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

IN THE STEPS OF SCHRÖDINGER

The dynamic forces of science and technology affect the definition of human rights. It could scarcely be otherwise in the last years of the twentieth century. Our time has seen many remarkable scientific and technological developments. They profoundly affect the individual, the social environment, the relationships of nation states and the planet. They reach out into space. The dreams of scientists of yesterday become the fascinating achievements of today and the prospects of tomorrow.

In this review, an attempt will be made to illustrate (for no more is possible) the way in which some of the main scientific and technological developments of our time affect the traditional perceptions of human rights, expressed as they often are in language derived from the 17th and 18th century doctrines of the Rights of Man. Such prescriptions were based, quite frequently, on religious beliefs or writings on natural law. It is timely to look afresh at the definition of human rights and at the endeavour to catalogue them. It is not necessary to debate whether, as is claimed, the main scientific and technological developments themselves have a common origin in the remarkable insights into quantum physics derived principally from the work of Erwin Schrödinger in Germany in the mid 1920s.[1] Lawyers, by education and training are typically uninterested in physics and

mathematics. The definition and enforcement of human rights remains overwhelmingly the province of lawyers - most of them ignorant of the detail of modern technological developments and uninterested in the scientific theories that support them. Uncomfortably for the lawyer, the nature of humanity, the organisation of society and the very persistence of civilisation are now profoundly and increasingly affected by the doings of the scientist and the mathematician. To persist with "two worlds" in which lawyers cling to the familiar civil, political and economic rights substantially defined before the scientific developments of recent decades is to run the risk of failing to address attention to urgent problems as to human rights, simply because these are so complex, controversial or unfamiliar. Alternatively, the risk is run that old statements of human rights, framed in earlier times, will prove irrelevant, incompetent or unacceptable when measured against the new and urgent problems which science and technology present.

This review is timely for a number of reasons. Some of them are domestic; some are universal. In Australia, the debate about human rights has taken on a new focus by reason of two initiatives of the Federal Government. The first is the introduction into the Australian Parliament of the legislation to enact an Australian Bill of Rights.[2] The second is the establishment of the new Constitutional Commission with terms of reference which include a requirement to report before 30 June, 1988 on the revision of the Australian Constitution inter alia to "ensure that democratic rights are guaranteed".[3] One of the advisory committees to assist the Commission is charged with the examination of "individual and democratic rights under the Constitution". At the end of January, 1986 the Commission had its

first meeting in Sydney.

As will be shown, some of the objections which have been voiced to the terms of the proposed Australian Bill of Rights arise from scientific and technological developments, unknown or of little significance when the language, from which the Bill is derived, was first written. Developments in the field of biology present the clearest illustrations of the difficulty of applying human rights provisions designed to protect life to circumstances where human life can now be developed in vitro and made the subject of investigation, experimentation, contract, use and destruction. The noted historian, Professor Geoffrey Blainey, criticised the composition of the Constitutional Commission and its committees on the ground that "no scientist or technologist of distinction has been asked to share in the reshaping of a Constitution which will be quickly outdated if it does not envisage how new inventions could alter daily life and national deliberations in the next half century".[4] By way of contrast, in the post Franco democratic constitution of Spain, care was taken to include in the definition of the human rights, to be respected and enforced in the new democracy, at least some entrenched rights (notably on data protection and data security) which, although apt for the last quarter of the 20th century, find no place in the human rights debates which accompanied the French and American revolutions two centuries earlier. It is to be hoped, that in time, in Australia, our belated embrace of the notion of a Charter of Rights will not rest content with adding to our Constitution, itself largely devised in the 1880s, the catalogue of rights which was agitating the philosophers in the 1780s. In a country of markedly declining church attendances[5] and in which agnostisism is rapidly increasing,[6] lengthy reflections

upon freedom of religion, although not to be disparaged, may be of less immediate relevance to human rights concerns today than provisions about freedom from undue invasion of data privacy. In a country in which the media of mass communications, printed and electronic, are in relatively few hands, guaranteed rights of access to information and to use of the media of mass communications may be of more significance than generalised statements about free speech and the free press. These remarks are not to disparage the importance of the Australian Bill of Rights initiative or the enduring relevance of the list of civil and political rights there collected. They are to make the point that the world has moved on. A new series of problems have presented themselves. Most of them are traceable to science and technology.

Until quite recently, the general attitude of informed people in countries such as Australia was that the benefits accruing to mankind from scientific discoveries, and their applications through technology, are essential attributes of human progress, overwhelmingly beneficial. Reflections upon the terrible destruction of the two World Wars, and other more limited conflicts since 1945, together with concern about the capacity of modern weapons of nuclear, chemical and bacteriological warfare, to cause suffering and even annihilation of mankind have more recently produced, a more pessimistic mood. Increasingly it is recognised that not all science is good for humanity. Even scientific developments generally thought beneficial (such as the reduction of infant mortality and the "green revolution" in agricultural production) may produce an explosive increase in population which puts unacceptable pressure upon food supplies, living space and economic resources.7 The

result, in at least some of the countries affected is human suffering. In other countries, the result is the imposition of a regime of strict birth control which may challenge notions of individual rights such as in Australians would be regarded as fundamental. The factories which bring industry may be responsible for pollution of the environment. The computer which brings the new technology may abolish much routine labour and undermine the capacity of an economy to fulfil a guarantee of the right to work.[8]

To record these growing reservations about science and technology is not to cast doubt upon the positive contributions which they may make to human rights, defined as rights of fundamental or paramount importance essential to a decent and fulfilling human life.[9] Biotechnology relieves pain and suffering. For example it may help otherwise childless couples to the fulfilment of family life, itself the subject of many human rights guarantees.[10] Computers and the other developments of informatics promote the flow of information. Satellites enhance the right of free speech so that it may now extend far beyond the limited capacity envisaged in 1789. They permit leaders and individuals to speak instantaneously to hundreds of millions of people. These developments also have significance for the modernisation of backward economies. Even nuclear fission may, under appropriate conditions, present advantages to mankind faced otherwise with the ultimate depletion of energy based on fossil fuels. It is not my present purpose to enter the debate about the right to development and the duty of developed countries to contribute to the real expansion of human rights in the developing world by the transfer of hard technology.[11] Talk of human rights without effective guarantees of life, liberty, food,

shelter and security may appear empty in countries where those rights cannot be guaranteed and where human rights are allegedly debased by the deprivation of access to technology which would be regarded as essential in a country such as Australia.

It is not necessary to be a Luddite or to be opposed to scientific and technological developments, simply because one is alert to the risks which they pose for the fundamental rights of humanity. What is essential is that people who in 1986 profess an interest in human rights, should lift their sights from the catalogue of concerns of the 17th century philosophers - important although they mostly still are - and interest themselves in the new challenges which science and technology present today. Happily, in the international development of human rights, this is beginning to happen, although slowly. Yet so far there is little evidence of more than a selective interest in the subject in Australia.

INTERNATIONAL DEVELOPMENTS

The intellectual and institutional developments on human rights in the second half of the 20th century have been described as a "remarkable revitalisation and extension of the great 17th and 18th century doctrine of human rights".[12] There is no doubt that, in part, the motive force behind this phenomenon has been the rising power and influence, in the international community, of the United States of America. The revolutionary origins of that country, the Declaration of Independence and the Bill of Rights adopted in 1790 profoundly affected, and continue to affect, the nature of American society. They influenced President Wilson's 14 points for a peace settlement in 1919. They explain President F.D. Roosevelt's call to the international community to uphold the Four Freedoms - freedom of speech and expression,

freedom of worship, freedom from want and freedom from fear. These goals, adapted as Allied war aims, in turn influenced the foundation of the United Nations Organisation. From the start, one of the objectives of that organisation has been "to promote respect for human rights and fundamental freedoms".[13] Although there is much justifiable cynicism and disillusionment with the world body, now in its fifth decade, there can be little doubt that it has played a significant part in the development of an international jurisprudence of human rights. There is a "paradox" pointed up by Egon Schwelb. One of the purposes of the United Nations, an organisation of governments, is the promotion and encouragement of respect for human rights. Therefore, the governments of the States Members of the United Nations by the Universal Declaration of Human Rights and other human rights instruments have engaged "in the task of protecting their own citizens against themselves".[14] What is now necessary is a recognition of an additional paradox. Governments and other entities need protection themselves, lest they and the citizens and residents in their care, lose rights, hitherto regarded as fundamental to humanity (including even life itself) by reason of the potentialities of modern technology.[15]

Australia, and specifically Dr. H.V. Evatt, took a leading part in the initiation of the early efforts of the United Nations Organisation to define and prescribe human rights.[16] The result was, in turn, the Universal Declaration of Human Rights (1948), the International Covenant on Civil and Political Rights and the International Covenant on Economic, Social and Cultural Rights (1966).[17] There have been many other relevant conventions. Australia has the best record of any country of its region in ratifying and implementing, by domestic law, these efforts of the

international community to lay down universal rules of civilised behaviour. The other covenants include the Covenant on the Status of Women (1951), on the Political Rights of Women (1953) the International Convention on the Elimination of all Forms of Racial Discrimination (1965), and so on.

One of the consequences of the development of the notion of "human rights" through the United Nations, with its rapidly expanding membership coming from all parts of the world has been a noticeable shift in the debate. That shift has reflected the composition of the United Nations Organisation itself. Whereas immediately after its establishment, reflecting the then overwhelming influence of the countries of Western Europe and North America, the concerns of the international human rights debate were still profoundly influenced by such human rights statements as the French Declaration of the Rights of Man and of the Citizen of 1789 and the American Bill of Rights of 1790, by a decade later, the emphasis had changed significantly. The International Covenant on Economic, Social and Cultural Rights in its preamble places emphasis upon the fact that "the ideal of free human beings enjoying freedom from fear and want can only be achieved if conditions are created whereby everyone may enjoy his economic, social and cultural rights as well as his civil and political rights".[18] Now, it is the developed world in which there is a rising concern about the implications for fundamental rights in respect of the new technology. This is because it is the countries of the advanced economies which enjoy that technology whose people are therefore exposed to their risks and dangers (as well as to their benefits). Generally speaking, it is difficult to enlist great interest in the dangers of information technology to personal privacy in countries which do

not even enjoy a rudimentary telephone system. Likewise, the problems of *in vitro* fertilisation may seem exotic and remote as dangers to human rights in countries where the practical problems are precisely the opposite: too much fertility and over population. A danger of the modern universalist approach to human rights is the inevitable and proper emphasis which the international debates now place upon subjects of the most acute concern to the poor countries. These remain the social and economic rights and the affront to dignity and humanity perceived in apartheid and like systems of institutionalised racial or cultural discrimination. In such countries, concerns about data protection and organ transplants appear remote, middle class anxieties. Typically, they can find relatively little attention in international discussions of human rights.

However, the process of interdisciplinary and international attention to the impact of new technology in the United Nations has begun. For example, some aspects of the dangers presented by nuclear fission were examined by the United Nations Scientific Committee on the Effects of Atomic Radiation. The problem of population explosion was sent to the United Nations Economic and Social Council and its Population Committee. The International Conference on Human Rights which met in Tehran, Iran, in 1968 declared, in the Proclamation of Tehran:

> "18 While scientific discoveries and technological advances have opened up prospects for economic social and cultural progress, such developments may nevertheless endanger the rights and freedoms of individuals and will require continuing attention."[19]

This resolution was later adopted by the United Nations General Assembly.20 The Assembly invited the United Nations Secretary

General to undertake, with the assistance of the Advisory Committee on the Application of Science and Technology to Development and in cooperation with the executive heads of the competent specialised agencies, a study of the problems arising in connection with human rights from developments in science and technology. The General Assembly instruction specified in particular the difficulties that were perceived as arising from the following stand points:

> (a) respect for the privacy of individuals and the integrity and sovereignty of nations in the light of advances in recording and other techniques;
>
> (b) protection of the human personality and its physical and intellectual integrity in the light of advances in biology, medicine and biochemistry;
>
> (c) use of electronics which might affect the rights of persons and the limits which should be placed on such uses in a democractic society, and
>
> (d) more generally the balance which should be established between scientific and technological progress and the intellectual, spiritual, cultural and moral advancement of humanity.[21]

A preliminary report prepared as a result of this resolution called attention to the additional problems of the deterioration of the human environment, the population explosion, the increasingly destructive power of nuclear weapons and the hazards arising from atomic radiation. As a result of these initiatives a number of agencies of the United Nations Organisation were brought into the new debate, including the Economic and Social Council, the World Health Organisation (relevant to the health aspects of human rights and scientific and technological

developments) and the Commission on Human Rights. These bodies, the United Nations Educational, Scientific and Cultural Organisation (UNESCO) and non-universal groupings such as the Nordic Council, the Council of Europe and the Organisation for Economic Co-operation and Development (OECD) have, since the 1970s, addressed themselves to various aspects of the new technology as it affects human rights.[22]

What has been lacking at the international level, as in domestic jurisdiction, has been a perception of the overall relevance of scientific developments for the concept of human rights. In part, this is because of the continuing infatuation with the priorities to which importance has more traditionally been attached. In part, it is because the human rights debates have, until now, been largely the province of lawyers for whom scientific and technological developments are often an uncongenial mystery. In part, it has been because of the specialised institution, national and international, in which aspects of the new technology and their impact on humanity and society are considered. In part, it is because of the high controversy of some of the questions raised and the moral dilemmas that are posed, many of which seem intractable. For these and other reasons there has been little endeavour to reflect the major scientific and technological developments of the last 50 years, and their impact on human rights, in a conceptual way. Instead old human rights instruments, developed for earlier times, are scrutinised for their possible utility in solving the controversies presented by the new technology. Piecemeal legislation is enacted. No Luther of jurisprudence has emerged to pull together the implications of nuclear physics, informatics and biotechnology for 21st Century man and woman.

NUCLEAR PHYSICS

Concerns about the impact on human rights of nuclear fission derive from the unprecedented destructive force of weapons of mass destruction which have been developed as the technological product of this remarkable scientific development. Without human life, talk of civil and political rights and even of social and economic rights is pointless. Therefore, concern about the manipulation of nuclear fission in the form of weapons quite naturally attracts the attention of those, anxious about the future of human rights. The obvious dangers to human life include the deliberate detonation of nuclear arsenals by governments or terrorists, accident or sabotage at nuclear power stations and the long term pollution of the environment by radioactive materials which escape from weapons, power stations or their waste products.[23] But as Sieghart has pointed out, there are other dangers less obvious. They include the risk that the very safeguards which may be introduced for the purpose of controlling the dangerous proliferation of nuclear material, may lead to "an insidious, gradual and deleterious change in the nature of free societies".[24]

The sixth report of the British Royal Commission on Environmental Pollution (chaired by Sir Brian Flowers, F.R.S) was clearly concerned about the risks, both direct and indirect, which would attend a significant proliferation of plutonium fuelled power stations.

> "What is most to be feared is an insidious growth in surveillance in response to a growing threat as the amount of plutonium in existence, and familiarity with its properties, increases; and the possibility that a single serious incident in the future might bring a

realisation of the need to increase security measures and surveillance to a degree that would be regarded as wholly unacceptable, but which could not then be avoided because of the extent of our dependence on plutonium for energy supplies."[25]

To some, the supply of cheap electricity from internationally reliable fuel suppliers is a matter of paramount social need. Others have expressed their fears by the aphorism that they would "rather read the Bill of Rights by candle light than not to have it to read at all".[26] The need for protection of the rights of the many from the risks of the deranged terrorist or determined blackmailer having access to nuclear material has already produced international reactions with consequences for human rights. In October, 1979, the International Atomic Energy Agency announced that after two years of negotiations, some 58 nations had agreed on the text of the first international Convention on the Physical Protection of Nuclear Material. Article 5 establishes a comprehensive international network for "cooperation and assistance to the maximum feasible extent" in "coordinating recovery and response operations in the event of any unauthorised removal, use or alteration of nuclear material and in the event of credible threat thereof". The implications of this Convention, and a future and more stringent condition that may be imposed as nuclear installations proliferate in the world, for an open society and for civil liberties, is already the subject of much anxious writing.[27] The writers are not necessarily supporters of nuclear disarmament or opponents of uranium mining. Many are simply concerned lawyers who consider that the delicate balance of civil liberties will be profoundly affected, and even mortally undermined, by the defence measures

that will be necessary for society to protect its survival against the enormous risks involved in nuclear material proliferation. The concern is with the "creep effect". In illustration, reference is made to the fact that between 1976 and 1979, a period in which there were no additions to the United Kingdom civil nuclear power program, the strength of the British Atomic Energy Authority's special constabulary increased by 50% from 400 to 600. It is pointed out that this is the only police force in the United Kingdom (save for certain units at airports lately so authorised) to carry automatic weapons and the Chief Constable of which is not answerable to any elected assembly.[28]

In Canada, a recent decision of the Supreme Court illustrates the way in which, in default of human rights measures specific to scientific and technological issues, attempts will be made to call in aid other, more general, statements of fundamental rights in an attempt to promote a desired policy relevant to the new technology. In Operation Dismantle Inc & Ors v The Queen & Ors[29], the appellants sought to challenge the decision of the Canadian Federal Cabinet to permit the testing by the United States of America in Canadian territory of cruise missiles. The appellants invoked s 7 of the Canadian Charter of Rights and Freedoms. That provision states:

> "Everyone has the right to life, liberty, security of the person and the right not to be deprived thereof except in accordance with the principles of fundamental justice."

The appellants sought a declaration that the decision of the Canadian Cabinet to permit testing was unconstitutional as being in breach of this provision. They also sought an injunction to prohibit the testing. A judge of the Federal Court refused the

Government's motion to strike out the statement of claim as disclosing no reasonable cause of action. The Federal Court of Appeal unanimously allowed the appeal, struck out the statement of claim and dismissed the action. The Supreme Court of Canada unanimously upheld this decision. However, the reasoning of Dickson, J (as he then was) (with whom Estey, McIntyre, Chouinard and Lamer JJ concurred) differed slightly from the reasoning of Bertha Wilson, J. All Judges rejected the Government's contention that Cabinet discussions 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". The Supreme Court of Canada had a constitutional obligation under s 24 of the Charter to decide whether any particular act of the Executive Government violated or threatened to violate any right of the citizen. Dickson, J held that s 7 of the Charter could only give rise to a duty on the part of the Executive to refrain from permitting the testing if it could be said that a deprivation of life or security of the person could be proved to result from the impugned Government act. He pointed out that the alleged violation of the Charter turned on an allegation of an increase in the risk of nuclear war resulting from the Cabinet's decision to permit the testing. This allegation depended upon assumptions and hypotheses about how independent and sovereign nations operating in an international arena of uncertainty and change would react to the Canadian Government's decision to permit the testing of the cruise missiles. But since the foreign policy decisions of independent nations were not capable of prediction on the basis of evidence to any degree of certainty approaching probability, the nature of the reaction to the Federal Cabinet's decision to permit the

testing of the United States missiles could only be a matter of "speculation". Accordingly, the appellants could never prove the causal link between the decision to permit the testing and the increase in the threat of nuclear conflict. For this reason no breach of s 7 of the Charter was provable and the statement of claim should be struck out.

Wilson, J was prepared to go further than the majority and to contemplate circumstances in which a government initiative in respect of nuclear weapons might contravene the Charter:

> "A declaration of war ... almost certainly increases the risk to most citizens of death or injury. Acceptance of the appellants' submissions, it seems to me, would mean that any such declaration would also have to be regarded as a violation of s 7. I cannot think that that could be a proper interpretation of the Charter.
>
> This is not to say that every governmental action that is purportedly taken in furtherance of national defence would be beyond the reach of s 7. If, for example, testing the cruise missiles posed a direct threat to some specific segment of the populace - as, for example, if it were being tested with live warheads - I think that might well raise different considerations. A court might find that that constituted a violation of s 7 and it might then be up to the government to try to establish that testing the cruise with live warheads was justified under s 1 of the Charter. Section 1, in my opinion, is the uniquely Canadian mechanism through which the courts are to determine the justiciability of particular issues that come before it. It embodies, through its reference to a free and democratic society,

> the essential features of our constitution including the separation of powers, responsible government and the Rule of Law. It obviates the need for a "political questions" doctrine and permits the court to deal with what might be termed "prudential" considerations in a principled way without renouncing its constitutional and mandated responsibility for judicial review."[30]

Australia is far from the Canadian position. In Canada, the Charter is part of the Constitution. In Australia the proposed Bill of Rights will not have constitutional status. It will not be judicially enforceable. It is designed to provide a "shield not a sword".[31] At the time of writing, it is not enacted. Accordingly, the prospect of the Australian courts becoming involved in the kind of question upon which the Supreme Court of Canada was reserved for more than a year in Operation Dismantle seems, at this stage, remote. Many lawyers in Australia would doubtless breathe a sigh of relief, believing that such issues are better resolved in the elected rather than the unelected organs of government. On the other hand, the notion of a modern human rights instrument with nothing specific to say about the greatest potential danger to human rights, in nuclear destruction, will be condemned by some as concentrating on lesser priorities, whilst ignoring the central threat to human existence, without which human rights can have no meaning. On the other hand, this omission may be nothing more than an acknowledgment of the limitations of the law and of currently available international and domestic institutions for solving dilemmas which, however important for human rights, have other, wider geopolitical dimensions.

INFORMATICS

Recent developments of information technology (computers, communications technology, satellites and the electronic media) have numerous implications for human rights. The guarantee in Article 18 of the Universal Declaration that everyone has a right to freedom of thought, conscience and religion and the guarantee in Article 19 that everyone has the right to freedom of opinion [including] freedom to hold opinions without interference, may, in some circumstances, be diminished by data banks and surveillance devices. The promise in Article 12 that no one shall be subject to arbitrary interference with privacy may be diminished by computer technology, surveillance devices and the new media.[32] The promise in Article 23 (1) that everyone has the right to work, to free choice of employment, to just and favourable conditions of work and to protection from unemployment is obviously affected by the proliferation of information technology with its capacity to replace much routine work.

Concern that the new information technology could endanger human rights was perceived with increasing anxiety from the middle of the 1960s. As a result, in part, of initiatives of the Swedish section of the International Commission of Jurists, a debate commenced in Scandinavia about the need for the protection of individual rights in respect of automated data, that is to say, data processed automatically by computer. Subsequently, this concern led to initiatives in the Nordic Council to define basic information practices. Later, these initiatives were taken up in the Council of Europe. In 1980 the Council of Europe approved a Convention for the Protection of Individuals with regard to Automated Processing of Personal Data. It was adherence

to this Convention by the United Kingdom which produced the passage of the Data Protection Act 1984 (UK).

Numerous domestic laws on data protection, stimulated by the developments in the Nordic Council and the Council of Europe (and later the European Parliament) produced international concern that the proliferating data protection (or privacy) laws could impede the development of the new technology, diminish effective protection to the individual because of the resort to "data havens" and frustrate the harmonious development of fair information practices, necessary if the rights of individuals were to be effectively safeguarded in the new technological advances and assured of their benefits. The result has been the endeavour, upon a wider international stage, to give greater focus to the generality of the language guaranteeing "privacy" which appears in the Universal Declaration and the International Covenant on Civil and Political Rights[33] and to stimulate concern beyond the countries of Europe and North America, which were the first to enact privacy/data protection laws. Hence, the initiatives in the OECD and UNESCO. Of greatest relevance to Australia are the Guidelines adopted by the Council of the OECD in September 1980 on the Protection of Privacy and Transborder Flows of Personal Data.[34] Australia announced its adherence to these Guidelines in December 1984.

The Guidelines were proposed as "a consensus on basic principles which can be built into existing national legislation, or serve as a basis for legislation in those countries which do not yet have it".[35] They contain seven principles. The "collection limitation principle" proposes that there should be limits to the collection of personal data and that any such data should be obtained by lawful and fair means and, where

appropriate, with the knowledge or consent of the data subject. The "data quality principle" proposes that personal data should be relevant for the purposes for which they are to be used and, to the extent necessary for those purposes, should be accurate, complete and kept up to date. The "purpose specification principle" proposes that the purposes for which personal data are collected should be specified not later than at the time of data collection. The "use limitation principle" would limit the disclosure of personal data to those specified purposes unless with the consent of the data subject or authoritive law. The "security safeguards principle" would guarantee that personal data is protected by reasonable security safeguards against loss, unauthorised access, destruction, use, modification or disclosure. The "openness principle" proposes a general policy of openness about practices and the availability of data. The "accountability principle" would nominate a data controller to be accountable for complying with these rules. But the most important principle, called "individual participation", would confer upon the individual the right to obtain from the data controller or otherwise confirmation of the existence of data related to him and to have access to such data in a reasonable time, at no excessive cost, in a reasonable manner and in a form readily intelligible. If denied access, he should be given the reasons and be able to challenge the denial.

In 1983 the Australian Law Reform Commission delivered its report on Privacy.[36] The Commission adopted the OECD Guidelines as providing the framework for information privacy rights in Australia. In the schedule to the draft Privacy Bill annexed to the Commission's report are collected "information privacy principles", derived from the OECD Guidelines.37 They

provide the criteria to be taken into account in determining complaints about unfair information practices in respect of personal records. The Commission's proposals relate to such records in the Federal public sector throughout Australia and in the public and private sectors of the Australian Capital Territory. The Federal Attorney-General has announced that legislation will be introduced in the Budget Session of the Australian Parliament in 1986 to implement the report of the Law Reform Commission on the protection of privacy in relation to the collection and dissemination of information.[38]

Many other issues relevant to individual rights in the developing information technology require attention. One of them is called to notice by a judgment of the European Court of Human Rights in respect of telephonic interception in the United Kingdom. The case in the European Court followed a decision in the English courts dismissing a claim for a declaration that the tapping of the applicant's telephone calls had been unlawful.[39] Sir Robert Megarry, V.C, dimissing the claim, stated that he found it impossible to see how the relevant English law could be said to satisfy the requirements of the European Convention of 1950 on Human Rights and Fundamental Freedoms. An application was made to the European Human Rights Commission alleging violation of the rights conferred by Article 8 of the European Convention. This guarantees respect for private and family life, the home and correspondence. Article 8 par (2) limits interference by a public authority with the exercise of these rights, "except such as is in accordance with the law and is necessary in a democratic society in the interests of national security, public safety or the economic well being of the country, for the prevention of disorder or crime for the protection of health or morals or for

the protection of the rights and freedoms of others". Before the European Court, it was not disputed that the telephone had been intercepted by police investigating various offences of dishonesty. The authorities refused to disclose whether, in addition to this, the telephone had been "metered" to register outward telephone calls. The subject of the interception had been charged with a number of offences of dishonesty involving the handling of stolen goods but had been acquitted. The judgment of the European Court of Human Rights criticised the absence of legislation in the United Kingdom regulating the issue of warrants or controlling the way in which metered information was used. Although there were rules of practice under which such warrants were given, they did not have the authority of law. Specifically, they did not control the Home Secretary's discretion to issue warrants. Much attention was paid in the European Court's judgment to the exception in Article 8 par (2) of "in accordance with the law". In a previous judgment the Court had laid emphasis on the need to protect the individual from the arbitrary exercise of power in secret by the Executive Government.[40] In this case, it was held that administrative conventions were no substitute for a legal rule, publicly available. It therefore found that the United Kingdom had violated the rights of the subject. In a democratic society, the Court held, the authority of the Executive to tap telephones should be strictly regulated so as to preserve the best interests of that society from arbitrary interference in secret by the Executive Government. A satisfactory system of judicial control could safeguard individual rights and ensure that such interferences as took place were only such as were "necessary in a democratic society". As a result of this judgment, the United

Kingdom Parliament enacted the Interception of Communications Act 1985. The list of legislative and administrative changes introduced in Britain as a consequence of findings of the European Court of Human Rights is long and significant. It includes amendments to prison rules, changes in corporal punishment in schools, the enactment of the Contempt of Court Act 1981, changes in legislation regulating homosexual conduct, mental health practices and others.[41] The proponents of the Australian Bill of Rights contend that, in a modern democratic society, a similar stimulus to neglectful governments and legislators in Australia would not be out of place. In default of specific and detailed statements of rights, apt for the developments of new information technology, courts will be invited to derive such rights from traditional statements cast in broad language. The right to "privacy" in particular will be called upon to do much work.

BIOTECHNOLOGY

Already in the 1960s, commentators on human rights were beginning to call to attention the importance for human rights of new developments in biology. At UNESCO in 1968 a call was made for interdisciplinary work to define the respective rights and duties of those involved in organ transplantation.[42] The world community, after the shocking revelation of human experimentation on prisoners during World War II, particularly at Auschwitz concentration camp, responded with a number of statements relevant to the rights of patients and the duties of those providing health care. The judgment of the International Military Tribunal upon twenty three German physicians who were tried for crimes against humanity committed during the war became the source of the "Nuremburg Code."43 This represented an attempt to

set down the basic principles to which any medical experimentation on human beings must conform if it is to satisfy the relevant moral, ethical and legal considerations. The Nuremburg Code was refined and developed in the Declaration of Helsinki in 1964. This was adopted at the 35th World Medical Assembly in Venice in 1983.[44]

However, it is now increasingly realised that there is a risk of denigration from the necessarily general statements of human rights by biological manipulation made possible by scientific developments. Thus, guarantees of "human dignity" in Articles 1, 5, 6, and 29(1) of the Universal Declaration of Human Rights may be affected by foetal experimentation, experiments on human subjects, in vitro fertilisation, embryo transplantation, genetic manipulation, the sale of organs for transplantation and so on. The promise of the right to life, as in Article 3 of the Universal Declaration, raises inevitably the question of when human life begins to which that guarantee applies. A new focus to this controversy is provided by claims to abortion on demand, in vitro fertilisation and embryo transplantation. The assertion of a right to "life" also raises the issue of the quality of life. Is it life of any kind which is absolutely guaranteed? May not those who enjoy the "right" opt, in certain circumstances, for its termination?

Developments in the knowledge of human fertility add fresh attention to the language of other guarantees of human rights, expressed before the modern technology was available. Can Article 16(1) of the Universal Declaration, with its guarantee that men and women of full age have a right to marry and "to found a family" provide support for a claim to in vitro fertilisation, embryo transplantation, artificial insemination,

surrogate parenting and womb leasing, transplantation and the like? Is the guarantee of special care and assistance for motherhood and childhood in Article 25(2) relevant to the new procedures available to overcome infertility? Is the guarantee of adequate health and medical care in Article 25(1) the basis for a claim of access without limitation to these expensive new techniques?

The Victorian Parliament, apparently alarmed by advertisements offering surrogacy arrangements[45] has enacted legislation to make it an offence to advertise surrogate arrangements and to render any such contracts void and unenforceable. Such legislation has also been presented in the United Kingdom. But in the United Kingdom, such laws could be challenged in the European Court of Human Rights as violating the guarantee of family privacy (Article 8) and the guarantee of the right to found a family (Article 12).

The provision of Article 18 of the Australian Bill of Rights that "every human being has the inherent right to life and no person shall be arbitrarily deprived of life" occasioned an expression of concern by the Australasian Episcopal Conference of Bishops of the Roman Catholic Church. Referring to the provisions of clause 9(3) of the Bill, as originally drawn, in which it was stated that the rights and freedoms applied only for the benefit of "natural persons", the Bishops expressed anxiety lest the guarantee in Article 18 should be construed to exclude the unborn.[46] As a consequence of this expressed concern the Bill was later amended. In its present form, clause 9(3) states "the rights and freedoms set out in the Bill of Rights do not apply for the benefit of bodies politic or corporate". The Attorney-General stated that this was all that had been intended by the

original clause and the reference to "natural persons".[47] But the Government rejected an Opposition amendment designed to assert that human life exists from the moment of fertilisation. The President of the Australasian Episcopal Conference has indicated that the Government's amendment to the legislation falls short of allaying all of the concerns of the Bishops. They are doubtless mindful of the fact that, in the United States, the constitutional right to privacy has been interpreted as conferring, in certain circumstances, a right in the mother to an abortion on demand.[48]

The existence of human rights statements obliges legislatures, courts and the community to address themselves to fundamental questions. In the present context, these include the definition of human life, the rights of the community to protect itself from dangers such as typhoid and the AIDS virus by measures which diminish the rights of others,[49] eugenics[50] and the triage decisions that are daily made in hospitals to provide expensive health care to some, but not to others who will then die.[51] They state the standards against which must be measured the rights of parents in respect of their children,[52] the rights of the mentally ill and of the community to endeavour to change their human behaviour,[53] the rights of the mentally retarded,[54] the rights of those addicted to psychotropic drugs[55] and many others.

In the international community increasing, and sometimes effective, attention has been given under the aegis of the World Health Organisation, to certain commercial practices which have a seriously deleterious effect on the life and health of millions of human beings. The largely successful effort of the World

Health Organisation to promote the International Code governing the marketing of breast milk substitutes has reduced the largely unnecessary and undesirable sale of these products in the developing world, where they all too frequently led to infant mortality and malnutrition.[56] But the allegations persist of the sale of hazardous materials and products in developing countries even after these have been withdrawn from sale or superseded in the developed world. The persisting sale of Dalkon shield contraceptive devices, long after their withdrawal from the United States market, as a means of exhausting supplies in poor and developed countries is specifically alleged.[57] The promotion of cigarettes and other tobacco products in developing countries, as a response to declining sales in traditional markets, will be seen by some (in the light of medical evidence of their danger to health) as a significant assault upon public health and thus the human rights of millions to live a decent life.

CONCLUSIONS

It is not coincidental that many of the leaders of the battle for respect for individual rights in countries where they are most grievously denied are scientists. Yuri Orlov, sentenced to seven years hard labour and five years of "internal exile" for publicising alleged Soviet violations of the Helsinki Accords is a particle physicist. Anatoly Shcharansky, until recently serving a sentence of 13 years hard labour for human rights actions is a mathematician and computer scientist. Andrei Sakharov, probably the leader of the Soviet human rights movement, is a nuclear physicist and a full member of the Soviet Academy of Sciences. There are many other scientists who could be named.[58] Lawyers are less prominent. So it is also in Eastern Europe[59] and in the dictatorships of Latin America.60 Despite orthodox appeals to

distinguish political and scientific issues,[61] there is a growing debate in scientific literature about the duty of the scientist, as such, in relation to scientific work and the place of the scientist as an intellectual leader of the community. The coincidence of nuclear fission, the microchip and biotechnology at the one moment of human history - and the potential of these developments profoundly to affect, improve or destroy human life - has mobilised many members of the scientific community to a more active concern about the impact of their labours on human rights.

It is clear that the three principal scientific developments referred to have very significant implications for human rights. The human rights debate of the future must involve as many scientists and technologists as it does lawyers. The catalogue of human rights developed by 17th century philosophers, and given fresh impetus by the United Nations Organisation after World War II, needs fresh consideration. Otherwise statements of human rights will be silent upon the many urgent and modern problems thrown up by science and technology today. Or ungainly attempts will be made to stretch concepts developed for earlier times and to apply them to situations which could not have been conceived when the current formulae of human rights were put on paper.

If lawyers are to continue to play a relevant part in the human rights debate of the future, they must become more aware of scientific and technological advances. Otherwise they will increasingly lack understanding of the questions to be asked, let alone the answers to be given.

FOOTNOTES

* President of the Court of Appeal, Supreme Court, Sydney. Member of the Executive, CSIRO. The views expressed are personal views only.

1. J. Gribbin, "In Search of Schrödinger's Cat", Wildwood House Ltd, London, 1984, p 1.
2. Australian Bill of Rights Bill, 1985 (Cth).
3. News release by Mr. Lionel Bowen (Federal Attorney-General), 105/85, 19 December, 1985.
4. G. Blainey, The Australian, 27 December, 1985, p 7.
5. H. Mol, "Religion in Australia: a Sociological Investigation", Nelson, Melbourne, 1971.
6. The Law Reform Commission (Cth) Evidence, Report No. 26, Interim, Vol 1, 138 f; Vol 2, 105 ff.
7. G. Brand, "Human Rights and Scientific and Technological Development" (1971) 4 Human Rights Journal, 351.
8. See, eg, Universal Declaration of Human Rights (UDHR) Article 23(1); International Covenant on Economic, Social and Cultural Rights (ICESR) Article 7.
9. S. Scheffler, "Natural Rights, Equality and the Minimal State" (1976) 6 Can J Phil 64. See also B. Bandman, in E.L. Bandman and B. Bandman, Bioethics and Human Rights, Little, Brown & Company, Boston, 1978, p 321.
10. UDHR Articles 12, 16, 23(3); UCESCR Article 10(1); International Covenant on Civil and Political Rights (ICCPR) Articles 17(1), 23.
11. See R. Diwan, "Transfer of Hard Technologies and Debasement of Human Rights" [1981] Human Rights Quarterly, 19.

12. See E. Kamenka and A.E.S. Tay, Teaching Human Rights, Australian National Commission for UNESCO, AGPS, 1981, 1.

13. Preamble to the Charter of the United Nations.

14. E. Schwelb, "Human Rights and the International Community: the roots and growth of the Universal Declaration of Human Rights, 1948-63", Chicago: Quadrangle, 1964, 11.

15. H. Eek, "Some Reflections on the Development of the International Human Rights Law and on the Impact on that Law of Scientific Developments" (1971) 4 Human Rights Journal, 443, at 444.

16. See J.G. Starke, "Australia and the International Protection of Human Rights" in K.W. Ryan (Ed), International Law in Australia (2nd ed), Law Book Co. Ltd, 1984, pp 136, 143, 145.

17. The texts and documents of the International Human Rights Instruments are conveniently found in H. Miehsler and H. Petzold, "European Convention on Human Rights -Texts and Documents", Heymanns Verlag, Cologne, 1982.

18. ICESCR, Preamble.

19. Cited Brand, op cit, at 356.

20. General Assembly Resoluton, 2450 (XXIII) 19 December, 1968.

21. Brand, op cit, n 7, ante, at 356.

22. See eg World Health Organisation, Health Aspects of Human Rights and Scientific and Technological Developments, UN document A/8055/Add.1, 1970.

23. P. Sieghart, "Nuclear Power and Human Rights" in

International Commission of Jurists, The Review, June 1977, 49.

24. Ibid.

25. United Kingdom, Royal Commission on Environmental Pollution, Cmnd 6618, H.M.S.O, 1976, para 332.

26. D.D. Komey, "The Perfect Trojan Horse" in Bulletin of Atomic Scientists, June 1976, 27

27. See R.W. Ayres, "Policing Plutonium: Civil Liberties Fallout", Harv Civil Rights-Civil Liberties L. Rev. Vol. 10, No. 2, Spring, 1975.

28. P. Sieghart, "Guarding Nuclear Materials and Civil Liberties" in Bulletin of Atomic Scientists, May 1980, 33. See also Atomic Energy Authority (Special Constables) Act 1976 (UK).

29. (1985) 18 DLR (4th) 481.

30. Wilson, J ibid, at pp 518-519.

31. L. Bowen, (Attorney-General), Speech to Seminar on Human Rights Protection in Australia, Sydney, 11 December, 1985, mimeo, 18.

32. See C.G. Weeramantry, "The Slumbering Sentinels", Penguin, 1983, pp 18, 20.

33. UDHR, Article 12; ICCPR, Article 8. See also the Law Reform Commission (Cth) Privacy, ALRC 22, 1983, Vol 1, at p 266.

34. Organisation for Economic Cooperation and Development, Guidelines on the Protection of Privacy and Transborder Flows of Personal Data, OECD, Paris, 1981. See ALRC 22, Vol 1, 269. See note (1981) 55 ALJ 163.

35. OECD Guidelines, p 5.

36. ALRC 22, ibid.

37. ALRC 22, Vol 2, at pp 265-6; 302-4.

38. L. Bowen (Attorney-General) address to the 7th National Conference of Australian Society of Labor Lawyers, Melbourne, 3 August, 1985, mimeo 3.

39. Malone v Metropolitan Police Commissioner [1979] Ch 344.

40. ECHR, series A, No.28, 2 EHRR 214.

41. See Australia, Senate Standing Committee on Constitutional and Legal Affairs, A Bill of Rights for Australia?, 1985, AGPS, paras 6.5-6.6.

42. Unesco, Science Policy Studies and Documents, No. 16, Proceedings of the Symposium on Science Policy and Biomedical Research, Paris, February 1968, p 42. See Brand 361, See also general discussion in, "The Challenge to Human Rights Posed by the Development of Science and Technology: Protection of Human Beings and their Physical and Intellectual Integrity in the Context of the Progress Being Made in the Fields of Biology, Medicine and Biochemistry", European Ministerial Conference on Human Rights, Vienna 1920 March 1985, Council of Europe, Strasbourg, 1985.

43. On this see R. Wilson, "Life and Law: the Impact of Human Rights on Experimenting with Life" in (1985) 17 Aust Jo Forensic Sciences, 61.

44. The Nuremburg Code is set out in Annas, Glantz & Katz, Informed Consent to Human Experimentation: the subject's dilemma, (1977), p 279. The Declaration of Helsinki is Appendix F in J.K.Mason and R.A.McCall Smith, Law and

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45. Cf In re a baby, Times Law Report, 15 January, 1985,8 (Latey, J) Cf M.D. Kirby, "From Hagar to Baby Cotton - Surrogacy", Aust & N.Z. Journal of Obstetrics and Gynaecology, Vol. 25, 3 August, 1985, pp 151-158. See also note (1986) 60 ALJ 6.

46. As reported The Age, 31 October, 1985.

47. The Age, 13 November, 1985.

48. Roe v Wade, 410 US 113 (1973); Doe v Bolton, 410 US 179 (1973). See discussion Wilson, 67.

49. R. Baker, "Eugenics and Human Rights" in Bandman and Bandman, op cit supra n 9, 98, 99.

50. Buck v Bell 274 US 200 (1927)

51. J.F. Childress, "To Kill or Let Die" in Bandman and Bandman, supra, at 128. Brand, 353.

52. Cf Gillick v West Norfolk & Wisbech Area Health Authority & Anor [1985] 3 WLR 830 (HL). See note (1986) 60 ALJ 50.

53. H.E. Peplau, "The Right to Change Behaviour: Rights of the Mentally Ill" in Bandman and Bandman, supra, op cit, n 9, 207, 218.

54. S. C. Hayes and R. Hayes, "Mental Retardation: Law, Policy and Administration", 1982, Sydney, Law Book Co. Ltd., 1982, at p 27.

55. Brand, op cit, n 7, 353.

56. M.D.Kirby, "The Role of Law Reform in Bioethics: the case of Breastmilk substitutes" (1983) 6 UNSWLJ 67.

57. Diwan, op cit supra n 11 ante, at 35.

58. E. Callen, B.R. Cooper and J. Parmentola, "Science and

Human Rights" in Technology Review, December/January 1980, 21.

59. Ibid, 26.

60. Ibid, 26-7.

61. Eg Sir Andrew Huxley, Presidential Address to the British Association for the Advancement of Science, 1977 in Callen & Ors, 30.