was needed to prepare meals, just as if a servant were to do it.

Some writers have criticized the lack of technical detail in the advertising of appliances.¹²¹ Advertisers chose instead to promote what the products promised to do. This criticism is easily made, because advertising usually makes exaggerated claims and promotes high expectations, with little

¹¹⁹BCE Papers 372:15/18 Letter to Mrs. J. Hunter from Servel Corp, September 7, 1926.

¹²⁰BCE Papers 396:18/42 advertisement for Westinghouse Clock-automatic electric range. *The Daily Province*, Vancouver, Wednesday, April 3, 1929.

¹²¹See for example Ruth Swartz Cowan, "The Industrial Revolution in the Home: Household Technology and Social Change in the 20th Century" in *Technology and Culture* 17,1 (Jan. 1976); Joy Parr, "Shopping for a Good Stove: A Parable about Gender, Design and the Market" in Joy Parr, ed. *A Diversity of Women: Ontario, 1945-1980* (Toronto: University of Toronto Press, 1995); Veronica Strong-Boag *The New Day Recalled: Lives of Girls and Women in English Canada, 1919-1939* (Toronto: Copp Clark Pitman, 1988).

or no evidence to back them up. However, such criticisms overlook the fact that advertising in print media was only one part of the promotional program adopted to sell appliances. These critics fail to acknowledge that there were many other steps in the buying process. Appliances were expensive items that consumers often took six months to two years to pay for, and as such would not have been bought solely based on a print advertisement. This type of advertisement was only designed to induce people to investigate the product. In Victoria, salesmen considered direct mail to be an important advertising tool, and the direct mail booklets they used were far more detailed than a magazine advertisement. In-store demonstrations of a variety of appliances also afforded prospective buyers opportunities to detect technical differences and to ask searching questions of the salesmen.

There is an important distinction to be made between advertising and marketing. Advertising shows us the ideology behind a promotion, but does not explain the full range of techniques used to sell a product. Consequently, historian Mark Rose has spent less time describing advertising and more on the practical techniques used to induce people to buy appliances.¹²² For example, salesmen in Denver gave irons to

¹²²Mark H. Rose, *Cities of Light and Heat: Domesticating Gas and Electricity in Urban America*, (University Park, Pennsylvania: The Pennsylvania University Press, 1995).

households to be tried for a month.¹²³ This technique needs little ideological overlay, but proved very effective in selling irons. While there is no record of this tactic being used in Victoria, undoubtedly door-to-door salesmen there relied on comparable techniques to reach their monthly sales quotas.

Contests

Beyond print advertising, many innovative techniques were developed to sell products. The BCER used many of these methods in Victoria. For example, the Light and Power department used contests to encourage direct participation by potential customers. Contests took a variety of forms and had various goals. Some of them were designed to "educate" the customer on electrical use; others were used as a means to acquire names of potential appliance buyers.

One of the first contests that the BCER participated in was a "Better Home Lighting Contest" in 1924.¹²⁴ This particular contest was part of a nationally-administered effort whereby school children were asked to write short essays on the benefits of proper home lighting with prizes for the best essays. Information "primers" were distributed to student essayists to assist them in reaching the "right"

¹²³*Ibid.*, p. 86.

¹²⁴BCE Papers 357:13/11 Halls to E.E. Walker, Sales Engineer, Vancouver, December 23, 1924.

conclusions. Obviously, contest organizers hoped that the children, becoming convinced of the need for better lighting, would pressure their parents to upgrade home lighting. Of the eleven hundred students targeted for the contest in Victoria, twenty percent submitted essays - quite a high voluntary return rate.¹²⁵ While it is unknown whether the contest had the desired effect on parents, the Victoria School Board did express dissatisfaction with school lighting shortly after the contest was held and began to investigate funding for improvements in school lighting.¹²⁶

Another clever contest was held shortly after the opening of the new Pandora Street showroom in 1925. To interest people in the new location, a Doll's name-guessing contest was held. Girls under twelve were invited to come to the showroom (with their parents) to guess the name given to the doll, which had been dressed by the BCER's Home Economist, Mrs. Bridgewood.¹²⁷ The girl who surmised the correct name won the doll. The Home Service Department reported that this simple contest brought hundreds of children with their parents to the showroom.¹²⁸

¹²⁵*Ibid.*

¹²⁶*B.C. Electric Employees' Magazine* Oct. 1925 (VIII,7).
"Victoria News Items"

¹²⁷BCE Papers 367:14/38 Summary of Activities for month.
December 17, 1925.

¹²⁸*Ibid.*

While this contest lured people into the showroom, it did not specially target the sale of a particular product. Sales staff used the "oldest appliance contest" to find prospects for a particular appliance. This contest challenged BCER customers to admit to owning the oldest version of the targeted appliance. For example, in 1926 the BCER held a contest to identify the oldest washing machine being used in Victoria.¹²⁹ Its owner received a brand new "Savage" washer as a prize. All those who entered the contest were targeted as prospects for new machines.

Recipe contests and essay contests directed at women were also common. Two-dollar prizes were handed out to women who submitted winning recipes to the company's *Home Service News*. These included recipes for cooking with electric ranges and recipes for the newly coined "coldery" (preparing foods using a refrigerator). An essay contest for washing machines asked women to write a one-hundred word essay on why every home should have an electric washing machine. To help entrants some leading questions were provided:

- A. Does it wash clean?
- B. Does it save labour?
- C. Is it economical?
- D. It is quick. Why?
- E. Is it sanitary?
- F. Does it save clothes?¹³⁰

¹²⁹BCE Papers 371:15/16 Halls to L.C. Warner Co., July 2, 1926.

¹³⁰BCE Papers 411:20/40 Rules of Essay Contest, Victoria Exhibition, Aug. 31 to Sept. 5, 1931.

By answering these questions essay writers were actually writing their own advertising copy, presumably leaving a greater imprint on the author than a simple advertisement could.

1925-1929

Nineteen twenty-five marked the beginning of large scale promotion by the BCER. This initiative corresponded with strong economic growth across the continent. The 'roaring twenties' really began in this year, when the North American economy began to generate hitherto unparalleled wealth. In this context a large new showroom facility, complete with an electric kitchen, was constructed at the corner of Pandora and Douglas, across the street from city hall. In addition, a new Home Service Department was added to the company, to provide customers advice and instruction on using appliances. The *Home Service News* was also launched in 1925 to promote appliance sales and to proffer practical household advice.

The *Home Service News* was delivered to all BCER customers in Victoria every other month. It was formatted like a domestic science magazine, offering women advice, recipes, and glimpses at the modern labour-saving wonders on sale at the BCER's showrooms. The magazine also contained radio program listings and jokes to entertain readers. While at first it was entirely locally produced, by 1927 most of its material was being provided by the Vancouver branch which was producing

its own version called *Utility Topics*.¹³¹

Home Service Department and Domestic Science

The Home Service department was the smallest department of the BCER, starting with only one part-time employee, but grew to have an important function in the BCER's strategy for expanding the domestic market. Mrs. Maud Bridgewood was first hired as the head and sole member of the department in the summer of 1925, but she was replaced by Mrs. M.A. Foulds in 1926.¹³² By the 1930s the demand for the services of this department grew to such an extent that two assistants were hired and a description of the duties of the head advisor took up two pages of legal sized paper.¹³³

The Home Service Department was an unusual innovation for the BCER. Staffed by a trained Home Economist, this department was made available to the public to provide advice and information to those using, or considering the use of electric appliances. She would even go to a customer's home when a major appliance was purchased to provide advice on its proper use.

When the department opened, the company was confident

¹³¹BCE Papers 228:329 Newell to Kidd, 1927.

¹³²No reason for Mrs. Bridgewood leaving the department was found.

¹³³BCE Papers 461:28/10 Home Service Department Summary of Activities 1937.

that it would be a very good public relations tool, which could perhaps moderate the public's dislike of the company in Victoria. One manager commented:

It is felt that this Department is of very great importance in bettering public relations tieing as it does with publicity, saleswork, and establishing confidence between the Company and the consumer, many expressions of appreciation have been received in respect to the work done by the Home Service representatives.¹³⁴

The ideological roots of the electric utility's Home Service Department predated the desire to mass market appliances by many decades. Its roots extended back to the Domestic Science movement of the late nineteenth century. Domestic Science was an idea that emerged at the end of the Industrial Revolution that aimed to rationalize the home workplace in a similar manner to how the public workplace had been, through efficiency and technology.¹³⁵ In effect, it would be an "industrial revolution" for housework, making it more systematic, scientific and technology-based. Part of the impetus for the movement was the desire to elevate the prestige of housework to a status equal to waged employment. It was a both an embracement of the industrial revolution and a reaction against it. The women leading the movement did not

¹³⁴BCE Papers 367:14/44 December 7, 1925.

¹³⁵See Dolores Hayden, *The Grand Domestic Revolution* (Cambridge, Mass.: MIT Press, 1981), Ruth Schwartz Cowan, *More Work for Mother*, (Basic Books, 1983), Wendy Faulkner and Erik Arnold, eds., *Smothered by Invention*, (London: Pluto Press, 1985).

seek to make their sex equal partners in the wage labour force produced by the industrial revolution, but instead sought to gain an equality of prestige between the two separate labour spheres: men's and women's.

Starting in Britain with a cooking school in South Kensington in 1874, the Domestic Science movement soon spread to North America.¹³⁶ In the United States, an American Home Economics Association was in existence in the 1890s. A Canadian movement was also active in this period, led by Adelaide Hoodless.¹³⁷ In Victoria, the Local Council of Women lobbied the Victoria School Board to begin a Domestic Science class. In response, the Victoria Central School was equipped in 1903 with a kitchen for the teaching of domestic science. The Council of Women donated the equipment for the new facility, leaving to the school the expense of hiring a teacher.¹³⁸

As elsewhere, the Home Economics classroom in Victoria emphasized the use of modern equipment, extended from the inexpensive and simple measuring cup, to the much more

¹³⁶Philip Bereano, Christine Bose, and Erik Arnold, "Kitchen Technology and the Liberation of Women from Housework," *Smothered by Invention*, p. 164.

¹³⁷Cherryl MacDonald, *Adelaide Hoodless: Domestic Crusader*, (Toronto and Reading: Dundurn Press, 1986).

¹³⁸Barbara Riley, "Six Saucepans to One: Domestic Science vs. the Home in British Columbia, 1900-1930," in Gillian Creese and Veronica Strong-Boag, eds, *British Columbia Reconsidered*, (Vancouver: Press Gang Publishers, 1992), p. 119.

expensive and sophisticated electric range. Barbara Riley notes that the girls taking Home Economics in Victoria would have not seen most of the equipment used in the classroom in their mother's household.¹³⁹ Precise calculations from cookbooks were also a novelty. In the 1910s and 1920s it was uncommon for households even to possess a cookbook, and if they did, it was more likely to be a collection of recipes gathered from family and friends rather than a published volume. Similarly, many schools running domestic science classrooms in BC were equipped with electric stove tops before 1915, well before any significant saturation had been achieved among the general population in this mode of cooking.

The BCER, once it started to look to their domestic customers as the basis for the company's future expansion, became a natural ally of the domestic science movement. They both had an interest in modernizing the home environment. For domestic science women, the new technology represented part of the means to improve the standards and working conditions of the home. For the BCER, the new technology represented a means of selling more electricity. The Home Service Department represented the company's most overt link to the Domestic Science movement. Though modest in size and scope, it was a significant addition to the Light and Power department's operations in that it represented a completely

¹³⁹*Ibid.*

different manner of rendering services to its customers. It was also integral to marketing efforts, yet sought to make no direct sales. Indeed, members of the home service department were explicitly proscribed from collecting sales commissions.¹⁴⁰

While the sales force of the BCER was uniformly male, the Home Economists in the Home Service Department were exclusively female. The gendered spheres were not accidental but implicitly necessary. Domestic Science wanted to rationalize the home work place, modernize it, and give it prestige equal to the public work place, but always within the context that the spheres would remain separate. The differences between sales and home service reflected this ideology. Women were not present in the sales force, yet they were deemed necessary in overcoming opposition to the new household technology. The Home Service department then could claim a moral integrity that could not convincingly be accorded to any sales man. Mrs. Foulds assumed the position of unbiased advisor, seeking to help the housewife, not just the BCER. Although the Home Service Department participated in demonstrating appliances, their task was not selling the machines themselves, but instead, selling the idea of needing the machines.

As early as 1905, Home Service advisors were used in

¹⁴⁰BCE Papers 367:14/44 December 7, 1925.

Denver to help allay housewives' fears of electricity, the idea being that if women were shown working with the technology then it could not be that dangerous.¹⁴¹ Similar techniques were used to assuage public fears of flying, in first promoting female pilots and later hiring female flight attendants.¹⁴² Women were considered more delicate and timid, so their operation of what was commonly perceived as dangerous equipment helped convince the public it was safe.

By 1925, electricity had proved itself safe in the minds of the public in Victoria, so domestic science advisors were not needed to perform their role as delicate reassurers of safety.¹⁴³ However, electric appliances were still unfamiliar to most households, and although they mimicked or replicated many tasks previously done by other means, different methods had to be adopted. Moreover, electric appliances such as the ironer and vacuum were completely new to consumers. Without a home economist like the BCER's Mrs. Foulds to come into the

¹⁴¹Joel A. Tarr and Mark Tebeau, "Managing Danger in the Home Environment, 1900-1940," in *Journal of Social History* 29, 4 (Summer 1996), p.803.

¹⁴²Joseph Corn, "Making Flying Thinkable," *American Quarterly* 22 (Fall 1979).

¹⁴³It should be noted though that a few months before the formation of the Home Service Department, a woman was killed by improperly using her washing machine. Mrs. Norman G. Martin used gasoline in an electric washer to dry clean. A spark from the electric motor ignited the gasoline which exploded. S.J. Halls commented that it was an isolated incident and did not appear to affect public perception of washers. BCE Papers 366: 14/33 Halls to the Society for Electrical Development, Inc, New York. June 5, 1925.

customer's home to demonstrate its proper use, the housewife might be left frustrated and unhappy with her new purchase.¹⁴⁴ Satisfied customers used their appliances more, and thus used more electricity.

Even those appliances that were electrical versions of familiar appliances, such as the electric range, required the housewife to learn new habits. While the electric range was less complex in its operation than its coal or wood burning predecessors, it required extra instruction nonetheless. For example, the amount of water used in recipes when cooking in the oven had to be reduced to allow for the novel baking qualities of electric heat.

Most of the Home Service advisor's time was spent on after sale calls, where they would go to people's homes to demonstrate how to use their new purchases. These visits had two important functions: first, they ensured customers were content, because answers to any queries or problems were immediately available; secondly, they ensured appliances, once purchased, actually would be used and thus consume energy from the BCER.

Electrical Home

An innovative means of advertising the benefits of

¹⁴⁴Interesting, Mrs. Foulds duties pertained mainly to cooking and ironing, and only occasionally to washing clothes or vacuuming. The later two fields were handled principally by showroom salesmen.

electrical living was the electrical home. This was a model house that was fully wired, well lit, and hosted a full range of electric appliances and gadgets. The home was open to tours by the public who would have an opportunity to see modern electric conveniences in a realistic environment. By capturing all of the benefits of using electricity in a single location, the electric home effectively demonstrated the value of electric appliances, electric lighting, and adequate wiring.

Of course, like most other promotional techniques used in Victoria, electric display homes had already been used successfully in many other cities in the early 1920s.¹⁴⁵ The earliest of them may have been built in 1908 in Brooklyn.¹⁴⁶ Trade journals such as *Electrical World* reported the high level of interest that these displays attracted, and so it was no surprise when the Victoria electric home in 1928 drew much local attention.¹⁴⁷

The Victoria Electrical Home was the largest cooperative effort undertaken in the city by the various contractors, dealers, manufacturers and the BCER to that date. The house

¹⁴⁵Harold L. Platt, *The Electric City: Energy and the Growth of the Chicago Area, 1880-1930* (Chicago: University of Chicago Press, 1991), p. 245. David Nye, *Electrifying America: Social Meanings of a New Technology, 1880-1940* (Cambridge, Mass.: The MIT Press, 1990), p. 266.

¹⁴⁶Nye, p.266.

¹⁴⁷*Daily Colonist*, February 12, 1928, p. 34.

itself was built by private interests, but its electrical furnishings were provided by the Victoria Electrical Association (VEA), a co-operative group of electrical dealers, contractors, manufacturers' local representatives, and the BCER. The VEA raised eight-hundred and fifty-five dollars for the project with each of its three component groups (Contractor-Dealers, Manufacturers, and the Central Station) each contributing about one third of the funds.¹⁴⁸ Together they provided thirty-four appliances for display in the home, with sixty electrical outlets available to power the various appliances.¹⁴⁹

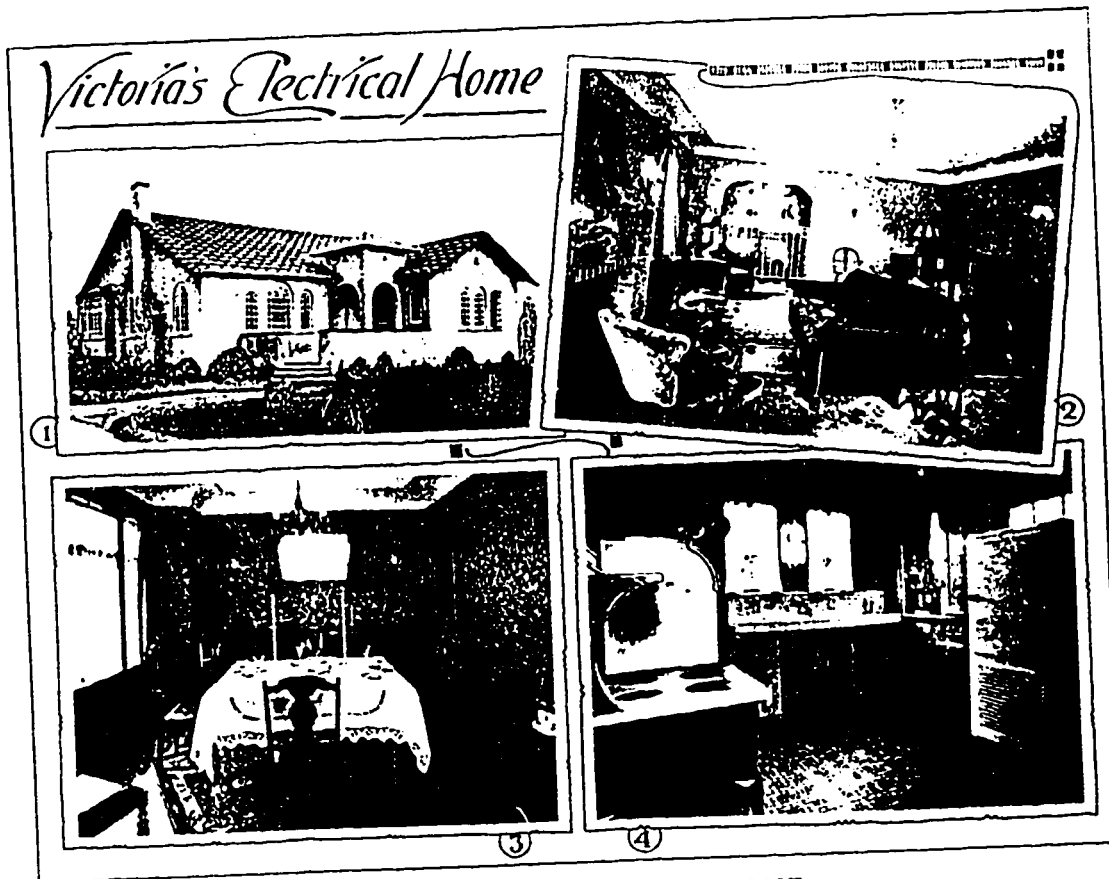
The house itself, of modest size and design, was built at the corner of Linden and Oscar streets in Victoria's Fairfield district. It had only five rooms on its main floor (not counting the bathroom) and a laundry area in the basement. The inner furnishings were anything but modest though: the appliances on display ranged from major items such as an electric refrigerator, range and washer to an electric cigar lighter, a hair dryer, an egg cooker, and the "silent" electric clock.¹⁵⁰

An unassuming ceremony was held to open the house to the

¹⁴⁸Questionnaire about the electric display home in Victoria for the Society for Electrical Development, BCE Papers 388:17/37.

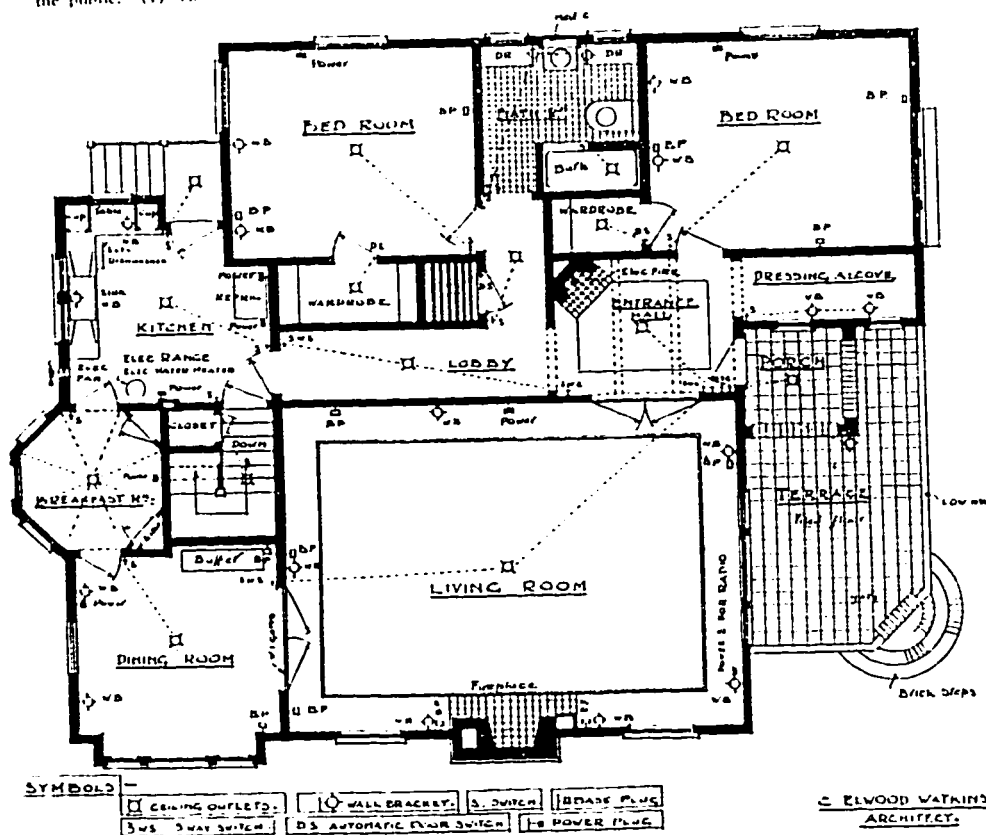
¹⁴⁹*Ibid.*

¹⁵⁰*Daily Colonist*, February 12, 1928, p.34.



VICTORIA'S ELECTRICAL HOME

Under the auspices of the Victoria Electrical Association this handsome electrically equipped residence was erected at Linden avenue and Ober street. It is estimated some 15,000 people visited this home between February 10 and 13, when it was open to the public. (1) The exterior of the Electrical Home. (2) The living room. (3) The dining room. (4) A corner of the kitchen.



FLOOR PLAN OF ELECTRICAL HOME, VICTORIA

The location of fixtures, switches, convenience outlets, and other equipment is clearly shown in this plan.

Figure 3.3: photographs and floor plan of Victoria's first electrical home. BC Electric Employees Magazine, March 1928. (BC Legislature Library).

public. Mayor Pendray and his wife presided with members of the Victoria Electrical Association, including several managers from the BCER.¹⁵¹ E.C. Hayward, owner of the Hawkins and Hayward electrical store and president of the VEA, made a short speech in which he emphasized that "the home was in no sense of the word a freak example of lighting, wiring and the installation of electrical labor-saving appliances, nor was it in any way a commercial undertaking, but a practical example and object lesson of what can be accomplished in an average home by including in the original plans adequate and up-to-date wiring specifications."¹⁵² An estimated 15,000 to 16,500 people, about one quarter of the city's population, inspected the home over the course of nine days.¹⁵³ They were guided by eight salesmen on hand to demonstrate appliances and answer questions.

Extensive advertising preceded the opening of the house on February 10. Cooperative advertising was placed in the daily papers, billboards were erected, street cars ran a series of display signs, and informational booklets were published. In addition, the *Daily Colonist* ran a three-page report on the home with companion articles that promoted

¹⁵¹T.R. Myers, "Victoria Exhibits Model Electrical Home," *BCE Employees' Magazine*, March 1928 (X,12).

¹⁵²*Ibid.*

¹⁵³*Ibid.*

modern electrical living.¹⁵⁴ Though they appear as objective newspaper articles, their content was apparently influenced by the advertising dollars sharing the same pages, as they all enthusiastically endorsed the use of electricity with comments such as "[electricity] is, in a word, the most wonderful friend and servant known to mankind."¹⁵⁵ One article lampooned penny pinchers who constantly turned off lights to save money. The heading of another piece announced "Electricity is True Ally. Power Once Feared by Savage Mind Has Become Greatest Aid to Civilisation. All Classes Gain From Use."¹⁵⁶ The flagrant promotion in these articles revealed a completely uncritical attitude towards electricity use in the home. Electrification was tied to modernity and the advance of civilisation; whereas resistance to this evolution was mocked as primitive or luddite.

Significantly, the electric display home presented the company's desire to expand vertical integration of the appliance market. Where electric appliances were mostly purchased by the rich earlier in the decade, the modest style of the house was meant to suggest that modest incomes were now able to purchase a modern lifestyle. Thus, instead of trying to mine the rich for more money, the company was looking to

¹⁵⁴*Daily Colonist*, February 12, 1928, pp. 34-36.

¹⁵⁵*Ibid.*, p. 35.

¹⁵⁶*Ibid.*

have domestic electricity penetrate deeper into the lower classes.¹⁵⁷

1930s

After the BCER had upgraded its power generation and distribution system in 1929, the company was in a position to promote electric ranges. The Depression served to accelerate the intensity of this promotion as the BCER set up elaborate cooking schools to encourage the use of these high-energy using appliances. The sales department increased its promotional efforts in all areas to help stabilize revenues. Closer ties with the Vancouver office were also made, to the point that merchandising was eventually centralized completely in Vancouver, and even came to take in all of the electrical dealers in both cities.

House Design and Wiring

One factor that limited the sale and use of appliances was inadequate infrastructure within homes to support them. That is, wiring and house designs made efficient use of appliances difficult. This problem was effectively addressed in Toronto in 1923 with the introduction of the Red Seal plan. This was a strategy devised by G.W. Austen of the Electric

¹⁵⁷BCE Papers 388:17/37 Questionnaire about the electric display home in Victoria for the Society for Electrical Development.

Service League of Toronto, a cooperative organization of electrical contractors, manufacturers, dealers and others who were involved in the local market for electricity and electrical products. The Red Seal was a stamp of approval that the League gave to new homes wired to its specifications. By introducing this standard to the public and building contractors, the electric utilities hoped to put pressure on the public to demand better wiring in new homes and thus to encourage building contractors to spend more on wiring new houses.¹⁵⁸ The initial trial in Toronto proved successful, both in encouraging builders to accept a new wiring standard, and in increasing business in all branches of the city's electrical industry.¹⁵⁹ The Red Seal plan was then licensed to other electrical associations in North America. Vancouver was one of fifty cities to adopt the Red Seal standard by 1926.

In 1926, the BCER conducted a survey of one thousand newly-constructed houses to ascertain whether they met the Red Seal standard. The company found that 60 percent of the new houses had five rooms or less, and of these BCER inspectors reported that 75 percent had sub-standard wiring.¹⁶⁰ Of the

¹⁵⁸BCE Papers 372:15/21 "The Red Seal Plan," reprinted articles from September 1925 and April 1926 issues of *Electrical Record*, published by the Gage Publishing Co., New York.

¹⁵⁹*Ibid.*

¹⁶⁰J. Hart, Secretary of the Electrical Service League of British Columbia, "Red Seal Wiring Plan for Small Homes," *BCE Employees' Magazine*, January 1927 (IX, 10).

remaining 40 percent of the houses, those with six rooms or more, they found that half met the Red Seal standard, with the other half being wired "only to meet ordinary electrical service."¹⁶¹ In sum, only about one-third of all new houses being constructed in Vancouver in 1926 were wired adequately to allow for convenient use.

The investigators reported that most homes were being built with only drop cords for a light in each room, although the living rooms and dining rooms were slightly more advanced as they at least had permanent ceiling fixtures.¹⁶² In general, the only "convenience" wall outlet¹⁶³ in the entire house was found in the kitchen. It was designed for electric irons, one of the few appliances to have reached near total market saturation. The situation in Victoria was similar: by 1926, only half of its homes had an electric outlet,¹⁶⁴ and most of these houses likely only had a kitchen outlet for an iron.

There was obviously much scope for improving the wiring installations in British Columbians' homes, especially if only one-third of new homes were adequately wired according to the

¹⁶¹*Ibid.*

¹⁶²*Ibid.*

¹⁶³That is, an electrical outlet installed in a wall as opposed to a drop cord for a light which hangs from the ceiling.

¹⁶⁴Questionnaire for Dominion Advertisers of Montreal, BCE Papers 374:15/38.

Red Seal standard. We can easily assume that less than one-third of older homes approached this standard. The BCER decided to push the Red Seal plan enthusiastically first in Vancouver, in 1926, and after 1930 in Victoria as well, as its power shortage abated.¹⁶⁵

Another aspect of house design that the BCER addressed in the 1930s was kitchen design. By Domestic Science standards, most British Columbia kitchens had inefficient designs, and were not built on scientific principles. The BCER produced pamphlets which provided designs and principles for building new kitchens or remodelling the old. A common design was a U-shape with continuous and level counter tops and uniform height of 36 inches to eliminate unnecessary bending.¹⁶⁶ These plans were distributed to customers free of charge.

To encourage builders to provide for modern conveniences, the BCER also tried to directly influence builders and architects in the 1930s. S.J. Halls wrote letters to architects to remind them that they needed to provide space for an electric refrigerator in their kitchen designs.¹⁶⁷

¹⁶⁵T.R. Myers, p. 210.

¹⁶⁶BCE Papers 455:27/3 Minutes of Meeting: Halls; Dreaper; McKittrick; Myers; Trueman. Thursday, March 25, 1937.

¹⁶⁷BCE Papers 411:20/42 Halls to Ralph Berrill, Victoria, November 12, 1931.

Cooking Schools

The 1930s also saw the introduction of cooking schools to promote electric cooking. They were organized by a particular range manufacturer, in cooperation with the electric utility, and perhaps with some retailers and a newspaper. A professional domestic science advisor would demonstrate appliances for women in an auditorium over about a one week period (the same demonstration being repeated each day). Sometimes the utility company would target prospective buyers through direct invitations; at other times general advertising and blanket direct mail were used. There were always door prizes to be won, such as cakes baked during the demonstration, and usually someone would go home with a new range as a prize.¹⁶⁸

The BCER had held an unsuccessful cooking school in 1916, which was met with public indifference and shortly discontinued. For the next fourteen years, the BCER had little interest in electric range sales in Victoria - given their load profile - but in 1930, with the company now able to accommodate the range load, the BCER teamed up with Canadian General Electric to equip Victoria's first electric cooking school since 1916, held at the Crystal Gardens from March 17 to 20. CGE's own home economist Miss E. Frances Thompson headed the demonstration assisted by Mrs. Foulds from the

¹⁶⁸ "Co-operative Effort Sells Electric Ranges," *B.C. Electric Employees Magazine*, August 1928 (XI,5).

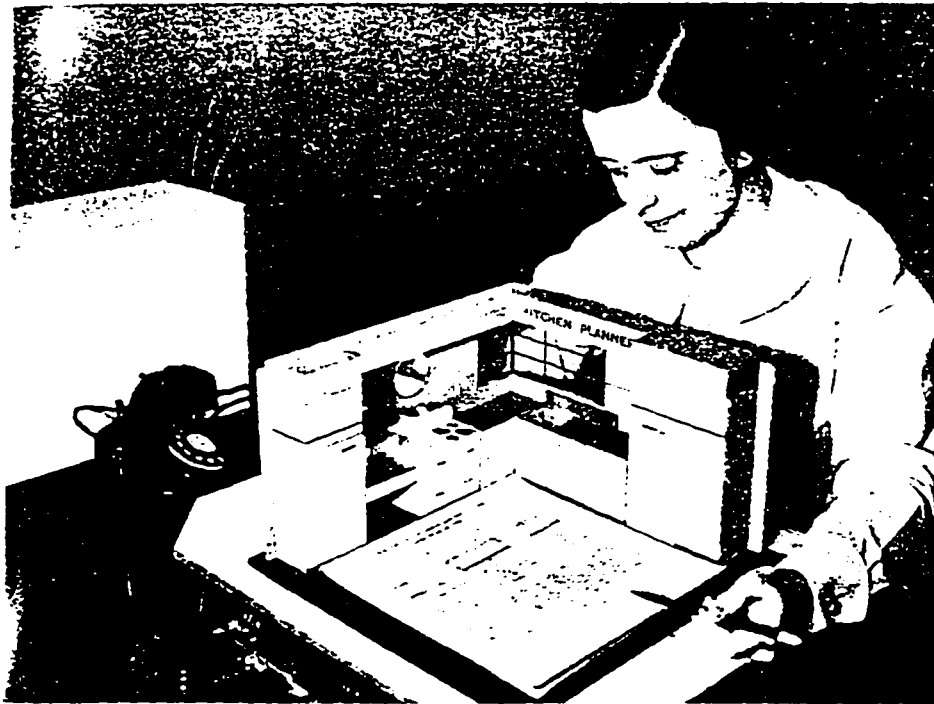
B. C. ELECTRIC

HOME SERVICE NEWS

Vol. 10

February, 1937

No. 9



Here's one of the methods employed by our Kitchen Planning bureau to assist in choosing a scientific layout for your kitchen. It's a tiny scale-model kitchen, made up with movable wood blocks that represent sink, range, refrigerator and cupboards.

Kitchen Planning

● a new free service

Do you yearn for one of those glittering, gleaming sort of kitchens so popular in the pages of *Good Housekeeping* and other women's magazines? So talked-about and popular have they become that in conjunction with our model electric and gas demonstration kitchens, we have opened a free Kitchen Modernization bureau. This new bureau is under the direction of our Home Service de-

partment, whose members are thoroughly familiar with all phases of kitchen science and layout. They will work out a modernization plan for your kitchen that can be carried out all at once or step by step.

Of course you know that scientific kitchens such as those we use for demonstration are carefully planned from a time and labor-saving standpoint. They are not

Figure 3.4: A photograph of a model kitchen. *Home Service News*, February 1937. (BC Hydro Library).

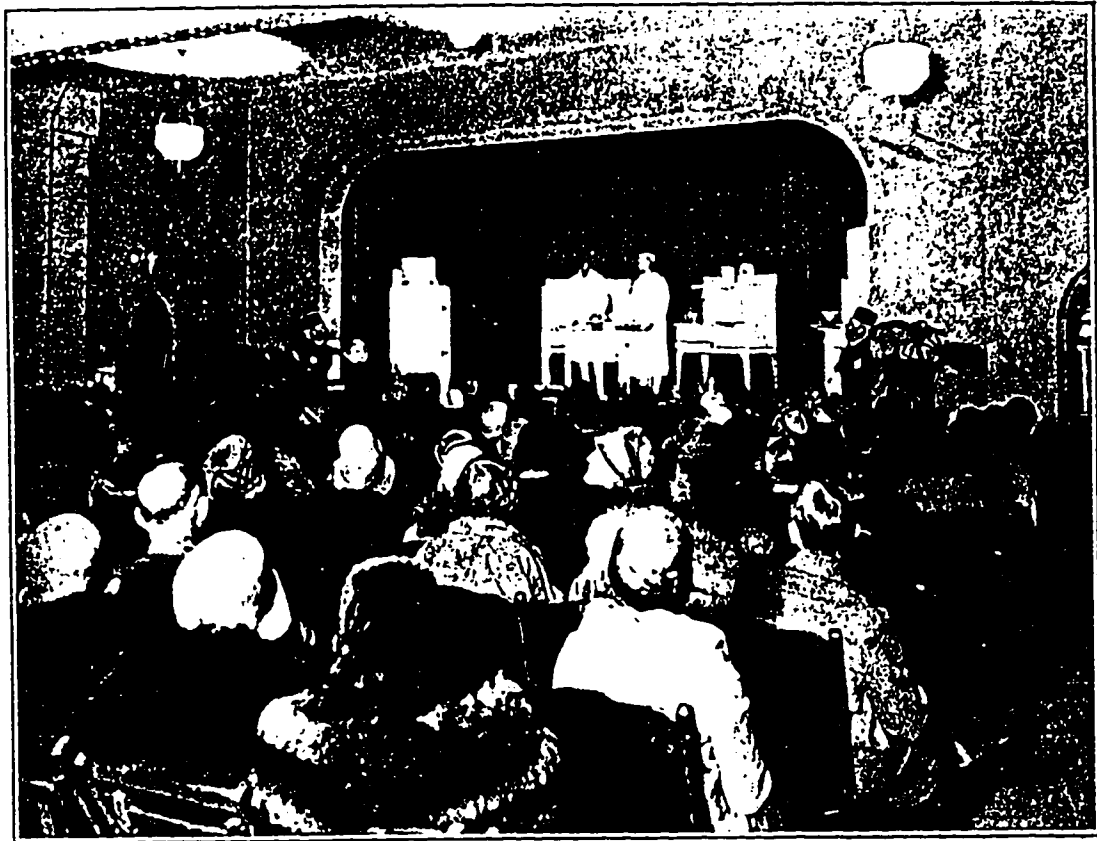


Figure 3.5: A photograph of the 1930 cooking school. *BC Electric Employees Magazine*, May 1930. (BC Legislature Library).

BCER. A local electric dealer, Murphy Electric, split the \$350 local costs with the BCER for the school. CGE provided the demonstrator and gave a reduced price on the range, and in cooperation with the *Daily Colonist* newspaper, provided food.¹⁶⁹ To encourage attendance, door prizes were given out. In all, eight demonstrations were held, netting about 2500 audience members.¹⁷⁰

Despite the name, "cooking schools" were not really designed to teach how to cook, but instead were organized to sell people on the idea of cooking electrically. And of course, they were not done as a public service for the general improvement of housewives. Though trained home economists ran the schools, they were restricted in how they presented their topic. For Victoria's 1930 cooking school the BCER Assistant Sales Engineer, W.C. Trueman instructed General Electric to ensure that Miss Thompson made the demonstration short and concise, and emphasized home cooking, despite having many other General Electric products on display at the same time.¹⁷¹ To ensure that the audience came from households that had the greatest prospect for buying a range, invitations were mailed

¹⁶⁹BCE Papers 405:19/44 Memo, Trueman to Halls, February 25, 1930, Re: Hotpoint Cooking school.

¹⁷⁰"Victoria Cooking School," *B.C. Electric Employees Magazine* XIII, 2 (May 1930).

¹⁷¹BCE Papers 405:19/44 Trueman, Assistant Sales Engineer, Victoria to W.C. Brown, Canadian General Electric, March 1, 1930.

out to homes based on their monthly consumption of electricity. It was also found by demonstrators that instead of everyone being able to sample some food it was better to give food away to people at random as a door prize.¹⁷² Free food, it was found, encouraged the "wrong class of people" to attend - that is, those who could barely afford to feed themselves, never mind buy electric appliances.

From the emphasis on products at the cooking schools, one can see something of both the utility's priorities and consumers' preferences. Manufacturers were interested in selling all types of appliances, but they were constrained in what they could do with their demonstrations because they relied on the utility to support their efforts. The utility was pushing electric ranges because of their load factor. Hence, cooking school demonstrators were instructed not to spend time on other appliances.

Chapter Conclusion

Promoting electrical living went from a marginal aspect of the BCER's Light and Power Department in 1919, to its central focus by 1939. By 1925 the company had already committed itself to promoting the domestic market to improve the load factor of its domestic customers. As industrial demand plummeted after 1929, original concerns about

¹⁷²BCE Papers 381:16/37, 1927.

appliances with concentrated evening use vanished and heavier promotion of ranges and similar products began. The techniques used in Victoria were usually borrowed from elsewhere. The borrowing reflected the highly cooperative nature of this continental industry, as well as the city's secondary rank in the urban hierarchy.

What is most interesting about appliance promotion in this period is the extensive use of novel techniques to convince people of the value of living electrically. By focusing on magazine advertising to tell the story of this promotion, historians of appliance promotion have skewed the actual picture of what was being done to sell appliances. It is interesting that authors such as Ruth Schwartz Cowan and Veronica Strong-Boag have been quite critical of the themes of print advertising but have neglected the more objectionable manipulation of school children in promotion, as in the doll-naming contest and the home lighting essay contest. Guilt was used in advertising, but it was not (as Cowan claimed) the overwhelming theme.¹⁷³ The BCER concentrated on the positive effects of using appliances -- labour-saving, convenience, and cleanliness -- far more than on the hazards of not having them.

The principle technique for selling appliances was the public demonstration. The BCER was a regular participant in

¹⁷³Ruth Schwartz Cowan, *More Work For Mother*, p. 187.

Home Product fairs, the annual Agricultural Exhibition, and parades. As well, appliances were demonstrated in showrooms and people's homes. The BCER put far more promotional effort and money into the electric display home and cooking schools than into print advertising. The print media were used primarily to draw people to these events.

How well did these marketing efforts work? Chapter four will describe the use and diffusion of appliances in Victoria and draw some conclusions on the effects of the promotional efforts in Victoria and their influence on women to use electric appliances.

**CHAPTER 4:
LIVING ELECTRICALLY: PATTERNS OF DIFFUSION AND USE OF
APPLIANCES IN VICTORIA**

The extensive promotional efforts described in chapter three did affect the consumption of electricity in Victoria, but the patterns of appliance diffusion show that housewives were not easily manipulated by such promotion. Factors such as lack of convenience outlets, poor quality household wiring, and poor kitchen design mediated against rapid diffusion of appliances. The quality of both service and appliances was also quite poor, and the subject of many complaints by BCER customers.¹⁷⁴ The previous chapters have examined the technical and economic reasons for the BCER's decision to develop the domestic market and the ideologies and techniques used to promote it. This chapter seeks to examine the effects of those decisions on the household. Some appliances, we shall see, were more popular with consumers than others and consumers from different socio-economic groups were more likely to buy certain electric appliances.

While companies such as the BCER have left behind

¹⁷⁴Files containing complaints exist throughout the BCE Papers. See for example folders 199:133, 234:422, 251:705, 360:13/30, 365:14/24, 366:14/31, 404:19/39, 412:20/46, 421:22/4, 430:23/46, and 443:25/30.

extensive written records, which allow an historian a thorough look at their operations, seeing into Victoria's households in the 1920s and 1930s is more problematic. Demographic information is sparse and uneven. Even so, it is possible to infer from the extant records how people lived with electric appliances in Victoria. Sales data provide information on which appliances were the best sellers; and we can derive a secondhand account of how people related to electric technology from the recorded opinions of the BCER managers as well as customer letters of inquiry and complaint. There is also information, albeit limited, on customers who bought electric ranges and vacuum cleaners in the 1920s. Through the BCER's records and published city directories we can tell the occupations and addresses of the heads of those households which bought various appliances.

Housework

Electric appliances were available before World War I -- electric vacuums, sewing machines, washers, and ranges were sold by dealers in Victoria after 1910 -- but it was only after the Great War that they were mass marketed.¹⁷⁵ Before the wide diffusion of these appliances, there were considerable differences in the practices and standards of housework. For those in the middle-class and above, much of the housework was

¹⁷⁵Ruth Schwartz Cowan, *More Work For Mother*, (New York: Basic Books, 1983), p.93.

being done by servants, leaving the housewife to manage the household rather than clean and cook herself. For women who could not afford servants, housework was an arduous and time-consuming chore.

Kitchens were not built with cupboards or counter tops until the 1930s. A pantry just off the kitchen stored dishes and food, and a single table usually served as a preparation area.¹⁷⁶ Instead of refrigerators, households used a cooler or meat safe in the basement or on the back porch. Or they might own an ice-box, the precursor to the refrigerator. This was a wooden cabinet that used a large block of ice to keep food preserved. The ice had to be delivered once or twice a week to maintain the ice-box's temperature.

However, refrigeration was not a primary concern to people in Victoria before electric refrigerators were mass produced, for its year-round mild climate made food spoilage less pressing a problem than in the United States. Also, food did not have to be kept for a long time in Victoria since food was delivered as it was needed: groceries were ordered in the morning to be delivered later the same day; milk was delivered daily; bakeries delivered bread; and fish and vegetables were delivered by native Indians and Chinese respectively. Other

¹⁷⁶The following details are derived from the *Behind the Kitchen Door* oral interviews and Barbara Riley, "Behind the Kitchen Door." Text of a lecture given at the B.C. Provincial Museum, April 25, 1984. Held at Canadian Museum of Civilization.

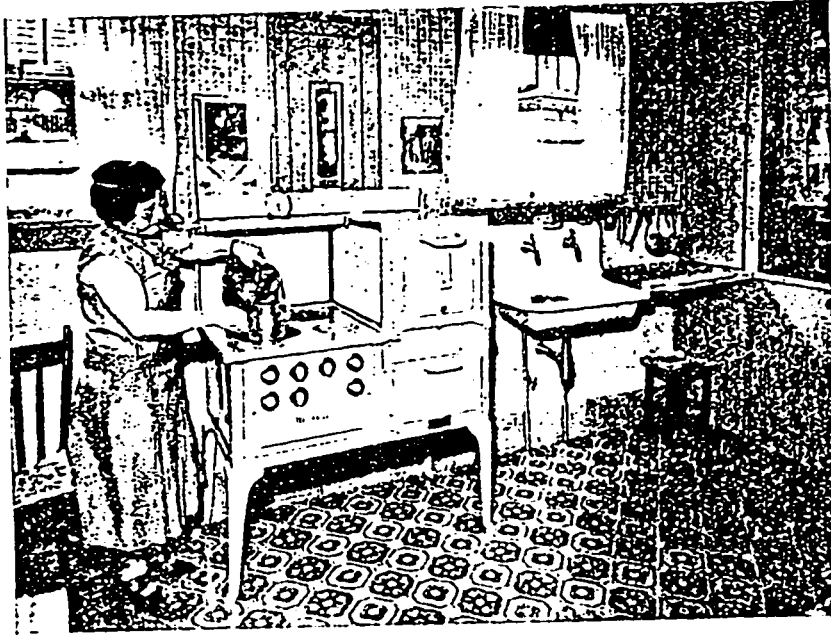


Figure 4.1: A picture of a kitchen in 1931. Note that even though the kitchen is equipped with an electric range, there are still no counter tops or cupboards. *Utility Topics*, October 1931. (BC Hydro Library).

food was kept usable through canning, which was very popular.

Before the introduction of oil and sawdust burning ranges and attachments in the 1930 most people cooked on a range that burned coal or wood. These early ranges fulfilled several functions including storing utensils, heating irons, making toast, heating and storing water, and household heating.

Laundry, by all accounts, was the most onerous task, requiring hauling of water, heavy scrubbing and lifting of wet clothes, and hot ironing.¹⁷⁷ "Blue Monday" was the term coined to express the lack of joy with which women greeted this weekly task. The job was so disliked that even lower income women occasionally paid someone else to do this work.¹⁷⁸

By 1920, the only relief that practically all women had for this chore was the electric iron. This appliance was popular because it made ironing much more comfortable in the summer months. Flat irons, appropriately known as "Sad irons" had to be heated on a stove-top, which inevitably was coal or wood burning and shed excess heat into the kitchen, making ironing an unpleasant, hot task. Electric irons did not completely replace the Sad iron though. Women often went back to the older models in the winter when the warmth of the kitchen range was welcome. They were also forced to use the

¹⁷⁷See, for example, Helen G. Campbell, "Equipping the Home Laundry," *Chatelaine* 4, 21 (April 1931); Susan Strausser, *Never Done: A History of American Housework* (New York: Pantheon, 1982) *Never Done*, p. 113.

¹⁷⁸Strausser, *Ibid.*, p. 113.

non-electric irons if the electric iron broke down -- not an uncommon occurrence in the early models.¹⁷⁹

Beyond the electric iron, laundry was still a primitive and labour intensive project. There were laundries in the city that could do the job but they were costly and still left some work for the housewife. In 1928, New Method laundry advertised that its service would "entirely eliminate washday in the home;" yet this "wet wash" service still required all of the laundry to be ironed and dried at home.¹⁸⁰ In addition, the costs were high: though the advertisement claimed that New Method was half as much as home laundry, they counted laundress hire, meals, carfare, soap, powders, blueing, starch, gas, water, repairs and depreciation on equipment, and interest on investment as the costs of home laundry. Obviously, these costs would not apply to many households in Victoria, given that part of the justification of having an electric washing machine was that the work burden was reduced enough so that a laundress became unnecessary.

New Method charged a minimum of \$1.00 per load of laundry, which would likely mean a minimum cost of \$4.00 per month.¹⁸¹ For comparison, a housewife could buy a Minimax washer on terms for one dollar down and \$6.00 per month over

¹⁷⁹*Behind the Kitchen Door*, 4088:22.

¹⁸⁰*Victoria Times*, January 9, 1928.

¹⁸¹*Ibid.*

eighteen months.¹⁸² Because electric washers consumed little power, the cost of electricity for them was minimal at just over ten cents a month.¹⁸³ With the time payment plan, the purchase of an electric washing machine looked like a better investment than the laundry service, since an electric washer could be purchased for the cost of sending laundry out for two years, but was almost free to operate after that.

One needs to keep in mind, though, that an electric washer in the 1920s was not as labour-free as an automatic washer today. There were a few automatic electric washers being used in this period but their high price put them out of reach of most consumers. Most electric washers still had to be filled and drained of water manually. Since there was no spin cycle to remove excess water from clothes (after all, the water never left the tub until it was drained) wet clothes had to be fed through a wringer. The latter were dangerous: users could get their fingers crushed in the apparatus.¹⁸⁴ Even under these conditions, the washing machine improved the conditions of housework for most women, disadvantaging only

¹⁸²The total cost was \$109.00. This was the least expensive machine; more expensive models averaged \$10.00 per month over an eighteen month term. [BCE Papers 379:16/26 Merchandising department to Mr. A.G. Pengelly, Oct. 7 1927]

¹⁸³BCE Papers 455:27/3 New and Retained Annual Revenue for Appliance Quota Shown (Victoria).

¹⁸⁴Some commercial laundries used reports of washing machine injuries as propaganda against the appliance's sale. My own grandmother lost two fingers in an wringer in the 1930s.

the minority who previously had someone else do the work.

As the electric washer shows, the actual use of appliances in Victoria was not as comfortable as today. While almost the whole city had electricity to a limited degree in the 1920s, the quality of service was poor. The price of power was also a contentious issue with consumers. High electricity prices meant that consumers had to be cautious in their use of power. Only the rich could avail themselves of the more expensive "labour-saving" technology. Ironically, they were the ones who could also afford "real" servants (as opposed to the "electrical" kind). But even the rich had to contend with poor quality electric service from the BCER. The company consistently received complaints about inconsistent service and had to deal with a litany of service problems with appliances. Radio reception could be interrupted and lights caused to flicker by the passing of a street car. Sometimes the lights would fade in and out as the voltage fluctuated.¹⁸⁵ Two customers who lived near each other complained that they could not both use their electric ranges at the same time because of lack of power.¹⁸⁶

Not only was the electric service primitive, but the quality of appliances was rudimentary. The electrical

¹⁸⁵BCE Papers 360:13/30 complaints about low voltage February-November 1924.

¹⁸⁶BCE Papers 365:14/24 Memo, Halls to Cornwall, Oct. 5, 1925.

appliance manufacturing industry was in its infancy and the quality of goods varied widely with many different manufacturers putting their wares on the market. Large appliances (and thus the most expensive) often were plagued with the worst problems. Electric ranges and refrigerators were especially prone to breakdowns. The managers of the BCER worried about poor quality merchandise coming into the marketplace. Substandard goods were bad advertising for all products on the market. This was especially a problem in the twenties and earlier when appliances were still in their infancy. For example, in building some early versions of the electric range, Moffat (the most popular brand sold in Victoria) had problems finding reliable thermostats. As a result, ovens overheated and their enamel coverings melted, ruining the ranges.¹⁸⁷

In 1926, the BCER reported a series of problems with Hotpoint electric ranges. S.J. Halls complained to the Canadian General Electric, their manufacturer, that "in our opinion the trouble is due to faulty and poorly constructed material."¹⁸⁸ He listed several faults in the range including faulty timers, lack of consistent heat, loose connections, and the use of poor quality materials.

¹⁸⁷BCE Papers 328:7/60 Moffat Stove Co. to F.F. McKittrick, May 16, 1919.

¹⁸⁸BCE Papers 371:15/22 Complaint to CGE Victoria, Nov. 26, 1926 from Halls.

Despite their high cost, refrigerators were also less durable and reliable when they were first introduced in Victoria.¹⁸⁹ Only two years after they were purchased, the first ones sold had to receive a three-day servicing, at a cost of \$35.00 to the owner.¹⁹⁰ By 1930 the Assistant Sales Engineer, M.C. Trueman, decided that most of the Servel refrigerators sold by the BCER since 1926 were of such poor quality that the company should provide a trade-in allowance for their replacement by a General Electric model.¹⁹¹

An innovative refrigerator idea that ultimately failed was the Econometer. This Westinghouse machine had customers pay their monthly installments on a daily basis by inserting a quarter in a coin meter attached to the refrigerator. Customers would end up paying \$7.50 per month over the course of forty-two months until the total purchase price of \$315.00 had been paid.¹⁹² The plan was short lived, however, because most of the refrigerators needed service calls shortly after

¹⁸⁹When introduced in 1926 the cheapest refrigerator sold by the BCER cost \$390.00 or almost four months wages for an average Canadian at this time. The most expensive unit sold for \$602.00. [BCE Papers 372:15/18 Walker to Halls, March 30, 1926.]

¹⁹⁰BCE Papers 395:18/36 Halls to Capt. W. Ellis, 1210 Beach drive, Oak Bay. December 18, 1929. Re: Servel Refrigerators, Seacroft Apartments.

¹⁹¹BCE Papers 404:19/35 Memo, Trueman to Halls, June 19, 1930.

¹⁹²BCE Papers 419:21/44 Memo from W.C. Mainwaring, March 5, 1932.

being installed.¹⁹³ The last reported refrigerator problems came in 1934, when several General Electric "Monitor Tops" had to be replaced.¹⁹⁴ Many serious faults were found with the units, such as leaking refrigerant, peeling enamel, and defrosting while running.¹⁹⁵

If the lack of reported problems is any indication, it would appear that by 1930 electric ranges had become solidly constructed, and no longer experienced systemic problems.¹⁹⁶ For refrigerators, poor quality construction seems to have plagued them until about the mid-thirties.¹⁹⁷ Conversely, appliances that depended on electricity to power a motor, such as washers and vacuums, had far fewer reported problems.

Appliance Diffusion

A survey conducted by *Electrical News* in 1922 revealed that appliance use in Victoria was not widespread for most items. Victoria's BCER reported that all the residences

¹⁹³Of the five or six sold in Victoria, three required servicing. In Vancouver, of thirty-two Econometers, twenty-seven needed service. BCE Papers 419:21/44 Harrison, Accountant, Victoria to Halls, May 26, 1932.

¹⁹⁴BCE Papers 439:24/48 Memo, Halls to McKitrick, October 30, 1934.

¹⁹⁵*Ibid.*

¹⁹⁶This observation is based on the lack of complaints to electric range manufacturers in the BCER records after 1930.

¹⁹⁷Based on the lack of complaints to refrigerator manufacturers after 1934 in the BCER record.

within their territory were wired and of those 95 percent of them owned an electric iron.¹⁹⁸ The next most popular item was the electric toaster, with only one-fifth of households so equipped. Beyond these two items, almost no homes had any electric appliances. Even so, Victoria's consumers were marginally better equipped than the average Canadian, as Table 4.1 reveals.

	BCER Victoria(%)	Canadian Average(%)
Houses wired	100.0	74.9
Ranges	4.0	3.1
Percolators	5.0	3.7
Vacuum cleaners	10.0	5.0
Washing machines	5.0	5.9
Dishwashers	0.05	0.07
Water heaters	4.0	1.3
Toasters	20.0	18.2
Air Heaters	5.0	4.8
Sewing machine motors	2.0	1.2
Irons	95.0	45.7
Ironing machines	0.5	1.4
Refrigerators	0.5	0.6
Fans	3.0	5.4
Source: BCER Records 380:16/36 Response to <i>Electrical News</i> Survey. June 6, 1922.		

¹⁹⁸BCER Records 380:16/36 Response to *Electrical News* Survey. June 6, 1922.

As can be seen, Victoria's consumers had not yet embraced electricity much beyond its use for lighting and ironing. By 1925, the numbers of some appliances had grown substantially. In those three years the number of various small appliances doubled in use, such as toasters, grills, washers, and vacuum cleaners. Others, notably the electric range and hot water heater, barely increased in total use over three years, and when looked at from the basis of diffusion,¹⁹⁹ actually declined in use.

¹⁹⁹That is, as a percentage of wired homes.

Table 4.2: Number of Appliances in Use and Percentage of Wired Homes Using Them, Victoria, 1922 and 1925.				
	1922		1925	
	Number	Percent of Homes	Number	Percent of Homes
Wired homes	10000	100.0	13000	100.0
Electric Ranges	400	4.0	450	3.5
Hot Plates	---	---	250	1.9
Washers	500	5.0	1000	7.7
Vacuums	1000	10.0	2500	19.2
Water Heaters	400	4.0	450	3.5
Air Heaters	500	5.0	2000	15.4
Ironers	50	0.5	55	0.4
Irons	9500	95.0	12800	98.5
Refrigerators	50	0.5	55	0.4
Toasters	2000	20.0	4000	30.8
Grills	1000	10.0	3000	23.1
Fans	300	3.0	500	3.9
Sewing Machine Motors	200	2.0	300	2.3
Source: BCE Papers 380:16/36 Aug. 11, 1925.				

By 1927 the best-selling major appliances were the vacuum cleaner and the washing machine, with 2,000 and 3,500 in use respectively.²⁰⁰ By comparison, only 600 electric ranges and an insignificant ninety refrigerators were being used.²⁰¹ Apparently, consumers in Victoria were more easily

²⁰⁰BCE Papers 386:17/21.

²⁰¹*Ibid.*

convinced of the value of the modern cleaning instruments, than those for preparing food. Unfortunately for the BCER, the annual revenue accrued from a washer or vacuum cleaner was only one-ninth that of a refrigerator and one-twentieth of that from an electric range (about \$1.50/year compared to \$12.00/year and \$36.00/year in 1938 rates).²⁰² So, although all four appliances were quite costly to purchase, their revenue-generating abilities were substantially different. Since the business of the BCER was to sell energy, its merchandise sales merely a means to stimulate energy sales, it was obviously more profitable to be selling devices that consumed a lot of energy. Yet the desires of the BCER were not always met by the demands of consumers, who often wanted products that consumed little power or conversely too much at times of day when the power supply was overtaxed.

While diffusion figures are not available for the 1930s for most appliances some observations are still possible. (See table 4.3 for 1937 and 1938 data.) Washers and cleaners remained steady sellers, and after very poor sales in the late twenties and early thirties, the refrigerator became a top selling appliance. One of the most popular sellers in the 1930s was the radio, which could be found in 90 percent of

²⁰²BCE Papers 455:27/3 "Electric - New and Retained Annual Revenue for Appliance Quota Shown." (1937).

households by the end of the decade.²⁰³

Appliance	1937			1938		
	BCER	Dealers	Total	BCER	Dealers	Total
Ranges	79	35	114	84	46	130
Water Heaters	19	8	27	31	8	37
Refrigerators	62	376	438	67	248	315
Washers	107	292	399	112	312	424
Ironers	17	8	25	19	9	28
Cleaners	144	151	295	112	118	230
Radios	117	864	981	87	1364	1451
Air Heaters	79	69	148	60	109	169

Source: BCER Records 485:33/59. Questionnaire for *Electrical Merchandising and Electrical West*.

As of 1938, there were still less than half as many electric ranges being sold in Victoria as refrigerators or washing machines.

Early Appliance Adoptors

Electric ranges faced the greatest physical impediments to entering households. First of all, the ranges and the

²⁰³BCE Papers 485:33/59 Questionnaire for *Electrical Merchandising and Electrical West*.

current they consumed were very expensive. A cooking rate of 3 cents/kwh was adopted for electric cooking in 1917, with a minimum guarantee of \$1.50/month.²⁰⁴ The guarantee was begun because the BCER had to pay forty to eighty dollars to upgrade the distribution system to allow for a range.²⁰⁵ There were also practical problems that plagued the range. An electric range could only perform one task, that is, cooking. But the coal and wood burning stoves they were designed to replace fulfilled several additional functions. For one, they were used to heat hot water, usually through a coil pipe running through the back of the stove. They were also used to heat the kitchen in the winter. S.J. Halls said that their investigations found that many homes were not particularly warmly built, and householders used the solid fuel ranges as a primary source of heat.²⁰⁶ Often because of the kitchen range, no other source of heat was provided for the kitchen. Further, people enjoyed eating meals in the kitchen during the winter because of the extra warmth of the range.

²⁰⁴BCE Papers 199:133a Goward to Kidd, March 6, 1917, and Halls to Goward, March 13, 1917.

²⁰⁵BCE Papers 199:133a Halls to G. Porter (Chief Electrical Engineer, Vancouver) 1917.

²⁰⁶BCE Papers 194:133a Halls to Goward, January 15, 1915. Re: electric cooking. As late as 1941, 41.7% of homes in Victoria still relied on their stove as their primary source of heat. This was slightly higher than the Canadian average of 35.4% (in urban areas with populations of more than 30,000). In Ontario only 16.3% used their stove as their primary source of heat (urban areas with populations of more than 30,000). [Source: *Census of Canada, 1941*].

Halls also reported that the rich (obvious prospects for the electric range) often employed a Chinese cook who preferred a solid fuel stove.²⁰⁷ Given that the chatelaine of such households would not be using the instrument there was no benefit to her in the family purchasing a more expensive electric range.

On the other hand, the electric range had two significant advantages over solid fuel competitors though: it was cooler in the summer and it was cleaner. Like electric irons, electric ranges produced bearable excess heat in the summer. This feature was obviously impressive for some electric range buyers, but it was not enough to offset the winter time need for a solid fuel range. Some early buyers of the electric range retained their coal or wood ranges for use in the winter.²⁰⁸

By 1926, few households had electric ranges but a complete list of their names and addresses was left by the BCER.²⁰⁹ The 1926 city directory, provides some demographic

²⁰⁷*Ibid.*

²⁰⁸In a survey of customers done in 1960 the BCER found that oil and hard fuel ranges were disliked chiefly because they were dirty, and conversely, gas and electric were liked primarily because of their cleanliness. Marketing Division of B.C. Electric Co., *Consumer Attitude Survey Fuels and Household Appliances: Lower Mainland Area of B.C., 1960*, (May 1961), [BC Hydro Library A3504], p. 5.

²⁰⁹There were about 500 ranges in service at the end of 1926. [374:15/38 Questionnaire supplied to *Colonist* at the request of Dominion Advertisers of Montreal. Dec. 6, 1926.]

data about these electrical pioneers. The results are presented in Table 4.4. Not surprisingly, the greater portion of the households that owned ranges had heads with high income occupations.²¹⁰ Many were business owners or managers or professionals. Less predictably, though, nearly one-third of the head of households with electric ranges were either retired or widowed. Since about 9 percent of the population in the city was retired in the late twenties, retirees were clearly over-represented among electric range owners.²¹¹

²¹⁰ 45 percent of those listed had occupations that could be classified as "manager", "business owner", or "professional".

²¹¹Peter A. Baskerville, *Beyond the Island. An Illustrated History of Victoria*, (Burlington, Ontario: Windsor Publications, 1986), p. 93.

Table 4.4: Electric range owners in Victoria, 1926. ²¹²	
Occupation	Percent
Professional class (doctor, lawyer, gov't secretary, engineer)	17
Managerial and Business owner class	28
Lower paid white collar (clerk, teacher, reporter)	10
Trades (carpenter, electrician, foreman)	9
Farmer	2
Labourer (lineman, taxi driver, operator)	2
Retired	24
Widowed	8
All Occupations	100
Source: BCE Records 372:15/22 Electric Range Installations, Jan. 12, 1926; and Victoria City Directories 1925, 1926, and 1927.	

Given the physical burden of operating a solid fuel range, it should not be surprising that electric models were popular among older people. Heavy coal or wood had to be carried to the oven, ashes had to be removed and the old cast iron was considerably more difficult to clean than newer

²¹²These percentages are adjusted and do not take into account missing data. Of the original data, 12% of the range owners were not listed in Victoria city directories in any of three years examined (1925, 1926, and 1927) and a further 21% of the range owners were in the directory but did not have their occupation listed. The percentages in this table then are actually the percentage of range owners who could be found in the directory and had their occupations listed. This should not skew the picture of occupations too much unless, there is a systematic reason why some range owners are not listed in the directories.

enamel finishes. (In a Vancouver testimonial published in *Utility Topics* Mrs. Richard Taylor said that they had purchased an electric range so that "Mr. Taylor wouldn't have to cut and carry wood after his hard days work.")²¹³ However, it is interesting that given the size of the market for electric ranges among this population segment, that the elderly were never present in advertisements. Presumably, senior citizens did not convey a modern image for ranges. Instead advertisements tended to be addressed to women just entering married life.²¹⁴

Looking at a map of Victoria (see figure 4.3) one can see that most of the range owners were located in a small area. Just over half the electric ranges in Greater Victoria were found in Oak Bay. Two factors explain the heavy concentration in this district. Firstly, Oak Bay housed more wealthy residents per capita than other parts of the city. Thus, those most likely to be able to afford a range lived there. Secondly, in 1926 gas service had yet to be extended here, leaving the residents no other alternative to solid fuel stoves than electricity.

As has already been noted, the inadequacy of the BCER's

²¹³*Utility Topics*, October, 1931. Located in the BC Hydro Library.

²¹⁴Mary Vipond, "The Image of Women in Mass Circulation Magazines in the 1920's" in Alison Prentice and Susan Mann Trofimenkoff (eds.) *The Neglected Majority: Essays in Canadian Women's History* Vol. 1, (Toronto: McClelland and Stewart, 1977).

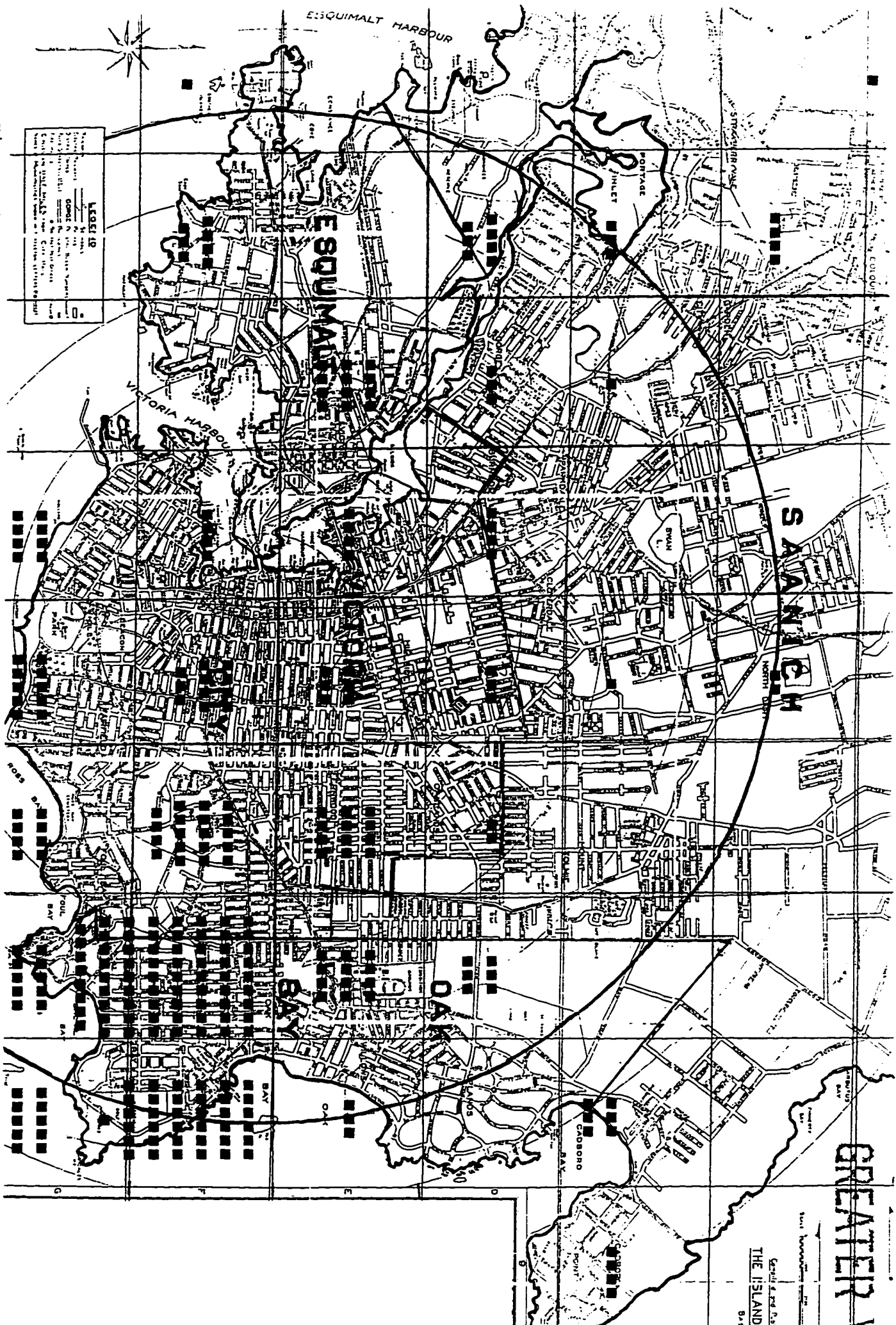


Figure 4.3:

Relative Distribution of Electric Range Owners in Victoria in 1926.

power supply in the mid- to late-twenties curtailed promotion of electric ranges in Victoria. However, electric range sales were at their highest in this period, averaging nearly one-hundred and fifty new installations per year. This trend continued after 1930 when electric range promotion was more enthusiastically pursued. But growth slowed considerably during the Depression and came to a virtual standstill in 1934 when there were only nine ranges added to the system.²¹⁵ Understandably, this was the year in which the BCER began providing generous wiring allowances and free range rental programs. Yet these promotional efforts were not enough to overcome the economic constraints on buyers.

A vacuum cleaner better fit their pocketbooks in the 1930s, as in the 1920s. The electric vacuum cleaner had always been more popular than the electric range. By 1926 about one-fifth of the homes in Victoria already had a vacuum. These appliances were quite expensive, a Royal cleaner being sold by the BCER in the mid-twenties for \$78.00,²¹⁶ or more than half a month's wages for an average worker.²¹⁷ Yet, this was about half as much as the \$160.00 charged for an electric

²¹⁵More than nine ranges were bought in 1934, but the because so many services were cancelled the net number of ranges on the system only increased by nine. The BCER sold 34 ranges in 1934; this was the poorest year for range sales from 1923 to 1938. [BCER Annual Report, 1923-1938]

²¹⁶BCE Papers 386:17/21.

²¹⁷According to the 1931 Census the average family wage in Victoria was \$1533, or \$127 per month.

range.²¹⁸ Not only was a vacuum cheaper to buy, but it was also much cheaper to operate. An electric range cost about \$5.00/month to operate, whereas a vacuum cleaner used only 14 cents worth of electricity each month.²¹⁹ Without an electric vacuum, rugs had to be beaten with a stick or paddle to remove their dust. Though this was usually done only once a year, during annual spring cleaning it was a very physically demanding job.

In a sample of vacuum cleaner purchasers from 1926 to 1927 nearly half the heads of households came from a lower income occupation. Only one-third of the purchasers came from upper income occupations. The number of retired people using vacuums, while still higher than their representation in the city's population, was lower than the figure for electric

²¹⁸This was the purchase price of the range. The actual cost of electric ranges was much higher because of extra costs. For example, a quotation for a prospective customer included the following: #E 24 Moffat electric range with mercury thermometer (\$162); 1000 watt National circulation water heater (\$25); inside wiring for range and water heater (\$75); plumbing (\$15); Total = \$277. [Source: 329:7/67 Estimate for H.M. Redpath.]

²¹⁹BCE Papers 340:10/13 List of appliances, their average use and cost, for Vancouver and Victoria, 1921.

B. C. ELECTRIC
HOME SERVICE NEWS

Vol. 11

AUGUST, 1937

No. 3



Which of these little ladies will be sweet and happy when John gets home for dinner? Which will be a red-faced, cranky sourpuss? And which will own the most wrinkles by the time she is forty?

Fresh As a Daisy

● summer cooking . . . old and new style

We don't exactly recommend sitting on top of the oven while you're cooking a meal. But if you'd like to play cute tricks like the little lady in the picture . . . you can play them . . . on a fully-insulated gas or electric range. Yes, you can sit right on top of the oven while the heat is on full!

Now imagine how high the weary lady on the left would jump if she was crazy enough to sit on her iron fireman while dinner was cooking! These pictures just emphasize the

clean, cool comfort of automatic cooking compared to old-fashioned smoky, sooty stoves.

Summer is frequently the grandest time of the year for the whole family—except to the woman of the house. It can be fun for her too, if she has time to enjoy it, or it can prove to be one big headache. There are unexpected visitors dropping in from out of town, the children are home from school, and meat and vegetables must be put up for the

Figure 4.2: Advertisement depicting the benefits of electric ranges over coal. *Home Service News*, August 1937. (BC Hydro Library).

ranges, as table 4.5 shows.

Table 4.5: Occupations of heads of households owning vacuums:	
Occupation	Percent
Professional class (doctor, lawyer, gov't secretary, engineer)	12
Managerial and Business owner class	20
Lower paid white collar (clerk, teacher, reporter)	16
Trades (carpenter, electrician, foreman)	9
Farmer	2
Labourer (lineman, taxi driver, operator)	19
Retired	14
Widowed	8
All Occupations	100
Source: BCE Records 371-386; and Victoria City Directory 1925, 1926, and 1927.	

Vacuum users were not only more representative of the population by occupation, but their use was much more even geographically in the city. Figure 4.4 shows that the vacuum buyers from the above sample were much more evenly distributed in the city than the electric range owners. The vacuum was both cheaper to buy and to operate than the electric range, which must largely account for the demographic differences.

Figure 4.4:
 Relative Distribution of BCR Customers who Purchased Vacuums in Victoria between January
 1926 and December 1927.



Consumption

Whether they bought a vacuum, a radio, or a range, the diffusion of appliances in Victoria caused households to become considerably more dependent on electricity. Average annual consumption doubled from 338 kwh/year in 1919 to 772 kwh/year by 1938. Consumers in 1919 paid the BCER \$397,211.58 in revenues in 1919 and \$744,519.75 by 1937.²²⁰ By these figures alone it appears that the promotional efforts of the BCER paid off in expanding the domestic market, but in truth, the results could have been much greater. Comparisons between Victoria and other areas reveal that the Victoria branch of the BCER consistently charged more for electricity and experienced lower rates of consumption. Contemporary observers believed that consumption was directly related to rates, in that consumption could always be raised by lowering the price of electricity.²²¹

After experiencing an extremely high rate of 11 cents per kwh, the first significant rate drop to seven cent/kwh came to Victoria in December 1920.²²² A further reduction was made in

²²⁰BCER *Annual Report*, 1919 and 1937.

²²¹This was said by Dr. Adam Shortt in 1917, when he investigated the BCER's rates, and twenty-one years later when the city hired an engineering consultant, R.W. Beck, in 1938 to investigate the BCER's rates, as well as E.S. Farr, reporting in 1945.

²²²BCE Papers 336:8/62 Walker to Halls, December 7, 1920.

January 1928 to six cents/kwh.²²³ No other rate changes were made until October 1931 when the company changed the way it charged for power by introducing a floor area rate.²²⁴ This was, for the consumer, a more difficult rate scale to understand, but from the utility's perspective was a fairer way to charge for power. For electricity users in Victoria these rates consistently translated into higher average bills with lower average consumption than in either Vancouver or the cities of Ontario. In 1920 the average Victoria domestic consumer used 376 kwh of electricity per year and paid \$26.04 (\$2.17 a month).²²⁵ At the same time an average urban Ontario resident²²⁶ used 580.8 kwh of electricity and paid only \$13.32 (\$1.11 a month).²²⁷ This difference was exacerbated by 1927 when an annual average bill of \$35.10 in Victoria purchased 660 kwh of electricity whereas an Ontario resident could use more than double the amount of power (1372.8 kwh) for only \$22.44.²²⁸ Average consumption in

²²³BCE Papers 386:17/21 Answers to questions from the *Journal of Electricity*, January 9, 1928.

²²⁴BCE Papers 421:22/13 Memo from MC Trueman to Halls, January 29, 1932.

²²⁵BCE Papers 378:16/17 Questionnaire for *Journal of Electricity*, San Francisco.

²²⁶Averages are for Ontario cities with populations of 10,000 or more.

²²⁷Dodd, *Delivering Electrical Technology*, p. 129.

²²⁸*Ibid.*

Vancouver was also considerably higher than in Victoria: 740 kwh in the latter in 1931, 1200 kwh in the former.²²⁹

In 1939, E.S. Farr noted that in the BCER territory as a whole (Vancouver and Victoria) average annual domestic consumption was 972 kwh per year (for Victoria the figure was just under 800kwh) in 1939, whereas the Canadian average was 1380 kwh/year²³⁰. Washington State, which had very similar geography and weather conditions, averaged 1501 kwh per year, and made \$10 more per customer than the BCER did, as table 4.6 attests.

Table 4.6		
1938-1939	Kwh, Avg. annual use	Revenue, Avg. annual bill
Canada	1,380	\$26.52
BC	972	27.12
Washington State	1501	38.28
Source: E.S. Farr, "Electric Utility Rates with a Special Reference to Vancouver Island South" (1945)[BC Hydro Library]		

BCER customers found their own way to combat high electricity prices. Some used jumpers to bypass the meter so that most of their consumption could be unmetered. Others

²²⁹B.C. *Electric Employees' Magazine*. September 1931 (XIV, 6).

²³⁰E.S. Farr, "Electric Utility Rates with a Special Reference to Vancouver Island South," B.C. Hydro Library manuscript H0230 (1945), p. 77.

connected appliances to their flat rate electrical line (for a water heater, for example), or took power from a range connection which was charged a lower rate. The customers either did the work themselves or unscrupulous electrical contractors made the connections. During the Depression, theft of current became rampant.²³¹ In Vancouver, the BCER had to hire two full-time investigators to catch electrical thieves. They acted on tips, irregularities in the meter reading books, and reports from meter readers. Special pole meters were used, to confirm theft by collecting readings directly from the utility pole before a house's regular meter.²³²

Though many people were caught stealing electricity the company was in a difficult legal position to prove a given person responsible for the illegal wiring. Someone renting a home could blame the landlord who could in turn claim ignorance and blame an electrical contractor acting alone. So, instead of laying charges the company would either cut off the power and wait for the customer to contact the office or a letter was sent informing the customer that "irregular" wiring was found on the premises.²³³

²³¹BCE Papers 440:24/60 J.C. Munro, Assistant Sales Engineer, Vancouver to M.C. Trueman, Assistant Sales Engineer, Victoria November 15, 1934.

²³²*Ibid.*

²³³*Ibid.*

Chapter Conclusion:

The BCER's problems with "current thieves" remind us that the company did not hold unchallenged sway over the process of domestic electrification in Victoria. Electric appliances were not uniformly accepted by local consumers in the interwar period, and the purchasing priorities of households did not always correspond to the merchandising strategies of the BCER. To be sure, the utility did exert great influence on the marketplace, but that influence was limited by conditions beyond its control. In general, the BCER's promotional activities were successful in constantly improving their revenues and in mitigating the Depression-era slump. Yet when it came to individual product promotions, the BCER had more mixed results. Electric ranges never captured a large share of the market, their sales in the 1930s always lagging behind oil, coal, and gas ranges, and sawdust burners.

In the growth of the electrical system, not all appliances were created equally. To recapitulate, they all consumed current, but at varying amounts and at different times - meaning, they had different load factors. Those that created heat - such as electric ranges, irons, toasters, coffee percolators - consumed large amounts of power in short periods. These the BCER wanted to sell in the 1930s. But electricity was an inefficient means to create heat (when compared to coal or gas), and so this class of appliance also tended to be quite expensive to use and consumers were slow to

accept them. By contrast, appliances that used motors - such as vacuums, sewing machines, and washing machines - used very little power, and so they diffused more rapidly in Victoria, as elsewhere. Revenues from these appliances were practically insignificant.

Obviously, the BCER stood to gain more from the high consumption, heat-generating appliances than those driven by a motor. Consumers, on the other hand, stood to gain more from the lower cost appliances. If we were to believe the argument that the patriarchal-capitalist system dictated what women bought, then we would expect sales of heat-generating appliances to be maximized. That they were not should cause us to reassess interpretations which deny women consumers their agency and free will.

As expected, the first buyers of electric ranges were wealthier than average and lived mainly in the wealthy community of Oak Bay. This is likely the case for many major electric appliances. However, electric vacuums were used by more households than the electric range, even though they were also expensive to buy (but not to operate). Even working class households could manage to finance a vacuum by taking advantage of time payments. We also see that the modern convenience of electric appliances was more attractive to older people.

The history of rates and consumption in Victoria reveals that Victoria's customers could have taken better advantage of

electric appliances with reduced rates. Compared to other localities, Victoria's rates were high and average consumption was low. These high rates, led to high levels of electricity theft, especially during the Depression.

CHAPTER 5: CONCLUSION

The development of the domestic appliance market in Victoria resembled that in other places in North America. This resemblance is not surprising, given that the city was part of a continental market. The managers in Victoria were just as likely to correspond with their peers in the United States as those in Canada, and industry standards were uniform across both countries. The BCER associated with both the Canadian Electrical Association and the U.S. based National Electric Light Association; it also contributed to a variety of industry journals in both countries.

Victoria's electric system faced the same economic and technical challenges as other utilities which included both incentives and obstacles to courting domestic customers. The incentives included declining street rail revenues, diminished industrial power demand after World War I, and a severe economic depression following strong growth in the 1920s. The obstacles were that the electric system had to be expanded and upgraded, customers had to be made aware of products and how to use them, and payment schemes had to be developed to make

it possible for people to buy appliances. Because of the questionable quality and usefulness of the first lines of appliances, and lack of adequate wiring in most homes, customers had good reason to resist adopting electric appliances despite the utility's coaxing. The BCER tried to ameliorate this condition by ensuring that only quality merchandise would be offered to their customers and by refusing to make price the focus of advertising.

Even though electric service was of poor quality, it was popular. People were fascinated with new electric technology, as was evident by the numbers of people who attended cooking schools and visited the electric home, and by the fact that electric lighting was almost universally adopted before World War I. After 1930, appliances improved in quality, as national brands became more firmly established. Even so, electricity remained expensive for Victoria residents, and the BCER was not enthusiastic about lowering rates. It usually waited for public pressure to build before doing so. Sometimes threats from the city council were needed to encourage the Victoria branch to lower its rates.

We find that external conditions beyond the control of consumers of the BCER affected the course of electrification. The scant water resources available near Victoria reinforced the BCER's conservative attitude to expansion. As Pat Roy noted, a large, easily-accessible, water power site such as Niagara Falls, would likely have sparked the imagination of

the BCER's managers and would have brought a more rapid and intensive use of electricity, both industrial and domestic.²³⁴ Though Vancouver's power resources were much smaller than Southern Ontario's, they were still considerably larger than Victoria's, and this difference affected rates, promotion, and ultimately, appliance diffusion. Presumably, if the Jordan river had been two or three times larger, then the BCER's attitude to selling power would have been less conservative.

Weather conditions had a direct relationship to geography in that limited rainfall determined the available water for power generation. Consecutive years of low rainfall on the West Coast burdened the BCER's generating capacity during those years of the 1920s that were best suited to expanding domestic electricity sales. From 1925 to 1929, sales of appliances and electricity consumption both grew rapidly, when low rainfall was degrading the BCER's ability to provide service.

Climate also influenced the purchasing priorities of consumers. Mild weather year round in Victoria made the electric refrigerator and electric range less important to have in the summer. Even so, Victoria had a high proportion of older people in the city who were inclined to purchase these expensive 'labour saving' appliances out of physical

²³⁴Patricia E. Roy, *The British Columbia Electric Railway Company, 1897-1928: A British Company in British Columbia*, (Unpublished PhD Thesis, University of British Columbia, 1970), p. 189.

need.

The electric industry did not have the power to compel people to adopt any given technology, but were limited to promoting those appliances that could find acceptance from consumers. At the same time, though consumers had the power to accept or reject a given technology during its introduction to the marketplace, eventually, when enough people had adopted a new technology, choice became more limited. For example, it would be very inconvenient to use a coal burning stove or ice box in Victoria today because there is no longer an infrastructure for supplying coal and ice to consumers. Similarly, Victoria's households eventually had more pressure to buy refrigerators when door-to-door sales of fresh food, and free delivery from grocery stores were reduced, and eventually disappeared. When a technology's infrastructural support disappears, that technology is no longer a viable choice. So when we conclude that people had choices and influenced the technological decisions, it needs to be recognized that this is a collective decision, with increasingly less freedom for any one individual as the system matures.

However, large companies were similarly constrained. Capitalists had to recognize the realities of the markets they wished to cultivate and adapt to those realities. There was less control and planning involved by electric utilities than some authors have believed. Victoria confirms the finding of

Armstrong and Nelles that "chance, choice, will, and frequently error and ignorance" shaped the evolution of utilities and for historians "determinism is more obvious in retrospect."²³⁵

Histories of both electric utilities and household technology have tended to ascribe too much power to utilities. A more nuanced analysis of the utility-consumer relationship is needed. By making the BCER the protagonist, this thesis is implicitly stating that the BCER had the most control over this market. However, the evidence from Victoria indicates that the BCER was often limited in how much control it could exercise. Instead of being a determined, powerful and directed entity which dictated the progress of the domestic market for electricity we find that the BCER was often ambivalent about developing this business. Political concerns, problems of the distribution system, lack of perceived demand, and problems associated dealing with a multitude of individual small customers made this market less attractive to the company. At first, it was in no hurry to promote the household market, for other electrical markets (trams, industry and street lighting) seemed more lucrative and did not require the sort of costly marketing and service organizations that direct sales to households entailed.

²³⁵Christopher Armstrong, and H.V. Nelles, *Monopoly's Moment: The Organization and Regulation of Canadian Utilities, 1830-1930*. (Philadelphia: Temple University Press, 1986), p. 5.

Domestic customers were less profitable and more troublesome than larger industrial and commercial customers.

Moreover, demand for electrical appliances was at first quite limited. Victoria consumers balked at their price tags. Also, the new technology did not always fit into existing patterns of doing housework, and few houses had the necessary wiring to take full advantage of electrical work-savers. Electrical appliances in the interwar years also had many deficiencies and were not always convenient to use. Even so, there was a strong latent demand for such appliances that the electric utility eventually decided to serve. A key turning point came in the 1930s. By the time the company had improved its power generating and distribution facilities, the reduction in industrial use of power left the company with an enormous surplus that pushed them to radical marketing suggestions such as giving away electric ranges.

In many ways the power of the BCER was hindered by the power of consumers. Heavy promotion of a given product did not automatically lead to goods sales. In fact, the need for promotion was often an indication that an appliance was not selling well. For example, electric ironers were a recommended and well-promoted appliance that never sold very well. On the other hand, electric washing machines were a consistent popular seller, and required much less advertising.

There has been a great deal written which emphasizes the contradictions between the promises of advertising copy and

the reality of appliance use. These studies have usefully shown the underlying ideas used to sell appliances, and have told us what advertisers thought would appeal to the largest audience. There is a basic and unfortunate assumption in these studies that advertising copy was the primary means of inducing a customer to buy a product and that advertisements were largely successful in "channelling desire"; but the evidence from Victoria places advertising in its proper context as only a small component in the effort to sell appliances. Drawing broad conclusions from the study of advertisements misleads the reader by overemphasizing their importance. For example, some authors have claimed that advertisers, by opting to present idealized images in advertising copy at the expense of technical information, robbed consumers of necessary information on which to base their purchases.²³⁶ Yet this analysis neglects to note that technical information was available on request from an appliance retailer or manufacturer, and that sales and home service department agents were available to answer questions. Appliance demonstrations were made both in stores and in homes; and most importantly, most potential customers of an

²³⁶Strong-Boag, *The New Day Recalled*, p. 116; Cowan, "The 'Industrial Revolution' in the Home," p. 16.; Dianne Dodd, *Delivering Electrical Technology to the Ontario Housewife*, p. 350; Joy Parr, "Shopping for a Good Stove: A Parable About Gender, Design, and the Market," in Joy Parr, ed., *A Diversity of Women: Ontario, 1945-1980* (Toronto: University of Toronto Press, 1995).

appliance witnessed an actual demonstration of the appliance in a friend's home - or so the BCER reported.

The extensive variety of means used to market the appliances clearly shows that advertising copy cannot be examined alone outside of the company's broader marketing strategy.

The weakest link in this equation (consumption junction) and the most difficult to research is the household. It is much easier to research a company such as the BCER than a multitude of households with scant documentation to describe them. Chapter four's description of occupations of early appliance adopters points out that households using appliances often did not reflect the lifestyles and family structures portrayed in the advertising models of the 1920s. Retired people were an important market segment totally ignored by advertisers. This fact should remind us not to take advertisers' categories as representative of reality.

Central to this paper is the following question: when did quantitative changes begin to have long-term, qualitative effects during this "consumption junction?" That is, when did enough individual changes add up to an aggregate change large enough for the historian to say that housework had become dependent on electricity or that it was being done according to the standardized principles being taught by BCER home economists? One might also ask when the domestic market for electricity became a crucial part of the BCER's operations.

These questions can be addressed in two ways. First we can answer from the perspective of the BCER. For the utility, 1925 marked a turning point in the organization of its business to capture the domestic market and to make it a primary target for revenues. It is then that the BCER initiated the *Home Service News* and the Home Service Department. Finding new domestic business became the principle focus of the Light and Power Sales department. But full development of this market did not take place until after 1931, when the electric distribution system had been upgraded and when the Depression left the BCER with a desperate need to sell surplus power.

If we look at the system from the vantage point of domestic customers, we find that nearly all households had electric irons by the early twenties and radios by the late thirties, but most appliances could still only be found in a minority of homes by the start of World War II. A transition certainly occurred in perceptions and use of electric appliances in the interwar period. Electric appliances changed from being seldom used novelties beyond the desires of most people to being common fixtures which were purchased as routinely as finances allowed. By 1939, almost everyone was anxious to own an electric refrigerator and to rid themselves of their solid fuel stove. They desired to own a radio, a vacuum, a washing machine, and an assortment of electric lamps. Because of their cost, these appliances were

often found only in a minority of homes, but they had become mass-produced consumer items widely coveted by the public.

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