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SOME MORAL REFLECTIONS ON HEART TRANSPLANT SURGICAL PROCEDURES

A VERY seriously written article in one of the world's most popular weekly magazines some time ago called attention to a number of grave and perplexing problems posed by the startling and audacious experiments which are currently being undertaken by scientists, particularly in the biological and medical spheres, and, more important still, by the far-reaching and disquieting implications resulting from or connected with the prospects opened up for the near or remote future by experiments of this kind.[1] The writer of the article expressed his view on the need and value of moral and religious guidance in scientific advances with these words:

> 'There are powerful institutions to give us guidance about what ought to happen – the most powerful, perhaps, being religion. Regardless of what science makes possible, moral approval or disapproval has, throughout man's history, influenced which advances he accepts instantly, which he accepts more slowly, and which he rejects altogether. In the new age, however, it is unlikely that any advance can be totally ignored. Scientific curiosity is one of the strongest motivating forces in the world today, and some scientists in some countries will pursue any line of research that fascinates them, regardless of prevailing moral attitudes. Some discoveries will, at first, have only a limited impact on only small segments of the world's population. But the powers that can accrue to those who use them will be so overwhelming that the rest of the world will not long shut them out. And those who guide us, including the theologians, will not be able to guide us truly without taking them into account. A sense of urgency

[1] ALBERT ROSENFELD, *Will Man Direct His Own Evolution*, in LIFE International (1st Nov. 1965), pp. 54-58.

is shared by many today... As man's knowledge takes on new dimension, hardly any human concept or value will remain sacrosanct ... Life and death will have to be redefined.'[2]

When these words were written almost universal moral approval had already led to the instant acceptance of corneal transplants from the dead to the living not only as beyond reproach but also as a virtuous and laudable gesture on the part of the donor who specified before death the donation of his corneas or other parts of his body for useful and legitimate scientific or therapeutic purposes to which they might be destined after death. At the same time, divided moral judgement on vital homografts of one of double organs, such as renal and ovarian homotransplants from one living person to another, due also, though not principally, to the scant hope of success offered by such procedures at the time, accounted for their initial slower and more reluctant acceptance, which is now considerably on the increase owing to the much broader promise of success offered by new methods and procedures and to the greatly increasing favour accorded by theologians to the contrary view which basically justifies on moral grounds vital homotransplants as a work of most profound reverence towards one's neighbour.[3]

Serious misgivings at present characterise professional medical and religious thought, with consequent marked reflections on the popular level, in connection with the removal of organs, such as kidneys and hearts, from deceased persons to be transplanted in critically ill patients in need of a sane heart or a sound kidney.

What has given rise to the dissenting voices from authoritative sources and to the increasing tempo of worried talk in various walks of life are the implications of the element of urgency which is absolutely indispensable in these surgical procedures, owing to the fact that in the present state of medical knowledge, organs like the heart cannot be preserved in a useful condition outside the donor's body if they are to resume their function in the recipient's body.

This is how the essential near-continuity between donor and recipient was described by a prominent member of the medical profession shortly before the first historical heart transplant surgical operation was effected in South Africa.

'The eager surgeon', wrote Professor Keith Simpson, of the University of London, 'faced with a natural shortage of volunteer (live) donors, is

[2] Ibidem, p. 54.
[3] Cf. B. HÄRING, C.SS.R., *The Law of Christ*, III, pp. 242-243.

now presented with the problem of getting suitable tissues or whole organs from those who have just died – before degenerative changes can set in. This needs planning in great detail: donor and recipient must be near each other, preferably in the same building for celerity of transfer. The surgeon and his team must be ready as the time of death draws near; relatives may have to be contacted and persuaded to approve; the coroner (in cases of death from injury or unnatural causes) must give approval – and can assume authority only when death has taken place; lawyers may intervene with their own special problems. All this consumes time – vital time – and makes the project the more uncertain of success ... The moment of death is the starting pistol for a race to save life.'[4]

It has become known that this description fitted with precision, in most of its details, the circumstances in which the five heart transplant operations which have hitherto been attempted in South Africa and the United States of America were carried out. The particular setting for this specific type of operation has, not altogether unduly, produced in a number of people, a sort of feeling of a dangerous situation in which a patient may eventually become regarded by his doctors as a prospective heart donor and a possible source of new life for another patient instead of as a dying man requiring his doctors' best care and personal concern. A similar attitude of mind, equivalent to disregard for the sacredness and inviolability of human life, categorically denied by the protagonists of the first heart transplant operations, cannot, unfortunately, be ruled out always and everywhere, if and when such operations become routine practice in future. Doctors, even distinguished ones, were heard to say in the past that 'incurables as well as the hopelessly insane should be quietly and painlessly disposed of', that 'hopelessly deformed patients should be gently put out of their misery' and that 'humans should receive the same treatment accorded to animals.'[5] What all should guard against in this respect is what the moral theologian B. Häring terms 'the assumption of a purely biological or utilitarian norm in the appraisal of human life.'[6]

Thus, it at once appears obvious that the crucial problem converges on what Professor Simpson called, in the reported extract, 'the moment

[4] KEITH SIMPSON, M.D., F.R.C.P., F.C.Path., *Moment of Death*, in Abbottempo, book 3 (published 1967 by Abbott Universal Ltd.), p. 25.
[5] Cf. G.J. MC GILLIVRAY *Suicide and Euthanasia*, C.T.S. pamphlet n.S. 131, pp. 6-7.
[6] Cf. B. HÄRING, *The Law of Christ*, III, p. 214.

of death'. He underlines that 'above all the fact of death must remain in no doubt', since 'to anticipate death by a moment and operate for the removal of tissue or an organ, the loss of which would not benefit the donor, is to commit an assault', according to the legal terminology used by the professor of forensic medicine,[7] or, as the moral theologian would say, 'is the same as the killing of an innocent.'[8]

But: when is the fact of death established beyond doubt? – is the question repeatedly asked in many quarters with mounting anxiety. And the question assumes added significance in the light of the reply given by one of the members of the South African team of heart transplant Surgeons, when asked in the course of a B.B.C. interview whether a firm assurance could be obtained that the South African heart donor was clinically dead when his heart was removed. Far from dispelling any shade of doubt and reassuring the interviewer and the B.B.C. listeners, the surgeon's reply, as reported in the press,[9] namely, that the heart donor was 'no longer a living individual – in a sense', qualified by the additional enigmatic remark that 'what was needed was a supply of living dead people', intensified the shadows surrounding heart transplant surgery. Does death, therefore, admit of more than one sense? In what sense may a dead man be conceived of as a living individual and vice-versa? And what is exactly meant by a 'supply of living dead people'? Do these words mean that 'human bodies with the brain destroyed but the rest of the organism healthy could be kept in a living state to supply parts for transplant surgery', as the Soviet Surgeon Vladimir Demikhov was quoted as saying in the 'Soviet Weekly'?[10]

The certainty of death depends upon the definition of death. Until recent times death had always been considered as a relatively simple and clearly definable end to life, which was verified when a man stopped breathing and his heart ceased beating. With the introduction, however, of modern methods of resuscitation, such as mechanical heart and breathing aids, which, together with intravenous feeding, can maintain life or the appearance of life for a more or less long period of time in patients in a state of deep coma, certain physicians began to think that a distinction should be made between cardiological and cerebral death, that is, between death of the heart and death of the brain, and that, as a

[7] Cf. KEITH SIMPSON, Loc. cit.
[8] Cf. MGR. F. LAMBRUSCHINI, in Osservatore Della Domenica (Jan. 21, 1968).
[9] Cf. H.R.F. KEATING, *Questions Unanswered*, in Catholic Herald (Dec. 15, 1967).
[10] Cf. *Medical Corner*, Times of Malta (Jan. 23, 1968).

consequence, physical death needed to be re-defined. The prevalent view today seems to be that only if the function of the brain has totally perished is the patient really dead and that heart-lung machines which preserve tissue integrity by maintaining blood circulation after brain function has ceased are merely maintaining the look of life in the face of death.[11] It would appear that this view raises more problems than it solves. In the first place, it has not received, at least as yet, universal approval, as evinced from the following two fairly identical cases reflecting conflicting criteria of death.

The first case was that of a man who had been beaten to death and taken to a hospital. The victim's wife gave doctors permission to remove one of his kidneys and transplant it into another man, which they did after maintaining artificial circulation and heart-beat by means of a heart-lung machine for 24 hours in order to be certain that the kidney would remain undamaged. At his trial, the victim's assailant pleaded that he was not responsible for the man's death, that the man was, after all, still alive in hospital, and that responsibility for the man's death should be attributed to the doctors who had removed his kidney. The assailant's arguments were not upheld by the Court.[12]

The second case reported by Professor Simpson, which happened about the same time, concerned another man who had been seriously injured in a criminal assault, after which the attending physicians sought and obtained his wife's and the coroner's approval for the removal at death of a kidney that was needed for a transplant. The charge of manslaughter that later ensued failed as a result, after defence Counsel had argued successfully that the accused would not be standing for trial had it not been for the removal of a kidney, since final, irretrievable death had not yet occurred when the operation was undertaken: the man had stopped breathing 14 hours after admission to hospital and had been kept alive on a respirator for an additional 24 hours, after which the machine was stopped and the kidney removed. Was life being maintained only for this purpose and could it have been preserved longer? – Counsel pleaded.[13]

Again, when can it be said with the highest degree of moral certainty that a patient's brain function has totally perished and that he can therefore be safely pronounced dead? Many physicians now believe that this question should be answered largely on the basis of the patient's elec-

[11] Cf. *Should the Church Make Special Statement on Heart Transplant*, by A MEDICAL CORRESPONDENT in Catholic Herald (Jan. 12, 1968).
[12] Cf. A. ROSENFELD, l.c.
[13] Cf. PROFESSOR K. SIMPSON, l.c.

troencephalogram (EEG) or brain-wave-tracings and precisely after the EEG has shown a flat line (indicating no electrical activity in the brain) for so long as to exclude any real hope of the patient's recovery. But for how long should the flat EEG line have persisted so that hope of recovery could be discounted with at least moral certainty? Even here no inflexible rule appears to exist. For Harvard's Dr. Robert S. Schwab the criterion is that the EEG must remain flat for about 24 hours, and stay flat despite external stimuli such as a loud noise; there must be no muscular or pupillary reflexes; the patient must have no heartbeat or respiration of his own – only what the machines are providing. 'After that', says Dr. Schwab, 'the physician in charge can agree to turn off the artificial aids and pronounce the patient dead.' Still, Dr. Schwab recognises that the 24 hour limit is not invariably valid since in certain circumstances, such as after barbiturate poisoning or long exposure to extreme cold, a patient might have a flat EEG for several hours and still be capable of full recovery. The precise timing, therefore, should, in Dr. Schwab's opinion, be left to the physician's judgement in each case.

France's National Academy of Medicine apparently takes a substantially different view from that of Dr. Schwab, since it has proposed that a patient may be adjudged dead after his EEG has registered no brain activity for a minimum of 48 hours.[14]

Moral theologians would concede that in the really hopeless case, the physician has no universal moral obligation to make strenuous efforts and use disproportionate or extraordinary means to prolong life for a short time.[15] Such is considered to be the case of a patient who has suffered irreversible brain damage and is unable to survive, breathe and maintain a circulation without artificial help. And with such patients the continued use of artificial circulation and breathing aids do constitute a strenuous effort and a disproportionate and extraordinary means. Conscientious doctors would caution however, against the danger or temptation of abuse in assessing the hopeless case. 'Those of us who seriously consider the term', observes Dr. J.A. Perrone, 'are well aware how far 'hopeless' could be extended.'[16] Another difficulty concerns the competence to decide the discontinuance of artificial aids in the hopeless case. The family's competence in this case is unquestioned. Pope Pius

[14] Cf. *What is Life? When is Death?* in TIME MAGAZINE (May 27, 1966).
[15] Cf. B. HÄRING, *The Law of Christ*, III, 240-241.
[16] J.A. PERRONE, M.D., *The Right to Live*, in The Linacre Quarterly, 34 (Nov. 1967), p. 335.

XII made it clear that if the attempt at resuscitation, which has scant hope of success, 'constitutes in reality such a burden for the family that one cannot in all conscience impose it upon them, they can lawfully insist that the doctor should discontinue these attempts.'[17] What would be the physician's position if the patient's family, on the contrary, insisted on the continued use of the artificial aids, in spite of the hopelessness of the case? Provided that the patient's relatives are disposed to shoulder the burden of the expenses involved and that the artificial aids are not required for other patients to whom they offer a hope of saving their lives, the physician will not be morally justified in shutting off the circulatory or respiratory machine. It is recorded, in this connexion, that when the Swedish prominent heart-lung surgeon, Dr. Clarence Crafoord, suggested that a patient should be declared dead when a flat EEG pattern indicated that his brain had definitely and irrevocably ceased to function, a public outcry followed. Dr. Crafoord had in mind truly hopeless cases; yet the relatives of patients being kept alive with mechanical aids jumped to the conclusion that he meant the devices should be shut off, the patients declared dead, and their organs used for transplants.[18] Something similar is being suggested today, in order to provide hearts suitable for transplantation in patients who need them.

This suggestion raises at once the problem of consent. For Fr. Häring, 'it is quite clear that the physician or surgeon may not arbitrarily dispose of the organs of a deceased person, even though the fact of death is fully established.'[19] When illustrating the Church's thought about the various problems of thanatology, Pius XII pointed out that it would usually not be permissible to remove parts or organs from a corpse, even for the very laudable purpose of transplantation without the consent of the next of kin (or of others whose right it might be to make proper disposition of a body) or contrary to the explicit refusal of the deceased expressed before death, which condition is dictated not only by the humane consideration due to the bereaved but constitutes also a matter of strict right requiring scrupulous respect.[20]

This is not to say that dying patients and their families or responsible relatives should not be willing and disposed, when there is a real need,

[17] *The Pope Speaks*, vol. 4, n. 4 (1958), p. 397.
[18] Cf. *What is Life? When is Death?* in TIME Magazine (May 27, 1966).
[19] B. HÄRING, op.cit., pp. 241-242.
[20] Cf. *Pius XII, Discourse on Corneal Transplants* (May 14, 1956) in Atti e Discorsi di PIO XII, vol. XVIII (1956) p. 273.

to concede to their physician or to others the right to use parts or organs of their bodies after death in loving charity for their neighbour, thus extending, as Häring puts it,[21] the exercise of love beyond their death. Here, however, one is reminded of the timely warning, pronounced by Pius XII who, too, viewed such a concession as a positively virtuous act, against any intemperate form of propaganda in this regard which would create the false notion that one is ordinarily required in conscience so to dispose of one's body for the benefit of others, as well as against forms of discrimination between poor and wealthy and between socially humble and socially prominent where the right of choice between concession and refusal is involved.[22]

This problem concerning the need of the formal consent of the donor or of his nearest relative acquires greater stress in view of already projected or proposed demands for amendments to existing legislation in this matter with the purpose of authorising hospitals and surgeons to remove any organ required for therapeutic or scientific purposes from the body of any deceased patient who had not, prior to his or her death, formally forbidden any such removal. Statements have also been made to the effect that all dead bodies should be considered as the property of society which could then legally sanction the removal from them of any parts required for transplants. One is not at all surprised to hear that proposals and statements of this nature have led to disturbed talk about 'cannibalizing' human bodies, considering them like discarded vehicles to get from them usable spare parts for others. This again recalls to mind the precaution, mentioned by Pius XII, against the development of a mentality that would regard a human cadaver as no more than dead animal tissue, – a mentality resulting in, if not stemming from, a lessening of respect and reverence, if not outright disregard, for the human body, as the one-time abode of a spiritual and immortal soul and as Temple of the Holy Spirit, destined itself for resurrection and eternal life.[23]

In a situation in which the supply of hearts available for transplantation falls far short of the demand, the problem of selecting which of a number of particular patients should receive a new heart as soon as a donor is found will inevitably present itself. Who is going to decide? And what criterion is to be adopted in selecting the recipient?

According to Norman St. John-Stevas, the best criterion to use in se-

[21] B. HÄRING, loc.cit.
[22] Cf. PIUS XII, *Discourse on Corneal Transplants*, l.c.
[23] Ibidem.

lecting the candidate for the heart transplant would be the benefit to society rather than the convenience to an individual, so that doctors would be justified in preferring to preserve the life of, let us say, a creative writer or artist or politician rather than the life of an individual who was making no notable contribution to society.[24] But is not such a criterion rather vague and arbitrary? What if the selection were to fall between, for example, a celebrated artist leading a depraved life and an ordinary hard-working man striving to lead a decent family life? Or, should an artist and a politician be in equal need of a new heart in order to save their lives when only one heart that could suit either is available, whom should the doctor prefer? The decision would, admittedly, be an agonising one, as St. John-Stevas is prepared to admit, and few doctors, in my opinion, would be ready to consider decisions of this type as falling within their medical competence.

The last, though not the least, disquieting thought about heart transplant surgery revolves round the degree of hope which the procedure holds out to the heart patient. It does not seem possible to dispel altogether the voices coming from various professional sources which consider the procedure as still premature at the present stage. The surgeons responsible for the operations that have already been performed have strongly denied that they were of an experimental nature. Allowance should also be made for any conscious or unconscious feeling of envy that has not been unknown to influence the attitude of equals or betters towards the achievements of others in the field of scientific discovery, as a number of pioneers in this field, like Mendel and Jenner, had reasonable cause to complain. And it is ethically established that a physician may use hitherto untested medical and surgical methods on a patient who is critically ill, if in the light of the best human judgement none of the established procedures provides any actual hope of saving the patient's life or restoring him to health, provided the patient duly informed of the physician's intention, expressly or tacitly consents and the new method is positively believed to be of some avail to the patient. Pope Pius XII had taught that 'when means already known have failed, it may happen that a new method still insufficiently tried offers, together with very dangerous elements, appreciable chances of success, in which case, if the patient gives his consent, the use of the procedure is licit, although this way of acting cannot be upheld as a line of conduct

[24] Cf. NORMAN ST. JOHN-STEVAS, *New Hearts on 'Benefit to Society' Basis*, in Catholic Herald (Dec. 22, 1967).

in normal cases.'[25] Still, notwithstanding these considerations which, in my view, weigh not lightly in favour of the responsible surgeon's contention that their surgical interventions could not be classified as experimentation, certain observers, not unlikely impressed by reports of the circumstances in which the operations were performed as well as by the fact that four out of the five heart patients who have received new hearts died within a short time of the operation, have expressed themselves unfavourably. They have spoken in terms similar to those used by the Roman Moral theologian Lambruschini, who wrote that 'it is not easy to reject the impression that the protagonists of recent heart transplants have made the experiments hurriedly, yielding to a competitive temptation,'[26] or by the Soviet Health Minister, Boris Petrovsky, who declared, after the first heart-transplant-surgeries had been performed, that Russian doctors would not carry out a single experiment on man in developing heart-transplant techniques.

To conclude, it is obvious from what has been written above that much clarification is still needed in order that heart-transplant techniques may be accepted without serious reservations of a moral and ethical nature. The first clarification is that of a univocal and universally acceptable definition of death. The preponderant view in favour of taking cerebral death as real, irrevocable death is already being shaken, to a serious extent, by scientific talk about the possibility of brain transplants in a not yet forseeable future. When will the donor, then, be said to have died, for his living and vigorous brain to be removed and transplanted into the recipient? Or shall we start talking of grafting a body onto a living brain?

In order to dispel doubts and misgivings about the fact of the donor's death, once death has been satisfactorily defined, it has been suggested that the fact of the donor's death should be established by a medical board completely independent from the surgical team entrusted with the performance of the transplant. It should be made clear that the consent of both recipient and donor or the person responsible for the latter has been freely secured before the operation can be undertaken. Adequate safeguards should qualify every stage of the procedure in order to ensure that human bodies are treated with all the respect and reverence due to them. Even so, responsible medical opinion has been expressed that future hope for critically ill heart patients may not lie in the way of

[25] Quoted by VINCENT J. ZARRO, M.D., Ph.D., *The Experimental Use of Drugs in Humans* in THE LINACRE Quarterly 34 (Feb. 1967), p. 63.
[26] Cf. F. LAMBRUSCHINI, op.cit.

heart transplant techniques until, at least, storage methods are so perfected that hearts could be preserved in a usable state till required for transplanting and as long as the technique itself has not advanced to the stage in which it will offer reasonable promise of success.

Thus, to quote one representative of this line of thought, the outstanding medical scientist Dr. Irvine H. Page, who directs research at the Cleveland Clinic and edits the Scientific periodical 'Modern Medicine', has confessed that he looks with grave moral misgivings upon the cavalier attitude that is lately being adopted towards the human body, which he still regards as the sacred vessel of man's soul and spirit. Dr. Page views with concern the medical attitude to meddle too lightly with the human body since he feels and fears that disregard for the human body may easily lead to disregard for human life in general. He believes, that rather than push precipitately into experiments that entail unnecessary risks, research should proceed at a slower pace and that the application of its results to human beings should advance more cautiously still.[27] In the meantime, other alternatives are being proposed which, if successfully developed, may furnish the answer sought through the still questionable heart transplant procedures. Such alternatives include the implantation of artificial hearts and the special breeding of animals that could supply genetically reliable organs for humans, as suggested by the American Dr. Lederberg and the leading Italian surgeon Professor Valdoni.

I feel, in agreement with Norman St. John-Stevas, that the question which must be ultimately asked and answered with regard to heart transplant techniques is: Do such procedures confirm or deny man's essential nature? On the answer to this question rests the test of their morality. An affirmative answer would, in my opinion, warrant the application to the pioneers of heart transplants the words of encouragement addressed by Pius XII to the pioneers of corneal transplants, to whom the Pope said: 'Since you assure us that corneal transplants constitute for many patients a promise of cure or, at least, a means of relief and improvement in their condition, we encourage you to help your patients by making every possible and legitimate use of these means with all the discretion and prudence required in every case.'[28]

C. MUSCAT

[27] Cf. A. ROSENFELD, op.cit., p. 58.
[28] PIUS XII, *Discourse on General Transplants*, in *Atti e Discorsi di Pio XII*, vol. XVIII (1956), p. 265.