

## Banking, Technology and the Law at the Launch of the BFLR

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In 1985-86, Professor Benjamin Geva of Osgoode Hall Law School oversaw the production of the inaugural issue of the Banking and Finance Law Review (the “BFLR”). In a number of respects, he was the perfect choice to edit the new publication. He had both practical and academic experience, an international perspective and he was deeply knowledgeable about banking and finance law. Even as he worked on the BFLR, he was writing a textbook on funds transfer and payment law and had received a grant from the Foundation for Legal Research of the Canadian Bar Association for a study on the allocation of commercial risks in payment mechanisms.<sup>1</sup> Those payment mechanisms were undergoing dramatic changes in Canada and elsewhere owing to improvements in communications and the development of computer networks.

He was certainly not alone in his interest in banking and finance. These topics were much on people’s minds in the mid-1980s. Much was happening in the world of banking, both good and bad. On the positive side, automated teller machines (ATMs) were becoming more prevalent and with the advent of the Interac network, they were being networked. People looked forward to a time when they would be better able to withdraw funds when and where they needed them. But access to funds in some institutions was an issue of a different sort. During the 1980s, 23 financial institutions failed.<sup>2</sup> Most were “near-bank” loan and trust companies, but two of those failures were chartered banks. When Canadian Commercial Bank and Northland Bank failed in 1985 despite extensive government efforts, they became Canada’s first bank failures since the Home Bank collapse of 1923.<sup>3</sup> These failures led to much thinking about financial regulation in Canada and especially deposit insurance. There were several sensationalist books about greed and government ineptitude,<sup>4</sup> and numerous scholarly articles about how to address the problems that these failures

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<sup>1</sup> His CV is online: < [www.osgoode.yorku.ca/faculty-and-staff/geva-benjamin/](http://www.osgoode.yorku.ca/faculty-and-staff/geva-benjamin/) > .

<sup>2</sup> C. Ian Kyer, *From Next Best to World Class: The People and Events that have Shaped the Canada Deposit Insurance Corporation 1967-2017* (Ottawa: CDIC, 2017).

<sup>3</sup> The two widely separated bank failures are looked at by Byron Lew and Alan J. Richardson, “Institutional Responses to Bank Failures: A Comparative Case Study of the Home Bank (1923) and Canadian Commercial Bank Failures” (1992) 3:2 *Critical Perspectives in Accounting* 163.

<sup>4</sup> Terry Belford, *Trust The Greymac Affair* (Toronto: James Lorimer & Sons, 1983), Terence Corcoran & Laura Reid, *Public Money Private Greed the Greymac, Seaway and Crown Trusts Affair* (Toronto: Collins, 1984) and Patricia Best, *A Matter of Trust: Greed,*

evidenced.<sup>5</sup> More importantly, a royal commission chaired by Willard Estey of the Supreme Court of Canada was established<sup>6</sup> and several studies were undertaken.<sup>7</sup> The result was that the Office of the Superintendent of Financial Institutions (OSFI) was created and financial regulation was reshaped.

With all of this happening, Professor Geva had lots of raw material for the first number of the BFLR. Not surprisingly, that issue contained an introduction to Canada's changing banking system, a survival guide for banks faced with the defaults of borrowers and a discussion of certain legal issues arising from the increasing use of ATMs. That last article by Andrew Chant of the Toronto-Dominion Bank only hinted at the many technological advances being utilized by the banks of the day and at the many legal issues such use was generating.

Now, 35 years later in a special anniversary issue dedicated to fintech, crypto currencies and other forms of banking technology, I thought that I would look back on the many technological advances and legal issues of the mid-1980s. As an academically-inclined IT lawyer who began his practice in 1982 advising banks on technology acquisitions, I thought and wrote about these uses and issues extensively.<sup>8</sup>

The mid-1980s cannot help but bring technology to mind. George Orwell's 1949 book *1984* was an early warning of the dangers of technology.<sup>9</sup> As I have said elsewhere, Orwell's book presented one side of a long time debate — is technology liberating or enslaving?<sup>10</sup> Orwell feared a world in which Big Brother would be able to use technology to monitor and shape people's thoughts and actions, enabling societal control and the suppression of personal freedom. For a 1984 Super Bowl commercial, Apple Computer decided to portray the other side of that debate.<sup>11</sup> In the commercial, a young woman in athletic attire runs into an auditorium where drone-like people are being addressed by Big Brother on a

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*Government and Canada's \$60 Billion Trust Industry* (Markham, Ontario: Penguin Books, 1986). *A Matter of Trust* was reviewed in the first volume of the BFLR at 137.

<sup>5</sup> See for example, Alex McLeod, "Better Late Than Never" (1986) 12:3 Canadian Public Policy 484 and James Pesando, "The Wyman Report an Economist's Perspective" (1986) 11 Canadian Business Law Journal 105.

<sup>6</sup> Report of The Commission of Inquiry into the Collapse of the Canadian Commercial Bank (CCB) and the Northland Bank, (Ottawa: Minister of Supply and Services, August 1986) known as the Estey Report. The Estey Report is discussed in the first volume of the BFLR at 365.

<sup>7</sup> Final Report of the Working Committee on the Canada Deposit Insurance Corporation (CDIC), (Ottawa: Minister of Supply and Services, 1985) known as the Wyman Report and Canadian Financial Institutions, Report of The Standing Committee on Finance, Trade and Economic Affairs (Ottawa: Queen's Printer, November, 1985).

<sup>8</sup> I have included references to a number of the articles that I wrote at the time both for their content but also as reflective of the issues concerning lawyers of the day.

<sup>9</sup> George Orwell, *1984* (London: Secker and Warburg, 1949). See "1984", *Literature Network*, online: < [www.online-literature.com/Orwell/1984](http://www.online-literature.com/Orwell/1984) > .

<sup>10</sup> C. Ian Kyer, "Technology and Personal Freedom" (2007) 56 University of New Brunswick Law Journal 36.

large monitor. Twirling and throwing a sledgehammer as if in an athletic competition, the young woman destroys the monitor causing the image of Big Brother to disappear. The voice-over explains that the introduction of the “Mac” would be why 1984 would not be like “1984.”

However one thinks that this debate ought to be resolved, there can be no doubt that 1984 was an important year in technology generally and in banking technology in particular. The year began with *Time Magazine* (“Time”) designating the personal computer as the news maker of the year for 1983. The computer revolution that Time documented was reinforced with the introduction of the Macintosh with its mouse and “wysisyg” (what you see is what you get) graphic user interface that made the personal computer so easy to use and that would later inspire Microsoft Windows.

Microsoft and other software developers were key players in another development — the increasing availability of vendor-independent software. When the banks began to use computers the only source for software to run on those machines had been the vendor of that computer. The machine and its software had been sold as a package. By the 1980s that was no longer the case. Reflective of that change, in March 1980 in San Francisco the US-based Computer Law Association (CLA) held its first program dedicated exclusively to the issues surrounding the development, marketing and acquisition of software.<sup>12</sup> The amount of program time that the CLA was dedicating to hardware issues was on the decline. Software issues would dominate the CLA’s programs until the mid 1990s when the Internet became the dominant issue.<sup>13</sup>

The banks of the day only gradually came to use personal computers and third-party software. Their systems relied primarily on mainframe computers from companies like IBM and Amdahl, computers that filled a large data centre. To the extent that bank branches used smaller computers, it was mostly minicomputers that they turned to, computers about the size of a large file cabinet. These machines stored and processed client data on tape drives, cassettes and floppy disks. The speed of these machines and the amount of data that they could store and process seems very limited by today’s standards, but they were revolutionary for their time. Now for the first-time businesses like banks were collecting, storing, indexing, comparing, and accessing vary large volumes of information. Banks, of course, were mandated by the *Bank Act*<sup>14</sup> to keep extensive records of their customers and their many transactions, but they were coming to realize that “client tracking” had other business uses.<sup>15</sup> Most banks

<sup>11</sup> Mac History, “1984 Apple’s Macintosh Commercial” (February 1, 2012), online: < [www.youtube.com/watch?v=VtvjbmDx-](http://www.youtube.com/watch?v=VtvjbmDx-) > .

<sup>12</sup> I would become its president in 1994-95 and its historian in 2006.

<sup>13</sup> C. Ian Kyer, “iTech History Through 2000”, online: < [www.itechlaw.org/history](http://www.itechlaw.org/history) > .

<sup>14</sup> S.C. 1991, c. 46.

<sup>15</sup> I advised a small start-up company, Footprint Software, which developed Client Track software, which allowed bank employees at the front counter with personal computers to

had their own data centres with mainframe computers, but these machines cost millions of dollars. For this reason, many other businesses that needed to collect and manipulate large volumes of information, or data as it had come to be called, were either acquiring minicomputers or were sharing the use of computers through third party computer centres operating as service bureaus.<sup>16</sup>

Computerization of banking had started two decades before. Toronto-Dominion Bank, for example, set up its first data processing centre in 1962<sup>17</sup> and the Royal Bank (“Royal”) launched its Montreal Data Centre in 1963.<sup>18</sup> Six years later, Royal created an automated customer services group. In 1972 Royal had installed “bankettes” in 14 Toronto branches. Customers with an identity card could withdraw cash from a machine. By 1977, Royal had its first automated cash machines independent of a Royal branch. Many questioned whether bank customers would trust these machines so in 1981 Royal Bank retained Canada’s jazz legend, Oscar Peterson to compose “My Personal Touch” and be the face of the new technology. Peterson helped Royal introduce its Personal Touch Banking Machines that let customers deposit and transfer funds as well as withdraw cash. Canada Trust lined up their own musician, Johnny Cash, to launch its ATM system, referred to, of course, as JohnnyCash Machines.<sup>19</sup> In a television commercial he told potential users that “life’s too short to walk the line.”<sup>20</sup> All of Canada’s banks were engaged in similar exploitation of computer technology.

ATMs (or ABMs as they were referred to elsewhere) were a major step forward in customer convenience. Previously your money was only available during “banking hours” (10 am to 4 pm) on work days. Some “near-banks” like Canada Permanent and Canada Trust competed against the larger, chartered banks by offering extended hours. But ATMs offered almost seven days a week 24-hour access.

Computerization also facilitated multi-branch banking in the 1980s. When bank records were kept on paper and cardboard signature cards were used to verify signatures, you were only able to deal with your particular branch where your particular paper records and signature card were kept. It was only when banks began to keep your records on computers and when those computers

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access information on a customer’s investments stored on the back-office systems to better serve the customer.

<sup>16</sup> Interestingly, the legal issues in contracting for data processing at a service bureau were very similar to the issues arising now from outsourcing.

<sup>17</sup> Interview with the archivist for TD bank, Amy Korcznski.

<sup>18</sup> Duncan McDowall, *Quick to the Frontier Canada’s Royal Bank* (Toronto: McClelland & Stewart, 1993) at 382-3.

<sup>19</sup> “Johnny Cash Machines: Johnny Cash Stars in 1980s Commercials for ATM Machines”, *Open Culture* (April 21, 2015), online: <<http://www.openculture.com/2015/04/johnny-cash-machines.html>> .

<sup>20</sup> CatchTheTaste, “1985 — Commercial — Johnny Cash Bank Machines (Canada Trust)” (November 3, 2010), online: <[www.youtube.com/watch?v=q7IjYs8U80E](http://www.youtube.com/watch?v=q7IjYs8U80E)> .

became networked that you could go to a branch other than your own branch to conduct business in your accounts.

These advances grew out of developments in communication as well as computer technology. James F. Dingle in his history of the Canadian Payments Association has said:

It is a challenge today to recapture the degree to which the financial world of the 1970s, indeed the entire society of that time, was awakening to the astonishing power of the combined technologies of computers and communications devices. . . . It is also noteworthy that, during this decade, the Canadian government felt it appropriate to have a Department of Communications, a ministry that worked jointly with the Department of Finance on several major policy papers shaping financial sector legislation.<sup>21</sup>

As computers began to spread in the early 1960s, networking of those computers became a sought after goal. Leonard Kleinrock, then a graduate student at Massachusetts Institute of Technology (MIT), proposed such a network in 1961 in a paper entitled “Information Flow in Large Communication Nets”.<sup>22</sup> It was based on his theory of packet switching. Kleinrock secured a position at University of California, Los Angeles’ (UCLA) school of engineering and applied science and helped develop the Advanced Research Projects Agency Network (ARPANET), the forerunner of the Internet.<sup>23</sup> The first messages were sent between UCLA and Stanford University in the fall of 1969. Network sharing protocols, Ethernet, Wi-Fi and emails were developed in the 1970s as networking spread.

In the later 1970s and early 1980s the Canadian government, working with the Canadian Bankers Association, created the Canadian Payments System Standards Group (CPSSG) with the goal of replacing the paper-based system of settlement and payments with an electronic one.<sup>24</sup> Canada’s largest banks and trust companies were already linking their own computers using telephone lines to facilitate multi-branch banking. The Canadian Payments Act was passed in 1980<sup>25</sup> and the Canadian Payments Association came into being. Canada had the beginnings of an electronic banking system that would permit the use of credit and debit cards to move money from one institution to another. In 1984,

<sup>21</sup> James F. Dingle, *Planning an Evolution: The Story of the Canadian Payments Association 1980-2002* (Ottawa: Bank of Canada, 2002) at 2.

<sup>22</sup> A computer networking history can be found at “Computer History”, *Computer Hope*, online: <[www.computerhope.com/history/](http://www.computerhope.com/history/)>. You can also watch Leonard Kleinrock as he provides his personal memories on YouTube at UCLA, “UCLA’s Leonard Kleinrock on packet switching, early internet” (January 13, 2009), online: <[www.youtube.com/watch?v=rHHpwcZiEW4](http://www.youtube.com/watch?v=rHHpwcZiEW4)>.

<sup>23</sup> See “Arpanet”, *Wikipedia* (May 2, 2019), online: <[en.wikipedia.org/wiki/ARPANET](http://en.wikipedia.org/wiki/ARPANET)>.

<sup>24</sup> Canada, Department of Finance, *Towards an Electronic Payments System* (Ottawa: Information Canada, 1975).

<sup>25</sup> R.S.C. 1985, c. C-21.

Canada's five largest banks created Interac as a cooperative association to give Canadians easier and more extensive access to their money using a single shared network.<sup>26</sup> Through Interac they began to work to link their ATM networks. By 1986, the first Shared Cash Dispensing (SCD) transaction took place. Following the creation of Interac most bank and trust company ATMs were networked through its cooperative debit card system.<sup>27</sup>

In the USA, a system was being developed to permit banks to automate the clearing of small, repetitive payments like payrolls or mortgage payments. The first volume of the BFLR had a note on this development.<sup>28</sup> But as much as computerization made aspects of banking easier, it also created problems. Privacy became a major concern. In 1984, I wrote:

It is becoming popular to talk of our times as a post-industrial age, the age of the information revolution or as the computer age. Whether or not one uses such terms, there can be no doubt that more and more corporations and individuals are purchasing computers and storing information in them. . . . At the same time there has been heightened concern over incidents of computer theft, i.e., the taking or copying of information stored on computers.<sup>29</sup>

That comment had in part been inspired by a troubling decision, *R. v. McLaughlin*, of the Supreme Court of Canada in 1980. Without authorization, a student had gained access to grades stored on a University of Alberta computer. The University wanted him charged to discourage others from doing the same. But what laws had he broken? After a thorough review of the then current laws, he was charged with the improper obtaining of a telecommunications service under the *Criminal Code*.<sup>30</sup> The Supreme Court of Canada had ruled that a computer did not qualify as a telecommunication service and had acquitted the student.<sup>31</sup> In reaction, the Canadian Bar Association, the Canadian Data Processing Association, and the Canadian Law Information Council petitioned the federal government to amend the *Criminal Code* to make unauthorized access to a computer a crime. A private member's bill was even introduced into Parliament to create this and other new computer crimes.<sup>32</sup> Rather than supporting the opposition member's bill, the federal Department of Justice initiated a study as part of its omnibus review of Criminal Law. This would

<sup>26</sup> See the history of Interac at "Our History", *Interac*, online: < [www.interac.ca/en/about/our-company.html](http://www.interac.ca/en/about/our-company.html) > .

<sup>27</sup> *Ibid.*

<sup>28</sup> Paul E. Homrighausen, "Automated Clearing House System Rules" (1986) 1 BFLR 115.

<sup>29</sup> C. I. Kyer, Annotation of *R. v. Stewart* (1984) 24 B.L.R. 53 at 55.

<sup>30</sup> *Criminal Code*, R.S.C. 1985, c. C-46, s. 326.

<sup>31</sup> *R. v. McLaughlin*, 1980 CarswellAlta 316, 1980 CarswellAlta 278, [1980] 2 S.C.R. 331, 23 A.R. 530, 53 C.C.C. (2d) 417, 18 C.R. (3d) 339, 113 D.L.R. (3d) 386, [1981] 1 W.W.R. 298, 32 N.R. 350 (S.C.C.).

<sup>32</sup> See the discussion in R. Grant Hammond, "Theft of Information" (1984) 100 LQR 252 at 253.

ultimately lead to the creation of the offence of unauthorized use of a computer.<sup>33</sup>

*R. v. McLaughlin* was one small example of a rapidly developing problem — hacking. The term hacking had been used as early as 1955 by the Tech Model Railroad Club of MIT to describe “cutting through a difficult technical obstacle”.<sup>34</sup> Hacking began as an intellectual, skill testing challenge for bright enthusiasts. They wanted to find any vulnerabilities in a locked system. Some wanted to get back at government, the military and then businesses which sought to put up walls and barriers to the free flow of information. Those who sought to protect sensitive or commercially valuable data from unauthorized access did not share the hackers’ enthusiasm or appreciate their intellectual efforts. Attempts to prevent hacking and to adapt laws to these new threats became all the more important as, over time, hacking became a way for some to exploit some weakness in computer network security to their advantage. A small start-up company, Research in Motion, was incorporated in 1984 and began to focus its efforts on encryption of data and other aspects of data security. Over time it would come to focus on secure, smart cellphones known as BlackBerrys.

Preventing unauthorized access was not the only concern of legislators. Many began to develop concerns with those who had authorized access. They began to think that there ought to be limits on what information could be collected and how it could be used and distributed. The United Kingdom *Data Protection Act* was passed in 1984 and many asked if this ought to be a model for Canada.<sup>35</sup> Canada had adopted an *Access to Information and Privacy Act* in 1983 but its reach was much shorter than the UK statute.<sup>36</sup> The Organisation for Economic Co-operation and Development (OECD) also issued a Declaration on Transborder Data Flows in 1985.<sup>37</sup> Privacy and data protection were much on people’s minds. In 1985, Ontario proposed its own *Freedom of Information and Privacy Act*<sup>38</sup> which passed the next year and came into force in 1987.

The rise of the business of collecting and selling access to information led some business lawyers to ask other fundamental questions.<sup>39</sup> How could this

<sup>33</sup> *Supra* note 30 at s. 342.1.

<sup>34</sup> Philippe Baumard, “A Brief History of Hacking and Cyberdefense” in *Cyber Security in France* at 17-30.

<sup>35</sup> C. I. Kyer, “The United Kingdom Data Protection Act: A model for Canada?” (1985) 2 Canadian Computer Law Reporter.

<sup>36</sup> C. I. Kyer, “The Federal Access to Information Act: A statute to be aware of” (1985) 2 Canadian Computer Law Reporter 167 and “The Federal Privacy Act” (1985) 2 Canadian Computer Law Reporter 188.

<sup>37</sup> C. I. Kyer, “The OECD Declaration on Transborder Data Flows” (1985) 2 Canadian Computer Law Reporter 163 and “A Case for Regulating Transborder Data Flow” (1986) 3 Canadian Computer Law Reporter 139.

<sup>38</sup> C. I. Kyer, “Ontario’s Proposed Freedom of Information and Privacy Act: Businessmen Beware” (1985) 3 Canadian Computer Law Reporter 5.

<sup>39</sup> C. I. Kyer, “Regina v. Stewart Is Information Property?” in Tucker, Muir and Ziff ed.,

information, often collected, organized, and analyzed at great effort and expense, be protected from competitors? Could copyright, which was slowly coming to be used to protect computer software, be used to protect databases?<sup>40</sup> What of the information itself? Many businesses began to think of it as proprietary, a form of trade secret. Could the law of trade secrets be used? The tort of breach of confidence existed but was seen by many as inadequate. What of the criminal law? Could one charge an industrial spy with theft? These and other like questions were on the minds of many at the beginning of the 1980s.<sup>41</sup>

The debate about the ownership of information was showcased in the case of *Regina v Stewart*, a criminal proceeding that worked its way through the courts in the 1980s, culminating in a 1988 decision of the Supreme Court of Canada.<sup>42</sup> It arose out of an attempt by a trade union to obtain the names and addresses of waiters and waitresses at an airport strip hotel in an effort to unionize the employees. It became a test case on the issue of whether someone could be said to own information. The trial judge, Justice Horace Krever, decided that one could not and his decision was ultimately upheld by the Supreme Court. But at the time when Professor Geva was putting together the first issue of BFLR, it seemed that the law might indeed allow ownership of data.

So as Professor Geva put together that initial offering of scholarship on the law of banking and finance there was much in the world of banking and technology to consider. The seeds of much of our current banking technology and the resultant legal issues were planted in those early days and for the last 35 years the BFLR has been watching over that growth.

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*Property on Trial Canadian Cases in Context* (Toronto: Osgoode Society and Irwin Law, 2012) 353.

<sup>40</sup> C. I. Kyer, "The Canadian Copyright Debate in The International Context" (1986) 3 *The Computer Lawyer* 1.

<sup>41</sup> R. Grant Hammond, "Theft of Information" (1984) 100 *LQR* 252 at 253.

<sup>42</sup> *R. v. Stewart*, 1988 CarswellOnt 960, 1988 CarswellOnt 110, EYB 1988-67456, [1988] 1 S.C.R. 963, 65 O.R. (2d) 637 (note), 39 B.L.R. 198, 41 C.C.C. (3d) 481, 21 C.P.R. (3d) 289, 63 C.R. (3d) 305, 50 D.L.R. (4th) 1, 19 C.I.P.R. 161, 85 N.R. 171, 28 O.A.C. 219, [1988] S.C.J. No. 45 (S.C.C.); reversing 1983 CarswellOnt 149, 42 O.R. (2d) 225, 24 B.L.R. 53, 5 C.C.C. (3d) 481, 74 C.P.R. (2d) 1, 35 C.R. (3d) 105, 149 D.L.R. (3d) 583, [1983] O.J. No. 3071 (Ont. C.A.); reversing 1982 CarswellOnt 1456, 38 O.R. (2d) 84, 68 C.C.C. (2d) 305, 74 C.P.R. (2d) 1 at 4, 138 D.L.R. (3d) 73 (Ont. H.C.), acquitting the accused on charges of counselling to commit the offence of theft and fraud. Appeal allowed.



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