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**"Evidence: The Changes that Computers  
Should be Making to the Admissibility of Business Documents"**

**by**

**Ken Chasse, Law Reform Commission  
Toronto**

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EVIDENCE: THE CHANGES THAT COMPUTERS SHOULD BE MAKING TO THE ADMISSIBILITY OF BUSINESS DOCUMENTS

Ken Chasse,  
Toronto, Canada

A. Summary - The use of computers to create and store business documents contradicts all of the major legal concepts upon which the admissibility of business documents is traditionally based. Therefore we should change those concepts. Other countries have enacted specialized legislation for the admissibility of computer printouts.<sup>1</sup> So should Canada. But we have not. Therefore, our caselaw interpretations of the business document provisions in our Evidence Acts (e.g. s.30 CEA [the Canada Evidence Act]), should change to fill that legislative gap.

The rules and caselaw discussions of business document admissibility and weight are all based upon these five ideas:

1. Get the original document;
2. Insist that the contents in that original come from original sources;
3. Insist that the supplying of that information and the making of that original occur in the usual and ordinary course of business;
4. Insist that the original be made contemporaneously with, or reasonably close to, the events it records.
5. Account for any alterations to the original or substitution of the original by some other document;

These five ideas account for all of our statutory rules and caselaw decisions concerning business document hearsay, best evidence and authentication issues.

B. Admissibility issues versus the factual realities of computers - In the left column below are the major concepts and issues that have been developed by our caselaw on business document admissibility. They are the traditional "circumstantial guarantees of reliability" or justifications for having a 'business documents exception' to the rule against hearsay evidence. In the right column are the corresponding factual realities of computer printouts in the business world. Note how incompatible they are:

1. The "usual and ordinary course of business".

1. There is not yet a "usual and ordinary course of business" because the data processing industry hasn't yet created comprehensive industry standards

comparable to those that exist in the micrographics industry.

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| 2. Contemporaneity between events and facts, seldom and their recording in business documents. | 2. Computer printouts are made at the same time as the facts and events they refer to.   |
| 3. Personal knowledge and first-hand hearsay.  | 3. Computer printouts most often contain multiple hearsay and often their contents are written by people without direct personal knowledge.  |
| 4. Business duty to record and supply the information recorded                                 | 4. Remote terminals and telephone communications among computers, allow databases to be added to by people outside the organizations that own those databases.   |
| 5. Originals and not copies  | 5. A printout is at best a copy of data as originally entered; but most often it is in a different form than the data as originally entered.   |
| 6. Facts only; not opinions  | 6. Because of the frequency and thoroughness with which data is altered and manipulated by software programs, printouts are computer 'opinions' of original data, and not statements of original fact; seldom does data remain in the form in which it was originally entered. |

Computers are much more than just faster adding machines and typewriters. But our caselaw, so far, treats computers as though they were nothing more than that. Compare that approach with this statement made by a professor of computer science in an article in the August 1989 issue of Scientific American:

If Gustave Eiffel were alive today, he would be working in software. What iron, steel and reinforced concrete were in the late 19th and early 20th centuries, software is now: the preeminent medium for building new and visionary structures. The continuing progress of computer hardware technology has given software builders new sources of power, and new principles of software design allow them to harness that power for new kinds of computation.

On the high plateau of modern computer hardware, software systems are arising that are more than fast data processors or glorified adding machines--they are information refineries that can transform mere facts into knowledge on a vast scale. For instance, information-refining programs might transform the low-level data that describe a hospital patient, transportation network or factory into a high-level synopsis. They might convert electronic file cabinets full of data into authoritative discussions of the objects or events (patient histories, wildflowers or automobile accidents) contained in those files.

. . .

A computer program is a kind of machine: this fact is a good starting point for understanding the importance of parallel software. A program is a machine for transforming information, just as a stamping press, for example, is a machine for transforming materials--put steel (or information) of one shape in, get steel of another shape out.<sup>2</sup>

Computerized record-keeping is fundamentally different from traditional record-keeping. That is why our rules as to business and banking document admissibility cannot stay as they are. The business community is operating without direction as to what factors will make a computer printout admissible and credible. Only in the very simple transitions to computerization is a record-keeping system left without fundamental alterations to one or more of these key features:

- its "usual and ordinary course of business" in producing records and maintaining the record-keeping system;
- its sources of information;
- the contents of its database;
- its inputting and outputting procedures to the database;
- the alteration of data from its original form of entry;
- its mediums of storage;
- its methods of searching and retrieving information;
- the training and experience of the people who operate it;
- the number and kinds of intermediate or temporary records it uses;
- the number of people needed to man it;
- the authority of its branch offices;
- the seat of credible professional accountability for the reliability

- of its records;
- the degree of security it has against theft, destruction and falsification;
- its cost, efficiency and speed.

Computerization can fundamentally alter executive and professional accountability for the reliability of record keeping because it so extensively alters the business relationships among the people who supply, record, store, retrieve and reproduce information to, in, and from business databases. Computerization of an organization's information system requires that all levels of its management be involved in the development of information-handling policy and practice. Therefore a computerized record-keeping system's "usual and ordinary course of business" should require the approval of its senior management.

The present rules of evidence are inadequate to cope with these changes. For example, the banks now depend upon data centres to supply accounting services and to operate their branches minute by minute through each business day. But the admissibility of banking documents is still based upon the concept that accountability for their creation and accuracy lies with the bank branch from which they can be obtained. For example, s.29 CEA allows a banking document and its accompanying affidavit, obtained from a bank branch in Vancouver, to be admissible as evidence in proof of the truth of its contents even though it was created by a data centre in Toronto. Instead, if we applied our rules of admissibility in the way that they were intended, i.e. so as to compel the use of original documents and original sources of information and accountability for alterations, we would require witnesses or affidavits from both the bank branch and the data centre.

That is impractical. The traditional concepts used to judge whether business documents should be admissible or inadmissible have been rendered impractical by the computer. Computer printouts are not original documents or original versions of the way in which data is entered. Nor are they made contemporaneously with the events and facts that they record. And most often they contain multiple hearsay. And often the people who have direct personal knowledge of those events and facts are far away because of the ease of trans-border dataflow. And because there are no industry standards for computerized record-keeping yet, courts should not be left with legal standards as simplistic as "the usual and ordinary course of business" (e.g. ss.29 and 30(1) CEA), nor asked to investigate the "circumstances of the making" of each record in each case (e.g. s.30(6) CEA). And our concepts of admissibility are impractical because computerized record-keeping systems are much more complicated than traditional record-keeping systems. It is impractical and unfair to cast an onus of disproving the reliability of printouts upon the opposing party rather than placing an onus of proving their reliability upon the adducing party. The adducing party should have to prove the reliability of the system that produced the printout, and not merely that the printout was produced, "in the usual and ordinary course of business" (whatever that might mean).

Therefore we should change our rules of evidence. Change them to reflect the same concepts that computer systems use to guarantee reliability:

1. system design; 2. history of reliability.

There are signs of change, but also of inconsistency. Therefore a review of the caselaw as to business document admissibility leaves one with a feeling of uncertainty as to what is required in order for computer printouts to be admissible. How does one advise a client who is installing or expanding an expensive computerized record-keeping system that will be the foundation for every aspect of his business? What factors should his data processing supervisor be able to testify to if his employer's business documents are challenged in court?

C. Our caselaw is fragmented - Caselaw inconsistencies that were tolerable in regard to traditional business documents become intolerable in regard to computer printouts. Consider these examples:

One court finds that our present statutory language requires that admissible records need only be made by a person under a "business duty" to make such records; but another court holds that the supplier of the information recorded, as well as the maker of the record, must have been acting pursuant to such "business duties".<sup>3</sup>

One court declares that it is sufficient if the making of the record was part of the ordinary routine of the business; but another court holds no, not only the making of the record but also the events being recorded must be part of the business routine.<sup>4</sup>

One court looks for contemporaneity between the making of a record and the events recorded as part of the "usual and ordinary course of business", while another court never considers contemporaneity.<sup>5</sup>

One court declares that records are inadmissible because of the interest or bias of the maker of the records, but another court decides that such a requirement is not to be read into the statute.<sup>6</sup>

One court looks to the original entry into the database as being the necessary "original" record, but another court says no, the computer printout can also be considered to be the "original" even after the computer's memory has been purged; but other computer printout cases give no guidance on this issue.<sup>7</sup>

One court finds that the admissibility of computer printouts into evidence requires as a condition-precedent, a detailed examination of the computerized record-keeping system that produced them, but another court forgoes its own examination in favour of an expert witness.<sup>8</sup>

One court treats computer printouts as original records, but another accords them the status of copies only.<sup>9</sup>

And courts in the United States distinguish between computer-created or generated information and mere computer-stored original facts. But Canadian courts have not yet recognized that a record produced by a computer program is often more analogous to a statement of opinion than to a pure statement of

fact, i.e. it may require verification by expert opinion evidence and supporting foundation facts. Instead, there is uncertainty whether our Evidence Acts allow for statements of opinion in the form of business documents, particularly those statements of opinion coming from electronic data processing.

These are examples of the present fragmentation of legal principles brought about by the vague statutory language of our Evidence Acts. With this inconsistency in the caselaw, preparing the foundation evidence for adducing business documents, or preparing a cross-examination for opposing their admissibility, is largely guesswork. There are no special rules for computer printouts. The same statutory provisions and caselaw interpretations will be applied to computer printouts that are applied to traditional business documents.

Therefore the same fragmentation and inconsistency applies to the admissibility of computer printouts. For example, consider the very different language used by these two leading decisions on the admissibility of computer printouts. First, in Vanlerberghe,<sup>10</sup> the B.C. Court of Appeal accepted, without analysis, the proposition that computer printouts are admissible under s.30 CEA, as though they were no different than traditional business documents:

The only attack and the sole ground of appeal argued was that the evidence by Allison [an expert witness] ... was based on printouts, so-called, from the computer or computers, and were not admissible as evidence under s.30 of the Canada Evidence Act, R.S.C. 1970, c.E-10.

I disagree. I think that the section clearly covers mechanical as well as manual bookkeeping records and the keeping of records, and the flow-out or printout of that bookkeeping system clearly falls within the meaning of 'records' in s.30 and was therefore admissible.<sup>11</sup>

But shortly after, in McMullen,<sup>12</sup> the Ontario Court of Appeal set a much higher standard for the admissibility of computer printouts under s.29 CEA. I call the following quotation the "McMullen standard". It is still the leading case in Ontario on the admissibility of computer printouts:

The nature and quality of the evidence put before the Court has to reflect the facts of the complete record-keeping process - in the case of computer records, the procedures and processes relating to the input of entries, storage of information and its retrieval and presentation: see Transport Indemnity Co. v. Seib (1965), 132 N.W.(2d) 871; King v. State ex Rel. Murdock Acceptance Corp. (1969) 222 So.(2d) 393, and "Note, Evidence Problems and Computer Records", 5 Rut. J. Comp. L. (1976), p.355, et seq. If such evidence be beyond the ken of the manager, accountant or the officer responsible for the records (R. v. McGrayne, Ontario Court of Appeal, March 14, 1979 [since reported 46 C.C.C.(2d) 63] then a failure to comply with s.29(2) [of the Canada Evidence Act] must

result and the printout evidence would be inadmissible.<sup>13</sup>

Thus, in establishing the admissibility of computer printouts under s.29 CEA, McMullen set a very onerous but vague standard for the foundation evidence necessary for admissibility. In fact, the reverse should have been made the case, i.e. the higher standard for admissibility should have been made to apply to s.30 business documents, rather than s.29 banking documents. Therefore it should be argued in future cases that whatever standard is set for admissibility under s.29 should, at the least, be the standard for s.30.

McMullen also presented a second source of vagueness and uncertainty--a best evidence rule issue. McMullen was used to support arguments that the electronic record in a bank's computer at the data centre is the original record, meaning that the paper printout held by the bank branch is only a copy of that record. It was argued that if the computer record had been erased, as is usually the case by the time the case gets to court, the printout should not be admitted into evidence because it cannot be shown to be a "true copy" of the original as required by s.29. This argument was refuted and laid to rest by the Ontario Court of Appeal in Bell and Bruce:<sup>14</sup>

McMullen is authority for the proposition that information stored in a computer is capable of being a "record kept in a financial institution", and that the computer print-out is capable of being a copy of that record, notwithstanding its change in form. It is not authority for the proposition that the stored information is the only record, or that a computer print-out is only a copy of that record.<sup>15</sup>

However, the "McMullen standard" remains as the leading definition of computer printout admissibility.

Another typical example of uncertainty is provided by Setak Computer Services Corp. Ltd. v. Burroughs Business Machines Ltd. et al.<sup>16</sup> It was held<sup>17</sup> that s.35 OEA, which is the business document provision in the Ontario Evidence Act, requires that both the supplier of the information recorded in the business document and its maker be under business duties to supply and record respectively. But s.35 OEA makes no reference to such conditions-precedent. In fact, s.35(4) states that, "the circumstances of the making of such a writing or record ... may be shown to affect its weight, but such circumstances do not affect its admissibility". Nevertheless the Court held that these business duties of supplying and recording are part of the phrase, "the usual and ordinary course of business" (a phrase also used in s.30 CEA and in other provincial Evidence Acts such as s.48 BCEA). Therefore Setak held that statements of employees of the Burroughs company, recorded in minutes of a business meeting with Setak employees, would not be admitted into evidence unless the minutes,

...clearly demonstrated that a Burroughs employee was describing something that occurred reasonably close to the meeting, and that he was relying on his own observation in making the statement and not on information obtained from someone entirely outside the business.<sup>18</sup>



If we applied that decision to computers, much of the information that enters databases from remote terminals would be inadmissible because remote terminals are frequently used by people who are not part of the organization that owns the database. If we remove remote terminals to prevent that from happening we would lose one of the very important reasons for using computers. In other words, the present rules of evidence are incompatible with computerized record-keeping.

The point sought to be made by the above examples is that the language used in the business and banking document provisions of our Evidence Acts is so vague that any new requirements or old common law requirements can be read into them. For example, the "usual and ordinary course of business" and the "circumstances of the making of a record" can change case by case. In the Appendix below, the main issues of business document admissibility are briefly described and their supporting cases cited.

D. The main points that should be kept in mind in relation to computer printouts when reading business document cases are:

1. There are no special criteria governing the admissibility of computer printouts. Under the present law the principles governing the admissibility of documents in general are those that one can expect to be applied to computer-produced documentation.
2. These current criteria are, as a group, inadequate for judging the admissibility and weight of computer printouts. In particular, the lack of definition in the Evidence Acts and guidelines in the caselaw as to what is the "usual and ordinary course of business", and as to what are acceptable "circumstances of the making of a record", leaves the admissibility of, and the necessary content of the foundation evidence for computer printout admissibility and weight very uncertain. Therefore the business community operates without a proper legal framework with which to judge the admissibility of the documents it creates.
3. Special, detailed evidentiary provisions, that set standards of admissibility beyond those that apply to business documents in general, are required for computer printouts.
4. To compensate for the absence of such specialized criteria, the specialized legislation for computer printouts developed in other countries (discussed below) should be used as guidelines in assessing the necessary foundation evidence for their admissibility.<sup>19</sup>
5. Given the change in the nature of bank record-keeping brought about by computerization and the use of data centres, it was very appropriate for the Ontario Court of Appeal in McMullen supra,<sup>20</sup> to require of the foundation evidence put forward in support of the admissibility of the bank's computer printouts that, "the evidence put before the court has to reflect the facts of the complete record-keeping process".<sup>21</sup>

6. Although computer printouts have been admitted under the business document provisions (e.g. s.30 CEA, s.48 BCEA, s.35 OEA), no case has analyzed the issues of their admissibility and weight, nor described the criteria for judging the foundation evidence adduced in support of their admissibility and weight. For example, no case has dealt with the factual differences between computerized and traditional record-keeping as they affect issues of admissibility and weight. If computer printouts are admissible under these business document provisions, the standard for admissibility set out in McMullen supra,<sup>22</sup> for banking documents is even more appropriate for business documents.

E. The differences created by computerization - Computerized record-keeping systems vary greatly from what is "usual and ordinary" for traditional paper record-keeping systems. And the "circumstances of the making" of computer records vary greatly among computer systems. The most frequently incorporated differences created by computer record-keeping systems over traditional paper record-keeping systems are these:

1. Fewer records - The use of fewer temporary, first-made paper records, because computer record-keeping is able to cumulate totals and update records without having to document such changes by printing further records. The result is a reduced availability of supporting "original" paper records and audit trails.
2. Fewer people - The need for substantially fewer people to man a computer record-keeping system that handles the same volume as a traditional system-- this can mean that computer systems are less secure. In fact, they can be made even more secure if security features are intentionally added onto the computer system.
3. External dataprocessing - The displacement of record-keeping and bookkeeping or accounting and analysis services outside the business organization itself to computer service bureaux.
4. Transborder dataflow - The ability of the computer to collect and transmit its records electronically allows for "transborder dataflow", i.e. the ability to displace record storage and data compilation services across national, provincial and state boundaries. Such computer communications allow records to be accessed from remote terminals over long distances.
5. Reduced space - Greatly reduced storage space is needed for computer records. Whole libraries can be stored in a few feet of space.
6. Super-added security needed - An increased need for security procedures to be added to computer systems. The greater convenience and efficiency of computer record-keeping systems means they have a greater need for super-added security procedures. In contrast, the inefficiency and cumbersome nature of traditional systems gives them an inherent security.

F. Bank records as an example of a larger business records problem - opposing and supporting admissibility - The changes brought by computerization to bank record-keeping are typical of those experienced by all large business organizations. Therefore whatever changes the computer causes to the admissibility and weight of banking documents should apply to most business documents.

Opposing admissibility - The reasons for not accepting the usual affidavit evidence for bank records (e.g. s.29(2) CEA), but instead requiring the attendance of a bank official who can testify in accordance with the "McMullen standard",<sup>23</sup> and who can take responsibility for the creation and accuracy of the records in question, can be summarized as follows:

1. Displaced accountability - The bank branch employee who makes out the affidavit is not the manager of, nor responsible for the computerized record-keeping system that produces or creates the record sought to be admitted.

2. Record not in original form - The record produced is not in its original form, and the form in which it is produced was not created by the branch employee who swears the affidavit.

3. Original no longer exists - The original form or electronic form of the record most likely no longer exists, and therefore the printout, being merely a copy, cannot be verified by means of a comparison with that original form of entry.

4. Computer-generated vs. computer-stored information - The record may contain computer-generated information and not simply computer-stored information, i.e. the record may be the end result of data compilations that are the product of computer programs that cause substantial alterations in the data during many steps of manipulation and analysis, all of which is out of the control of the bank branch from which the paper printouts come.

5. Error correction deadlines - The banks limit the time during which an account holder may have errors corrected. After that time the bank may refuse to make any alteration to its records.

6. Reverse-onus plus hearsay exception removes right to confrontation - Bank records could be used by the prosecutor in a criminal case to activate the reverse-onus presumption of Criminal Code s.362(4) [formerly s.320(4)] re N.S.F. cheques. As a result, the prosecutor could use a s.29 CEA affidavit and thus avoid giving the accused an opportunity to cross-examine anyone in relation to the bank documentation that provides the foundation for the prosecution's case.

Supporting admissibility - The main arguments in support of the admissibility of computerized bank records are:

1. The banking system argument - if a document is produced by a bank or other financial institution it comes within the banking document provisions whether

it was produced by a computerized system or a traditional system of record-keeping. Nothing more need be proved of the system that produced the record than that it was a bank record-keeping system. Similarly, any other business organization need merely prove that its records were produced "in the usual and ordinary course of business."

2. The printout is the original record argument - the computer printout produced at the data centre is the first record kept by the bank branch as a permanent or working record and the only record that remains after the first computer entries are erased. Therefore it should be considered to be "the original".

3. The necessity argument - it is necessary that computer printouts of banks be accepted into evidence. Were it otherwise, many bank employees would be required to testify in person to prove bank records in cases to which the banks are not parties.

These three arguments, if treated by the courts as being the only arguments determinative of the admissibility, would make the law merely a reflection of business convenience. They would not provide adequate guarantees of accurate records. They would free the proponent of business records from having to demonstrate the reliability of the system that produced the records and the reliability of the information that went into them. Thus their effect would be to transfer to the opposing party the onus of showing the unreliability of that system and of those sources of information. Computerized record-keeping systems are too complicated for that to be fair or workable because control of the source of such evidence concerning reliability is most often in the hands of the adducing party. As a result, whatever "circumstantial guarantees of reliability" a computer system may have will have to be demonstrated only if the court places the onus on the adducing party to show the reliability of the system underlying the records it produces, or if the opposing party has the resources for expert evidence to force a demonstration of reliability. Most litigants don't, therefore their ability to make full answer and defence is very much conditioned by the complexion of the law of evidence.

G. Legislation in other countries - Here are point-form summaries of the major pieces of specialized legislation that have been created for computer printout admissibility. Their criteria of admissibility could be read into the broad, vague language of our Evidence Act business and banking document provisions, or used as the framework for an examination-in-chief or cross-examination under those provisions as currently used.

U.K. Civil Evidence Act 1968, s.5(2) - the criteria of admissibility require proof of these points:

1. regular use of the computer for activities regularly carried on;
2. computer regularly supplied with information of the kind in the statement adduced;
3. computer operating properly, or, defective operation did not affect production or accuracy;

4. the information was derived from that supplied to the computer in the ordinary course of activities.

South Australia Evidence Act 1929-1976, s.59b(2) - the following criteria of admissibility were an improvement over the U.K. Civil Evidence Act 1968, because: (1) they directed attention to the computer program used; (2) they required that the database for the printout not violate the other rules of evidence; and, (3) they required that a "responsible person in charge of the computer" keep records of alterations to the "processes of the computer":

1. computer correctly programmed and regularly used to produce output of the kind tendered in evidence;
2. computer output produced from data prepared from information "that would normally be acceptable in a court of law as evidence of the statements ... in the output";
3. no reasonable cause to suspect departure from the system or error in the preparation of the data;
4. from input to output, the computer was not subject to a malfunction affecting accuracy;
5. no alterations to mechanisms or process of the computer that might affect accuracy;
6. records have been kept by a responsible person of alterations to the mechanisms and processes of the computer;
7. accuracy or validity of output not adversely affected by improper procedure or inadequate safeguards.

Next, we see less emphasis upon the mechanical fitness of computers, because that is a minuscule source of inaccuracy, and more emphasis upon protecting against negligent operation and intentional falsification, which constitute almost the totality of the threat to computer printout accuracy and reliability.

South African Computer Evidence Act 1983 - The preamble to the Act states: "To provide for the admissibility in civil proceedings of evidence generated by computers; and for matters connected therewith." Its provisions allow for the admissibility of "authenticated computer printouts", meaning a printout accompanied by an "authenticating affidavit". That affidavit is to be deposed to by some person who is qualified to give the testimony it contains by reason of: (a) his knowledge and experience of computers and of the particular system used by the computer in question; (b) his examination of all relevant records and facts concerning the operation of the computer and the data and instructions supplied to it. And that authenticating affidavit is to contain the following pieces of foundation evidence in relation to admissibility:

1. A description in general terms of the nature, extent and sources of the data and instructions supplied to the computer, and the purpose and effect of its processing by the computer;
2. A certification that the computer was correctly and completely supplied with data and instructions appropriate to and sufficient for the purpose for which the information recorded in the computer printout was produced;

3. A certification that the computer was unaffected in its operation by any malfunction or interference that might have had a bearing on such information or its reliability;
4. A certification that no reason exists to doubt the truth or reliability of any information recorded in or result reflected by the computer printout;
5. A verification of the records and facts examined by the deponent to the authenticating affidavit in order to qualify himself for the testimony it contains.

In contrast to our s.30 CEA (and our provincial and territorial Evidence Acts and Ordinances), these criteria of admissibility place an onus to prove the reliability of the record-keeping system upon the adducing party, instead of placing an onus to disprove unreliability upon the opposing party just because the adducing party has adduced some small vague proof as to the "usual and ordinary course of business". In total, the above pieces of legislation show that that phrase needs a special, detailed definition for computer printouts in order to remain as the standard of business document admissibility.

U.K. Police and Criminal Evidence Act 1984 - This is the latest piece of specialized legislation for computer printout admissibility. It is also the most detailed, complex and onerous. Section 68 deals with documents in general and s.69 with computer records. Both must be satisfied for computer records to be admissible.<sup>24</sup> These sections cannot be reproduced here because they, and their supplementary provisions in Schedule 3 to the Act, occupy several pages of small print legislation. Section 68 and its supplementary provisions assert the traditional requirements of, compilation under a duty, personal knowledge, the unavailability of person that supplied the information, contemporaneity, and absence of motive to misrepresent or conceal the facts. Section 69 and its supplementary provisions require proof of proper operation of the computer, a description of how the document in question was produced, particulars of the device used in the production of the document, and provide for the enacting of regulating rules of court.

U.S. Federal Rule of Evidence 803(6) - FRE 803(6) does not qualify as a specialized computer printout provision. (The FRE came into force on July 1, 1975, and since then, most states have enacted them as their state rules of evidence.) But it does contain a number of improvements over our legislation, particularly its express references to, "data compilation", "opinions or diagnoses", and to the "testimony of the custodian or other qualified witness", i.e. it recognizes computer printouts as admissible business documents, and it accepts opinion in business documents, and it directs that the foundation evidence for admissibility can be supplied by a single witness. It states:

Rule 803. Hearsay Exceptions: Availability of Declarant Immaterial. The following are not excluded by the hearsay rule, even though the declarant is available as a witness:

- (6) Records of regularly conducted activity.

A memorandum, report, or data compilation, in any form, of acts,

events, conditions, opinions, or diagnoses, made at or near the time by, or from information transmitted by, a person with knowledge, if kept in the course of a regularly conducted business activity, and if it was the regular practice of that business activity to make the memorandum, report, record, or data compilation, all as shown by the testimony of the custodian or other qualified witness, unless the source of information or the method or circumstances of preparation indicate lack of trustworthiness. The term "business" as used in this paragraph includes business, institution, association, profession, occupation, and calling of every kind, whether or not conducted for profit.

However, the full worth of this provision cannot be judged without a detailed analysis of its voluminous caselaw.<sup>25</sup>

In addition to the above specialized pieces of legislation, law journal commentators have suggested many similar lists of criteria for computer printout admissibility.<sup>26</sup>

H. Law Reform in Canada - Because of the divergent approaches taken in the reports on evidence of the Law Reform Commission of Canada,<sup>27</sup> and of the Ontario Law Reform Commission,<sup>28</sup> the Federal/Provincial Task Force on Uniform Rules of Evidence was formed in 1977. It presented its report to the Uniform Law Conference of Canada in January 1981.<sup>29</sup> The Task Force's Draft Evidence Act contained these provisions:

159. In this section and sections 160 and 172, "computer" means any apparatus or device that processes or stores data or information;

171.(1) A business record made by computer is admissible in evidence in the same manner as any other business record if the proponent proves that

(a) the data or information on which the record is based are of a type or types regularly supplied to the computer during the regular activities of the person or organization from which the record originates;

(b) the entries into the data or information bank on which the record is based were made in the usual and ordinary course of business; and

(c) the computer program used in producing the record reliably and accurately processes the data or information in the data or information bank.

(2) The proof required by subsection (1) may be made by producing an authenticating affidavit of the custodian of the record or any other qualified witness, based on his information and belief.

However, the Uniform Law Conference of Canada during its special sessions on evidence in 1980 and 1981 rejected the recommendations of the Task Force that gave rise to these modest provisions.<sup>30</sup> And therefore the resulting proposal

to re-write the Canada Evidence Act, Bill S-33,<sup>31</sup> did not contain them either.

I. Conclusion: Appropriate conditions-precedent for computer printout admissibility - Therefore, what follows are the conditions-precedent to admissibility that I would add to s.30 CEA (or s.48 BCEA or s.35 OEA), for computer printouts. But, they are not just a law reform model. They could be used now as a framework for a cross-examination or examination-in-chief for opposing or proposing admissibility, or become part of the caselaw interpretations of "the usual and ordinary course of business" and of the necessary "circumstances of the making of the record" as those phrases are used in our Evidence Acts now:

1. The conditions-precedent to admissibility of computer printouts should require:

(1) Proof of the sources of the information recorded in the databases upon which the printout is based;

(2) Proof that the information in the database was recorded in some fashion contemporaneously with or within a reasonable time after the events to which such information relates, but contemporaneous recording within the database itself is not required;

(3) Proof that the data upon which the printout is based is of a type regularly supplied to the computer during the regular activities of the organization from which the printout comes;

(4) Proof that the information upon which the statements in the printout are based, would in itself be admissible as evidence supporting those statements; [or, that the data upon which the printout is based does not violate any other rules of evidence];

(5) Proof that the entries into the database upon which the printout is based were made in the regular course of business;

(6) Proof that the input procedures used in adding data to the databases involved conform to standard practices in the industry;

(7) Proof that there has been reliance upon those databases in making business decisions within a reasonably short time before or after producing the printout sought to be admitted into evidence;

(8) Proof that the computer programs to produce the printout, reliably and accurately processes the data in the databases involved;

(9) Proof that from the time of the input of the data into the databases upon which the printout is based, until the time of the production of the printout, records have been kept by a responsible person in charge of the computer, of alterations to the mechanism and processes of the computer during that period;

(10) Proof of the security features used to guarantee the integrity of the total record-keeping system upon which the printout is based, and of the



effectiveness of such features.

2. In determining whether the security features of a computerized record-keeping system are sufficient to justify the admissibility of its printouts, the judge shall have regard to the following criteria of security:

- (1) Protection against unauthorized access to data and to permanent records;
- (2) Processes for the verification of data and of statements in records;
- (3) The safeguarding of communications lines;
- (4) The existence of copies of records on paper, microfilm, or other reliable physical or electronic form, for purposes of verification or replacement of falsified, lost or destroyed permanent and temporary records.

3. In determining whether the security features of a computerized record-keeping system are sufficient to justify the admissibility of the printout tendered, the judge shall have regard to the degree of security appropriate for records of the type upon which the printout is based.

#### APPENDIX

##### The Criteria of Admissibility for Business and Banking Documents

Because there are no special provisions for computer printouts, the following list of issues are those applicable to their admissibility. The lawyer and his records management witnesses must be prepared to contend with these issues and cases when preparing the foundation evidence to be given in support of the admissibility and weight of computer-produced records, or when structuring a cross-examination for opposing their admission into evidence.

1. The usual and ordinary course of business - The business document provisions of our Evidence Act require that admissible records are those that have been made "in the usual and ordinary course of business" (e.g. ss.30(1) & s.29(2) CEA, ss.48 & 36 BCEA, ss.35(2) & 33(3) OEA). But that phrase has not been defined in the Evidence Acts, nor in the caselaw except in regard to particular narrow issues or aspects of record-keeping. For example, should it be given an objective or subjective interpretation? And, should it make any difference that s.30 CEA uses a single "usual and ordinary course of business phrase", while the provincial Evidence Acts use the double phrase, "if made in the usual and ordinary course or any business and if it was in the usual and ordinary course of such business to make such writing"? See:

Setak Computer Services Corp. Ltd. v. Burroughs Business Machines Ltd. et al.  
(1977), 15 O.R.(2d) 750, 76 D.L.R.(3d) 641 (Ont. H.C.)  
Parker (1984), 16 C.C.C.(3d) 478 (Ont. C.A.)  
Aynsley v. Toronto General Hospital, [1968 1 O.R. 425 (Ont. H.C.)  
Zundel (1987), 31 C.C.C.(3d) 97, 58 O.R.(2d) 129 (Ont. C.A)

Monkhouse (1987), 61 C.R.(3d) 343 (Alta. C.A.)

Palmer v. Hoffman 318 U.S. 109 (1943), 63 S.Ct. 477 (this USSC case is cited in every Canadian and American textbook as containing the classic definition of the phrase, "the usual and ordinary course of business").

2. Contemporaneity - Admissible records are those that have been made contemporaneously with, (or reasonably close to) the events they refer to. Section 30(1) CEA would allow any interpretation of contemporaneity that was compatible with the phrase, "the usual and ordinary course of business", and s.30(6) would allow a court to impose its own views as to the need for contemporaneity by the discretion it gives the court to investigate in each case the total, "circumstances in which the information contained in the record was written, recorded, stored or reproduced, and draw any reasonable inference from the form or content of the record." But the provincial Evidence Acts are more certain and demanding. For example, s.48(1) BCEA and s.35(2) OEA require contemporaneity because of their respective phrases, "at the time it occurred or within a reasonable time after that", and, "at the time of such act, transaction, occurrence or event or within a reasonable time thereafter." See:

Setak Computer Services Corp. Ltd. v. Burroughs Business Machines Ltd. et al.,  
supra

3. Personal knowledge or firsthand hearsay - Records that are created by persons having personal knowledge of the facts recorded, or by persons who are close to and can readily identify the sources of such recorded information, have greater weight than records created by persons having only secondhand or multiple hearsay information. Section 30(1) can be argued to be limited to firsthand hearsay because of its opening phrase, "Where oral evidence in respect of a matter would be admissible in a legal proceeding." In contrast, s.48(2) BCEA and s.35(4) OEA state that lack of personal knowledge in the making of a record can be shown to affect weight, but "such circumstances do not affect its admissibility". The Ontario Law Reform Commission's Report on the Law of Evidence (June 1976), at p.185, states that s.30 CEA is limited to firsthand hearsay by its opening phrase, but some recent decisions have held to the contrary. See:

Monkhouse supra

Boles, [1984] Alta.D. 5372-01 (Alta. C.A.) - the Court adopts the argument of Ewart in, "Documentary Evidence: The Admissibility of Documents under Section 30 of the Canada Evidence Act", (1979-80), 22 Crim.L.Q. 189 at 197-99, and states that the decision in Anthes Business Forms Ltd. (Ont. C.A., 1975) infra, "appears to have accepted the proposition that double hearsay is admissible" under s.30.

Anthes Business Forms Ltd. et al. (1975), 26 C.C.C.(2d) 349, at 369, 10 O.R.(2d) 153 (Ont. C.A., appeal dismissed for want of jurisdiction, (1977), 32 C.C.C.(2d) 207n (S.C.C.))

Grimba and Wilder (1978), 38 C.C.C.(2d) 469, at 471 (Ont. Co.Ct.)

Sanghi (1971), 6 C.C.C.(2d) 123 (N.S.C.A.)

Vanlerberghe (1976), 6 C.R.(3d) 222 (B.C.C.A.)

Penno (1977), 35 C.C.C.(2d) 267 at 271 (B.C.C.A.)

West (B.C.C.A., Feb. 8, 1989).

4. Duty to record and duty to supply the information recorded - Reliable records are records created by persons who are under a duty to make such records, which records contain information supplied by persons who were under a duty to supply that information. Ontario cases have excluded records under s.35 OEA in spite of arguments that under s.35(4) such "double duty" considerations should be part of the "circumstances of the making" of the record which circumstances go only to weight and not to admissibility. Instead, they have found such duties to be part of the key operative phrase, "the usual and ordinary course of business". Under s.30 CEA a court could find that the absence of either of these duties was a "circumstance of the making of the record" that justified exclusion under s.30(6), or as a reason for a finding that the record was not made "in the usual and ordinary course of business" as required by s.30(1). See:

Re Waltson Properties Ltd. (1978) 17 O.R. 328 (Ont. H.C.)

Setak Computer Services Corp. Ltd. v. Burroughs Business Machines Ltd. et al.  
supra

Adderley v. Bremner, [1968] 1 O.R. 621 (Ont. H.C.)

Matheson v. Barnes & I.C.B.C., [1981] 2 W.W.R. 435 (B.C.S.C.)

Boles supra

Lavery (No.2) (1979), 47 C.C.C.(2d) 60 (Ont. C.A.)

Johnson v. Lutz, 170 N.E. 517 (N.Y.C.A., 1930) - a case cited in every

Canadian and American textbook on the requirements of "business duty".

5. Originals and true copies - If copies of records are used, the "original" should be readily available for comparison with the copy. Computer printouts under s.29 CEA (the banking document provision) have been accepted as originals. See:

Bell and Bruce (1982), 35 O.R.(2d) 164, 65 C.C.C.(2d) 377 (Ont. C.A.),  
affirmed without reasons, [1985] 2 S.C.R.287, 55 O.R.(2d) 287; but  
compare the same Court's earlier decision in,

McMullen (1979), 47 C.C.C.(2d) 499, 25 O.R.(2d) 301 (Ont. C.A.)

Hanlon (1985), 163 A.P.R. 266 (N.S.Co.Ct.), refused to follow Bell and Bruce,  
holding that a printout was a copy subject to the notice provisions of  
s.28(1) CEA;

Westeel-Rosco Limited v. Edmonton Tinsmith Supplies Ltd. and Roy, [1986] 3  
W.W.R. 173 (Alta. Q.B.)

Markakis v. M.N.R. (1986), 86 D.T.C. 1237 (Tax Court of Canada)

Andrew (No.2) (1986), 17 W.C.B. 259 (B.C.S.C.).

6. Facts only; not opinions - Admissible records should contain only statements of recorded facts and not opinions or compilations based on facts, unless the persons who formulated those opinions or compilations are called as witnesses. Therefore it should be more difficult to get computer-generated data admitted into evidence than mere computer-stored facts. The former can be argued to be opinions because the computer programs that produced the data

altered the form of the facts as originally entered into the computer. See:

Cargill Grain Ltd. v. Davie Shipbuilding Ltd. [1977] 1 S.C.R. 659, 10 N.R. 347  
Adderley v. Bremner supra

Setak Computer Services Corp. Ltd. v. Burroughs Business Machines Ltd. et al.  
supra

Burns Foods Ltd. (1983) 42 A.R. 70 (Alta. Provl.Ct.)

Ares v. Venner [1970] S.C.R. 608, 12 C.R.N.S. 349 (S.C.C.)

Laverty (No.2) supra

Tecoglas Inc. v. Domglas Inc. (1985) 51 O.R.(2d) 196 at 203 (Ont. H.C.)

Ewart, "Documentary Evidence: The Admissibility of Documents under Section 30 of the Canada Evidence Act", 1979-80, 22 Crim.L.Q. 189 at 201

Bronstein & Engelberg, "A Preliminary Assessment of the Reception of Computer Evidence: Report of the Computer Evidence Survey Project" (1981), 21 Jurimetrics Jr. 329.

7. Absence of a motive to misrepresent re documents made in contemplation of litigation - Evidence of motive to misrepresent on the part of the person supplying the information or the person making the record has been held to justify exclusion of business documents. And s.30(10)(a) CEA excludes from s.30's operation records made "in the course of an investigation or inquiry", or, "in the course of obtaining or giving legal advice or in contemplation of litigation". And some of the cases cited below concern s.48(3) BCEA which excludes records made by, "a person interested at a time when proceedings were pending or anticipated involving a dispute as to a fact which the statement might tend to establish." See:

Northern Wood Preserves Ltd. v. Hall Corp. Shipping, [1972] 3 O.R. 751,  
affirmed 2 O.R.(2d) 335 (Ont. C.A.)

Setak Computer Services Corp. Ltd. v. Burroughs Business Machines Ltd. et al.  
supra

Re Waltson Properties Ltd. supra

McLarty (No.3) (1978), 45 C.C.C.(2d) 184 (Ont. Co.Ct.)

Anthes Business Forms et al. supra

Biasi (No.2) (1981), 66 C.C.C.(2d) 563 (B.C.S.C.)

Laverty (No.2) (1979), 47 C.C.C.(2d) 60 (Ont. C.A.)

International Woodworkers of America v. MacMillan Bloedel, [1972] 5 W.W.R. 509  
(B.C.S.C.)

Denis Shipping Ltd. v. Palmer (1973), 33 D.L.R.(3d) 760 (B.C.C.C.).

8. The "circumstances of the making of the record" - Our Evidence Acts direct the courts to consider the "circumstances of the making of the record", or the "circumstances in which the information contained in the record was written, recorded, stored or reproduced". But no guidance is given as to what are those acceptable "circumstances of the making of the record" referred to in such sections as s.30(6) CEA, s.48(2) BCEA and s.35(4) OEA. Note that s.30(6) CEA is worded to allow any such "circumstances" to be grounds for not admitting a record under s.30. See:

McMullen supra at 506-7

Vanlerberghe supra

Rowbotham (No.4) (1977), 2 C.R.(3d) 244 at 266 (Ont. Co.Ct.)

Boles supra

Parker supra.

9. Computer printouts - The conditions-precedent to admissibility under the business document provisions of our Evidence Acts have not yet been elucidated in the caselaw. It still has not been decided in most provinces whether computer printouts are in fact admissible. The better opinion is that they are because, they have been held to be admissible under the banking documents provisions of s.29 CEA (McMullen supra; Bell and Bruce supra), and admissible in B.C. under the business document provisions of s.30 CEA (Vanlerberghe supra; West supra), and admissible as business documents at common law (Tecoglas v. Domglas supra; Sunila & Solayman infra). Therefore we have insufficient guidance as to what the interpretations of such provisions as s.30 CEA and s.48 BCEA and s.35 OEA will be as to the foundation evidence necessary for admissibility. Will they take the "personal knowledge and contemporaneously made" approach of Ares v. Venner supra, or the "complete description of process" approach of McMullen supra, or the expert evidence approach of Vanlerberghe supra? Will computer printouts be treated as originals (Bell and Bruce supra), or copies (McMullen supra)?

Internal accountability - Traditional record-keeping is based upon the assumption that the organization producing business documentation is the source that created that documentation, i.e. the records of an organization were created by the organization itself, internally and under the supervision of members or employees of that business organization. In contrast, computer communications allow record-making and bookkeeping services to be done outside the business that will be said to own the resulting records. Therefore, the employees of that business alone will not be able to supply the foundation evidence for admissibility of their own records. Internal accountability has not yet been discussed in the reported cases, i.e. this factor of external computerized record-keeping or bookkeeping does not appear to have been put in issue in those decisions. Therefore the caselaw has yet to analyze the effect of transborder dataflow, automatic teller machines, point-of-sale transactions, and similar forms of remote database entry and external data processing service bureaux.

A low threshold of admissibility - Our present Evidence Act business document provisions have the effect of transferring the onus of proof to the opposing party. The courts have generally admitted traditional business document merely upon proof that the documents were created within the adducing party's "usual and ordinary course of business", then it is left to the opposing party to prove the unreliability of the records adduced. For computerized record-keeping this onus should be reversed, i.e. computer printouts should require a demonstration of reliability as a condition-precedent to admissibility. However, the caselaw has not yet begun to analyze the differences between traditional and computerized record-keeping. See:

McMullen supra

Bell and Bruce supra

Vanlerberghe supra  
Rowbotham (No.4) supra  
Sanghi supra  
Bank of Montreal v. Boersman (Ont. H.C., Feb. 28, 1980)  
Tecoglas v. Domglas supra  
Sunila and Solayman (1986), 26 C.C.C.(3d) 331 (N.S.S.C.)  
Hanlon (1985), 163 A.P.R. 266 (N.S.C.C.)  
West supra.

10. Microfilm records - Out Evidence Acts give very limited and restricted admissibility to microfilm-produced paper copies of original documents. Under s.31 CEA admissibility is limited to federal and provincial governments, financial institutions, insurance and communications companies and railways. And s.34(3) OEA gives the court a discretion to refuse admissibility to microfilm-produced copies of paper-original executed or signed documents if those originals were destroyed before they were six years old. And potentially even more restrictive is s.40(2) BCEA because it makes admissibility merely discretionary "in the interests of justice". The caselaw has yet to analyze the effects in law of the technological innovations that have changed micrographics into substantial different processes than they were when these statutory provisions were written. For example, these provisions treat microfilm as being merely a copy of a destroyed original, whereas computer-output-microfilm creates microfilm records that are considered to be original and permanent records. And legal issues and uncertainty will be created by innovations such as, updatable microfilm, optical disks, microfilm jackets and aperture cards, enhanced documents, retakes and certification procedures within a microfilm program. Also, it is unclear whether microfilm-produced copies are admissible under the business document provisions as well. Each has a definition of "record" or "document" that is broad enough to include microfilm, and the definition of "copy" in s.30(12) CEA includes "microphotographic film or photostatic negative". See:

Sanghi supra  
Lutz (1978), 44 C.C.C.(2d) 143 (Ont. Prov.Ct.), re photocopies.  
Microfilm as Documentary Evidence, a national standard of Canada, CAN/CGSB-72.11-M88, (Canadian General Standards Board: Ottawa, K1A 1G8, Sept. 1988)  
 "Books and Records Retention/Destruction", Information Circular 78-10R, (Revenue Canada Taxation, Jan. 17, 1983), at p.2

11. Voluminous documents and records in non-readable form - Summaries may be admitted where the admissible voluminous documents they represent are readily available for examination, and proof is made of how the summaries were compiled and of their accuracy. And s.30(4) CEA allows for affidavit explanations of records kept in non-readable form. See:

Schell (1978), 42 C.C.C.(2d) 31 (Ont. C.A.)  
Burns Foods (1983), 42 A.R. 70 (Alta. Provl.Ct.)

12. Designated or necessary witnesses re authentication - The proper witness to provide the foundation evidence for authenticating that adduced records are in fact what they purport to be, is said to be a person with personal knowledge of the circumstances surrounding the preparation of such records. See:

Setak Computer Services Corp. Ltd. v. Burroughs Business Machines Ltd. et al.  
supra

Aynsley v. Toronto General Hospital supra, at 434

Weatherill (1982), 8 W.C.B. 309 (Ont. H.C.)

McGrayne (1979), 46 C.C.C.(2d) 63 at 64 (Ont. C.A.)

Blacquiere (1980), 57 C.C.C.(2d) 330 at 341 (P.E.I.S.C.)

Rowbotham (No.4) supra, at 266-7.

13. The common law business document exception to the hearsay rule - What is the scope of the rule in Ares v. Venner, [1970] S.C.R. 608, 12 C.R.N.S. 349? In Ares the S.C.C. held that, "Hospital records, including nurses' notes made contemporaneously by someone having personal knowledge of the matter then being recorded, and under a duty to make the entry or record, should be received in evidence as prima facie proof of the facts stated therein." (p.363 C.R.N.S.) The records in question contained not just statements of fact, but also observations and opinions. Ares has been applied beyond hospital records (e.g. see Setak supra at 15 O.R.(2d) 755, and 76 D.L.R.(3d) 746). But the requirements of personal knowledge and contemporaneity will render Ares seldom usable for business documents and rarely for computer printouts, particularly so if it is further limited by the fact that the nurses in Ares were in court and therefore readily available for cross-examination, and also limited by a "necessity" requirement, i.e. a requirement to show that the evidence is not readily available in any other form. Nonetheless, in Sunila and Solayman (1986), 26 C.C.C.(3d) 331 (N.S.S.C.), these unique conditions were found to have existed. And in Tecoglas v. Domglas supra, computer printouts were also admitted under this common law exception, but there was no analysis of these issues. Instead, the Court dealt with the opinion issue (issue #6 above). See:

Tecoglas Inc. v. Domgals Inc. supra

Monkhouse (1987), 61 C.R.(3d) 343 (Alta. C.A.)

Woods et al. v. Elias et al. (1978), 21 O.R.(2d) 840 (Ont. Co.Ct.)

Laverty (No.2) supra

Vallee et al. v. Setrakov Construction Ltd., [1978] 1 W.W.R. 475, at 478 (Sask. D.C.)

Cosgrove and Dubois (1975), 22 C.C.C.(2d) 399 at 403 (Ont. Co.Ct.)

Cavanaugh v. MacQuarrie (1979), 9 C.C.L.T. 113 at 121 (N.S.S.C.)

Alberta v. Wenby Enterprises & Sales Ltd. (1985), 66 A.R. 232 (Alta. Q.B., Master in Chambers)

Re J.C. (1984), 39 R.F.L.(2d) 244 (Ont. Provl.Ct., Fam.Div.)

Graham (1980), 55 C.C.C.(2d) 266 (Ont. Provl.Ct.)

Penno, [1977] 3 W.W.R. 361, at 366 (B.C.C.A.)

Lal (1979), 51 C.C.C.(2d) 337, at 342 (B.C.C.A.)

Re C.A.S. of Metro Toronto and M. (1981), 8 A.C.W.S.(2d) 497 (Ont. Provl.Ct.)

Ewart, Documentary Evidence In Canada, (Carswell: Toronto, 1984), pp.48-68.

## ENDNOTES

1. See: Police and Criminal Evidence Act 1984 (U.K.), ss.68-72, & Schedule 3; Computer Evidence Act 1983 (South Africa); Evidence Act 1929-76 (South Australia), ss.59a, 59b; Civil Evidence Act 1968 (U.K.), s.5(2).
2. David Gelernter, "The Metamorphosis of Information Management", 261 Scientific American, No.2, p.66 (August 1989).
3. Setak Computer Services Corp. Ltd. v. Burroughs Business Machines Ltd. et al. (1977), 15 O.R.(2d) 750, 76 D.L.R.(3d) 641 (Ont. H.C.);  
Re Waltson Properties Ltd. (1976), 17 O.R.(2d) 328 (Ont. H.C.);  
Matheson v. Barnes & I.C.B.C., [1981] 2 W.W.R. 435 (B.C.S.C.);  
Adderley v. Bremner, [1968] 1 O.R. 621 (Ont. H.C.).
4. Setak Computer Services Corp. Ltd. v. Burroughs Business Machines Ltd. et al., note 2 supra;  
Aynsley v. Toronto General Hospital, [1968] 1 O.R. 425 (Ont. H.C.);  
Adderley v. Bremner, note 2 supra.
5. Setak Computer Services Corp. Ltd. v. Burroughs Business Machines Ltd. et al., note 2 supra.  
R. v. Vanlerberghe (1976), 6 C.R.(3d) 222 (B.C.C.A.).
6. Northern Wood Preserves Ltd. v. Hall Corp. Shipping, [1972] 3 O.R. 751, affd. 2 O.R.(2d) 335 (Ont. C.A.);  
Setak Computer Services Corp. Ltd. v. Burroughs Business Machines Ltd. et al., note 2 supra;  
R. v. Biasi (No.2) (1981), 66 C.C.C.(2d) 563 (B.C.S.C.);  
R. v. McLarty (No.3) (1978), 45 C.C.C.(2d) 184 (Ont. Co.Ct.).
7. R. v. McMullen (1979), 47 C.C.C. (2d) 499, 25 C.C.C.(2d) 301 (Ont. C.A.);  
R. v. Bell and Bruce (1982), 35 O.R.(2d) 164, 65 C.C.C.(2d) 377 (Ont. C.A.), affirmed without reasons, [1985] 2 S.C.R. 287, 55 O.R.(2d) 287.  
R. v. Vanlerberghe, note 5 supra.  
R. v. Rowbotham (No.4), (1977), 2 C.R.(3d) 244 (Ont. Co.Ct.).



8. R. v. McMullen, note 6 supra;  
R. v. Vanlerberghe, note 5 supra.
  
9. R. v. Bell and Bruce, note 6 supra;  
R. v. McMullen, note 7 supra;  
R. v. Hanlon (1985), 163 A.P.R. 266 (N.S.Co.Ct.).
  
10. Note 5 supra.
  
11. Vanlerberghe, note 5 supra, at p.234.
  
12. Note 7 supra.
  
13. McMullen, note 7 supra, at p.309 of 25 O.R.(2d), and p.506 of 47 C.C.C.(2d).
  
14. Note 7 supra.
  
15. Ibid., at p.166 O.R.(2d), and p.380 C.C.C.(2d).
  
16. Note 3 supra.
  
17. Ibid., at p.763.
  
18. Ibid., at p.764.
  
19. See note 1 supra.
  
20. Note 7 supra.
  
21. Ibid, and see text accompanying note 13 supra.
  
22. Notes 7 and 13 supra.
  
23. See text accompanying note 13 supra.

24. See for example the commentary in, Hargreaves and Levenson, A Practitioner's Guide to the Police and Criminal Evidence Act 1984, (Legal Action Group: London, 1985), at p.141. Another preliminary commentary can be found in, Zander, The Police and Criminal Evidence Act 1984, (Sweet and Maxwell: London, 1985), at pp.105-108.

25. For an example of an excellent detailed analysis of FRE 803(6) to establish requirements for the admissibility of computer printouts, see: Monarch Federal Savings and Loan Assoc. v. Genser, 383 A.2d 475 (N.J.S.C., 1977). Such analysis has yet to be applied to our Evidence Acts.

26. For example, see, Fenwick and Davidson, "Use of Computerized Business Records as Evidence", (1978) 19 Jurimetrics Journal 9; and the article at, [1977] Washington University Law Qrtly. 59, particularly at 91.

27. Report On Evidence, (Law Reform Commission of Canada: Ottawa, December 1975).

28. Report On The Law Of Evidence, (Ontario Law Reform Commission: Toronto, June 1976).

29. The report was published as the, Report of the Federal/Provincial Task Force on Uniform Rules of Evidence (Carswell: Toronto, 1982). This publication contains the clause-by-clause commentary and decisions of the sessions of Uniform Law Conference of Canada that reviewed the Task Force's report and Draft Evidence Act. This publication is an excellent textbook on the law of evidence.

30. Ibid., at p.400 (for the reasons of the Task Force), and at p.522 (for the reasons of rejection by the Uniform Law Conference of Canada).

31. Bill S-33, "An Act to give effect, for Canada, to the Uniform Evidence Act adopted by the Uniform Law Conference of Canada", (First Reading, Nov. 18, 1982).

Ken Chasse - Curriculum Vitae

Academic & Professional

Osgoode Hall Law School, LL.B. (Toronto)	1964
Call to the Bar of Ontario	March 25, 1966
Call to the Bar of British Columbia	November 15, 1978
Certified by the Law Society of Upper Canada as a specialist in criminal litigation	January 1989

Employment (a description of each is attached)

Assistant Crown Attorney, Crown Attorney's Office, Judicial District of York (Toronto)	March 1966 - January 1976
Special Adviser (Criminal Law Policy), Federal Dept. of Justice, Ottawa	January 1976 - September 1978
Crown Counsel, Regional Crown Counsel's Office, B.C. Ministry of the A.G., Vancouver	1978 - July 1979
Director of Research, The Research Facility, Ontario Legal Aid Plan, Law Society of Upper Canada	July 1979 - Sept. 1988
Private practice, criminal law	November 1988 - present

Legal Writing

Editor-in-Chief, <u>Criminal Reports</u> , Third Series & New Series, The Carswell Co. Ltd.	1969 - 1981
Chairman (2 years) & member (4 years), Federal/Provincial Task Force on Uniform Rules of Evidence, Uniform Law Conference of Canada	November 1977 - December 1981
Author of several articles on computer evidence published in the <u>Canadian Computer Law Reporter</u>	1984 - present
Columnist for the Criminal Lawyers' Assoc. <u>Newsletter</u> under the byline, "Chasse's Cases"	1980 - present
Author of many published articles and annotations on criminal law and evidence (list attached)	1969 - present
Editor, Ontario Crown Attorney's Association's <u>Crown's Newsletter</u>	1972 - 1976
Editor, B.C. Crown Counsel Association's <u>Newsletter</u>	1978 - 1979
Editor, <u>Legal Research Update</u> (a journal for research lawyers published by the Legal Research Network)	1987 - present

Lecturing

Faculty of Law, University of British Columbia, lectured an advanced course on Evidence	1979
Dept. of Criminology, Simon Fraser University, Vancouver; lectured a course in Criminal Procedure & Evidence	1979
Faculty of Law, University of Ottawa, lectured a course on Evidence to 2nd & 3rd year law students	1978
Bar Admission Course, Law Society of Upper Canada; head of the Evidence Course for which I have written a book of materials and a computer course	1983 - present
Conferences & Seminars - I have given papers at, and organized over 50 conferences and seminars for judges and lawyers across Canada, and I have presented papers at several CLE seminars of the Law Society of Upper Canada and the Canadian Bar Association.	January 1976 - present
Canadian Police College, Ottawa, Course on Computer Crime & Investigation Techniques - a specialized 4-week course for senior police officers given 3 times a year; I am responsible for a 3 1/2 hour lecture on Evidence re the admissibility of computer printouts and microfilm.	June 1980 - present
Osgoode Hall Law School, York University, Toronto; guest lecturer on several occasions re Criminal Law and Evidence topics.	1976 - 1984

Consultations

Commentator upon and referee re the draft report to the Royal Commission on the Donald Marshall Jr. Prosecution, entitled, "Prosecuting Officers and the Administration of Criminal Justice in Nova Scotia", at Halifax, Nova Scotia.	June 1988
Author of a policy proposal paper, written on contract for the Law Reform Commission of Canada, entitled, "The Attorney General and His Agent".	June 1982

Associations

Vice-President, Ontario Crown Attorneys' Association	1975
Secretary, Criminal Law Section, Uniform Law Conference of Canada	1976, 1977, 1978
Member of the Canadian Bar Association	1978 - present

Descriptions of employment positions held by Ken Chasse

1. Director of Research, The Research Facility, Ontario Legal Aid Plan,  
Law Society of Upper Canada - July 1979 to September 1988

The Research Facility is a centralized legal research unit. It writes memoranda of law for Ontario lawyers. As Director of Research I created and implemented the technology of centralized research. I supervised a staff of 25 people and held responsibility for ensuring the quality of all legal materials produced for lawyers requesting research. The Research Facility had 4,500 research files per year, many of which required several memoranda of law each. It also sold its standardized memoranda to lawyers across Canada from a catalogue of 500 memoranda in criminal law, family law and other civil law subjects. My position involved a substantial public relations component because the Research Facility was serving a large section of the legal profession. And, as Director of Research it was my responsibility to prepare the advertising and conduct all of the business matters connected with the business side of the Research Facility. However, its sales were merely a small sideline. The Research Facility is not a commercial enterprise. It is primarily a social welfare agency that provides legal research and analysis to Ontario lawyers for their Legal Aid clients. The Research Facility's budget was \$1.3 million, and its sales were approximately \$180,000 per year.

The Research Facility began with the commencement of my employment with the Law Society on July 3, 1979. It was my responsibility to design and implement the information delivery system used, and to determine what research services could be made available and when. The position of Director of Research involved combining legal research skills, management skills, and innovations in information handling technology. This combination was directed at maintaining the compatibility of high quality legal research with high volume legal research. When I left the Research Facility it was the largest legal research unit in Canada, and it led in the development of the technology of centralized legal research. (A paper describing this technology is available on request.)

2. Crown Counsel - Office of the Regional Crown Counsel, Vancouver B.C. -  
1978 - 1979

My work was split 60/40 between my duties as Chairman of the Federal/Provincial Task on Uniform Rules of Evidence, and my duties as a Crown Counsel. I was an employee of the B.C. Ministry of the Attorney General and a B.C. representative on the Task Force. As Chairman, I was responsible for maintaining its agenda and presiding at its meetings. And as a member of the Task Force I wrote many of the study papers used in formulating its recommendations during its four years of existence. My duties as Crown Counsel concerned representing the Crown in the B.C. Court of Appeal in criminal appeals. As well, I was the Editor of the B.C. Crown Counsel Newsletter.

3. Special Adviser (Criminal Law Policy), Department of Justice, Ottawa - 1976 -  
1978

This was a policy planning position, i.e. the formulation of policy for proposed legislation. My duties concerned reviewing the work of the Law Reform Commission of Canada. I was head of the Evidence Project, being a review of the L.R.C.C.'s Report on Evidence. This required me to conduct a consultation process concerning the Evidence Code. Therefore, I wrote my own book of materials and organized and conducted more than two dozen conferences and seminars

for judges and lawyers throughout Canada on the law of evidence. The results of these seminars were formulated in a second book entitled, Re-assessing the Law of Evidence, Resolutions Book. This in turn led to my becoming the Chairman and the federal member of the Federal/Provincial Task Force on Uniform Rules of Evidence. The Task Force was created at the Uniform Law Conference meeting in August 1977, and began its deliberations in November 1977.

I was also head of the Mental Disorder Project, a project concerned with evaluating the L.R.C.C.'s, Mental Disorder in the Criminal Process report. This project brought me into consultation with forensic psychiatrists, and with health, corrections and justice officials as to the feasibility of implementing the hospital order mechanism for sentencing in criminal cases.

My third major policy planning project was as the Department of Justice's representative on the Young Persons in Conflict with the Law Project of the Ministry of the Solicitor General. I was involved in writing the drafts for the present Young Offenders Act, and the formulation of policy for Cabinet Documents that were written for that project in 1977 and 1978.

For all three of these projects I travelled extensively throughout Canada, attending and addressing conferences and seminars for judges, lawyers and government officials.

4, Assistant Crown Attorney, Crown Attorney's Office, Judicial District of York, Toronto, Ontario, 1966 - 1976

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As an Assistant Crown Attorney I prosecuted criminal cases in the Supreme, County (now District) and Provincial Judge's Courts of Toronto. The last five of these years were spent doing mainly jury trials. From May 1972 to January 1976, I was editor of the Crown's Newsletter and served as Vice President of the Ontario Crown Attorney's Association in 1975. In 1969 I became an editor of the Criminal Reports (published by The Carswell Co. Ltd.), and a few years later, Editor-in-Chief, a post I held until January 1981. It was during the early portion of these years of legal writing, editing, headnoting and indexing, that my views on systems of delivering legal information began to be formulated - views I put into practice in the Research Facility and used to formulate the technology of centralized research.

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Ken Chasse,  
2289 Shardawn Mews,  
Mississauga, Ontario,  
L5C 1W6  
(416) 276-7760.