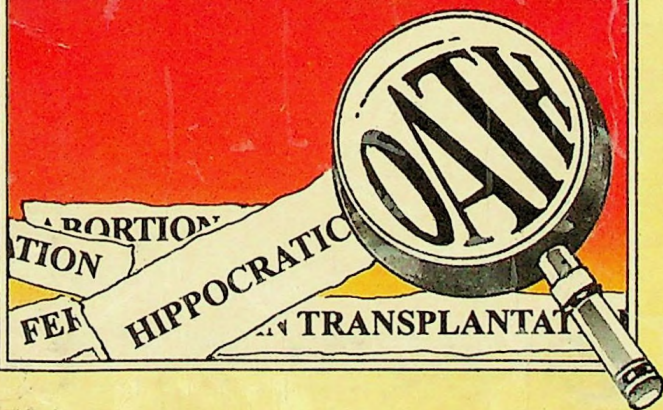


# ETHICAL ISSUES IN THE PROGRESS OF MEDICAL SCIENCE AND TECHNOLOGY

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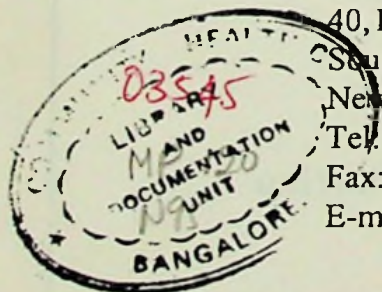
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## FOREWORD

Medical Science knowledge and technology has undergone tremendous change through constant experimentation and innovations over the last few years. In pure scientific and technological sense the strides made by medical science is just flabbergasting. Add the human, ethical and religious angles to it, the complexities start appearing.

Keeping this in mind we approached Dr. A.K. Tharien, who has over five decades of experience of working with a missionary zeal at the grass-roots, to dilate on the ethical issues in the progress of medical science and technology.

Dr. Tharien makes a fervent plea for ethics in the medical profession to be based on spiritual values. The views expressed by Dr. Tharien may be controversial. The purpose of this book will be well served, if the debate that it is going to raise could make medical profession accountable to common people. Proferring care and cure to everyone.

*Alok Mukhopadhyay*

**Executive Director**

**Voluntary Health Association of India**

**New Delhi.**



## INTRODUCTION

We are at the threshold of a new era, planning and equipping ourselves for a glorious entry into the twenty first century. Science and technology have made spectacular strides in the recent past. Rapid growth of medical science in isolation raises question on many ethical issues. For instance discoveries in genetic engineering and embryo experiments question the sacredness of human life. At a recent conference convened by the WHO in Tokyo, to which I was also invited to represent India, the world's top scientists in embryo experiments and genetic engineering shared their startling discoveries. Some of them tend to violate the time honoured ethical values. What is right or wrong in a concrete situation? Why should a person choose the right and shun away from the wrong? Who decides? From the beginnings of human existence, there were certain codes of behaviour however inadequate or inhuman they may look, that set the pattern for personal and social behaviour.

The earliest and the most popular standard was to accept the natural law and was to be directed by one's conscience. Wherever we go wrong, there is a still small voice that always warns us. We may call it the early stage of sense of guilt. But individual conscience is something subjective, depending entirely on one's natural tendency, circumstances and instincts. Also very often we can rationalise our behaviour even if the conscience troubles us and ignore its protest.

Medical ethics that takes inspiration from philosophical values is a category by itself because the questions that are raised are distinctively different. From time to time the International Conference of the Medical Associations have tried to give detailed list of the duties of the medical practitioners in terms of the sick, in terms of fellow professionals and in terms of the society as a whole (examples are Declarations of the General Assembly of WMA Geneva, 1948 and London, 1949, see Appendix II). There has been very rapid social, cultural, economic and political changes in the world. Medical technology, has advanced by leaps and bounds so that attempts at listing right and wrong will become irrelevant and inappropriate at a later period. Certain basic principles of ethical values have to be kept sacred irrespective of the changing times. Life is a gift of God we cannot give it nor have we the right to take it. Humanity has put in our hands such power that we can manipulate, if we want, both birth and death. But these are areas where we have no ultimate rights. This gives us on the one hand, freedom and privilege as we need not answer for any deaths that happen in spite of our best efforts and sometime against our calculations it also give us a responsibility that we can neither play with life, nor even try to play God.

Healing is not merely curing certain diseases. It is not like repairing and removing the defects of a machine. It deals with person. As such, it goes beyond the techniques to

relationships. These relationships should include the dimension of society, specially the relationship in the family and with the community. So, healing is defined as restoring a person to the purpose for which he is created. Nothing that we do, should hide purpose: whenever opportunity comes we have to consciously encourage this awareness. In the healing process it is essential that a team is moulded together, this includes the doctor, the nurse, the allied professionals, the ward aids, etc. Responsibility is on each of them to keep the integrity and bear and support each other. This should be the healing community that enables the patients to get well.

The challenge of commercialisation of all aspects of life is great, but in medical profession it is greater. Money is a means, not an end. A sense of contentment and a sense of stewardship are essential to keep us free from the slavery to covetousness.

The essential point is to accept our work, not only as an occupation or even as a profession, but as a calling— a vocation.

In this paper some of the current issues, some of which were debated even at the recent UN Forum in Cairo, in the realm medical ethics, are discussed.



## II

### GENETIC MANIPULATIONS

#### a) Discovery of DNA

In 1953 Waston and Crick, in Cambridge unveiled, the structure of DNA, (Deoxy Ribo Nucleic Acid) the material from which genes are made. Subsequent researches showed that scientists have immense possibilities to manipulate the genes, by using recombinant DNA techniques. The purpose of genetic engineering is to introduce or delete or enhance a particular trait in the body. This is done by inserting foreign genes or by altering the existing genetic make up of the person. By genetic manipulation one can control the formation and development of a foetus, like the choice of sex, complexion, height, quality of brain and so on. In other words one can make a baby to order.

#### b) Gene Therapy

The first gene therapy experiment was successfully done on a four year old girl in 1990 in the USA. She had a defective gene. This prevented her body from producing an enzyme ADA (Adenosine Teaming) hampering her resistance to disease. The scientist used a deactivated virus as a king of ferry boat to transport normal ADA genes into the child's white blood cells. These numerous genetically engineered cells would begin to produce the crucial enzyme. Science is now unlocking the most closely guarded secrets of human biology, yielding insights into the prevention, diagnosis, treatment and healing of some of the most

devastating illness for which there was no remedy in the past. This breakthrough in medical science showed that, genetically engineered cells would be able to produce needed therapeutic drugs within the body.

Genes, direct body's growth and survival. Defective genes causes susceptibility to certain diseases like cystic fibrosis, cancer, diabetes, coronary diseases, mental retardation etc.

The other class of gene therapy is *germ line* gene therapy. In this the gene is inserted into the germ line (sperm or egg) or embryo and the offspring will have this inserted gene also, instead of a defective allele. It is possible now that treatment can be given to the foetus, if found defective by therapy or surgical procedure, within the uterus or outside the uterus.

### c) Bioethics

Bioethics is a composite term derived from Greek words. Bio means life. Ethics has been described as the science of morals and rules of conduct, recognised in human life. The rules of conduct must be essentially social, religious and moral values. Our ethics must be more than rationalisation. The new technique in genetic engineering and such other application of medical knowledge can relieve and prevent human suffering or protect and promote human life. Genetic engineering encompasses those techniques that manipulate genes especially those using

recombinant DNA techniques. There will be some risks for individuals but it would benefit many.

One can replace natural procreation with extensive genetic selection of fetuses. We are not yet sure of the long term results. In bio technology we are dealing with the complexity of life itself, by introducing newer gene sequences. What effect this will have on family life itself?

If we introduce different gene combinations into the environment, there could be irreversible consequences. New organisms may replace existing organisms in the ecosystem. Drug resistant pathogenic organism might emerge.

Another question is, in whose hands will the power be? Will the commercial interest dominate the scientist. USA alone is spending over two billion dollars annually backed by commercial interests. People whose tests reveal a defective gene could become victims of genetic discrimination. Man with his scientific curiosity, if given a free hand might even produce allophones between species like human and monkey hybrids and play god in creating new species. So it will be necessary to guard against potential abuses and avoid human vivisection.

### III

## IN VITRO FERTILIZATION

### a) Definition

In vitro fertilization (IVF) a process of fertilising the egg cell, sucked out from the follicles of the ovary and mixing it with sperms in a test tube in the lab. This is a great break through in medical science and an alternative means of conception in many infertile women. About 10 per cent of married couple are reported as infertile. In women infertility may be due to defective ovulation or blocked fallopian tubes or unhealthy endometrium and in men absence of healthy sperms. The fertilised ovum (embryo) is transferred into the uterus in about 10 to 14 days. 25 per cent of these are successful and gives no extra complication except increased number of multiple pregnancy. It is estimated that over 20,000 babies have been born since 1985.

### b) Ethical Issues

Some argue that laboratory production of human beings is no longer human procreation, as it amounts to degradation of parenthood and deprives procreation of its human involvement and love. IVF might undermine values which biological parenthood give to marriage. But it is argued by scientists that IVF is a dramatic extension of the sort of interference found in delivery, by caesarean section or in hormonal induction of labour.

In these experiments, there are a few surplus fertilised embryos which are kept frozen for future use, for further experiments for researchers to study genetic and developmental abnormalities, intricacies of tissue and cell differentiation etc., or to be ultimately destroyed. Can we treat the fertilised ovum as a lump of jelly or blob of tissue which can be destroyed, like a tumor or tonsil? Is it right to use human materials for experiments and if so how far? At present the proposed law in the UK does not permit embryo experiments beyond 14 days (which is the implantation stage). Then the question is raised, do human embryos have any right at all? If they have rights, at what stage? Can such embryos be the material possession of the donors when they do not intend becoming the parents. The fundamental issue is whether or not respect should be shown to human embryo, in view of the potential for full humanness. If embryos are produced with the expressed purpose of providing scientific information, that information has already taken precedence, over the significance of human existence.

In the West, ovum is fertilised from sperm of unknown parents and children are born without identity of biological parents. (This is now changing, as donors have to record their identify). A child conceived in a test tube can have as many as five parents: the egg donor, the sperm donor, the surrogate mother, (who bears the child), and the couple who raise the child. The potential emotional and psycho-



logical ramifications of this could be deep and disturbing.

### **c) Prenatal Screening**

Prenatal screening of embryo foetus, amniotic fluid etc., has now become a routine in most of the industrialised countries to discover any defects.

Examination of the amniotic fluid from the uterus by a needle after 12 weeks of gestation is one of the easiest procedures. Sex can also be decided. In India sex determination lead to extensive femicide by abortion. This has devastating effects on our social structure and consequently legislation has come against sex diagnosis.

## IV

### ORGAN TRANSPLANTATION

#### a) The Procedure

Sparepart surgery is increasingly becoming popular. Technical barriers like vascular anastomosis, immunological rejection problems etc., have been overcome.

Viability and suitability of certain organs depend on the time lapsed after the organic death of the subject. So there is a tendency to remove the organ from the donors as early as possible. Law has regarded death as the apparent extinction of life as manifested by the absence of heart beat and respiration. Indian penal code section 46 says "death denotes death of human being unless the contrary appears from the context".

The medical community faced with the dilemma of not able to "harvest organs" from patients who seemed to have lost all brain functions but continued to be kept alive by life support systems which artificially maintains respiration and circulation. A Harvard Medical School committee made a proposal in 1968 recommending the criteria of death based on brain activity. This is now accepted in India also. To avoid error in judgement of neurological death, the certifying physician should not be a participant in any phase of the transplant procedures.

#### b) Commercialisation of Human Organs

Commercialisation of human organs has become a

flourishing market over the last few years. The emergence of an "Organ bazar", by networking of medical fraternity, touts, agents and some private nursing homes, was a serious blot on the ethical foundation of medical practice. Investigations revealed the startling truth of the clandestine kidney rackets, in Bangalore, Bombay and Madras. Most of the donors were poor slum dwellers and rural folk, who were enticed with easy money. They were given false or inadequate information about its risks and complications. Seventy to eighty per cent of the remuneration was netted by agency involved in the nefarious trade. Some of the donors unfortunately did not live to receive the monetary remuneration promised. The choice before the poverty stricken people was whether to sell one kidney and live or to keep both kidneys and die of starvation. The law also was circumvented through certain dubious means like "kidney marriage"; getting married before operation and divorcing soon after the surgery. Another method was by transboundary smuggling of organs by live carriers, where trade can take place in a foreign country, where laws are not so strict. The "kidney tour racket" also came to light. The prospective sellers are taken in groups for pleasure tour to a developed country which is often their dream land. Later they are taken to a neighbouring underdeveloped country, where the laws are not observed. A rich buyer from the developed country will also reach this place and transplantation operations take place in a well equipped private hospital for a minimum remuneration to the donor.

There were other criminal ways of stealing kidney, on the pretext of other operations like appendicectomy, or kidney stones.

Human organs and their products are sold over the counter, as a commercial enterprise; organs like kidney, liver, heart, foetus, skin, semen, egg, genes, embryo and even children are traded. Babies are bought and sold through surrogate mother contracts. Attempts were also made to patent, parts and products originating from the body.

### **c) Bill on Transplantation of Human Organs**

*Voluntary Health Association of India*, took the initiative to mobilize public opinion and promote the concept of a legislation through investigations, reports, representations, campaigns, lobbying and publications. This resulted in bringing out a bill in the Parliament in 1994. But the bill got trapped within the red tapes of bureaucracy. Further efforts of **VHAI** in unearthing, shocking stories of organ rackets and highlighting this issues through media campaign and press reports resulted finally in notifying the act, in February 1995.

The act prohibits commercial dealings in human organs. There are restrictions on removal, transplantation and storage of organs. There are regulations and set standards for hospitals which are conducting the operations and prohibits removal and transplantation of organs for any

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purpose other than therapeutic. Surgery can only be done after explaining, effects, risks and completions both to the donor and recipients. For violations of the rules, the act prescribes punishment of a minimum imprisonment for two years extendible to seven years and a fine of Rs. 10,000 to Rs. 20,000 for the middle men.

The act also redefines death as cessation of brain stem activity, facilitating the transplantation of single organs such as heart and liver. In keeping with the WHO recommendations the law incorporates WHO's guiding principles of transplantation and has provisions to encourage donation by near relatives like spouse besides genetic relatives.

#### **d) Commodification of Human Life**

Biotechnology has made great advances. As in other technological endeavours, absence of accountability and regulatory systems have virtually reduced the human body as a lucrative commercial enterprise.

The emerging trends for commercialisation of medical services has to be curbed by creating public opinion for a social policy. The question is also raised whether it is justifiable to spend enormous amount of money and energy for prolonging the life span of a few rich, when thousands are denied even the elementary and basic health needs which will only cost very little. Isn't it a cruel act, to extend longevity of life without improving the quality of life?

## V

### ABORTION

Abortion was a much debated subject in the recent UN population conference at Cairo. It is a highly emotional subject. It touches the mysteries of human sexuality and reproduction.

#### a) Profile Advocates

Profile advocates like the Muslim fundamentalists and Roman Catholics, emphasised the sanctity of life and the right of the unborn child who needs protection from society through his life. Till the law of Medical Termination of Pregnancy Act was passed by Indian Parliament in 1971 abortion was a violation of law. Now it can be done on demand.

#### b) Pro-Abortionists

The pro-abortion lobbies at the UN forum in Cairo emphasised the reproductive rights of women and pleaded for legalising abortion. Their concern arose from the high incidence of deaths due to unsafe abortions, which is greater in countries where abortion is not legal. A study of legal status of abortion in 190 countries reveals the following facts:

<i>Reasons for Abortion</i>	<i>No. of Countries</i>
To save the life of mother	173
For physical health of mother	119

<i>Reasons for Abortion</i>	<i>No. of Countries</i>
To protect mental health of mother	95
Pregnancy caused by rape or incest	81
Causes of foetal impairment	78
For economic and social reasons	65
On simple request	41
No permission needed	17

It was reported in Cairo that paradoxically abortion is minimum in countries like Netherlands where laws of abortions are very liberal, 5 per 1000 births and in Latin American countries like Brazil where abortion is legally restricted, the abortion is 40 to 60.

Pro-abortionists plea to legalise abortion for certain humanitarian grounds like, stigma of pregnancy out of wedlock (unmarried girl, adultery, incest, rape), or if the foetus is diagnosed as physically or mentally defective, or if pregnancy is a serious threat to the mothers survival, or extreme financial and social stress. Most of the people rightly agree that abortion should not be resorted, as an easy method of family planning.

## EUTHANASIA

### a) The Debate

Medical science and technology have made great strides in recent years. The medical profession has today more power over life and death than they would have chosen to have. Doctors have power to prolong life where life seems to have lost its meaning and have power to terminate life without suffering. There are several points of view on euthanasia: legal, social and compassionate.

The debate on Euthanasia has again become a live issue in India as the Supreme Court of India in 1994 passed a verdict that attempted suicide is not a crime. According to the Indian Penal code, which was mainly adopted from British Penal Code, attempted suicide was a crime, punishable with years of imprisonment. With the recent medical knowledge gained by researchers and the opinions expressed by eminent psychiatrists all over the world, the judges in their verdict were sympathetic to those who attempted suicide. The Supreme Court of India is the highest court, authorised to interpret the Constitution of India for legal matters. They gave the verdict that attempting suicide is a mental derangement and hence not to be considered as a crime. This signifies social approval of suicide and euthanasia which is assisted suicide.



### b) What is Euthanasia?

Euthanasia is the deliberate bringing about a gentle and easy death, making the last days of the patient as comfortable as possible. This is to ensure a calm and peaceful death, within the context of relieving incurable suffering in terminal illness or disability. Euthanasia is *voluntary*, when requested by the sufferer; *involuntary* or *compulsory* if it is against the will of the patient; and *passive* when death is hastened by deliberate withdrawal of effective therapy or nourishment.

### c) The Dilemma

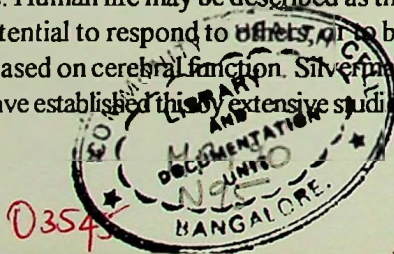
While I was working in England, I was resuscitating an elderly lady who was admitted in the hospital emergency ward with severe demonstrable cerebral damage. My chief of surgery an Englishman and devout Christian told me gently, "I don't want to interfere with your procedures but if it were my mother I would not do all that you are doing and would allow her to die peacefully". This is often our dilemma. Should one prolong the act of dying in a case of irreversible death or when life is effectively over. One of the achievements of modern medical technology is the use of artificial life support systems like artificial feeding, dialysis, controlled respiration, pump circulation, etc. In some cases it can be so dehumanising, painful, hazardous or costly that other considerations outweigh the aim to conserve life. Euthanasia supporters raise

weigh the aim to conserve life. Euthanasia supporters raise the question, how long to sustain life? A patient might say "I do not want a vegetative existence by drips, drugs and dialysis. I want to die with dignity. I have a right to lay down my life just as I have a right to live".

In the well known Dr. Arthur trial, where Dr. Arthur in UK had prescribed an overdose of codeine to a baby, born with Down syndrome with the object of hastening his death, Dr. Arthur was charged with murder. Many eminent witnesses were called to the trial. Most of them justified the procedure. Finally the court acquitted Dr. Arthur as his motive was compassion. There is an argument that if a foetus is found to be abnormal and severely handicapped it should be sought out and eliminated before birth, as such children are socially valueless. Do not the physically handicapped and mentally retarded have as much right to life like others and deserve to get the needed care?

#### d) Death and Dying

The concept of death in the light of new knowledge, is changing. It may be obtained by redefining life. Descriptions of life are organised at many different levels of complexity like molecular, cellular, organ, system, corporal, mental, spiritual etc. Human life may be described as the ability, actual or potential to respond to stimuli, or to be self-aware. This is based on cerebral function. Silverman and others in 1969 have established this by extensive studies



and confirming it by encephalogram findings. Once cerebral death is confirmed there is no chance for survival though heart and lung functions continue. So it would be quite unnecessary to continue supportive measures after cerebral death.

#### **e) The Christian Concept**

According to the Christian concept, Almighty God has created man in his image. He is the giver and sustainer of life. He alone has the right to withdraw life. Life is not a right but a gift of God belonging to God and at all times in His hand. So we have no right to take away deliberately a human life, even one's own. Other religions generally agree with the same concept.

Euthanasia requests may come out of depression and confusion or out of a feeling of worthlessness, or due to persuasion of interested parties with ulterior motives. Respect for the person of the patient and concern for the family should lead us to use our resources as best as we can to promote life. The essence of our approach to a dying patient is to give ourselves in loving care to meet his needs. A patient is not merely a biological unit but a person before God with social and family connections.

#### **f) Suffering**

Suffering can sometimes be redemptive and purpose-

ful. It is God's opportunity (as health and an opportunity) for a creative outcome or a witness or an amendment of life.

Let me share with you the experience of two of my friends who faced the issue of caring for children with disability. One was a hospital Chaplain. When a child with disability was born to him, he asked God why this happened to him, but he could not get an immediate answer. He loved that child but the child could not adequately respond to his love in the normal way. This helped the Pastor to realise how God loves us in spite of us not being responsive to His love. The other was a colleague of mine and a highly qualified paediatrician. When a child with disability was born to him and his doctor wife, they did their very best to sustain her life. The child became critically ill immediately after birth, needing exchange blood transfusions. Though their colleagues questioned the wisdom of taking such an extreme step for such a child, they choose to have the exchange transfusions. The child recovered and subsequently brought a new purpose to their life before she finally died at four months of age. Through this the parents realised that God had a purpose in bringing her to their home. This experience was an act of God to make them aware of the need of caring for many neglected children with disability in our society. So they resigned from their busy clinical work to start a centre for children with mental handicaps and special needs. An apparent traumatic experience became the rallying point for a new mission for compassion

### **g) Our Guiding Principle**

Ever since the time of Hippocrates in the fifth century BC, the medical profession has been guided by the concept of the worth of each individual human life, which was reaffirmed by the Geneva code in 1948, which states, "I will show the utmost respect for human life from the time of conception". "Suffering is evil and we should take every step to mitigate or relieve it." In the extreme, Hitler had a utilitarian philosophy of life. Any person who had a utilitarian value he preserved, and others he eliminated. But we respect the unique value of human life. Scriptures say man is made in the image of God. This gives human life, a unique dignity and value. Life should be cherished, supported and cared.

### **h) Some Practical Suggestions**

- ♦ Doctors should serve and care for their patients in love.
- ♦ Deliberate attempt to end or shorten life, whether by omission or commission is unethical, in my personal view, and should be restrained.
- ♦ Our society's leaders should proclaim the way of righteousness and truth, against taking innocent lives, and provide compassionate care.
- ♦ Education of medical personnel and people with moral and spiritual values should be done, which may lead to sound legislation.
- ♦ Bring in the principle of love as the motive and main- spring.



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## VII

### CONCLUSION

Views and ideas and even concept of ethics are fast changing in the context of the rapid progress of science and technology. Ethics are not merely laws for enforcement by the state, but self regulatory principles to be practiced voluntarily imbued with a sense of honour and social responsibility. We need serious ethical evaluation to check the domination of market forces over human values. Corrupt trade practice have seeped into the system. The guiding principle of optimum benefit to all needy patients seems to have lost in the melee of activities. The benefit of scientific and technological development has gone beyond the reach of the common patient mainly due to reasons defying ethics. Care should be taken not to prescribe costly drugs when less expensive but equally effective substitutes are available. One should confine to the minimum essential investigations, resisting the temptation of monetary benefits.

A doctor serves his patients in love and from true ethical principle. There must be sound education in moral and ethical principle. There must be sound education in moral and ethical values through educational institution and communication media. We should create a public opinion on moral values so that appropriate legislation can come up in Parliament. Only ethics based on spiritual values and love can lead our society to lasting happiness, harmony and peace.

## VIII

### COMMENTARY

In a world where we are taught to define the meaning of life in terms of material pleasures and achievements and the acquisition of high-tech toys, it is not surprising that people who no longer enjoy these things will find life no longer worth living. Movements for active euthanasia and physician assisted suicide have swept the West. And now Dr Tharien has called our attention to the rise of this movement in India.<sup>1</sup>

We should not be so presumptuous as to think that we know the meaning of our lives. We may be here for purposes of which we are not aware. For this reason there really can be no "informed consent" to end one's life because we have no way to become informed of the implication of dying or what will happen to us after we leave this life. So Tharien is right to discuss God's purposes from a Christian point of view. His views ought to be examined by bioethicists of other faiths as well as secular and strictly scientific bioethicists.

Tharien accepts the concept of "cerebral death". But really this concept is not well-defined. In the years since the US President's Commission's 1981 attempt to define death<sup>2</sup>, studies of patients clinically declared "brain dead" have revealed that numbers of them "maintain hypothalamic-endocrine function", "maintain cerebral electrical activity",

"retain central nervous system activity in the form of spinal reflexes<sup>3</sup>."

Some authors have proposed that we no longer wait for total brain death or for "brain stem death" and suggested continuing to regard "brain dead" patients as alive so long as the heart is beating.<sup>4</sup> This raises serious questions for heart, lung and liver transplants.

Tharien correctly emphasises love, which should be the response to patient's depression rather than even considering euthanasia. It should be added that one of the best ways to show love, when non-pharmaceutical methods fail, is by giving antidepressant drugs. Not enough physicians are aware that antidepressants can be effective even when the depression is an understandable reaction to some life event.<sup>5</sup> A patient's request for euthanasia may also be because of pain, and physicians may be insufficiently aware of proper use of narcotic analgesics.<sup>6-8</sup> And there are many gradations between acceding to a patient's refusal of treatment letting him die, and imposing coercive treatment. Sometimes a patient will refuse treatment because he wants a second opinion from another physician, or prefers complementary medicine, or chooses to rely on faith and prayer. Often such decisions ought to be respected. But when the patient's refusal is clearly and dangerously wrong it does not follow that forceful treatment is in order. The love of which Dr. Tharien has written may be the better way to bring the patient around. And if



love can reduce somewhat the need for drugs against pain and depression, what a blessing this will be!

Tharien's Christian approach is extremely important. But I hope our journal doesn't become too heavily Jewish and Christian. Teaching the Buddhist meditative concept of life is another loving alternative to euthanasia.<sup>9</sup> I hope we shall be hearing more from bioethicists with Hindu, Shinto, Muslim, secular and other Asian approaches so that our journal will serve as forum for a truly pan-Asian multilogue.

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## APPENDIX I

### HIPPOCRATES OATH B.C.460

"I Swear by all the gods and goddesses, making them my witness, that I will carry out, according to my ability and judgement, this oath and this indenture. To hold my teacher in this art equal to my own parents; to make him partner in my livelihood; when he is in need of money to share mine with him; to consider his family as my own brothers, and to teach them this art, if they want to learn it, without fee or indenture; to impart precept, oral instruction and all other instruction to my own sons, the sons of my teacher, and to indentured pupils who have taken the physician's oath, but to nobody else. I will use treatment to help the sick according to my ability and judgement, but never with a view to injury and wrong-doing. Neither will I administer poison to anybody when asked to do so, nor will I suggest such a course. Similarly I will not give to a woman a pessary to cause abortion. But I will keep pure and holy both life and my art. I will not use the knife, not even verily on sufferers from stone, but I will give place to such as are craftsmen therein. Into whatsoever house I enter I will enter to help the sick, and I will abstain from all intentional wrong-doing and harm, especially from abusing the bodies of man or woman, bond or free. And whatsoever I shall see or hear in the course of my profession, as well as

outside my profession in my intercourse with men, if it be what should not be published abroad. I will never divulge, holding such things to be holy secrets. Now, if I carry out this oath and break it not, may I gain for ever reputation among all men for my life and for my art; but if I transgress it and forswear myself, may the opposite befall me”.

## APPENDIX II

### DECLARATION OF GENEVA-1948

I solemnly pledge myself to consecrate my life to the service of humanity;

I will give to my teachers the respect and gratitude which is their due;

I will practice my profession with conscience and dignity;

The health of my patient will be my first consideration;

I will respect the secrets which are confided to me;

I will maintain by all the means in my power , the honour and the noble traditions of the medical profession;

My colleagues will be my brothers;

I will not permit considerations of religion , nationality, race, party politics or social standing to intervene between my duty and my patients;

I will maintain the utmost respect for human life, from the time of conception; even under threat, I will not use



my medical knowledge contrary to the laws of humanity;

I make these promises solemnly, freely and upon my honour.

(Adopted by the third General Assembly of the World Medical Association at London, England, October 1949.

### **Duties of Doctors in General**

A doctor must always maintain the highest standards of professional conduct.

A doctor must not allow himself to be influenced merely by motives of profit.

### **The following practices are deemed unethical:**

- a) Any self-advertisement except such as is expressly authorised by the national code of medical ethics.
- b) Taking part in any plan of medical care in which the doctors do not have professional independence.
- c) Receiving any money in connection with services rendered to a patient other than the acceptance of a proper professional fee, or to pay any money in the same circumstances without the knowledge of the patient.

Under no circumstances is a doctor permitted to do anything that would weaken the physical or mental resistance of a human being, except from strictly therapeutic or prophylactic indications imposed in the interest of the patient.

The doctor is advised to use great caution in publishing discoveries. The same applies to methods of treatment whose value is not recognised by the profession.

When a doctor is called upon to give evidence or a certificate he should only state which he can verify.

### **Duties of Doctors to the Sick**

A doctor must always bear in mind the importance of preserving human life from the time of conception until death.

A doctor owes his patient complete loyalty and all the resources of his science. Whenever an examination or treatment is beyond his capacity he should summon another doctor who has the necessary ability.

A doctor owes his patient absolute secrecy on all which has been confided to him or which he knows because of the confidence entrusted to him.

A doctor must give the necessary treatment in

emergency, unless he is assured that it can and will be given by others.

### **Duties of Doctors to Each Other**

A doctor ought to behave to his colleagues as he would have them behave to him.

A doctor must not entice patients from his colleagues.

A doctor must observe the principles of "The Declaration of Geneva" approved by the World Medical Association.

## APPENDIX III

### DECLARATION OF HELSINKI - 1964

It is the mission of the doctor to safeguard the health of the people. His knowledge and conscience are dedicated to the fulfilment of this mission.

The Declaration of Geneva of the World Medical Association binds the doctor with the words, 'The health of my patient will be my first consideration', and the International Code of Medical Ethics which declares that 'Any act or advice which could weaken physical or mental resistance of a human being may be used only in his interest.'

Because it is essential that the results of laboratory experiments be applied to human beings to further scientific knowledge and to help suffering humanity, the World Medical Association has prepared the following recommendations as a guide to each doctor in clinical research. It must be stressed that the standards as drafted are only a guide to physicians all over the world. Doctors are not relieved from criminal, civil and ethical responsibilities under the laws of their own countries.

In the field of clinical research a fundamental distinction must be recognized between clinical

research, in which the aim is essentially therapeutic for a patient, and clinical research, the essential object of which is purely scientific and without therapeutic value to the person subjected to the research.

## **I. Basic Principles**

1. Clinical research must conform to the moral and scientific principles that justify medical research, and should be based on laboratory and animal experiments or other scientifically established facts.
2. Clinical research should be conducted only by scientifically qualified persons and under the supervision of a qualified medical man.
3. Clinical research cannot legitimately be carried out unless the importance of the objective is in proportion to the inherent risk to the subject.
4. Every clinical research project should be preceded by careful assessment of inherent risks in comparison to foreseeable benefits to the subject or to others.
5. Special caution should be exercised by the doctor in performing clinical research in which the personality of the subject is liable to be altered by drugs or experimental procedure.



## **II. Clinical Research Combined with Professional Care**

1. In the treatment of the sick person the doctor must be free to use a new therapeutic measure if in his judgement it offers hope of saving life, re-established health, or alleviating suffering.

If at all possible, consistent with patient psychology, the doctor should obtain the patients' freely given consent after the patient has been given a full explanation. In case of legal incapacity consent should also be procured from the legal guardian; in case of physical incapacity the permission of the legal guardian replaces that of the patient.

2. The doctor can combine clinical research with professional care, the objective being the acquisition of new medical knowledge, only to the extent that clinical research is justified by its therapeutic value for the patient.

## **III. Non-therapeutic Clinical Research**

1. In the purely scientific application of clinical research carried out on a human being it is the duty of the doctor to remain the protector of the life and health of that person on whom clinical research is being carried out.

2. The nature, the purpose and the risk of clinical research must be explained to the subject by the doctor.
3. a) Clinical research on a human being cannot be undertaken without his free consent, after he has been fully informed; if he is legally incompetent the consent of then legal guardian should be procured.  
  
b) The subject of clinical research should be in such a mental, physical and legal state as to be able to exercise fully his power of choice.  
  
c) Consent should as a rule be obtained in writing. However, the responsibility for clinical research always remains with the research worker; it never falls on the subject, even after consent is obtained.
4. a) The investigator must respect the right of each individual to safeguard his integrity, especially if the subject is in a dependent relationship to the investigator.  
  
b) At any time during the course of clinical research the subject or his guardian should be free to withdraw permission for research to be continued. The investigator or the investigating team should discontinue the research if in his or their judgement it may, if continued be harmful to the individual.

## APPENDIX IV

### DECLARATION OF TOKYO-1990

**I.** Discussion of human genetics is dominated today by the efforts now under way on an international basis to map and sequence the human genome. Such attention is warranted by the scale of the undertaking and its expected contribution to knowledge about human biology and disease. At the same time, the nature of the undertaking, concerned as it is with the basic elements of life, and the potential for abuse of the new knowledge which the project will generate are giving rise to anxiety. The conference agrees that efforts to map the human genome present no inherent ethical problems but are eminently worthwhile, especially as the knowledge revealed will be universally applicable to benefit human health. In terms of ethics and human values, what must be assured are that the manner in which gene mapping efforts are implemented adheres to ethical standard of research and that the knowledge gained will be used appropriately, including in genetic screening and gene therapy.

**II.** Public concern about growth of genetic knowledge stems in part from the misconception that while the knowledge reveals an essential aspect of humanness it also diminishes human beings by reducing them to mere

base pairs of deoxyribonucleic acid (DNA). This misconception can be corrected by education of the public and open discussion, which should reassure the public that plans for the medical use of genetic findings and techniques will be made openly and responsibly.

III. Some types of genetic testing or treatment not yet in prospect could raise novel issues for example, whether limits should be placed on DNA alterations in human germ cells because such changes would affect future generations, whose consent cannot be obtained and whose best interests would be difficult to calculate. The conference concludes, however, that for the most part present genetic research and services do not raise unique or even novel issues, although their connection to private matters such as reproduction and personal health and life prospects, and the rapidity of advances in genetic knowledge and technology accentuate the need for ethical sensitivity in policy making.

IV. It is primarily in regard to genetic testing that the human genome project gives rise to concern about ethics and human values. The identification cloning, and sequencing of new genes without first needing to know their protein products greatly expand the possible scope for screening and diagnostic tests. The central objective of genetic screening and diagnosis should

always be to safeguard the welfare of the person tested: test results must always be protected against unconsented disclosure, confidentiality must be ensured at all costs, and adequate counselling must be provided. Physicians and others who counsel should endeavour to ensure that all those concerned understand the difference between being the carrier of a defective gene and having the corresponding genetic disease. In autosomal recessive conditions, the health of carriers (heterozygotes) is usually not affected by their having a single copy of the disease gene; in dominant disorders, what is of concern is the manifestation of the disease, not the mere presence of the defective gene, especially when years may elapse between the results of a genetic test and the manifestation of the disease.

V. The genome project will produce knowledge of relevance to human gene therapy, which will very soon be clinically applicable to a few rare but very burdensome recessive disorders. Alterations in somatic cells, which will affect only the DNA of the treated individual, should be evaluated like other innovative therapies. Particular attention by independent ethical review committees is necessary, especially when gene therapy involves children, as it will for many of the disorders in question. Interventions should be limited to conditions that cause significant disability and not employed merely to enhance or suppress cosmetic, behavioural or



cognitive characteristics unrelated to any recognised human disease.

**VI.** The modification of germ cells for therapeutic or preventive purposes would be technically much more difficult than that of somatic cells and is not at present in prospect. Such therapy might, however, be the only means of treating certain conditions, so continued discussion of both its technical and its ethical aspects is therefore essential. Before germ-line therapy is undertaken, its safety must be very well established, for changes in germ cells would affect the descendants of patients.

**VII.** Genetic researchers and therapists have a strong responsibility to ensure that the techniques they develop are used ethically. By insisting on truly voluntary programmes designed to benefit directly those involved, they can ensure that no precedents are set for eugenic programmes or other misuse of the techniques by the state or by the private parties. One means of ensuring the setting and observance of ethical standards is continuous multidisciplinary and transcultural dialogue.

**VIII.** The needs of developing countries should receive special attention, to ensure that they receive their due share of the benefits that ensue from the human genome project. In particular, methods and techniques of testing

and therapy that are affordable and easily accessible to the populations of such countries should be developed and disseminated whenever possible.

*Declaration passed by the Council for International Organisation of Medical Sciences under WHO, held in Tokyo and Inuyama from 22-27 July 1990.*

*Dr. A.K. Tharien, the author of this book, participated in this Council.*

## ***SOME ISSUES RAISED***

Has a patient the right to be delivered from incurable suffering?

If a person has a right to life has he not also a right to take away his own life?

Abortion, though once considered to be a criminal act, is now often considered to be a benevolent and obligatory act. Should we not go along with the times?

Is it wrong to find out and eliminate a retarded foetus?

If test tube baby is a break through in medical technology, why impose restrictions?

Is it wrong to attempt to create super-humans through genetic engineering?

Is it ethical to sell or buy organs?

What is our priority? To prolong life of a few or improve the quality of life of the masses.