

JUDICIAL ATTITUDES, APTITUDES AND ABILITIES IN THE FIELD OF HIGH TECHNOLOGY

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It is not surprising that the fast pace of technological advance has captured the popular imagination. It really is staggering to contemplate the phenomenal increase in mechanical and electronic capacity, accompanied as it has been by a comparably rapid diminution in cost. The result has been to improve standards of living beyond recognition. In terms of comfort and convenience the standards of the ordinary man of today far exceed those of the rulers of yesterday. The advances of modern technology have seeped into every crevice of our society, and have been gladly absorbed by it. The puritan instinct is however strong. There is a sense of foreboding. A price has to be paid for such advances. It is, of course, true that no such rapid advance could be achieved without friction. Adjustments have to be made, some compromises are required, some failures occur and some people are disappointed. Nor, since mankind remains driven by the same motivations as ever, is the new technology free of its charlatans, cheats and corruptors. It is fashionable for the media of communication to use the activities of such exploiters as a counterpoint to the advances wrought by new technology. Misconduct makes better news than solid advance, and being driven by familiar motives is more easily understood by a mass audience. The result has been the proliferation of stories, articles and radio and television programmes describing all manner of abuses of new technology, from computer crime to intrusion upon privacy, and from the exploitation of consumers to the injury of production workers. In their turn these accounts have been seized upon by politicians, consultants and researchers keen to make an impact in a fashionable field, unsullied by any powerful opposition. The industry itself has been astute enough to see that most suggestions for regulation on the one hand fortify the image of their product by making it appear more mysterious and more powerful, and, on the other, to the extent that regulation is imposed confer potential benefit by providing opportunities to design the necessary changes, and to sell newer versions at higher prices with greater profit margins. The result of all of this in the legal sphere has been to create an atmosphere of inadequacy. Throughout the world there is pressure for change and modification of legal rules to cope with the perceived abuse of modern technological advance. Most of this pressure has been generated by the media of communication, supported by technologists, and directed at politicians. It is based upon the implicit, and

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sometimes explicit, premise that existing legal rules and institutions are unable to cope with the breakneck speed of technological advance.

In part it takes the view that the judges are unable or unwilling to perform their traditional task of adapting existing legal rules to cater for new advances, and that the only possible recourse is to legislation. It is worth examining the basis for such belief in terms of a comparison between judicial and legislative process in this field, and to examine some examples of the processes in action.

THE JUDICIAL ROLE

Judges are in the front line of the legal process. They are required to decide disputes as they occur. They do not have the option of postponing their decision until the legislature has clarified the rules, or of delegating the task to a commission of inquiry. They must identify the relevant rules of law and apply them to the facts as they are presented to them, and found by them. In the vast majority of cases, even allowing for the fact that most disputes never come to court because their resolution is too clear to incur the cost, the judges have no difficulty in performing this rôle. It is not usually an obstacle that the dispute involves a matter not explicitly covered by the relevant rules. Most legal rules are cast in terms sufficiently general to permit uncontroversial application even to circumstances unanticipated in precise detail by the original legislators. If the rules refer to the theft of a thing, the fact that the thing has been manufactured, or even invented, since the passage of the rules presents no special problem. It is as easy to apply the laws of theft to stealing portable computers as to stealing loaves of bread. It is however necessary to note that the reason for this effortless extension is that it is implicit in the operation of the judicial system that rules are applied, not only to cases explicitly stated in the rules, but also to others which clearly fall within the policy which inspires the interpretation of those rules. If the policy is unclear, for example in relation to the "stealing" of information, then the judicial role becomes much more controversial. In many cases involving high technology the application of that technology has caused such fundamental change to a given area of human affairs as to create doubt about the policies to be applied, and hence as to the interpretation of the relevant legal rules, indeed the doubt may be as to which rules really are relevant.

In such cases the judiciary operates under a number of constraints. Its essential function is to decide disputes about past facts by the application of current rules; it is not to provide for possible future disputes about other facts by pronouncing new rules. In common law systems the formulation of the issues to be tried is determined by the parties to the dispute. It is for them to decide which disputes to litigate, which jurisdiction to invoke, which rules to rely upon, and which evidence to call. These decisions necessarily constrain judicial scope. There can be little doubt that attempts are made to mould the law by judicious selection of the disputes which are to be litigated. In the area of high technology these decisions are overwhelmingly made by the most powerful parties. It is they who have the widest variety of choice as plaintiffs,

and the greatest capacity for settlement as defendants. It would be hard to explain the sudden surge of copyright claims by the Apple Computer Company in virtually every common law jurisdiction, or the substantial number of contractual claims defended by the Burroughs Corporation in the United States upon any other basis than a decision in those companies to litigate, when other companies with similar business problems chose not to do so. The importance of such decisions in the current context is that it is the function of the judge to decide the dispute brought before him, and no other. The canons of relevance prescribe that evidence relate to that dispute. It is true that some causes of action, especially anti-trust disputes in the United States, are sufficiently broad to permit far-ranging statistical evidence to be adduced,¹ but Commonwealth courts are reluctant to follow that particular path.² In general evidence must be specific to the dispute between the parties.

It is sometimes claimed that one of the difficulties is that judges have no aptitude for disputes involving high technology. They have rarely had any technological training, and even more rarely any practical experience of high technology industry. A more ephemeral problem is that the present generation of judges will also have had little experience of such matters in the earlier and formative part of their legal careers. There is little in this objection. Lawyers and judges are trained to learn and absorb the details of the cases put before them, and being generalists represent some of the best minds of their generation. There is no likelihood that a specialist tribunal with its inevitably limited range of work would be able to attract those of comparable ability. It is significant that in cases of public crises of confidence it is almost invariably to the bar and to the judiciary that the state turns to conduct inquiries and commissions, and to make reports and recommendations. It may be noted that in many jurisdictions there are powers to afforce the expertise of the tribunal by the appointment of technical assessors.³ It is similarly possible for the court to call an expert witness of its own.⁴ Neither course has proved particularly popular. Some technological disputes are tried by arbitrators, no doubt in a few cases partly so as to secure a more expert tribunal. There remains a large proportion of technological disputes which come before the ordinary courts for resolution, and overwhelmingly in such cases to be decided upon the issues determined and the evidence adduced by the parties. Courts are rightly reluctant to rely upon their own private expertise, especially in matters of technology. Thus in *Chiou Yaou Fa v. Morris*⁵ the Supreme Court of the Northern Territory insisted upon proof of the operation of a

¹ See, for example, *Allen-Myland Inc. v. International Business Machines Corp.* 693 F.Supp. 262 (E.D.Pa., 1988).

² In *Moorgate Tobacco Co. Ltd. v. Philip Morris Ltd.* (1984) 56 A.L.R. 193, 214 (H.C.A.), Deane J. deplored the "importation of a cause of action whose main characteristic is the scope it allows, under high sounding generalizations, for judicial indulgence of idiosyncratic notions of what is fair in the market place." He was there speaking of a tort of unfair competition, but the sentiment is clear.

³ In the United Kingdom under the provisions of *Supreme Court Act 1981* s.70.

⁴ In the United Kingdom under the provisions of Order 40 of the Rules of the Supreme Court.

⁵ (1987) 46 N.T. 1 (S.C.N.T.).

satellite-based navigation system for ships, and refused to take judicial notice of its operation.

In common law litigation the trial judge is very much in the hands of the parties and of their representatives. Many of the deficiencies alleged of the judiciary could more fairly be blamed upon the quality of the performance of those appearing before them and of those instructing them. If argument is directed to the wrong issues because of an apparent failure to grasp the impact of technology it is understandable that judgment in reflecting that argument will go astray. A particularly clear example is provided by the English case of *R. v. Pettigrew*⁶ in which it was necessary for the prosecution to prove that particular banknotes had been comprised in a particular consignment of newly printed notes. A computer was used by the central bank both to record the numbers of any imperfectly printed notes which were retained, and to count out the appropriate number of properly printed notes. It generated a record of the number of the first⁷ and last note in the bundle, and of any rejected notes. Counsel argued that the print-out was admissible under the relevant business records exception to the hearsay rule.⁸ To this it could quite rightly be objected that the condition precedent to such admissibility, that some human being have personal knowledge of the relevant information, was not satisfied. To some,⁹ this seemed a perfect illustration of the inadequacy of the judiciary to deal with high technology. In fact it was the failure of counsel to see that computer-generated evidence raises no hearsay question, which really created the difficulty.¹⁰

It had already been noted that despite the general principle that it is for judges to apply existing rules rather than to create new ones, ambiguity of reference provides opportunities to blunt the sharpness of any such distinction. That principle is however grounded upon the fundamental premise of justice that parties are entitled to have their conduct judged by rules known, or at least knowable, in advance, and to mould their conduct accordingly. To change the rules only after the events have occurred is to violate that principle. For that reason the courts will keep any such changes to a minimum, and in particular will be very slow to adopt such a construction to the disadvantage of the accused in criminal proceedings. This probably helped to account for the decision of the Supreme Court of Canada in *R. v. Stewart*¹¹ that it did not amount to theft to take information as such. It is not just that such a decision would itself operate in effect retrospectively, but that the very vagueness of the criterion would create further uncertainty and so increase the scope for still more retrospective legislation under the guise of interpretation.

⁶ (1980) 71 Cr. App. Rep. 39 (C.A.).

⁷ This seems to have been entered manually by the operator.

⁸ At that time in the United Kingdom, the *Criminal Evidence Act 1965*, subsequently replaced first by s.68 of the *Police and Criminal Evidence Act 1984*, and now by s. 24 of the *Criminal Justice Act 1988*.

⁹ See T.R.H. Sizer and A. Kelman, *Computer Generated Output as Evidence in Civil and Criminal Cases* (London, Heyden, 1982) at 6.

¹⁰ From which English law has now extricated itself, see *R. v. Wood* (1983) 76 Cr. App. Rep. 110 (C.A.); *Castle v. Cross* [1985] 1 All E.R. 87, Q.B.D.

¹¹ 63 C.R. 3d 305 (S.C.C., 1988).

Courts are well aware that the rules of evidence and the requirements of constitutional deference to the legislature confine their scope for expansive interpretation. In *Myers v. Director of Public Prosecutions*¹² Lord Reid said,

“[i]f we are to give a wide interpretation to our judicial functions, questions of policy cannot be wholly excluded, and it seems to me to be against public policy to produce uncertainty. The only satisfactory solution is by legislation following on a wide survey of the whole field . . .”

The decision of the House of Lords in that case to refuse to admit microfilmed business records in evidence because they amounted to hearsay, has been criticised, and other courts have refused to follow it.¹³ It should however be noted that Lord Reid referred to a wide survey of the field to be followed by legislation. He knew that just such a wide survey was then under way,¹⁴ and he wished to leave the law in a state which would impel far-reaching change. Unfortunately the change that was impelled was far from far-reaching, and the far-reaching changes which he anticipated were never enacted. It seems in such circumstances quite unfair to blame any resulting difficulty upon the judiciary rather than upon the legislature.

THE LEGISLATIVE PROCESS

The general burden of much contemporary criticism of the judiciary in matters of high technology is that it is better to entrust reform to the legislature. It is argued that changes can be informed by expert surveys of the sort mentioned by Lord Reid, and that the legislature can propose much more far-reaching changes, better targeted to real problems. It is far from clear that such a favorable view of the legislative process is really justified. Indeed the saga of *Myers* and the reform of the law of hearsay illustrate some of the dangers. In the first place there may be conflict between the need for a thorough survey and the need for a quick solution. Technology moves so fast that thorough surveys may be out of date soon after they appear, but of necessity the more thorough the surveys and proposals the longer it will take to produce them, and the longer it will take to consider them, to draft legislation and to push it through. Domain expertise, public resources and parliamentary time are at a premium. In many Commonwealth jurisdictions electoral timetables impose onerous constraints upon both timing and content of legislation. In some instances the more elaborate the process of consultation of interested parties the less the prospect of securing agreement, and the greater the opportunity to organise opposition. It must never be forgotten that the legislative process is often contentious, and in many ways adversarial. Even when there is no politically cohesive disagreement, as will often be the

¹² [1965] A.C. 1001, 1022.

¹³ The Supreme Court of Canada for example, see *Ares v. Venner* [1970] S.C.R. 608.

¹⁴ By the Criminal Law Revision Committee, a survey which culminated in its 11th Report *Evidence (General)*, Cmnd. 4771 (1972) which did make far reaching proposals for reform in cl. 30-41.

case with the regulation of high technology, there may still be keen disagreement between different interests, say between hardware manufacturers and software houses. In such cases the division is sometimes more damaging since it finds expression in private lobbying, and in compromises arrived at in smoke-filled rooms behind closed doors. The defects of the legislative process are perhaps nowhere better-illustrated than in the preparation and passage in the United Kingdom of the *Copyright, Designs and Patents Act* 1988. The legislation did indeed follow surveys of a wide field,¹⁵ consultation papers,¹⁶ and governmental proposals.¹⁷ It was however drafted in totally new terminology, made a number of far-reaching changes from previous proposals, and a bill of some 277 clauses and 7 Schedules running to 190 pages of printed text was released for comment at the beginning of August with responses to be made by the beginning of September.¹⁸ It was hardly surprising that most lobbying took place after the bill had been introduced. An indication of the extent of the changes induced by this process is that the final Act contains 306 clauses and 8 Schedules and runs to 312 pages. Hundreds of amendments were proposed as the bill went through, some at a very late stage. The government was so committed to securing the passage of the legislation that it began to seem that the only criterion for submission to lobbying was the likelihood of mobilisation of sufficient opposition to cause a delay. It was hardly to be expected that in such circumstances the new Act would cope adequately with new technology. It does not.¹⁹

A further disadvantage of legislation is that it is in some ways too powerful a tool to use in a fast-moving area where not only the technology, but also response to it, changes very readily. The effort needed to secure legislative change, especially far-reaching change, is so vast that it becomes very difficult to reverse, or even to modify. This leads to two possible responses, both undesirable. The first can be exemplified by the situation relating to the patenting of computer software. In the 1960s there was wide consensus that software should not be the subject-matter of patent. This view was endorsed by the World Intellectual Property Organisation (WIPO), and encapsulated first in the European Patent Convention, and then in the legislation of various European countries. The relevant legislation in the United Kingdom is the *Patents Act* 1977 which provides in s. 1(2)(c) that "a scheme, rule or method for performing a mental act, playing a game or doing business, or a program for a computer" is not an invention. In the 1970s sentiment changed, and

¹⁵ Initiated by the Whitford Committee Report *Copyright and Designs Law*, Cmnd. 6732 (1977).

¹⁶ *Reform of the Law relating to Copyright, Designs and Performers' Protection*, Cmnd. 8302 (1981).

¹⁷ *Intellectual Property and Innovation*, Cmnd. 9712 (1986).

¹⁸ August is a traditional holiday period in the United Kingdom.

¹⁹ For example, the Act does not define a computer program although some key clauses are geared to them. It is left quite unclear whether compilations of data are to be regarded as computer programs. The whole treatment of electronic databases is defective, see C. Tapper "Copyright in Databases" (1988) 5 *Computer Law & Practice* 20.

some administrators,²⁰ and European courts,²¹ felt able to construe this legislation so as to permit some inventions involving computer programs to be patented. In England on the other hand where a stricter view is taken the Court of Appeal has held a computer program for performing financial services not to be patentable.²² The result is that a form of words designed to secure uniformity of practice has achieved exactly the opposite. It is all the more ironic since the original legislation was inspired by sentiment and judicial decisions in the United States, but there the matter was left to judicial decision, and change was easier to achieve when sentiment shifted with the result that there the very same invention has secured protection by patent.²³

The second undesirable response is that the judiciary may engage in an exercise of damage limitation by construing the legislation very restrictively indeed. This is especially likely in relation to new statutory criminal offences. The general rule is that clear words are necessary to create criminal offences, and that the more specific such legislation the clearer the intention to exclude anything not explicitly falling within its ambit. This is well-illustrated by the reaction of the Supreme Court of Canada to an attempt to charge an unauthorised user of a networked University computer system with the fraudulent use of a telecommunication service contrary to s. 287(1)(b) of the Canadian Criminal Code. This section had been enacted to fill a gap in the coverage of the Code when a group of dissidents had taken over a broadcasting station.²⁴ In *R. v. McLaughlin*²⁵ the Supreme Court held that use of a remote terminal did not amount to telecommunication since the user was not interested in communicating to anyone else, but was simply working by himself through a remote machine. The Court was heavily influenced by its perception of the undesirability of stretching statutory language to the detriment of the accused. The sequence of events shows also how unsatisfactory a piecemeal approach to change is likely to be. It is vital to appreciate that statutory extension of the law, and especially of the criminal law, moves by isolated steps while judicial development of the common law moves by analogical extension. At common law no ground remains between starting point and finishing point; under statutes there may well be unprovided cases between the original offence, and another added at a later time.

RECENT EXAMPLES

This final section uses a few recent cases to demonstrate that the judges experience no special difficulty in coping with high technology, and that, left

²⁰ See C. Gall "European Patent Office Guidelines 1985 on the protection of inventions relating to computer programs" (1985) 2 *Computer Law & Practice* 2. The author was then Director of Legal Affairs at the European Patent Office.

²¹ See *Vicom Systems Inc.'s Application Decision* T208/84 [1987] Off. Jo. E.P.O. 14.

²² *Re Application of Merrill Lynch, Pierce, Fenner & Smith Inc.*, *Times* Newspaper, 21 April 1989, affirming [1988] R.P.C. 1.

²³ See *Paine, Webber, Jackson, Curtis Inc. v. Merrill Lynch, Pierce, Fenner, Smith Inc.* 564 F.Supp. 1358 (D.Del., 1983).

²⁴ *Maltais v. R.* [1978] 1 S.C.R. 441.

²⁵ [1980] 2 S.C.R. 331.

to themselves, they are quite capable of arriving at sensible and suitable decisions. It will indeed be seen that more difficulty is likely to be experienced as a result of the awkward or vague drafting of legislative provisions.

The first illustration is of the congruence of judicial and legislative response to the demands of technology. In the late nineteenth century it was found to be desirable to make a minor modification to the hearsay and best evidence rules so as to prevent banks having to produce their original records for the purpose of proceedings in courts.²⁶ The legislature accordingly enacted the *Bankers' Books Evidence Act* 1879. The Act defined such books in s. 9 so as to include "ledgers, day books, cash books, account books, and all other books used in the ordinary business of the bank." When in *Barker v. Wilson*²⁷ the application of this provision to modern forms of record-keeping, not contemplated or invented in 1879, came to be considered both magistrates and Divisional Court had no hesitation in applying the provision to microfilmed records. Bridge L.J. remarked that the legislation applied to "any form of permanent record kept by the bank of transactions relating to the bank's business, made by any of the methods which modern technology makes available, including, in particular, microfilm." So robust an interpretation rendered somewhat supererogatory the substitution of a new definition clause in Schedule 6 to the *Banking Act* 1979.

Sometimes judicial interpretation operates to complete, or even to correct, imperfect statutory intervention. In many Commonwealth jurisdictions the admission of computer output in evidence has been thought to pose special problems.²⁸ In the United Kingdom a special section²⁹ was inserted into the *Civil Evidence Act* 1968 to cater for the admissibility of computer output. It was so badly drafted and so convoluted as to have been virtually ignored in practice,³⁰ and to have attracted no significant reported judicial decision. It has nevertheless been imported by some Australian states,³¹ though rejected in others,³² and seems to have been adopted as the basis for a much improved draft in South Australia.³³ Despite such improvement the South Australian statute has been found unduly restrictive by the courts. The relevant legislation lists a number of matters of which a court must be satisfied before computer output can be admitted. In *Mehesz v. Redman*³⁴ the prosecution simply failed to adduce any expert evidence at all of the conditions which required satisfaction, so the output of the computer assisted analyser of a

²⁶ Illustrating should it be necessary to do so that rigidity of interpretation did not begin with the decision in *Myers v. Director of Public Prosecutions* [1965] A.C. 1001.

²⁷ [1980] 2 All E.R. 81.

²⁸ Though its admission at common law in the United States seems to have caused no difficulty, see *King v. State ex rel. Murdock Acceptance Corp.* 222 So. 2d 393 (Miss., 1969), 397 expressly asserting that "the Court should apply these [common law] rules consistent with the realities of modern business methods" and that "the law . . . adjusts its rules to accommodate itself to the needs of the age it serves."

²⁹ Section 5.

³⁰ See Australian Law Reform Commission, *Evidence Working Paper No. 3*, p. 83 and *Scottish Law Com No. 100* (1986) para. 3.66.

³¹ Including Victoria and the Australian Capital Territory.

³² New South Wales and, after initial inclination to accept, in Tasmania.

³³ *Evidence Act* 1979 s.59(b).

³⁴ (1979) 21 S.A.S.R. 569 (S.C.).

specimen of blood could not be admitted on that basis. The statute, since it deals with the output of general purpose computers, rightly requires the satisfaction of certain conditions, for example that the computer was correctly programmed, that the data input were accurate, and that there was no reason to expect it to err. In the case of more specific scientific instruments there is more scope for inference as to their correct operation. The machine here, although it used programmed microprocessors, was really of that type, and the court was able to find that the ordinary, and laxer, rules relating to the proof of operation of scientific instruments at common law permitted the printed output to be received.³⁵ Fortunately in South Australia the new rules for computer output could be construed as supplementing rather than supplanting the common law. It is interesting that it was the courts which were able to mould the common law rules when they were unable to bend a statute into providing for a situation slightly different from that which had been foreseen when it was drafted. In a way the precision and targeting of the statute were the very things limiting its usefulness in this situation.

Sometimes a statute can be used as a basis for creative judicial interpretation. A good example is provided by the English case of *Cox v. Riley*³⁶ where a disgruntled employee erased the programs encoded on a plastic card used to operate a computerised saw. He was charged with damaging tangible property without lawful excuse under s. 1 of the *Criminal Damage Act* 1971. His defence was that the programs were the only things to be damaged, and they were intangible. Neither the magistrates nor, on appeal, the Divisional Court was prepared to accede. It is not completely clear whether the saw or the card were taken to be the relevant property, though the latter seems the more likely. Even in relation to the card it could be argued that as a receptacle for programs it was just as useful after the erasure as before, perhaps indeed more useful since it had plenty of spare capacity. It was however held that to act in relation to property so as to cause expenditure to restore it to its previous condition amounted to damage. The situation was seen as akin to sabotaging a machine without causing it physical damage.³⁷ The Court was clearly influenced by its perception of social need in modern times:³⁸

“It has to be said that we are living in the age of computers; not only computers, but other magnetised operations. One thinks of articles such as the ordinary bank card which is used to withdraw money from certain machines. There are many methods of operating machinery by stimulating or activating electrical circuits or magnetised contacts, all these are matters which are part of the modern industrial and social scene.”

It is instructive to compare this approach with the arid pedantry of the Court of Appeal and House of Lords in *R. v. Gold and Schifreen*.³⁹ There the accused were charged under the *Forgery and Counterfeiting Act* 1981 with making a

³⁵ *Mehesz v. Redman* (No. 2) (1980) 26 S.A.S.R. 244 (S.C.I.B.). See also *R. v. Weatherall* (1980) 27 S.A.S.R. 238 (S.C.).

³⁶ (1986) 83 Cr. App. Rep. 54.

³⁷ As in *R. v. Fisher* L.R. (1865) 1 C.C.R. 7.

³⁸ *Id.* 58.

³⁹ [1987] Q.B. 1116 (C.A.) upheld in [1988] 2 All E.R. 186 (H.L.)

false instrument. The accused had in fact used someone else's password to gain access to private files in a publicly available computer service. It was decided that the transient storage of the false password in the relevant register of the computer was too ephemeral to count as being "recorded or stored". This seems to be unduly restrictive. The information was held long enough to perform its function given the appropriate technology. It is not clear why an interpretation of "record or store" appropriate to a different older technology should have been applied. It does not seem sensible in effect to require the use of jargon in legislation. The words in question are in everyday use in the computer industry in the very sense to which objection was taken. The Court of Appeal expressed its fusty view that:⁴⁰

"It is a conclusion which we reach without regret. The Procrustean attempt to force these facts into the language of an Act not designed to fit them produced grave difficulties for both the judge and the jury which we do not wish to see repeated."

Despite such difficulty the judge directed, and the jury convicted. The result of the efforts of the Court of Appeal, and of the House of Lords, has been to acquit demonstrably anti-social offenders,⁴¹ and to stir the lobbying pot. It should be noted that the legislature did indeed have computer application in mind when it enacted the relevant provision in this case, though not perhaps the precise circumstances charged. It seems unlikely that new legislation will be capable of being drafted with sufficient precision, clarity and scope to cater for every possible application of a fast changing technology. No legislation can be made quite proof against destructive judicial interpretation, as many tax and drunk driving cases illustrate. What is needed is more judicial interpretation of the stamp of the Divisional Court in *Cox v. Riley*, and less of that of the higher courts in *Gold*.⁴² The opening remarks of the Court of Appeal in the recent case of *R. v. Minors and Harper*⁴³ strike the appropriate note,

"The law of evidence must be adapted to the realities of contemporary business practice. Mainframe computers, mini-computers and microcomputers play a pervasive role in our society. Often the only record of a transaction, which nobody can be expected to remember, will be in the memory of a computer. The versatility, power and frequency of use of computers will increase. If computer output cannot relatively readily be used as evidence in criminal cases, much crime (and notably offences involving dishonesty) will in practice be immune from prosecution."

⁴⁰ [1987] Q.B. 1116, 1124. A view expressly endorsed by Lord Brandon speaking for a unanimous House of Lords [1988] 2 All E.R. 186, 192.

⁴¹ No payment was made for any use of the various facilities, and some of the data were damaged.

⁴² The United Kingdom is not unique in the contrast between the attitudes of different courts, compare for example the disparate approaches taken by courts in the United States as shown in *People v. Versaggi* 518 N.Y.S.2d 553 (N.Y., 1987) and *State v. Olson* 735 P.2d 1362 (Wash., 1987) in both cases construing the damage provision of newly enacted computer abuse statutes of the kind proliferating in the United States, and apparently favoured by many lobbyists.

⁴³ [1989] 2 All E.R. 208 (C.A.) at 210.