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PANEL ON THE FUTURE OF THE LAW

TECHNOLOGY, THE LAW AND LEGAL INSTITUTIONS



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The Hon. Justice M.D. Kirby, CMG*

CHILDREN OF SCHRODINGER

When I was at school, I mastered my Latin ablatives. I knew what an alveolar fricative was and my declension of irregular German verbs was impeccable. I knew the most obscure Shakespearean sonnets by heart. My command of inter-war Romanian history bordered on the miraculous. Where I was weak was in science and mathematics. Slide rules were a mystery to me. I survived school days despite blissful ignorance of Boyle's Law. As far as I was concerned, Isaac Newton had something to do with apples but was not to be confused with the infinitely more interesting William Tell.

In short, I was a typical lawyer-in-the-making. Strong in poetry. Weak in sums. Imagine, then, my astonishment two decades later when I discovered the truth of Jacob Bronowski's assertion that the world today is fuelled and engineered by science. To forget this reality, Bronowski warned, was to walk with eyes open, to slavery.

Lawyers stand at the gateway where liberty meets slavery. We have the precious public responsibilities, judges and

lawyers working together, to ensure a stable, orderly society where disputes may be peacefully settled and a just community secured, where our citizens live in peace and liberty, under the Rule of Law. Sadly, for lawyers of today's generation, poetry and words are not enough. This was brought home to me most clearly during the decade I served on the Australian Law Reform Commission. Almost every task of the Commission evidenced the impact of science and technology on the law. The great scientific developments of this century can be classified as three in number. I refer to nuclear fission, informatics and biotechnology. Around these generic developments there cluster many other developments which evidence the remarkable inventiveness of 20th century scientists. They range from interplanetary space exploration through laser technology to all the other offshoots of quantum physics. Indeed, it has lately been proposed that all of these developments, in the three categories I have mentioned, can ultimately be traced to the developments of quantum physics that sprang principally from the mind of Erwin Schrodinger, working in Germany in the 1920's. It would be surprising if these scientific advances, coming at the one point in history, did not have a common link. But whether they are connected or not is hardly important for present purposes. Most lawyers know nothing of quantum physics. Few have ever heard of the remarkable Erwin.

I have said that virtually every task of the Australian Law Reform Commission involved one aspect or other of the impact of science and technology on the law. In the first project on criminal investigation, we had to consider the impact of photography and video tape on confessions to police,¹

the invasiveness of telephonic interception² and the use of telephones, in a continental country, to authorise police searches and arrests.³ In the succeeding project on drug dependency and motor vehicle accidents, we were obliged to consider the modern means of detecting, with the aid of science, the presence of drugs in the blood, breath and other tissues of drivers.⁴

In the next project on insolvency, consideration was given to the introduction of a national scheme for the repayment, by regular payments, of debts owed by consumer debtors, entitled to a statutory moratorium.⁵ Through the use of electronic fund transfers, efficient arrangements could be made with the banks for the collection and repayment to creditors which would simply not have been possible a few years ago.

The next report on human tissue transplants took the Australian Law Reform Commission into the world of bioethics. When science overcame the body's immune rejection of foreign tissue, it became necessary for the law to establish its ground rules for the taking of body parts from one human being for use by another. When were people to be "dead" for the purpose of donations? Were "donations" actually necessary, or should we adopt a regime of presumed donation? Should coroner's cadavers be available for donation purposes as, it was discovered, they were frequently used at present? Should minors be entitled to donate or should the law protect them from bravado and intra-family pressures?⁶ These and many other topics were dealt within the report. The Commission, two years before the birth of the first child conceived in vitro, drew attention to some of the legal implications of that development.

So the list goes on. The national census raised concerns about privacy in the computerised records of personal data.⁷ Proposals were made for its protection. A general inquiry on privacy law was commissioned. It produced a report, suitably enough in 1984, proposing a whole range of new laws to deal with the privacy concerns raised by informatics.⁸ The advent of instantaneous electronic media of communications, spanning the continent by the satellite and terrestrial systems necessitated review of the law of defamation which had grown up in the pre federation environment of local slanders. This project, and the preceding one on privacy, illustrate the extent to which, in Federal countries, disconformity can be created by the constitutional division of powers. The Australian Constitution, notoriously unresponsive to amendment by popular referenda, reflects in its terms the technology of informatics of the time it was drafted, at the turn of the Century. Power is given to the national Parliament to make laws with respect to "postal, telegraphic, telephonic and other like services". The then new-fangled telegraph was assigned as a national responsibility. Mr. Bell's remarkable telephone was likewise so allotted. But it took the High Court of Australia years later to include radio and television broadcasting within "other like services".¹⁰ Now the question is posed whether computers, not otherwise linked by orthodox telecommunications systems, are susceptible to like Federal regulation.

The current project on contempt law¹¹ requires the Australian Law Reform Commission to consider where the modern balance is to be struck between the claim of an accused person to a fair trial, by a jury uncontaminated by pretrial publicity

and the right of radio, television and other media outlets television to discuss associated questions of public importance. By their penetration of the community, the media may legitimately discuss matters of real public anxiety, but at a price that effectively deprives individuals of the right to a fair trial.¹²

Even the current project on admiralty law reform, which might look at first blush to be a safe backwater of black letter law, requires consideration of the extent to which the regime, established in earlier times for sailing boats, may be appropriately extended to hovercraft, sea planes and, for that matter, international aircraft.¹³ One by one the projects which engage the Federal and State law reform agencies of Australia demonstrate the impact of science and technology on our discipline. Nor is this an impact confined to the halls of academe or the bearded meetings of law reformers. On the contrary, cases are now increasingly coming before the courts which call attention to the developments of science. They alert this generation of lawyers to the likely patterns of the future. The lesson is that the lawyer of the future will not only have to be an economist and statistician. He and she will have a computer at the finger tips, and by satellite or other communications fight court room battles over the rights of in vitro children, deformed neonates or the divorce of a person who has undergone sexual reassignment.

We should take as our text, the warning of Bronowski. To ignore the developments of science and technology is to turn our back on the great issues of our time, and times yet to come.

NUCLEAR FISSION

I now propose to illustrate (for no more is possible) some of the implications of the three scientific developments I have mentioned. The one posing the greatest challenge to law, international order and the survival of humanity is obviously nuclear fission. The present stockpile of nuclear weapons far exceeds the firepower necessary to destroy humanity. We tend to put this brooding question out of our mind as we go about our busy days construing statutes and drafting wills. Yet, unless the effort to bring nuclear weaponry under the effective control of international law, the prospects for mankind must, in the long run be doubtful. Accident, mistake, derangement, terrorism and brinkmanship gone wrong pose terrible dangers. It is the gradual realisation of the comparative insignificance of other issues and the urgency of this one that has attracted increasing numbers of lawyers and scientists to bodies which seek to increase the sense of priority about tackling this entirely unprecedented problem.¹⁴

Apart from this concern, which must be reflected by initiatives in international law, there are domestic concerns as well. Even in the peaceful uses of nuclear fission, there are dangers for our legal system. Such are the risks in the technology that special powers must typically be given to protect nuclear establishments.¹⁵ When things go wrong, the dangers of radiation may not be confined to the one jurisdiction. News reports record claims by neighbouring countries upon the Soviet Union for the losses consequent upon the Chernobyl nuclear power station mishap. It is reported that the International Atomic Energy Agency is belatedly drafting a

new international agreement requiring early warning and emergency assistance in the case of nuclear accidents.

The decision of the Supreme Court of Canada in Operation Dismantle Inc & Ors v The Queen & Ors¹⁶ illustrates the way in which popular concern about the destructive potential of nuclear technology may now be brought to the courts. In form, the case was one of an appeal on pleadings. But in reality the issue was the extent to which the Charter's provisions could be used to control an alleged increase in the risk of nuclear war resulting from the Canadian Cabinet's decision to permit testing over Canada of United States cruise missiles. Significantly, all judges rejected the Canadian Government's contention that Cabinet decisions in this regard were not reviewable by the courts under the Charter. Wilson, J specifically affirmed that the decision was not insulated from review because it was "a political question". She was prepared to go further than the majority and to contemplate circumstances in which a Government initiative in respect of nuclear weapons might contradict the Charter.¹⁷

INFORMATION TECHNOLOGY

If we turn from the intractable but desperately urgent problems of nuclear technology, we can see the way in which informatics provides a catalogue of challenges to the present legal system. By "informatics" I mean the merger of the technologies of computers and telecommunications which is now such an exponentially expanding feature of the distribution of information.

A number of implications of informatics for the law can be mentioned. The first is privacy. Whereas the common law did

not develop effective protection for privacy as such¹⁸, it is a value greatly valued in our societies. Legislation has been enacted to offer protection, much of it stimulated by the advent of the new technology.¹⁹ At the international level, guidelines and conventions have been drawn up to lay down the basic rules which will govern respect for privacy in the international movement of data.²⁰ But how such rules will be given force in courts of law, without complementary domestic legislation, is uncertain. We are still a long way short of mutually enforceable international principles, let alone an international tribunal to which parties with disputes about transborder flows of automated personal data, can have access.

The basic problem is that the technology of informatics has a tendency to render domestic law, traditionally expressed in terms of power over a particular territory, inconvenient or even irrelevant. The subject matter of the regulation is ubiquitous, pervasive and instantaneous. Lawyers from different traditions, looking at the same phenomenon will approach it from differing starting points. The laws that have emerged in the past twenty years for the protection of privacy in informatics illustrate the difficulties which our legal systems have in responding to a technology which impacts so many aspects of everyday life. Fortunately, through most of the privacy laws so far enacted, there runs a golden thread of basic principles. Central amongst these is that normally the data subject will have access to data about himself or herself.

Early privacy legislation needs review. To what extent should it apply to legal, as distinct from natural persons? To what extent are codes of computer ethics to be recognised? To

what extent does "access" nowadays imply not just the receipt of copy documents but a right to have access to the terminal and to interrogate the data base? Efforts to push such privacy rights forward coincide with the counter thrust provided by the moves to privatize telecommunications and to deregulate the economy.

Secondly, freedom of information (FOI) legislation has accompanied, and been stimulated by, the technological developments of informatics. This notable effort to reduce the secrecy of burgeoning government has so far been resisted, at the national level, in Britain.²¹ It has succeeded in the United States, Canada, Australia and New Zealand²², although inquiries are presently proceeding which may diminish the right.²³

There is a well known example, cited by J. Bing which illustrates the way interactive technology impinges upon domestic sovereignty. A Norwegian social researcher published certain findings on Nato defence arrangements. These were contained in documents restricted under Norwegian law. The researcher was convicted of espionage in Norway. But the documents had been retrieved on line pursuant to the United States Freedom of Information Act. They were freely available in that country. The moral is that the new information technology is likely to hasten the influence of openness of administration for the simple reason that it is rendered so much more difficult to contain the haemorrhage of freely available information, once its disclosure is lawfully permitted in one place.

A third issue is that of vulnerability. Just as Sweden led the way with FOI and privacy (data protection) laws, it is now providing a stimulus by detailed consideration of the legal and other implications of the vulnerability of the "wired society". This vulnerability may come from the very integration of information technology. Accident, earthquakes, fires and other natural phenomena may destroy an essential data base causing massive disruption. Terrorism and industrial disruption may find society more vulnerable than in the past precisely because of the miniaturisation of vital data collections. This point is illustrated by the disruption caused in Italy when the Red Brigade destroyed the master tapes containing the only universal copy of Italy's motor registration.

Fourthly, computer crime and fraud require new attention. The problems presented to harmonising established criminal law with the nature of informatics include the considerations that crime is typically defined with strict precision and it is typically local, being confined to a particular jurisdiction. The manipulation of information technology may not come within the definition of "theft" contained in domestic law, which normally involves the taking away of goods. Nowadays, no goods need be taken. Domestic courts are normally confined to punishing criminal offences which occur entirely within their territorial borders or have some other relevant connections with their territory. Where crimes are constituted by a number of elements, some of which take place outside domestic jurisdiction and involve transborder data flows, reform may be needed to ensure that the jurisdiction of local courts is not frustrated.²⁴

In a number of the States of the United States, laws have lately been passed by which "property" is defined to include "information including electronically processed or produced data and computer software and programs in either machine or human readable form".²⁵ As Peter Robinson pointed out in his important essay on legal issues raised by transborder data flows, case law in Canada is now beginning to grapple with this subject. In R v Stewart²⁶ an individual sought to obtain the names, addresses and telephone numbers of the employees of a hotel. These were protected by the hotel's security system. He approached a security worker and offered to pay for the protected confidential data. He was reported and charged, inter alia, with counselling theft of "information the property of the hotel and its employees". At the trial he was acquitted. It was held that the information was not "property" as defined by the law of theft in Canada. In the Ontario Court of Appeal, a majority decision held that he was guilty of counselling "theft". The majority opinion was expressed thus:

"While clearly not all information is property, I see no reason why confidential information that has been gathered through the expenditure of time, effort and money by a commercial enterprise for the purpose of its business should not be regarded as property ..."²⁷

The dissenting judge put the other point of view:

"[I]t is for Parliament to broaden the criminal definition of the property concept if the needs of modern Canadian society require it ... [T]he word "anything" used in s 283 [of the Criminal Code] must be defined and qualified within the context of property and ... confidential information does not properly fit within that context."²⁸

An appeal to the Supreme Court of Canada is pending. Meanwhile, a Bill to extend the Criminal Code definition of "property", expressly to include computer data and software, has been reported by a Parliamentary sub committee in the negative:

"In our view it would be ill advised to grant a proprietary interest in information per se, something which does not exist even in the civil law. For reasons of public policy, the exclusive ownership of information which, of necessity, would flow from the concept of "property" is not favoured in our socio-legal system. Information is regarded as too valuable a public commodity to have its ownership vest exclusively in any particular individual."²⁹

As Robinson points out, difficulties are immediately posed by divergent approaches in Canada and the United States, with their systems often integrated by transborder data flows. The rapid development of telecommunications, especially by satellite, also integrates Australia into this problem. The tyranny of distance, which was once Australia's burden and protection, is now of diminishing importance.

Fifthly there are the issues of private international law. Whose legal regime is to apply to the diffuse international components of informatics transactions? Where an electronic message is generated in country A, switched in countries B and C, transits countries E, F, G and H, is processed in countries I and J, stored in country K and involves damage in yet other countries, it is clear that present rules on the choice of law and for the resolution of conflicts of law are inadequate.³⁰

Sixthly, there is the issue of sovereignty. The moves that a sovereign country can nowadays take realistically to protect itself in a world of interacting informatics are limited. An example cited by Robinson is that of Dresser (France). It is a subsidiary of Dresser Industries of the United States. Overnight, it was denied access to a computer which stored the specifications for manufacturing components of pipeline equipment. In the result, the French subsidiary was unable to manufacture the equipment for the Trans Siberian pipeline objected to by the United States Government. It also lost a \$3 million Australian order.³¹

Other illustrations of transborder access to data abound. One involves a Canadian bank. The Miami branch of the Bank of Nova Scotia was served with a subpoena by a US Grand Jury demanding production of the Bank's information held in its branches in the Cayman Island and the Bahamas. The Bank was unable to comply because the information requested was protected by the laws of those Caribbean countries. An application to the Cayman Island courts, seeking permission to release the information, resulted instead in an injunction to prevent it. In spite of this, the United States courts, supported an application by the United States Department of Justice, and imposed a fine on the bank of \$25,000 per day until the information is produced. The Canadian Government, both in diplomatic exchanges and in amicus curia briefs in the US Court, asked what would be the United States attitude if the Government (or even a court) of a Middle Eastern State in which the bank maintained an office issued an order, including sanctions, requiring the bank to disclose information

concerning the alleged business relations between a customer of its Miami office and Israel.³² The extra-territorial operation of laws, particularly laws of the United States of America, have caused legislative responses. The issue is partly a political one.³³ But the point is that the need for new rules is made more urgent by the integrated nature of information technology.

Seventhly, there are the developments of intellectual property law necessitated by informatics. Traditionally, such law developed around protections attaching to the medium rather than the content of information. It was not possible to patent or copyright an abstract idea. The problem posed by informatics technology is that data (and thereby information) have now been "liberated" from physical objects representing the data. This has resulted in a number of test cases³⁴ and in legislative reform. Ann Branscomb has suggested that none of the existing legal systems - patent laws, copyright legislation and trade secrets - provide a "perfect fit" for software protection.³⁵ In Canada, a Parliamentary sub committee on revision of copyright law is reviewing the design of the new hybrid system.³⁶ The fact that it is now possible to read the text of many books without purchasing the book or even copying the text suggests that informatics has made information itself a commodity. How the legitimate rights of the originators of that commodity are to be protected compatibly with existing law, is a puzzling question.

Eighthly, there is business law. Today's merchants work in a world of complex statutory laws governing anti-trust, taxation obligations, banking and foreign exchange regulations,

rules governing relations with administrative authorities, foreign investment limitations and so on. Instantaneous contracts, exchanged by informatics, may not always permit time for advice on the complex interaction of such laws. As well, there is the issue of insurance against computer loss. When they occur, such losses are likely to be large and sometimes even disastrous. The provision of common insurance funds may be needed and especially where transactions or accidents have an international element.

There are many other issues of acute concern to the legal profession arising from new information technology. They include the adaptation of evidence law to permit the more ready admissibility in court of computer evidence and computer generated evidence, without proof, in every case, of its original creation. Evidence law in many countries has already been adapted to facilitate the admissibility of computer hearsay.³⁷

BIOTECHNOLOGY

If these issues of informatics appear daunting, the problems presented to the legal system by developments of biotechnology are even more troublesome for they touch still more fundamental questions of morality and raise the very nature of human life itself.

The cases which, so far, have come most frequently before the courts are those which concern the response of the law to the grossly deformed or retarded neonates. The law has tended against distinctions based upon respect for human life having a minimum quality. Before the courts intervened, however, "compassionate infanticide" was a common practice in many

hospitals. In recent years, there has been a series of cases in England³⁸, Canada³⁹, the United States⁴⁰ and Australia⁴¹ in which orders have been made requiring operations to be performed on neonates or young children, despite the disinclination of medical staff and the parents. Perhaps more significant than these orders were the words, in the leading English authority on this subject, which suggest that if the child's life is demonstrated to be "so demonstrably awful" and "filled with pain", the court might desist from ordering its preservation.⁴²

The problems that have been presented to the courts in the case of severely deformed and grossly retarded neonates have arisen from advances in technology. Formerly, such babies would have died by the course of nature. The issue is now posed whether sophisticated surgery and heroic medical efforts (which would, of course, be used in the case of a normal child), should be denied to abnormal children. If they are to be denied, the question is when and by whom such decisions will be made.

Another series of cases presenting bioethical problems has arisen out of so called sex change operations which, until recently, would have been impossible. Perhaps the most celebrated is that of April Ashley.⁴³ By operation, she underwent the removal of a scrotum and penis and construction of a vagina. She lived exclusively as a woman. She married a Mr. Corbett. The relationship broke down and it fell to Ormrod, J to determine whether the marriage had been initially valid. By reference to a number of criteria, chromosomal, gonadal and genital tests, his Lordship concluded that April Ashley was not

a woman and so could not marry. There have been a number of similar cases in Australian courts.⁴⁴ In 1984 a medical case in Toronto shows what may now be achieved. Siamese twins, both genetically male were joined at the pelvis. They were separated and one was left with male genital organs. An artificial vagina was used for the other. Her male gonads were removed. But if the tests pronounced in April Ashley's case and Australian cases were applied by the Canadian courts, the "female" twin will be condemned by the law to the prospect of a life without a valid marriage as an additional burden to the physical disabilities which nature has inflicted but which medical technology has struggled to overcome.⁴⁵

To these issues must now be added the exotic questions posed by the actuality of in vitro fertilisation and foetal experimentation and the prospect of cloning of the human species and still further experiments with artificial conception.⁴⁶ In the case of in vitro fertilisation, an acute question was posed by a recent case in Australia. The genetic parents of a fertilised human ovum held in a hospital refrigerator in Melbourne were killed in a plane crash in North America. The parents were very wealthy. The question arose as to whether the fertilised ovum, which had a contingent potentiality for a human life, had "rights", which if necessary the law would enforce, to find a surrogate womb and, to be brought into this world in order to inherit the property. This is just one of many such problems which may be presented by this remarkable new technique. So far as surrogacy is concerned cases have already come before the English courts and legislation has been enacted or proposed.⁴⁷

GOOD AND BAD NEWS

These instances present news, both good and bad for our profession. The problems requiring legal resolution and legal reform will abound in consequence of the new technology. They will become ever more numerous, difficult and urgent.

To some extent the new information technology will enhance the capacity of the judiciary and the legal profession to bring justice more speedily and economically to more of our citizens. Word processors are now standard equipment in the offices of most attorneys. They have even reached the judiciary. The repetitious and standardised nature of many documents, pleadings and even advices makes word processors specially useful for legal practice, dependent as it often is on precedents. Even in the judiciary, though standardised judgments have not yet come to pass, word processors save time in the refinement, clarification, simplification and (hopefully) abbreviation of judgments, though this is not always or necessarily so. Pleas have been made that, before precedents of documents and pleadings are put on word processors, efforts should be expended to simplify them and to remove the unnecessary, antique language of yesteryear. Otherwise, we will be hostage to that language for ever, embalmed as it will be in electronic memory.

Courts have already adopted informatics for the purpose of monitoring the efficiency of the throughput of cases. Computers can suitably program, simplify and expedite listing arrangements. One hundred and fifty years after the penny post, arrangements are now adopted to permit filing of documents in court by letter.⁴⁸ It can only be a matter of time before

direct electronic filing and exchange of documents is a common place. In the case of the courts, limited funds generally inhibit the use of the best and most up to date equipment. As for the Bar, it is often a reluctance to embrace new technology that has led to postponement of electronic decisions. Ironically, and perhaps even undeservedly, because of falling costs, such postponement may actually bring advantages.⁴⁹ The growing number of cases committed to on-line computer retrieval and the provision for computerised statutes which allow up to the minute presentation of the law in the place of those loose pages, so easily overlooked.

These developments promise the practitioner of the future, trained in the use of computers, a more efficient access to raw legal data. It may be hoped that use of electronics will be accompanied by an enhancement of judgment. Otherwise, in a mass of regurgitated material, practitioners will be deluged with single instances. They will then face the problem of deriving principles from all of these cases. It is a common structural weakness of the common law that it tends to be unconceptual. Its principles emerge from the process of refinement through the development of the law in many cases, sometimes over centuries. Perhaps computers will be designed which can assist in and expedite the development of legal principles. A recent article in the Modern Law Review⁵⁰ examines the implications of artificial intelligence for legal and judicial activities. Who knows, perhaps lawyers in some future age will have a mini computer attached to the brain or carried (possibly inside the wig). I can certainly think of a few counsel (and even a few judges) who could do with such a supplement. At times, I would not even mind one myself.⁵¹

The Supreme Court of Canada has led the way with long distance video hearings, with the aid of satellites.⁵² I foresee the time when evidence will be collected much more efficiently than we do it now. Out of recognition of the unreliability of human memory, much material will be collected on contemporaneous video interviews. Hearings will increasingly take place with the aid of telecommunications. Juries will sit through video evidence of witnesses, already vetted for inadmissible or otherwise irrelevant testimony. Judges will dictate their judgments into equipment which will provide transcription direct from voice to print, with the need for minimal editing. Substantive cause of action will be framed to lend themselves to automatic processing. The scope for discretion and judgment may be diminished, in order to promote the more efficient and uniform resolution of cases. In a sense, the New Zealand Accident Compensation Scheme previews these developments. Instead of indeterminate general damages, the computation of which require human judgment and instead of positing compensation on proof of negligence or other liability, the statute provides benefits akin to social security payments according to a statutory formula. The compensation for some may be diminished. But as a matter of community equity this result is justified by the assurance of compensation to all. It is achieved by major reductions in servicing costs, including the virtual total abolition of accident litigation involving lawyers.⁵³

Few areas of legal practice will be unaffected by these developments. Land title conveyancing, which is the staple of the legal profession of Australia, will be replaced over time

by administrative measures and computerised systems for passing property and realty. Already, in Australia, some orders for the dissolution of marriage can be secured "by post".⁵⁴ If the core work of large sections of the legal profession - accident compensation, land title conveyancing and divorce - disappear or are substantially reduced, will there be work for lawyers of the future?

Crime, like the poor will always be with us though notions of crime will surely change. The law of torts and contracts will gradually merge to a single law of obligations. Disputes as to alleged breaches of obligations, not involving accidents, will always be there to be solved. The growth area for lawyerly work, apt for the twenty first Century, includes the protection of human rights and the assertion of administrative justice.

CHANGING TIMES

A comparison of the latest part of the Australian Law Journal with the equivalent edition fifty years ago shows how things have changed.

Some of the subject matters seem familiar. In April 1936 the Journal was reporting the judgment of the Judicial Committee of the Privy Council on an appeal from the Supreme Court of Alberta in McPherson v McPherson.⁵⁵ It is a notable case about the importance of the open administration of justice. I recently referred to it.⁵⁶ Most of the other items seem orthodox. One was about mortgages under the Torrens system by a joint tenant.⁵⁷ Another was on the employment of agents by trustees and personal representatives.⁵⁸ The reports of the High Court of Australia concern constitutional law, patent law and a leading case on insanity in criminal law.⁵⁹

How different it is fifty years on. True it is there is a discussion in both editions of the Journal on the appointment of judges, a topic of never ending fascination.⁶⁰ True also, there is discussion in both on maintenance following matrimonial breakdown.⁶¹ But running through the latest part of the Australian Law Journal is clear evidence of the growing impact of technology on our discipline. For example, there is a lengthy report on the Canadian National Forum on Access to Information and Privacy which I attended in March, 1986.⁶² The first published article is one by myself in the realm of bioethics. It concerns legislation to combat Acquired Immune Deficiency Syndrome (AIDS).⁶³ It is followed by an essay on computer software protection.⁶⁴ Amongst the case notes are reports on a decision of the Federal Court under the Telecommunications (Interception) Act 1979.⁶⁵ In the attached reports of the decisions of the High Court of Australia, the first is of a recent decision on whether computer programs can be "literary works" under copyright legislation.⁶⁶ The judgment of the Chief Justice of Australia is given over to explanation of binary or hexadecimal notation. It catalogues acronyms with which we are, or shortly will be, familiar - ROMs and EPROMs.

This admittedly anecdotal material demonstrates the great change that has come over legal practice. Lawyers must move to embrace the change. For lawyers to ignore the greatest engine of change today is to condemn our profession to increasing irrelevancy. For the future of the law put Archbold down for a while. Drag yourself away from Dicey. And begin your understanding of quantum physics. For in the twenty first Century, we will all be the children of Erwin Schrodinger.

FOOTNOTES

- * President, Court of Appeal, Supreme Court Sydney (1984-); Chairman, Australian Law Reform Commission (1975-84); Judge, Federal Court of Australia (1983-84); Member of Executive, Commonwealth Scientific Industrial Research Organisation (1983-); Chairman, OECD Expert Group on Transborder Data Flows (1978-80); Commissioner, International Commission of Jurists (1984-).
1. Australia, The Law Reform Commission, Criminal Investigation, ALRC 2, 1975, 54.
 2. *ibid*, 128f.
 3. *ibid*, 94f.
 4. Australia, The Law Reform Commission, Alcohol, Drugs and Driving, ALRC 4, 1976.
 5. Australia, The Law Reform Commission, Insolvency: The Regular Payment of Debts, ALRC 6, 1977.
 6. Australia, The Law Reform Commission, Human Tissue Transplants, ALRC 7, 1977.
 7. Australia, The Law Reform Commission, Privacy and the Census, ALRC 12, 1979.
 8. Australia, The Law Reform Commission, Privacy, ALRC 22, 1984.
 9. Australia, The Law Reform Commission, Unfair Publication: Defamation and Privacy, ALRC 11, 1979.
 10. See R v Brislan; Ex parte Williams (1935) 54 CLR 262 (radio broadcasting); Jones v The Commonwealth & Anor (No. 2) (1965) 112 CLR 206 (television).
 11. Australia, The Law Reform Commission, Contempt and the Media, DP 26, 1986.
 12. This is discussed in Attorney-General (NSW) v John Fairfax & Sons Limited (1986) NSWJB 18.

13. See discussion [1983] Reform, 12, Jan. 1983, No. 29.
14. The Law Council of Australia had included in its biennial conferences sessions on nuclear disarmament. Australian Lawyers for Nuclear Disarmament has an increasing membership. Leading members of the judiciary are writing and talking on the topic. See eg R. E. McGarvie, J "Speaking Out for control of a Global Epidemic" May (1985) Law Inst. Vic. J p.459.
15. See eg Atomic Energy Authority (Special Constables) Act 1976 (UK).
16. (1985) 18 DLR (4th) 481.
17. *ibid*, 518-9.
18. Victoria Park Racing and Recreation Grounds Co Limited v Taylor & Ors (1937) 58 CLR 479, 496. See also Canada, Task Force on Privacy and Computers, Report Government Printer, Ontario, 1972.
19. Freedom of Information Act, 1982 (Aust); Access to Information Act, 1983 (Canada); Privacy Act 1983 (Canada); Freedom of Information Act 5 USC 552 (US); Official Information Act 1982 (NZ).
20. Organisation for Economic Cooperation and Development, Guidelines on the Protection of Privacy and Transborder Flows of Personal Data, OECD, Paris, 1981.
21. But see Local Government (Access to Information) Act 1985 (UK) noted (1986) 7 Media Law 19.
22. See note 19 above.
23. Canada, House of Commons, Standing Committee on Justice and Solicitor-General, First Report on the Review of the Access to Information and Privacy Acts, 1986.

24. Cf Treacy v Director of Public Prosecutions [1971] AC 537; Director of Public Prosecutions v Stonehouse [1978] AC 55 discussed [1978] British Year Book of International Law 259, 279.
25. Organisation for Economic Cooperation and Development, "Computer-Related Criminality: Analysis of Legal Policy in the OECD Area", OECD, Paris, 1985.
26. (1983) 42 O.R. (2d) 225.
27. ibid, pp 236-237.
28. id, 235. See also D.K. Piragoff, "Combatting Computer Crime with Criminal Laws", mimeo, paper prepared for Symposium on Criminal Law in the Information Society sponsored by the Netherlands, Department of Justice, April 1986. This subject matter is discussed in P. Robinson, "Legal Issues Raised by Transborder Data Flow", mimeo, paper presented at a conference on Canada - United States Economic Ties, Cleveland, Ohio, April, 1986.
30. Testimony of W.L. Fishman, United States Banking Committee, Sub-Committee on International Finance and Monetary Policy, 9 November, 1981, mimeo 10-11.
31. See for example "Waging a Trade War over Data", New York Times, 13 March, 1983.
32. United States v Bank of Nova Scotia 691 F 2d 1384 (11 Circ) (1982); J. Fried, "Conflicting Assertions of National Jurisdiction Over Information Matters", mimeo, paper presented to the Media and Communications Law Section, Canadian Bar Association, October 1984, 3, cited Robinson, 13; J.T. Burnett, International Banking Law and Extraterritoriality, 9 Transnational Data & Communications Report 17 (1986).

33. Robinson, 15 ff.
34. See eg Computer Edge Pty Limited v Apple Computer Inc (1986) 60 ALJR 313 (HCA).
35. A.W. Branscomb, "The Accommodation of Intellectual Property Law to the Introduction of New Technologies", report prepared for the United States Office of Technology Assessment, Washington, 1985.
36. Canada, Parliamentary Sub-Committee on Revision of Copyright, "A Charter of Rights for Creators", October, 1985, 46. Cf Canadian Government Response to Recommendations of the Parliamentary Sub-Committee on Revision of Copyright, February, 1986, 9. See also Canada, Supply and Services, "From Gutenberg to Telidon-Proposals for the Revision of The Canadian Copyright Act", Ottawa, 1984.
37. See eg Australia, The Law Reform Commission, Evidence, ALRC 26, Interim, Vol 1, 187 ff.
38. In Re B (a Minor) (Wardship: Medical Treatment) [1981] 1 WLR 1421 (CA).
39. Re Superintendent of Family and Child Service and Dawson et al (1983) 145 DLR (3d) 610 (SCBC).
40. Discussed G.J. Samuels, "Should we Strive Officially to Keep Alive?" 1984, Proceedings of The Medico-Legal Society of NSW 213, 220. See also discussion G.P. Smith and J.B. Hickie, "Life or Death - Who Decides?", ibid., 190, 197.
41. On 5 July, 1986 Vincent, J in the Supreme Court of Victoria granted an injunction directed at a Melbourne hospital on the request of a grandfather, designed to preserve the life of a neonate born with severe spina bifida.

42. See discussion G. Williams, "The Right to Die" (1984) 134 New LJ 73. See also Z. Lipman, "The Criminal Liability of Medical Practitioners for Withholding Treatment from Severely Defective NewBorn Infants" (1986) 60 ALJ 286.
43. Corbett v Corbett [1971] P 83. For discussion see D. Pannick, "Homosexuals, Transsexuals and the Sex Discrimination Act" [1983] Public Law 279.
44. In Re C & D (1979) FLC 90-636; noted (1979) 53 ALJ 659.
45. R. Wilson, "Life and Death: The Impact of Human Rights on Experimenting with Life" (1985) 17 Aust J Forensic Sciences, 61, 80. Note the recent case in the European Court of Human Rights concerning a transsexuals right to marry: Van Oosterwijk v Belgium (1981) 3 EHR 557.
46. New South Wales, Law Reform Commission, Artificial Conception: Human Artificial Insemination, LRC 49, 1986. See also G.P. Smith, "Australia's Frozen 'Orphan' Embryos: A Medical, Legal and Ethical Dilemma", 24 Journal of Family Law 27, (1985-6). See also I.R. Hill, "Liability and In Vitro Fertilisation" (1985) 25 Med Sci Law 270.
47. In Re A Baby, Times Law Report, 15 January, 1985, p 8. Decision of Latey, J. Legislation is beginning to flow. See Infertility (Medical Procedures) Act 1984 (Vic); Human Embryo Experimentation Bill, 1985 (Aust); Surrogacy Arrangements Bill 1985 (UK).
48. New South Wales, Supreme Court Rules, Part 1 Rule 9A.
49. D. Waller, Technology and the Bar, (1986) 83 Guardian Gazette (GB) 988.
50. R.E. Susskind, "Expert Systems in Law: A Jurisprudential Approach to Artificial Intelligence and Legal Reasoning", (1986) 49 Mod L Rev. 168.

51. G. Shutkin, "Video Tape Trials: Legal and Practical Implications" 9 Columbia J Law & Soc Probs 364 (1973).
See also New South Wales, Supreme Court Rules, Part 14A, Rule 12.
52. W.Z. Estey, "The Changing World of the Judiciary", unpublished paper for the 23rd Australian Legal Convention, August, 1985.
53. G.W.R. Palmer, Accident Compensation: A Study of Law and Social Change in New Zealand and Australia, 1979, Oxford Uni Press, Wellington.
54. Family Law Act 1975 (Aust), s 98A.
55. McPherson v McPherson [1936] AC (PC) 177; reported (1936) 9 ALJ 447.
56. Raybos Australia Pty Limited v Jones (1985) 2 NSWLR 47.
57. (1936) 9 ALJ 431.
58. (1936) 9 ALJ 433.
59. Rex v Sodeman (1936) 9 ALJ 60.
60. (1936) 9 ALJ 425; Cf (1986) 60 ALJ 315.
61. (1936) 9 ALJ 450; Cf (1986) 60 ALJ 321.
62. (1986) 60 ALJ 317-320.
63. M.D. Kirby, "AIDS Legislation, Turning up the Heat?" (1986) 60 ALJ 324.
64. S. Stern, "Computer Software Protection After the 1984 Copyright Statutory Amendments" (1986) 60 ALJ 333.
65. (1986) 60 ALJ 352.
66. (1986) 60 ALJR 313 (HC).