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GOULBURN VALLEY COMMITTEE FOR THE PROMOTION OF ADULT CONTINUING EDUCATION

CIVIC CENTRE SHEPPARTON 29 OCTOBER 1982

THE CHALLENGE OF SCIENCE AND TECHNOLOGY TO THE LAW

The Hon. Mr. Justice M.D. Kirby
Chairman of the Australian Law Reform Commission

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OF SCIENTISTS AND LAWYERS

In this short talk, I propose to develop a simple thesis. It is that one of the most dynamic forces for change in the law today is the impact on its rules, procedures and personnel of science and technology. And that we should be developing institutions to help our democracy respond to these forces. Many of the implications of scientific change are not being addressed efficiently by the legal order. In part, this is because of the general problem of keeping the law up to date when the principal way of doing so is through cumbersome, sometimes medieval parliamentary machinery, not well adapted to the pressures of change of our time. In part, it is because of a certain problem of communications between scientists and technologists, on the one hand, and lawyers and lawmakers on the other. We tend (with notable exceptions) to speak a different language and to look at the world through difference spectacles. The first group tend to be those who at school were good at mathematics. The second group tend to be those to triumphed in poetry and had a skill with words. Few are the lawyers who are trained in science. One notable exception is Mr. Justice Murphy of the High Court of Australia. He has a First Class Honours degree in Science and maintains his interest in scientific journals. Most lawyers and lawmakers find scientific change mysterious, perplexing and uncomfortable. Little wonder that they tend to put its legal implications into the 'too hard basket'.

Mind you, lawyers and scientists share certain things in common. The law operates on proved, not certain, facts. In this sense, lawyers and scientists are content to work with a notion of relative truth. Claims to absolute verities are left to priests and politicians.

In the short time available to me, there is no opportunity for an elegant discourse on the history of famous legal scientists. Nor can I indulge myself with tales of early legal reactions to scientific heresies. (We burned their authors). Nor is there time for an analysis of interesting forensic cases, such as the trial of Dr. Crippen, gripping though that might be. Instead, I must spend my allotted time telling you something about the Australian Law Reform Commission, detailing some of the cases in which we have proposed law reform to put scientific and technological change to the service of the law. Then, I shall instance quickly the three principal areas of science which I see as promoting special problems for the law. Finally, I plan to say something about a particular subject in the bio-ethical area, which has, so far, received scant attention in Australia.

USING SCIENCE AND TECHNOLOGY

The Law Reform Commission is a permanent body established by Federal Parliament to assist government and the Parliament with advice on the reform, modernisation and simplification of Federal laws. It works only on tasks assigned to it by the Federal Attorney-General. It has delivered a number of reports and a good proportion of them have passed into law, both at a Federal and State level. As I speak, two Bills are before Federal Parliament based upon reports of the Commission. The process is therefore one requiring a blend of principle and pragmatism, for almost every proposal for reform must run the gauntlet of parliamentary consideration, with the special problems of partisan scrutiny and the Federal division of powers.

The Commissioners of the Australian Law Reform Commission have included some of the most distinguished lawyers in our country. Sir Zelman Cowen and Sir Gerard Brennan were, at one stage, Commissioners. The Shadow Attorney-General, Senator Evans, and the Premier of Victoria, Mr. John Cain, were also Commissioners. The new permanent head of the Premier's Department, Mr. George Brouwer, was Secretary and Director of Research of the Australian Law Reform Commission. Lawyers from every shade of opinion, from every part of the Commonwealth and from all branches of the profession, have been called to work on tasks of legal renewal.

Almost every one of those tasks has involved, directly or indirectly, the pressure for legal change caused by advances in science and technology. In recognition of this fact, from the very outset we have sought to attract to our table consultants from various scientific disciplines able to help us in the tasks of law reform. In a number of reports, a great deal of attention has been paid to mobilising scientific advances, to set at rest age-old disputes:

. In the Commission's report on Alcohol, Drugs and Driving prepared for this Territory, proposals were made for the use of the modern Breathalyzer which would print out the result of its analysis. The facility was advised for taking skin, blood and other body samples to recognise the limitation of the Breathalyzer, which is not specific to drugs other than alcohol. These proposals were adopted and are law.

. In our report on Criminal Investigation we sought to graft on to the police procedures, many of them virtually unchanged since Robert Peel laid them down in 1829 London, the new facilities of science and technology. To help lay at rest the disputes about the fair conduct of identity parades, we proposed photography of such parades. To help lay at rest the disputes about confessional evidence to police, we proposed tape recording, wherever practicable, of such confessions. To help maintain the independent judicial superintendence of intrusive police actions, we proposed telephone warrants for police in emergency cases. All of these proposals have been adopted and they form important aspects of the Criminal Investigation Bill 1981 which is presently before Federal Parliament. That Bill, embracing the advantages of science and technology for police procedures, represents one of the most important law reform measures every placed before Federal Parliament. I believe the Attorney-General, Senator Durack, is to be commended for pressing on with these reforms. The Commissioner of the Australian Federal Police, Sir Colin Woods, is also deserving of approbation for his willingness to embrace sound scientific reform. I have no doubt that tape recording, when police become used to it, will prove one of the most important weapons in the armoury of police in their fight against crime.

. In the current project of the Commission on the Law of Evidence, we are examining ways in which the rules of evidence applied in Federal courts can be tested against modern psychological research. Experiments show that uninterrupted testimony is much more reliable as a reproduction of accurate recall than testimony which is punctuated by questions. Experiments show conclusively that such questions can distort the reply. When a test group was shown a basketballer, and half were asked 'how tall is the basketballer' and half asked 'how short is the basketballer', the average difference in responses was as much as ten inches. Yet testimony in our courts is produced by techniques of rapid-fire questioning. Can a legal technique so ancient and fundamental be changed by the mere proof of scientists that the centuries-old ways lawyers have been doing things may contribute to positive distortion of recall?

THE PROBLEMS OF SCIENCE

Energy Sciences. If one were to identify the three principal areas of science in which great advances are occurring that will have implications for the law, one would mention the energy sciences, informatics and biological developments. The South Australian Law Reform Committee has looked at changes in the law that will be needed with any advance in the use of solar energy in Australia. They have examined such matters as the :

- rights of access to solar radiation
- building and planning implications
- consumer protection for solar energy appliances
- control of solar radiation

None of these matters has yet been committed to the Australian Law Reform Commission. One has only to think of the revolution in society and the law brought about by the motor car to consider the potential for legal change that will attend any major shift from fossil fuels. The OECD already publishes a regular journal simply titled 'Nuclear Law'. It is difficult to foresee the implications of changing energy sources for our legal system. If we go down the nuclear path some of our traditional civil liberties may have to be modified because of the need for greater security around nuclear establishments.

Informatics. The impact of the microchip is only now being felt in the legal profession. So far it has involved word processors, the beginnings of computer retrieval of legal data and greater office efficiency. However, I have no doubt that in time computerisation of land titles will greatly reduce the role which lawyers play in land conveyancing in Australia. As this presently represents 50% of the fee income of the legal profession of this country, the implications of this change for a widely distributed service profession must be carefully evaluated and, above all, prepared for.

In terms of the substantive law, a number of areas of operation will need reconsideration to adjust to the world of computications : computers married to telecommunications systems. I leave aside such matters as national security, the impact of worldwide computications on national languages and culture. If we just look at the changes in our laws that may be needed for the greater vulnerability of the wired society, for the greater protection of the privacy of individuals in respect of computerised personal information data banks and the need for modification of our courtroom rules for the introduction of computer-generated evidence, we can see that there is a major

task for reform ahead. The Australian Law Reform Commission has been devoting a good deal of its resources to the issue of privacy protection, in order to develop data protection and data security laws. With the enactment of the Freedom of Information Act 1982, last month, the Commission is now working at full steam to produce its report on privacy laws to complement the FOI Act. The other side of the coin of greater access to government information is the need for new protections against the capacity of computers to aggregate personal information and to provide instant, detailed data profiles to those with control of the computers.

Bio-ethics. The field of bio-ethics presents the most dramatic and in some ways the most difficult area where science promotes the need for law reform. The Law Reform Commission, by a collection of distinguished legal, scientific, philosophical and theological consultants, produced a report on Human Tissue Transplants. That report is now being adopted in most of the jurisdictions of Australia. It deals with such controversial implications of transplantation as:

- the definition of brain death
- the regime for donations or the substitution of a legal system of implied donation
- the question of donations by legal minors, under the age of 16, to siblings of non-regenerative tissues in the case of mortal need
- the use of organs and tissues from coroners' cadavers for the production of serum, in the name of a public interest wider than respect for the bodily integrity of the dead.

The success of the implementation of the Human Tissue Transplant report in several jurisdictions of Australia shows that progress can be made in law reform concerning bio-ethics, if the right techniques of expert and public consultation are carefully followed. The success of that project opens up the possibilities for law reform work in many associated areas of great sensitivity. These are neither hypothetical issues, nor are they likely conveniently to go away. They are specially uncomfortable for politicians in the lawmaking process because of the high emotions that they raise. Yet unless the democratic lawmaking system is to prove incompetent to handle such questions, we shall continue to have serious problems associated with bio-ethical questions posed for us by the onrush of the technologists. I refer to such issues as:

- the growing use of artificial insemination by donor (AID)
- the use of foetal tissue for experiments

- the issue of euthanasia and the right of terminal patients to elect to die without having 'extraordinary medical means' applied to their survival
- the predicament of doctors at the birth of a spina bifida child or a child born grossly mentally retarded. The recent jury trial of Dr. Leonard Arthur in England shows that this is far from an academic question
- the advance of genetic engineering
- the development of artificial intelligence, including by the marriage of computing and biological sciences. We are now told that the next generation of space exploration probes is likely to rely almost exclusively on computerised and automated control systems based on artificial intelligence
- the prospective development of human cloning
- the whole issue of in vitro fertilization, which is now before Committees of Enquiry in Victoria and New South Wales. The Victorian Committee, chaired by Professor Louis Waller, Victorian Law Reform Commissioner, khas recently delivered an Interim Report. I want to close with some reflections on the legal and moral questions that are raised by in vitro fertilization.

IN VITRO FERTILIZATION

The first test tube baby was Louise Brown born in July 1978. Since her birth, a steadily growing number of such babies have been born, many of them in Australia. We are amongst the leaders of the technology and this is a matter of pride. The pictures of the smiling parents and their offspring evoke natural human sympathy — especially because of the struggle these people have had to enjoy the pleasures and responsibilities of parenthood and family life.

According to public opinion polls, the majority of Australian people support the in vitro program. Some ask : who could possibly oppose the technique that simply overcomes a physical obstruction and may bring parenthood to more than 30,000 couples?

It is now increasingly realised that there are problems to be addressed:

- Some commentators, particularly those starting from a traditional religious point of view, are absolutely opposed to the new techniques:
  - They are seen as 'laboratory procreation' — a dehumanised, unnatural manufacture of man as if he were a mere product : the elevation of the scientist to God-like power. This, roughly, is the reason that led Pope Pius XII to condemn the technique as absolutely illicit.

- .. Other opponents point out that IVF requires masturbation to produce the sperm. It is said that this admittedly widespread practice is evil. In the absence of married love at the time of conception, it is thought that no good can come of it.
- .. Other opponents fear the process of freezing of the human embryo — a technique utilised because of the wastage of embryos in the process of fertilisation — will all too readily lead on to experimentation with embryos and foetuses. The spectre of the foetal farm, developed to provide tissue for the relief of adult diseases, is one that horrifies some observers, but not others.
- .. If embryos are frozen and not needed for future use, should they be discarded or would this act involve killing a form of human life?
- .. Other opponents of the whole program simply say that, whatever your religion, there are better things to be done with the scarce medical dollars that would bring help to more fellow citizens. According to these people, this is an exotic, extremely expensive program benefitting relatively few.

- Even amongst those who positively support the IVF technology, there is now an increasing recognition of the need to consider particular social and legal consequences. Take the following, for example:
  - .. Should IVF be available only to married couples or also to single people, such as, say, a lesbian woman who wanted a child?
  - .. Should we permit surrogates, ie if a woman cannot carry a baby full-term, should her sister be permitted to do so? If so, who is the true mother? Who, if either of them, has the say in abortion decisions?
  - .. What happens to the law of incest? Could a daughter carry the child of her parents?
  - .. Should parents be able to chose the gender of the embryo they select?
  - .. Should it be lawful to retain a frozen human embryo for hundreds of years as is said to be technologically possible? If so, what is to happen to the distribution of property? Is the child's identity one of our generation or the generation into which he is born?
  - .. In the case of frozen embryos, what is to happen on the death or divorce of the donors?

These may sound exotic questions. Looking at the smiling babies we may prefer to put them out of our minds. But unless we provide the answers and the laws, we may be delivering our society to the Brave New World which Huxley wrote about 50 years ago this year.

THE LESSONS OF SCIENCE?

The lesson of science and technology for the law is that its developments tend to happen very rapidly — sometimes overnight. One morning we wake up and the newspapers proclaim a 'test tube baby'. Smiling parents and doctors reassure us that all is well. So far, perhaps it is. Will we have the same reaction if one day, within the next 20 years, we wake up to read that the remarkable scientists have gone beyond cloning frogs, mice and prize cattle. Will the television pictures of the first cloned human being fill us with delight, fear, horror, awe? Without legal regulation it is sure that scientists somewhere will continue the experimentation. Meanwhile, the law and the lawmakers sleep on this subject. Suddenly, overnight, there will be a flurry of activity and a need for legal response. It may not be a considered response, unless we prepare.It is imperative that the response when offered should not be left to the scientists alone — nor to theologians or philosophers alone. As in all the questions of bio-ethics, and indeed all the issues of scientific impact on society, it is vital that the community be brought into the debate.

If there has been one thing unique in the work of the Australian Law Reform Commission, it has been its endeavour to raise community debate about its proposals. The ticking UXBs of science — particularly biological science which touches so closely the deepest human emotions — represent one of the best arguments I know for law reform. I say this not to be alarmist but out of recognition of the need to develop new interdisciplinary means of helping the lawmakers to cope with a time of rapid, puzzling scientific change. Whether it is through the Law Reform Commission, or some other national body, it is essential that our country — indeed humanity — develop means to bring together the relevant disciplines and to consult the community — so that even in our Age of Science and Technology the law and its institutions can uphold the rules that reflect the values of ordinary men and women.