COMPUTER-PRODUCED EVIDENCE IN AUSTRALIA

by

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1. INTRODUCTION

The advent of the computer has been recognized in most Australian jurisdictions by appropriate evidence legislation. Two fundamentally different approaches have been adopted, and the statutes are themselves diverse. These two approaches are simply classified as the 'computer-specific' approach, and the 'business records' approach.[1] The computer-specific approach employs legislative provisions that are specifically directed to the admissibility of computer-produced evidence (CPE), whilst the business records approach sees CPE merely as one aspect of the general question of admissibility of business records. Some jurisdictions have adopted both approaches simultaneously, and Western Australia has, as yet, not adopted either. For convenience, the relevant provisions are tabulated below:

Computer-Specific Approach

South Australia	*Evidence Act* 1929-1983	Part VIA
Australian Capital Territory	Evidence Ordinance 1971	Part VII
Victoria	*Evidence Act* 1958	S. 55B
Queensland	*Evidence Act* 1977	S. 95

Business Records Approach

Commonwealth	*Evidence Act* 1905	Part IIIA
New South Wales	*Evidence Act* 1898	Part IIC
Tasmania	*Evidence Act* 1910	Part III, Div. 2B
Victoria	*Evidence Act* 1958	S. 55
Queensland	*Evidence Act* 1977	S. 93
South Australia	*Evidence Act* 1929-1983	S. 45a
Australian Capital Territory	Evidence Ordinance 1971	S. 29 (2)

This paper's aim is to examine major problems of the admissibility of CPE in the light of each type of legislative provision. It will also

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1 F. V. McNiff, 'Computer Documentation as Evidence: An Overview of Australian Legislation Facilitating Admissibility', (1981) 1 *J.L.I.S.* 45.

examine the common law position, as recent decisions have shown that some courts in the U.K. and South Australia are prepared to apply the common law in solving questions of admissibility of certain types of CPE and thus are able to avoid some of the legislative complexities. The paper is divided as follows:

2. Common Law
   — The Computer as Calculator
   — The Computer as an Independent Data Recorder

3. Admissibility of CPE as a Business Record
   — NSW *Evidence Act* 1898, Part IIC
   — An Illustrative Example
      — Admissibility of an Element Supplied by the Computer
      — Admissibility of an Element Supplied by an Employee
      — Admissibility of an Element Transcribed by an Employee
      — Admissibility of an Element Combining Human and Com- Input
   — Discussion

4. Admissibility of CPE under Computer-Specific Legislation
   — SA *Evidence Act* 1929-1983
   — ACT Evidence Ordinance 1971

2. COMMON LAW

The main hurdles facing common law admissibility of CPE are the rules against hearsay, and those relating to reception of secondary evidence of documents. If statements of fact are entered into a computer by some person, and subsequently reproduced in some form by the computer with the aim of that form being relied on to establish the truth of the contents of the statements, the evidence is hearsay, and the common law insists that the only way to place such evidence before a court is by calling the originator of the statements as a witness.

However, there are categories of CPE that are not apparently subject to the hearsay rule, and these are where either

(a) the computer is used as a tool for calculation purposes, or
(b) the computer is used to record and retrieve data that is *not* supplied by any human source.

The Computer as Calculator

Computer professionals are often prepared to rely on machine-produced output without further examination, but this is not an attitude that the courts have adopted, with good reason. The admitted ease with which a computer can be manipulated to produce false data must be taken into account when data from that computer are to be relied on as evidence in litigation. If, for example, it is alleged at a criminal trial

that D falsified certain computer records, and the Crown proposes to prove this with the aid of other records produced by the *same* computer, why should the court accept either set as accurate? However, when the accuracy of the reproduced data can be clearly demonstrated, the courts have been prepared to hold some types of CPE admissible.

In *R.* v. *Wood*,[2] the prosecution sought to prove that W had handled certain stolen metal. Samples of metals found at W's premises were subjected to metallurgical analysis in an attempt to show that those samples could only have come from specific alloys that had been stolen from the London and Scandinavian Metallurgical Co. Ltd. Because of the complexity of the analyses, using X-ray spectrometry and neutron emission analysis, it was necessary to use a computer to produce meaningful results from the large quantities of data collected by the analysts. The Court of Appeal took the view that the computer was merely a tool for doing something that the analysts could have done without it, though only with considerable expenditure of time and effort. The computer, as used here, was held to fall within the category of 'scientific instruments', a class well recognized in the law of evidence. As such an instrument, provided there was evidence to show that (a) the computer was operated correctly, (b) it was used with appropriate programmes to produce the sorts of results tendered, and (c) the calculations it did could be accepted as reliable, then no question of hearsay or other exclusionary rule of evidence arose, and the computer print-outs were admissible to prove the results of the analyses. The Court commented:

> [The computer printout] is more properly treated as a piece of real evidence the actual proof of which depended on the testimony of the chemist and Mr Kellie [the computer programmer] (supported by other expert evidence).[3]

This result had been anticipated in South Australia in *Mehesz* v. *Redman (No. 2)*. The accused had been convicted of driving with more than the prescribed quantity of alcohol in his blood. The level of alcohol had been measured by a device known as an Autolab which analysed signals from a gas chromatograph to determine the concentration of alcohol in the sample being tested in the chromatograph. Hence, within the provisions of the *Evidence Act* 1928-1983 (SA), the Autolab was a type of computer with a very specific function.[5]

The defendant argued that the only basis on which the Autolab output could be admitted was pursuant to the 'Computer Evidence' provisions in Part VIA of the *Evidence Act* 1929 (SA), and, given the

2 (1983) 76 Cr.App.Rep. 23.

3 Ibid at 27.

4 (1980) 26 S.A.S.R. 244.

5 See judgment of King C.J. at p. 245. It is interesting to note that, in the first appeal to the Supreme Court before Zelling J., ((1979) 21 S.A.S.R. 569), his Honour held that the Autolab was 'not a mere calculator'.

complexity of those provisions, it was probably not admissible thereunder.[6] This argument was rejected by the court. King C.J., having noted that Part VIA was in addition to the common law and not in derogation of it,[7] held that the Autolab output was admissible at common law as the results of a scientific test. He quoted with approval the following passage from Wigmore Vol. III, par 795, p. 190

> What is needed then, in order to justify testimony based on such instruments, is: Preliminary professional testimony (1) to the trustworthiness of the process or instrument in general (where not otherwise settled by judicial notice): (2) to the correctness of the particular instrument, such testimony being usually available from one and the same qualified person.[8]

The other judges, White and Cox JJ., agreed. This decision was followed by Walters J. in *R.* v. *Weatherall*,[9] discussed further below.

These cases are quite clearly in accordance with the general principles relating to the reception of evidence from scientific instruments, and show that, at least in this limited area of CPE, it will be accepted by the courts as real evidence.

The Computer as an Independent Data Recorder

Here the term 'independent' connotes that the computer records data without there being in the recording process any intervention by a human being that could affect the accuracy of the recording. Outside the computer context, there is considerable reliance by the courts on other 'independent' data recorders, such as films, tape recordings, etc., and there is no good reason why the concepts found useful in non-computer cases should not be applied to the computer sphere.

Smith has discussed some of the appropriate reasoning in such cases in 1981,[10] when criticising the decision of the English Court of Appeal in *R.* v. *Pettigrew*.[11] Pettigrew was convicted of burglary on evidence that included the finding in his possession of three new £5 notes, with the prosecution seeking to prove that those specific notes had been taken from the burgled premises. The prosecution tendered a computer printout identifying the serial numbers for some £5,000 in notes, several of which could be traced from the Bank of England to the burglary victim. The source of the printout was described by the Court as follows:

> A bundle of notes which has been printed, and each of which bears a serial number, is fed into the machine... by an operator, who

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6 See below, s. 4.

7 (1980) 26 S.A.S.R. 244, at p. 247.

8 Ibid at p. 246.

9 (1981) 27 S.A.S.R. 238.

10 J. C. Smith, 'The Admissibility of Statements by Computer', [1981] *Crim. L.R.* 387.

11 (1980) 71 Cr.App.Rep. 39.

> notes on a card the first serial number of the bundle. The notes then pass through the machine, which automatically does two things: first, it automatically rejects any notes [*sic*] in the bundle fed into it which is defective an any way; secondly, it records the first and last serial number of each bundle of 100 notes, which may then be taken to run consecutively in series, save only in so far as the machine has rejected notes, and the machine also records the serial numbers of the notes which it has rejected.[12]

The Court held that the printout was not admissible under s. 1 of the *Criminal Evidence Act* 1965 (UK)[13] as no person ever had personal knowledge of the details contained in the printout[14] and rejected its tender without considering other possible ground of admissibility. However, Smith argues convincingly that there was no need to rely on any statutory support for the admissibility of the printout, as it was admissible at common law. First, he argues that the data recorded by the Bank of England's computer and reproduced in the printout are real evidence, so that there is no ground for its exclusion as hearsay.[14] In support, reliance is placed on the decision of Simon P. in *The Statue of Liberty*,[15] where his Lordship held that an automatic camera recording of the display on a radar screen was admissible as real evidence.

Fundamental to acceptance of this approach, as with the computer as calculator, is that there be evidence that the computer was operating correctly and that the data recorder was accurate. Proof of 'independence' as defined above will be required, as will be proof that there were no relevant malfunctions in the recording process. Generally, such evidence will be available from experts, and hence will be subject to the usual testing via cross-examination.

Smith goes on to state:

> The computer differs from . . . other instruments only in that it can perform a variety of functions instead of only one. For that reason, it is necessary to have evidence . . . to establish the nature of the operations which the computer has been programmed to perform. It performs those operations just as mechanically as the thermometer or the camera. Of course, the programmer may make a

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12 (1980) 71 Cr.App.Rep. 39 at p. 42.

13 S. 1 (1) provides:

'In any criminal proceedings where direct oral evidence of a fact would be admissible, any statement contained in a document and tending to establish that fact shall, on production of the document be admissible as evidence of that fact if —

(a) the document is, or forms part of, a record relating to any trade or business and was compiled, in the course of that trade or business, from information supplied (...) by person who have, or may reasonably be supposed to have, personal knowledge of the matters dealt with in the information they supply; . . .'

A view apparently affirmed in *R.* v. *Wood, supra.*

14 At pp. 389-390.

15 [1968] 2 All.E.R. 195.

> mistake but so may the person who, for example, devises the scale on the thermometer. This consideration goes to weight rather than admissibility. In any event it certainly has nothing to do with the hearsay rule.[16]

On its own, that paragraph is quite misleading: it is only accurate if it is being applied to the computer acting as an independent data recorder as discussed here. Smith himself notes this in his penultimate paragraph.[17]

3. ADMISSIBILITY OF CPE AS A BUSINESS RECORD

(a) *NSW* Evidence Act *1898, part IIC*

The provisions of Part IIC, ss. 14CD to 14CV, *Evidence Act* 1898 serve as a model of the business records approach, as they have been copied almost verbatim in other jurisdictions. For present purposes, attention will only be directed to business records that somehow involve computers, although it must be stressed that the scope of this type of legislation goes far beyond CPE. It should also be noted that some types of 'business records' leigslation will not apply to CPE at all, because of authentication and other restrictions.

The core of Part IIC is s. 14CE. Under s. 14CE (1) a statement of a fact in a document is admissible as evidence of that fact if evidence thereof would be otherwise admissible and the requirements of subsections (4), (5) and (6) are met. The definition of 'document' (s. 14CD) is very wide: it includes, '... any record of information', and thus would include computer tapes, printout, disks etc.[18] The statement of fact (which can include a statement of opinion: 14CE (2)), must '... (4) be in a document which forms part of a record of a business ...' and '(5) have been made in the course of or for the purposes of the business'. 'Business' is defined very broadly in s. 14CD (1), and, with the exception of purely private records, it is difficult to describe categories of activity that would not fall within this definition.[19] Note that it is the *statement* that is made admissible and not the *document* containing it.[20] Hence, in CPE, each statement of fact in, say, a printout will have to be examined and tested according to the requirements of s. 14CE before its admissibility is known.

To be admissible under s. 14CE (6), the statement must be either

(a) made by a qualified person or

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16 [1981] *Crim.L.R.* 387, at p. 390.

17 Ibid at p. 391.

18 Compare definition in Part IIA, s. 14A.

19 *Cross on Evidence* (2nd Australian Ed. 138 Ed. Gobbo *et al*) at p. 594 notes that difficulties have arisen in unreported cases as to whether the definition includes local government authorities, and doubts remain as to the status of international organizations.

20 *Re Marra Developments* [1979] 2 N.S.W.L.R. 193.

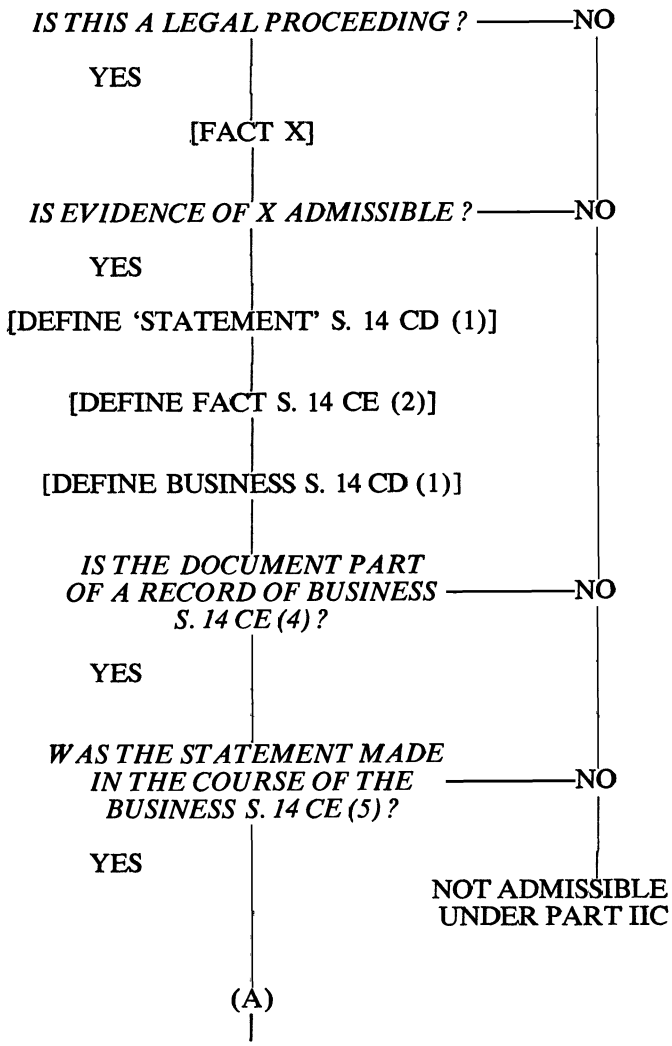
(b) reproduce or be derived from a mixture of

(i) statements made by qualified persons; or

(ii) information from recording devices.

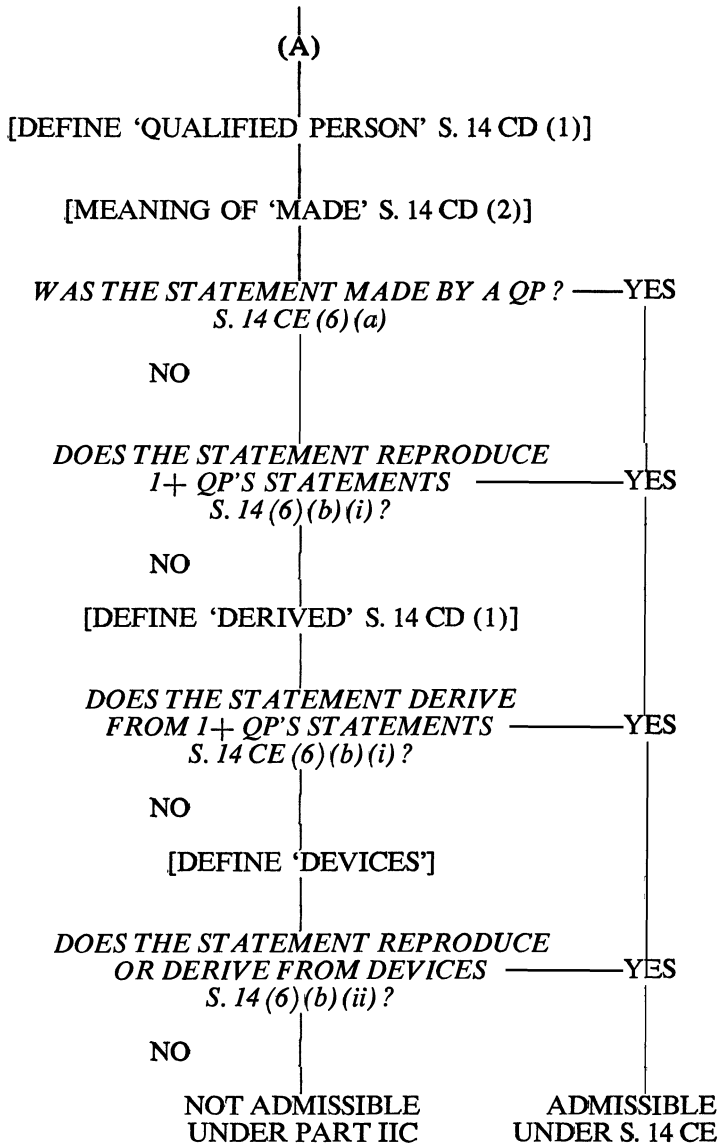
To be a qualified person, a person must, basically, have a personal knowledge of the facts being stated, or have certain expertise, as well as having some relationship to the pparticular business in question.[21] To be 'made' by a person, a statement must be '... written, made, dictated or otherwise produced by him, or recognized by him as his statement by signing, initialling or otherwise'.[22]

A brief flowchart may aid decisions as to the applicability of Part IIC.



21 Section 14CD (1); see *Re Marra Developments Ltd, supra.*

22 Section 14CD (2).



Before the terminology becomes too overwhelming, the application of Part IIC can be illustrated with some computer-related examples. Assume that X Ltd uses a computerised accounting and stock-control system. When an order for goods is received, A, an employee of X Ltd, keys into the computer details of that order, being the customer's name, the item number and quantity of goods ordered, and the order date. The computer then checks the stock inventory for the required item, and scans a bar chart on that item to determine a brief description of the goods and the unit price. The computer then produces an invoice, and directs the goods to despatch, having checked the customer's current credit standing with X Ltd. Further, let us assume that there is some

dispute over C Pty Ltd's account with X Ltd, so that in litigation[23] X Ltd wishes to place before the court a computer printed copy of one particular invoice for a specific transaction with C P/L.

The invoice as printed is as follows:

X LTD
INVOICE

112097 (1)	C Pty Ltd (2)	1/04/84 (3)	00832 (4)
Account No.	Customer	Date of Invoice	Invoice No.

Item	Quantity	Order Date	Description	Price	Balance of Account
0782 (5)	24 (6)	1/03/84 (7)	Cassettes (8)	96.00 (9)	130.00 DR (10)

Elements (2), (5), (6) and (7) are keyed into the computer by the operator A, items (8) and (9) are derived from scanning the bar chart, whilst items (1), (3), (4), and (10), and all the headings, are supplied from the computer's memory store. Even this brief document contains a large number of statements of fact, both express and implicit. For example, it is implied that Account No. 112097 *is* the correct account for C P/L, as it is implied that the cassettes cost $4.00 each, whilst it is expressed that the number of this invoice is 00832.

Admissibility of an Element Supplied by the Computer

Let us begin by assuming that the fact sought to be established using this invoice is element (3), namely that it was produced by the computer on the Invoice Date shown, *i.e.* 1 April 1984. Further, assume that the computer's 'knowledge' of the date comes from its inbuilt calendar. Evidence of this fact is clearly admissible, and appears on the face of the invoice document in the form of a statement. Hence, the basic requirements of s. 14CE 1) are satisfied. Equally, there is no real doubt that the statement was mide in the course of or for the purposes of X Ltd's business, so that s. 14CE (5) is satisfied.

However, it is arguable that the copy invoice, as a document, is not part of a record of the business, as required by s. 14CE (4), since the actual record consists of the magnetic codes stored in the computer's memory devices. This hurdle is overcome by s. 14CN (1) (c) which provides:

> (c) a statement in a record of information made by the use of a computer may be proved by the production of a document produced by the use of a computer containing the statement in a form which can be understood by sight.

The copy invoice is a form of the statements contained in the computer record that is capable of being understood by sight, and so may be placed before the court as evidence of what is in the computer's record.

23 A legal proceeding within s. 3 (1) of the Evidence Act.

At some time in the computer's operational history, some person will have supplied it with an initial date from which its calendar has begun operating. To avoid difficulty, we may assume that that person was an employee of X Ltd. The date printed on the invoice will then be a statement that falls within s. 14CE (6) (b) (i) because it will have been 'derived' by the computer[24] from information in a statement made by a qualified person (the employee) in the course of or for the purposes of the business. Hence, that statement will be admissible evidence of the date of the invoice. The same will apply to the other elements of the invoice that were supplied by the computer *i.e.* elements (1), (4), (8), (9) and (10). It is to be hoped that many day-to-day matters such as this will rapidly become the subject of judicial notice.

Admissibility of an Element supplied by an Employee

If the fact to be proved is that the correct order date (element (7)) was entered by A, then, under s. 14CE (6), the question that must be asked is whether A is a 'Qualified person' (QP). A is an employee of the business and therefore meets the first test under the definition of QP in s. 14CD (1) (a) (ii). The second test is that A 'had, or may reasonably be supposed to have had, personal knowledge of the fact stated'.[25] If A did have that knowledge, then this statement is admissible, as it will, through his keying it into the computer's memory (the relevant document), have been 'made' by him.

Admissibility of an Element Transcribed by an Employee

There is a second possibility. It may be that A, as the computer operator, does not have personal knowledge of the order date, but was supplied with it by another employee B of X Ltd on a written form. Assuming that B had personal knowledge of the order date, B is a QP with respect to that particular fact. There are then two possible options. A may have transcribed the date correctly from the form, or he may have made an error in transcription. The situation then becomes a little more complicated.

The written statement on the form is 'made' by B in accordance with s. 14CD (2) (a), and that form would itself be admissible evidence of the order date. But this does not prevent the computer record from also being evidence of that fact. But if the order date is correctly transcribed, the statement in the computer record will 'reproduce... information in [a] statement made by a qualified person in the course of or for the purposes of the business',[26] and hence will be admissible; if the order date is *not* correctly transcribed, the statement will not be admissible as it will not be a 'reproduction'. The difficulty for X Ltd will be in proving correct transcription.

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24 See definition of 'derived' in s. 14CD (1): 'Derived' means derived, by the use of a computer or otherwise, by calculation, comparison, selection, sorting, consolidation or by accounting, statistical or logical procedures.
25 Section 14CD (1), para, (b) (ii) of the definition of QP.
26 Section 14CE (6) (b) (i).

Assistance is to be found on this aspect in s. 14CM (1) if X Ltd employs[27] '... a person who had, at the relevant time or afterwards, a responsible position in relation to the making or keeping of the records concerned...', for that person can give evidence on information or belief as to the accuracy of the transcription. Such a records officer could give evidence as to any checking procedures carried out to verify computer records, and that evidence would help to establish accurate reproduction. It should be noted that this ability to put into evidence material that 'reproduces' statements is crucial to the operative power of Part IIC, particularly in the computer context. General documentary evidence legislation renders admissible documentary statements 'made' by appropriate persons[28] but does *not* render admissible 'reproductions' of those statements, exxcept in the somewhat limited form of copies.[29]

Admissibility of an Element Combining Human and Machine Input

Items (8) and (9) are produced by scanning the bar chart, whilst item (10) is a combination of an element already in computer memory (*i.e.* C Ltd's current account balance, which was $34.00 DR prior to this transaction), and certain human-inputted information, being any receipts from C Ltd. The statements contained in items (8) and (9) are admissible under s. 14CE (6) (b) (ii), being '... information from ... devices designed for, and used for the purposes of the business in or for, recording, measuring, counting or identifying information, *not being information based on information supplied by any person*'. The application of the emphasized passage is somewhat problematical, insofar as *all* information must ultimately be based on information supplied by some person or other. What seems to be intended here is that the device act as an independent data recorder in the same way as discussed above. The statement in item (10) will also be admissible, provided the human-provided information was supplied by QPs.

The complexity of the above discussion is regretted, but it is necessary to consider all the major elements of the business records approach of Part IIC of the NSW *Evidence Act* 1898. This Part is copied almost *verbatim* in the Commonwealth *Evidence Act* 1905[30] and in Tasmania.[31]

4. ADMISSIBILITY OF CPE UNDER COMPUTER-SPECIFIC LEGISLATION

SA Evidence Act *1929-1983*

S. 59a of the SA *Evidence Act* defines 'computer' as:

> a device that is by electronic, electromechanical, mechanical or other means capable of recording and processing data according to mathematical and logical rules and of reproducing that data or mathematical of logical consequences thereof.

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27 Or uses the services of — to cover bureau services.
28 For example, *Evidence Act* 1898 N.S.W.;, Part IIA.
29 See *Evidence Act* 1898 N.S.W., Part IIA, s. 14B (2) (c).
30 Part IIIA, ss. 7A-7S.
31 *Evidence Act* 1910, Part III, Division 2B.

'Computer output' or 'output' is then defined as:

> a statement or representation (whether in written, pictorial, graphical or other form) purporting to be a statement or representation of fact —
>
> (a) produced by a computer;
>
> or
>
> (b) accurately translated from a statement or representation so produced:

S. 59b (1) then bluntly states that, subject to this section, computer output shall be admissible in civil and criminal proceedings.

The requirements of s. 59b (2) are a comprehensive attempt to cover all the usual avenues through which computer output would be attacked if tendered in evidence. Before output is admissible, the court must be satisfied of seven things, namely, that

> (a) the computer is correctly programmed and regularly used to produce output of the same kind as that tendered;
>
> (b) the data from which the output is produced by the computer is systematically prepared upon the basis of information that would normally be acceptable in a court of law as evidence of the statements or representations contained in or constituted by the output;
>
> (c) in the case of output tendered in evidence, there is, upon the evidence before the court, no reasonable cause to suspect any departure from the system, or error in the preparation of the data;
>
> (d) the computer has not, during the period extending from the time of the introduction of the data to that of the production of the output, been subject to a malfunction that might reasonably be expected to affect the accuracy of the output;
>
> (e) during that period there have been no alterations to the mechanism or processes of the computer that might reasonably be expected to adversely affect the accuracy of the output;
>
> (f) 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; and
>
> (g) there is no reasonable cause to believe that the accuracy or validity of the output has been adversely affected by the use of any improper process or procedure or by inadequate safeguards in the use of the computer.

Proof of all the above matters is eased by s. 59b (4) which allows a person having appropriate qualifications in computer system analysis and operation to give a certificate with respect to all or any of those matters, which certificate shall be accepted as proof of those matters in the absence of evidence to the contrary.

Of the two reported cases in which s. 59b has been considered, in neither has the court been prepared to hold that the conditions of s. 59b (2) have been complied with, although the relevant CPE was

admitted on other grounds.[32] In *Mehesz* v. *Redman*[33] an Autolab data analyzer had been used to determine the alcohol level in a blood sample. Zelling J. held that the machine was '... not a mere calculator. It is an interpreter of the results obtained from the original programming, the sample fed in and the standards'. He considered s. 59b (2) and held that none of the elements (a) to (g) had been established by the Crown, and that consequently the results of the Autolab analysis were inadmissible under Part VIA. Similarly, in *R.* v. *Weatherall*[34] Walters J. held that the conditions of s. 59b (2) were not established with respect to the computerized processes of production of Bankcards, although evidence thereof, and computer printouts of relevant parts of the processes, were admissible at common law.

ACT Evidence Ordinance 1971

The operation of Part VII, headed 'Admissibility of Documents Produced by Computers', is restricted to civil proceedings.[35] Given the preceding discussion of Business Records legislation and Part VIA of the South Australian *Evidence Act*, there is some internal inconsistency in the ACT Ordinance. The heading and s. 43 talk about the admissibility of 'documents' whilst the operation section (s. 42) and s. 44 (which deals with weight of evidence) talk about the admissibility of 'statements'. This inconsistency is sharply defined in s. 45, which states:

> Where, but for this section, a *document* produced by a computer would be inadmissible in evidence by reason of a failure to comply with the provisions of the appropriate rules of court, the Court may, if it thinks that it is just to do so, admit the *statement* in evidence notwithstanding the failure to comply with those provisions [Emphasis added]

Despite this difficulty, Part VII has been applied to admit computer printout into evidence. In *Punch* v. *John Fairfax & Sons Ltd*[36] the defendant sought to establish whether certain persons were members of the Country Party on a particular date. Computer output, being an alphabetic list, or 'alpha-listing' of the membership records maintained by the Country Party, was tendered by the defendant under s. 42 which provides:

> In a proceeding (other than a criminal proceeding) ... a statement contained in a document produced by a computer is, ..., admissible as evidence of any facts stated in the document of which direct oral evidence would be admissible if —
>
> (a) the document was produced by the computer during a period in which the computer was used to store or process information relating to activities carried on, whether for profit or not —

32 *Supra.*

33 (1979) 21 S.A.S.R. 569.

34 (1981) 27 S.A.S.R. 238.

35 Section 42.

36 A.C.T.S.C. No. 814 of 1976, McGregor J.

(i) by a person;
(ii) by a body, association or institution, whether corporate or not;
(iii) a Department of State of the Commonwealth or of a State;
(iv) an authority established by or under an Act, an Ordinance, a State Act or a law in force in another Territory;

(b) information of the kind contained in the statement or of the kind from which the information contained in the statement is derived was in that period regularly supplied to the computer in the ordinary course of the carrying on of those activities;

(c) the computer was, throughout the material part of that period operating properly or, if it was not, that any respect in which it was not operating properly or was out of operation during part of that period was not such as to affect the production of the document or the accuracy of the contents; and

(d) the information contained in the statement reproduces or is derived from information supplied to the computer in the ordinary course of carrying on of those activities.

The question formulated by McGregor J. was whether the 'alpha listing of members is admissible or statements contained in it are admissible in evidence as tending to prove membership from which it could be deduced or determined what were the names and addresses of persons who were members of that party in May 1976'.[37] Note of course that that listing is not itself proof of membership; someone must then give oral evidence as to the correctness of the listing, and of the fact that the relevant persons whose membership is contested are the persons named on the listing.

Having held that *regularly* in s. 42 (b) '... refers rather to methodical supply than periodicity of supply'[38] his Honour added that 'In the ordinary course of carrying on activities' could include an operation by an organization of installing a new filing system to record and retain information, or the actual directing attributing of information to a quarter where it might be stored or operate to correct or update what is already there'.[39] The computer listing was admitted as an exhibit, with McGregor J.'s commenting: 'In my view, the statement or statements contained in the alpha-listing are admissible pursuant to the ordinance...'[40]

5. SOME GENERAL CONSIDERATIONS

It can be seen from the above that the law in this area is confused and confusing, with widely variable legislation producing equally variable results. Given that the law of evidence has itself baen described by C. P. Harvey as '... less of a structure than a pile of builder's debris',

37 Transcript, at p. 1256.
38 Transcript, at p. 1257.
39 Ibid.
40 Transcript, at p. 1259.

this confusion is not very surprising, though it must be puzzling to the computer professional who tends to believe what the *god in the machine* tells him.

At this point, lawyers may smile at the naivety of the computerist who has such a belief. No-one knows better than an experienced lawyer the Janus-like quality of facts proved in evidence. But the interesting question that arises is, what is the purpose of the laws of evidence when we will trust our lives to computer-designed aircraft and cars, yet refuse to receive computer reports in evidence unless they have been tried through all the levels of Dante's Inferno ?

The law of evidence is perhaps best viewed as a method originally designed to increase the probability that material on which courts, particularly criminal courts, could act, was as *reliable* as possible. Reliability is the path that leads, hopefully, to 'judicially determined truth'.[41]

Herein lies the flaw of the South Australian legislation which has been paraded by academic writers as a paradigm,[42] yet spurned on technical grounds by the courts. For, in deigning to admit the computer into the evidentiary maze at all, legislators and courts have demanded of it unreasonably high standards of reliability: in fact, I suspect, some quasi-scientific standards of reliability are being demanded in the forensic sphere for computers, when such are not required for other 'scientific instruments', or for witnesses.

Cases like *Mehesz* v. *Redman* and *Wood*, however, suggest that the judicial route to admissibility may be easier than the legislative. First, there will come a point at which courts will treat all computers in their computational roles as proven reliable scientific instruments. The next step will be to accept the reliability of all machine processes, subject to evidence to the contrary, and to focus on the reliability of any data source as the most likely source of error in output. This is the underlying thrust of Part VIA of the South Australian Act.

The search for some touchstone of reliability also underpins the business records approach: these records are accorded a special status because, it is asserted, the fact that businesses rely on them for the ordinary course of business operations is a sound basis for others to accept them as reliable. Although this is the theoretical basis for the legislation, we have so far shied away from making the law of evidence accept what 'other' people accept as reliable, except in the scientific instruments field.

There is no need here to consider questions of relative reliability. The issue of admissibility is quite distinct from that of weight and, as the Court of Appeal said in *Albrighton's* case,[43] the legislation makes statements admissible 'without regard to the quality of the recorder'.

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41 *Per* Mason J. in *Milicevic* v. *Campbell* (1975) 49 A.L.J.R. 195, at p. 201.

42 *E.g.* C. Tapper, *Computer Law*, (2nd Ed), at pp. 168-172.

43 *Albrighton* v. *Royal Prince Alfred Hospital* [1980] 2 N.S.W.L.R. 542.

As so often in evidence, sensible alterations of the law must be accompanied by alterations in procedure. If computer output is to be admissible without more, any opposing party must be given the opportunity to verify input data, processing, and output procedures. This is already achievable in civil litigation, but the strict adversary nature of criminal trial militates against either side disclosing material to the other in any formalised way.

A full coverage of all the problems is impossible here, and they have only been sketched. No-one can currently be unaware of the risks inherent in the unquestioning acceptance of 'scientific' evidence: cases like *Thomas*[44] in New Zealand, and *Chamberlain* v. *R.*[45] in Australia, have made those risks only too apparent in recent times.

The day has not yet come for the courts to take judicial notice of statements emanating from computers as evidence of the matters stated therein. Given the hierarchical nature of courts, that day may be over a generation away. How many computer generations will have passed in that time we cannot tell. But perhaps we may, through the murk of the law of evidence, catch a glimpse of the day when a computer judge first rejects human oral testimony because it comes from an insufficiently reliable source!

44 *Re Royal Commission on Thomas Case* [1980] 1 N.Z.L.R. 603.

45 (1983) 57 A.L.J.R. 356.