# THE LORE AND LAW OF TISSUE HOMOTRANSPLANTATION

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Professor Ewing:

If, on the one hand, I attempt to oversimplify this topic of homotransplantation, you will, no doubt, be intolerant of my condescension: if on the other hand, I make the mistake of overestimating your capacity to understand complicated biological happenings, while pretending to be flattered by my presumption, you are unlikely to give me either sympathy or attention, both of which I assure you I need in full measure.

Fortunately, I believe myself to be vulnerable to neither form of censure, and for the following rather complicated reason.

It is certainly true that, in any enunciation of the laws of homotransplantation, one comes up against a whole host of difficult and fundamental biological problems, in the study of which I have no practical experience, very little insight and next to no understanding. To give an account of them in scientific phraseology is difficult enough, but to translate them into simple language and then to present them to you in a persuasive argument is quite beyond me, for it would require the kind of forensic skill of which only people like Wood-Jones were so clearly capable.

I am also very acutely aware of the tremendous contribution which has been made and is being made by Sir Macfarlane Burnet and his colleagues, to the understanding of the subtleties of the cellular reactions that follow transplantation. There are also many others in this city who are so much better versed in these matters than I, that I feel bound, on the score of honesty, to make no pretence about things and to limit my contribution to the discussion only of those aspects of this very big subject, of which I have had, at best, a rather restricted experience.

Your Medical Secretary at a relatively late stage in our mutual negotiations slipped the word "lore" into the topic and tempted me to be discursive. However, since I am not very sure what "lore" really means, I resisted the temptation, and plan to abuse my privilege as opener and to leave (without warning I may add) this aspect of our subject to my colleague at the other end.

Within recent years, there has been a good deal of interest, in lay circles, no less than in medical ones, in the potential of organ transplantation and much speculation has followed, real and unreal, practical and philosophical. I have, for a good many years now, shared in the general excitement, but it is only within comparatively recent times that the feasibility of such ambitious exchanges has been borne home to me in a challenging way.

Rather more than five years ago, one of my colleagues in the University Department of Surgery, Mr. Vernon Marshall, introduced to our Victorian community a machine designed to assist in the treatment of patients, suffering from certain forms of acute renal failure. The equipment had first been developed by a young Dutch physician working under the difficulties of Nazi occupation. Basically it pumps the patient's blood along two very long sausage skins which are wound together in a neat roll immersed in fluid. As the blood passes along the tubes the waste end-products of metabolism, which would normally be filtered out by the cells of a healthy kidney, pass through the pores of the cellophane membrane and are removed in the bath fluid. This equipment, which we rather grandly call an "artificial kidney", has made a very important contribution to the saving of life and, with its help, we can now hope to protect our patient from what would otherwise be a fatal intoxication, while the damaged units in the kidney gradually recover their function.

Now in the course of our practice, a few patients who were admitted for treatment on the artificial kidney, with what was first believed to be acute renal failure, were later shown to be suffering from an exacerbation of kidney disease of long standing.

In many of these patients irreparable damage had already been done to other tissues such as the heart and arteries and to them we could hope to offer no more than temporary respite.

A few were, however, found to be in all other respects healthy young men and women, often with heavy business and family commitments and each doomed to die within a few weeks or months, from the damaging effects of progressive renal failure. And yet all they needed for survival was at least one good kidney.

It was not easy to abandon these patients: at the same time we realized that we had neither the money nor the resources to keep them alive by treating them on the artificial kidney say 2 or 3 times a week, as is now being done in some parts of the world.

"If only," we said, "If only we could contrive ways and means of transferring to each of them a healthy kidney that could reasonably be spared by another person".

It was a challenging assignment, and we felt that we could not resist the pressure of events and must take a careful look at the possibilities of a kidney grafting programme.

This was in 1963. What were the conditions then prevailing in the field of homotransplantation?

First, let me remind you that auto-transplantation, or the transfer of tissue from one part of an individual to another was, of course, a commonplace of surgical practice, and the auto-transplantation of skin in the form of grafts, which are taken from those parts of the body where there is a sufficiency of it and applied to other parts where it is in short supply, is a surgical exercise in which our plastic surgery colleagues excel.

In general, success or failure in skin grafting is determined by the surgeon's own technical skill and by his good judgment, for there are no fundamental biological factors operating to threaten the graft's chance of survival.

A similar success rate should attend the transfer of tissues from one identical twin to another—for such an exchange is of precisely the same order as auto-transplantation.

We knew that as far as the technical exercise of transferring a kidney from one person to another was concerned, this was not too demanding, for the kidney is a tidy organ, relatively easy to handle, and having only three tubes, an artery, a vein and the ureter to be coupled up to the corresponding tubes in its new host. Using the precise suturing techniques which were already well established and with the help of heparin, which prevents the embarrassing clotting of blood, this had been successfully achieved on many occasions.

We also recalled that the homotransplantation of blood is a commonplace of medical practice; 69,000 bottles are processed each year from our own Red Cross Blood Bank in Flinders Street. It had, however, been recognized for a very long time that blood is not all of the same kind or group and that we cannot, without grave risk, transfer blood indiscriminately from one

individual to another without having first carefully matched the cells of the donor against the serum of the recipient.

Our experience with blood transfusion suggested that we might expect to find equally significant dissimilarities between individuals in the exchange of other more complicated tissues. Perhaps we might expect these differences to be even more troublesome and certainly more persistent when we recognize that, when we receive a pint of blood, we offer hospitality to a temporary visitor only, for the life span of each of its component red cells is only a matter of a few weeks.

At the same time there appeared, in practice, to be certain well-recognized exceptions to what might have been expected to be an inflexible rule of biology. We knew that it is possible to replace a scarred and opaque cornea—and the cornea, I would remind you, is the transparent layer which lies in front of the pupil and the lens of the eye—to replace this layer by a graft, taken with no attempt at preliminary matching, from the eye of a donor after death, with every expectation of long survival and excellent function.

At the same time, it had been established that the success of transfer of bone or of blood vessels from one person to another, was more apparent than real, for although both tissues served as admirable temporary scaffolding during the slow process of repair by the tissues of the host, they did not last for long and having served their purpose in this valuable role, they then quietly disappeared.

However, with corneal grafting as the only real excuse for optimism, a few surgeons had begun to take a more lively interest in the possibilities of more ambitious homotransplants.

It was in the context of extensive burns that the problem had first presented itself and that in an urgent and demanding way for, in these circumstances, the area of undamaged skin is often too small to provide grafts to cover all the burned areas. Without adequate skin cover, the chance in such patients of survival is remote. Little wonder then that the surgeon in desperation turned to the parent—for this happening is particularly common in childhood—and tried to make good the deficiency by a homotransplantation of father's or of mother's skin.

The immediate result was always satisfactory, and the graft showed every promise of taking well. It matched in every way the performance of an autograft (that is one taken from the child's own restricted supply of donor skin) but within a matter

of 7 to 10 days the situation changed completely. The graft first became shrivelled and discoloured, gradually lost its grip on its new host and finally, to the intense disappointment of all concerned, disappeared.

Although the time interval between grafting and failure was not constant, the end result was invariably the same.

Attempts to repeat the experiment in the laboratory animal fared no better. The story was as before: apparent initial success followed by the disappointment of a complete failure to take—not one single fragment of the graft surviving.

This rejection of a proferred homograft by a child, at death's door because of an insufficiency of skin, appeared to be an expression of the organism's obligatory preservation of the sanctity of the individual. After all, we find the prompt and vigorous recognition and rebuffal of foreign material of bacterial or of viral origin to be eminently salutary, and we take good care to encourage such responses when they are not immediately and naturally available. Is it then so unreasonable that the child's defence mechanism should equally resist the intrusion of alien skin or of other tissues? Studies in the experimental animal have made it abundantly clear that this is so, and that we each possess an extremely sensitive defence mechanism which is always on the alert, faultless in the preservation of "self" and in the rejection of everything that does not belong.

Recognition of this innate and apparently immutable capacity to preserve, at all costs, the oneness of the individual, was a great blow to the high hopes of the surgeon who now found himself in possession of all the technical "know-how" required for organ transfer, but thwarted and humiliated by apparently insoluble difficulties at a cellular level.

There were, however, still a few rays of hope. It had been recognized, for example, that in the animal kingdom, and rarely, too, in man, *chimeras* do exist—individuals which have in their make-up cellular components of differing genetic constitution. This is seen most commonly in calves when dissimilar twins have shared a common placenta and a common circulation and are found, when they separate after birth, to have blood-forming tissue of two different groups but surviving side by side in apparent harmony.

To explain this surprising state of affairs, Sir Macfarlane Burnet first put forward the thesis that in foetal life, before a certain critical point, which might vary a good deal in time from

one species to another, there exists a state of affairs when the introduction of foreign material does not excite an immune response, and is apparently tolerated and accepted as a part of "self".

Sir Macfarlane Burnet's brilliant theoretical concepts were later matched and confirmed by the experiments of P. B. Medawar in London, and their work was honoured in the joint award of the Nobel Prize in 1960. Medawar found that it was possible to introduce into the foetus, tissue from an animal of the same species, and that this homotransplant would thereafter survive happily in a state of what he called "activity acquired tolerance". When, at birth, the host's defence mechanism was firmly established (the police force had been recruited and trained and was now operational) the foreign tissue had, long since, won a place for itself and was happily integrated and accepted as really belonging to its new host.

More exciting still was the realization that a skin graft (or, in fact, a graft of any other tissue) subsequently transferred to the recipient from the original donor was assured of an entrée at any time and of immunity (using immunity this time in the diplomatic sense).

Unhappily, this device did not "open sesame" to all homotransplants, for the tolerance was almost unbelievably specific and restricted only to the tissues of the original donor animal.

Reluctantly, we had to admit that, however exciting these events might be to the immunologist, they had no obvious relevance to the practical problems of organ homotransplantation, except, perhaps, in safeguarding in an idealistic society a very favoured person, by the injection, while he is still unborn, of tissues from a panel of prospective donors, capable of offering him in later life a real insurance against the failure of some replaceable organ.

The wonderful experiments of Medawar did, however, suggest that we should not put out of mind the possibility of being able to modify the immune mechanism in adult life. After all, if foreign cells were able to tip-toe past the policeman on duty, while its members were still untrained and sleeping, might it not still be possible later when security provision was complete so to influence its members, that they would be rendered temporarily (or better still permanently) incapable of recognizing and turning back an intruder.

It did not seem a very likely possibility, but, from the biolog-

ical point of view, it was a more attractive proposition than the alternative, which was to modify the graft itself in some way, or to conceal or camouflage it so that it could go masquerading as a group of cells belonging to the body's own cell population.

It was known that the immune mechanism could be put out of action by exposing an animal to a carefully-controlled dose of whole body irradiation. Accidental exposure to dangerously big doses of x-rays had also made it quite evident that precisely the same result could be expected in man. It seemed, in any event, to be worth a trial and from subsequent experience the capacity of irradiation to suppress the normal immune reaction was never in question. There were, however, difficulties in determining the correct level of dosage, and there were so many profound and damaging effects on other tissues of the body (for example, the red bone marrow was put out of action completely) that it was soon recognized that this was not a feasible, or indeed an allowable, method of achieving our objective.

Then, in 1960, two distinguished immunologists in the United States discovered that they were able to block the immune mechanism by the administration of a variety of drugs called "anti-metabolites" which had been introduced in the first instance in the treatment of cancer. Their precise mode of action was uncertain but they appeared to block certain phases of protein synthesis in the cell.

The importance of this observation in the field of organ homotransplantation was quickly recognized and the results of the discovery were as promptly transferred, first to the animal and then to human experiment. It soon became evident that they did, in fact, have this intriguing capacity to dampen down or hamstring the immune mechanism ("immuno-suppression" we called it) so that a state of what was really a drug-induced tolerance was established. There drugs are relatively inexpensive and easy to prescribe so here we were at last able to contemplate, for the first time, the grafting of an organ (or of any other simpler tissue) from one individual to another and that with a reasonable prospect of survival and function. Little wonder, then, that work was pressed ahead with great enthusiasm and that in just over two years, the first report of the successful transfer of a kidney was reported with the aid of one of these immuno-suppressive drugs.

This, then, was the state of affairs when in 1963 we were looking for a future for our derelict young folk with chronic

renal failure. We felt that there was sufficient evidence to justify our planning in terms of kidney grafting in the treatment of a select few patients stricken with irrecoverable renal disease.

Further progress has been made in the two years that have elapsed since, and the tally of success is slowly rising. We are, however, a long way from the end of the road. The drugs are very toxic and there is a critical level of dosage, beyond which the patient will suffer dangerous side effects, and below which suppression will be inadequate. Further, they are not specific and every element in the immune mechanism is affected—so that, while the organism may enjoy the rare privilege of harbouring a valuable kidney gifted by another, this is achieved only at the expense of a dangerous vulnerability to other noxious agents such as bacteria and viruses.

We necessarily commit our patient to continuing treatment with these powerful drugs, perhaps for the rest of his life, for fear that discontinuance of suppressive therapy will lead to a prompt rejection of the entire kidney.

There are, in addition, difficult ethical and moral questions which must be met and answered and even the preservation of good public relations in such a project needs very careful handling.

When considering the source of an organ graft, there are two possibilities, either we enlist the help of a volunteer donor or we take it from a suitable corpse.

The first is the more attractive alternative. First we can check to see whether or not the kidney is healthy. At operation an excellent blood flow is maintained until the last minute division of the artery, and since the timing of the transfer will be completely under the surgeon's control, the interval that elapses between the taking of the graft and its union with the blood vessels of its new host will be reduced to a minimum. Moreover, care can be taken to match donor and recipient as critically as is possible (for it is now known that the outcome is not "all or none" phenomenon, but that the chance of success is directly related to the existence of any degree of genetic affinity between the two).

Difficulties in getting the permission of a living donor are real only in the case of a child. In striking contrast, a patient seems unable to exercise any effective control over the fate of his body after death and authority to tinker with it is vested in the next of kin, in the coroner or in the Public Trustees, all of whom

may properly be reluctant to accept the responsibility of committing to the grave, a cadaver which does not possess its proper complement of kidneys.

A volunteer who donates a kidney continues to enjoy a very reasonable prospect of living to a ripe old age. There is, however, a measurable risk associated with the removal of a kidney, and a young man left with only one kidney is obviously more vulnerable to kidney failure from one cause or another, than is a man of the same years who has two of them.

It is astonishingly difficult from a practical point of view to find suitable donors for it is only when a relatively young and healthy individual dies rather suddenly, as for example, from a head injury, that one can confidently expect to recover a really good kidney. Moreover, it is highly likely that, in the process of dying, the kidney will enjoy only an indifferent blood-supply and a low perfusion pressure and since the time of operation has to be related to the unpredictable time of death, it is all the more difficult to bring the donor and recipient and surgeon together quickly. For this reason, the kidney is likely to be for longer without an adequate blood supply.

We also run into great difficulties in establishing the actual moment of death, for we must not run the risk of censure on the score of anticipating our patient's last heart beat, or of snatching the kidney before he has relinquished even the most tenuous of holds on life.

Further, when we select a cadaver graft, there is unlikely to be any time for a leisurely study of the closeness of matching of donor and recipient or even the presence of one or other of the relatively common anomalies in the number and calibre of the blood vessels.

On the other hand, loss of a kidney can do a corpse no harm, and if the first graft fails to survive, the loss is not catastrophic and we can seriously consider trying again.

We all recognize that we must operate under legal restraints, if we are to protect the interests of the dead, but we find it irksome if, at the same time, these restraints operate against the interests of the living. We are very much in need of support and guidance in resolving many of these difficulties and with these in mind, I look forward with great interest to hearing from my distinguished legal colleague of some of the niceties of these issues and of their interpretation.

I think surgeons tend by nature to be optimistic (and I

suppose it is best for their peace of mind as well as for that of their patients that this should remain so), but even the most enthusiastic advocates of homotransplantation would admit that we have as yet advanced very little beyond the experimental stage.

At the moment we claim to have some understanding of the laws of homotransplantation which, unhappily, we find in the event so inflexible.

Instead of devising ways and means of modifying the law and of easing the restraint under very special circumstances, we have adopted a rather shabby and subversive alternative which really implies seeking out all the policemen and binding and gagging them at their place of duty.

Such a practice is allowable only under extreme provocation and it is up to us to find a method which does not challenge the law as it stands (as it has been framed to safeguard the interests of the many) but which seeks for legitimate pleading to have it amended from time to time, or suspended if need be, in the interests of the few.

There is, however, as I can foresee, no reasonable prospect of our being able to change the way things are, certainly not for quite a long time to come and our efforts meantime are unlikely to be crowned either with uniform or lasting success.

MR. FULLAGAR, Q.C.:

Mr. President and gentlemen, Professor Ewing has said, and I was rather disappointed when he said it, that he is looking forward to some support and guidance on the questions which the medical profession feel arise as a result of this new science of tissue homotransplantation. I feel little qualified to give an address on this subject. When I did a law course at the University, no knowledge of the law relating to tissue homotransplantation was required for examination purposes, no lectures were given upon it, and we were not told that there was any law relating to it at all. In fact, it was not until I was asked by a surgeon who I understand is a very successful tissue homotransplanter to give this address, that I heard of the subject.

After considerable research I have concluded that the law relating to this subject does not exist. And so one must try to forecast, as best one may, what the law might say on these matters if and when some surgeon or patient collides with the law in respect of them.

By way of introduction, it is essential to appreciate at the outset that the method of development of the common law is inductive rather than deductive. The common lawyers did not begin by laying down a theory or a code or a principle, or continue by trying to squeeze new instances within the theory. On the contrary, they began by deciding each case in the best and fairest manner they knew how, and soon there grew up a great body of decided cases, and then the students and the academics began to perceive the graph which was outlined by these instances, and found that some clear principles were to be gathered from them. Thus the method was, not to fit recalcitrant but actual cases into some pre-tailored but unproven theory, but rather to allow the theory and principles to build up themselves from *proven* cases.

In the result therefore, as the common law has not, for many centuries, had to consider very deeply the law relating to dead bodies and parts thereof, or the law relating to the rights and duties of an individual in and with respect to his own living body and parts thereof, it is now difficult to see or apply any clear theory: it is difficult to forecast accurately just how the Courts will set about deciding the cases that may possibly arise. It is patently impossible for me to lay down any general rules, and I must do my best to indicate the legal background in the light of which the Courts may approach certain questions.

Professor Ewing was kind enough to indicate to me some of the questions in which he thought the medical profession would be interested. First, he asked, "When is a man technically dead?"

And so I have to deal with the question, knowing that the word "technically" means "in the legal sense": at what point is a man dead in the eyes of the law? The law, in its wisdom, answers this without the slightest difficulty by saying, "The time which the doctors in the particular case *say* was the time of his death", or "At that point of time at which the preponderance of credible medical testimony holds that he was dead". The Oxford Dictionary says death is "the final cessation of the *vital functions* of an animal or plant"; of course this poses the questions what are the "vital functions"? and what is "final cessation" of them? In other words, the occurrence of death is a fact, and must be found like any other fact; and, as the question is one upon which there exist acknowledged experts, the Court will admit opinion evidence of such experts. The Courts have not, and will not, lay down any rule as to when a man is dead: with certain

minor and irrelevant exceptions it will in each case be concerned to find at what point of time death came to (or life expired in) the particular man in question. In connexion with tissue homotransplantation the question is not likely to arise, and certainly not likely to arise in proceedings other than criminal proceedings of a serious kind, in which a jury will have to decide the question. "Was the deceased dead at 12 midnight at the end of the 30th June?" is a question not unlikely to arise under frequently-altered death duty legislation, and it has arisen once already in Victoria to my own knowledge in a case where even 60 minutes was critical to the legal questions which arose. It may sometimes be no easier than the question "Was X drunk at the time of the accident; was X insane at the time of such and such an event?"

I now wish to deal with certain aspects of the law relating to tissue homotransplantation *after death* of the person whom I shall call the donor, but by donor I do not mean to imply necessarily any ante mortem consent by him. The first matter to observe is that a coroner has a duty to perform an inquest *super visum corporis* whenever he believes, on reasonable grounds, that a person died from other than old age or common illness, and indeed, has a duty to conduct an inquest *super visum corporis* in many other circumstances. Quite apart from statute, it is a serious offence at common law, punishable by imprisonment, to mutilate a dead body in such a way, or otherwise deal with it in such a way, as is likely to prevent or prejudice coronial or police enquiry, at least where the actor knows at the time that death may possibly have resulted from a cause likely to lead to any coronial or police enquiry. Indeed, Sir James Stephen went further, I think, and said such knowledge in the actor was irrelevant in the case of coronial inquest.

Therefore, as I think you all know, the intending tissue homotransplanter ought to be sure that he has the consent of the coroner in any case where the circumstances suggest that a coronial or other similar official enquiry is at all likely.

I next wish to look at the rights and duties quite apart from the prospect of coronial or police enquiry. What other consents are necessary? It is here that we get into very deep and murky waters because (with one notable exception) the law has never had to deal in detail with rights and duties of persons in relation to particular organs of the bodies of dead humans. The exception is, of course, the case of anatomy schools and dissection, which I shall touch upon later. It is a settled principle of the common

law that a dead body is *res nullius,* the property of no person at all. Blackstone in his *Commentaries* says, "Though the heir has a property in the monuments and escutcheons of his ancestors, yet he has none in their bodies or ashes; nor can he bring any civil action against such as indecently at least, if not impiously, violate and disturb their remains, when dead and buried".

There can be no *property* in a corpse. Blackstone adds, "Stealing the corpse itself, which has no owner, though a matter of great indecency, is no felony". Hawkins, *Pleas Of The Crown,* 148 (n.8), goes further, and says "There can be no property in the human body, *either living or dead*", but I wish to deal with the *living* body later.

It would seem to me to follow that there can be no enforceable right to *possession* of a corpse, though there is at least one exception to this rider upon the rule. There was in the High Court in about the year 1906, an interesting case with which some of you may be familiar. It was the case of *Doodeward* v. *Spence,* (1908) 6 C.L.R. 406. In that case, a Maori lady in New Zealand had been delivered of a still-born monster with two heads, and the doctor attending her had placed this into a bottle of spirits and kept it. Some 30 years later, the doctor died, and his executors sold this tragic and horrid specimen for some £30 or £40, which, in the latter part of the 19th century, was no mean sum. Mr. Doodeward got hold of it. He ran a sideshow, and he used to show off this specimen in the bottle for reward. This was regarded as highly indecent and a common law offence, and he was duly charged. While the police were investigating the charge, they confiscated the bottle of spirits containing the body of the monster, and they eventually returned to Doodeward the bottle of spirits but not the monster, whereupon Doodeward immediately sued the police inspector for recovery of it. I regret to say there was a difference of opinion amongst the three High Court judges who heard the case. The majority of the Court took the view that although it was true there was no property in a dead body, none the less if one expended any labour or skill upon the body to make it into essentially something different from what it had been before—something different from a mere dead body—then there was a right of property in it, and they felt constrained to find this, because they said that it must be true that an archaeologist has property in an Egyptian mummy that he discovers, and so on; and surgeons must acquire property in something taken from some person's inside which they keep, for curiosity, to

lecture upon, and so on. They said in this case some work and skill had been employed, and therefore Mr. Doodeward was entitled to recover. Higgins, J. dissented. He said there can be no property in a human body, and in that in which there is no property there can be no right of possession, and he would have dismissed Mr. Doodeward's appeal.

At the root of the common law doctrine that no-one could own a corpse was the imperative need for speedy burial. Those natives of remote places in Africa and of certain Pacific islands who are in the habit of placing and keeping their deceased ancestors in the parlour suffer terrible diseases in consequence, and it must further be remembered that the Common Law grew up in a Christian society and not a pagan one. Accordingly, there was one exception to, or rider upon, the rule of the common law, namely, that the person upon whom the law placed a duty to bury the corpse (e.g. the executor of a deceased adult and the parent of a deceased child) had a right against all the world (except the coroner or a like authority) to keep possession *for the purpose of expeditious and Christian burial.* Further, the person charged with the duty of burial had a right to *obtain or regain* possession *for this purpose.* This is still the law, and it extends no doubt (in the absence of, and second to, the right of the executor or parent) to any person who has at the death a lawfully-obtained physical possession of the corpse. Further, the criminal law itself held quite firmly that he commits a very serious misdemeanour who—

(i) prevents the due burial of a dead body;
(ii) neglects to bury a dead body which he is legally bound to bury (provided he has the small financial resources necessary);
(iii) disinters a buried body without express lawful authority.

Wtih the growth of religious toleration, "Christian burial" came to mean merely "decent burial", and of course cremation is now authorised by statute in specified circumstances. To "prevent" the due burial came to include *delay* and *obstruction* of such burial.

And so, although there is grave doubt upon the matter, it seems the better view that the anatomists, the dissectors, technically committed before 1832 an offence against the common law whenever they dissected a dead body outside the authority of the royal charters given to the Company of Barbers And Surgeons,

and after 1832 if they conducted anatomy outside the charters and outside the Anatomy Acts. Not only did they delay burial, but the concept of decent burial, up until the 20th century at least, would have necessarily included, I think, burial in an undissected condition. But it is also plain that for many years prior to 1832 those who administered the common law were prepared to wink at these technical offences in the interests of science and humanity.

In 1832 came the Anatomy Act, the provisions of which are now to be found substantially reproduced in the Victorian Medical Acts—see *Medical Act 1958,* Sections 26 to 44. The present section 40, relating to corneal grafts, was first enacted in 1959. But I have not the time tonight to deal in detail with those provisions.

Although, therefore, there is no property in a corpse, and no crime of larceny for stealing one, and no civil rights for conversion of a corpse, or wilful damage to a corpse, or the like, and though there is as a general rule no right in anyone to the *possession* of a corpse, the law still is that the person in whom the common law places the duty of decent burial has what lawyers call a "locus standi" to compel delivery up of the corpse for decent burial. Thus an executor of a deceased adult or the parent of a deceased child has the right to call upon the hospital authorities to deliver up the body for burial. In the absence of executorship, I think the Courts would be likely to hold that the spouse of a deceased married adult, and in default possibly other near relatives of an unmarried deceased adult, have a similar locus standi.

There seem to me to be only three ways in which the tissue homotransplanter, operating post mortem, and without any permission other than the coroner's, might come into collision with the principles so far discussed. It is just conceivable that he may delay the burial unduly, but I think that prospect may be dismissed, because I understand that speed is of the essence of the transaction of transplantation. If the transplanter removed half a square inch of skin tissue from the ball of the thumb, I do not think that this would be held to interfere with decent burial. But if he removes the eyes and/or a kidney and the spleen and the liver, that might well be held to prevent decent burial, and that is the first possible way in which the surgeon might collide with the Common Law. Secondly, it is just conceivable that the doctrine of the Common Law might be applied

that what is plainly injurious to the public welfare is illegal. It may be argued that the chopping up of a body without the consent of the executor or spouse or close relative is injurious to the public welfare, and if this were so not only would there be an offence at common law but the spouse who proved nervous shock or other illness as a direct consequence might conceivably recover damages. Lastly, if the surgeon is not authorized to practice anatomy, or if the formalities of the Anatomy Act are not complied with, it could be argued that the removal of the tissue was an unlawful dissection of the corpse. In addition, analogous implications might be made from Section 40 of the Medical Act (corneal grafts). I mention these as theoretical *possibilities* only. For myself, I think it rather unlikely that the removal from a corpse of, e.g., a kidney without the permission of anyone other than the coroner, would make the surgeon liable either to criminal or civil action. It goes without saying that I would strongly advise against any such course where the executor, and spouse or close relative, exist, first because it would involve some slight risk upon the lines I have mentioned and secondly because there might well be public outcry followed possibly by restrictive legislation.

And so I would answer the next group of questions as follows—

1. From whom should the Surgeon get permissions to remove tissue from a dead body?
   Answer—The coroner's permission is necessary in all cases where an inquest is at all likely; and the permission of the spouse if any, or else parent, should also be obtained.
2. Is it *essential* to get *any* permissions?
   Answer—Apart from the coroner's permission, the answer is probably no, but there are available substantial bases for arguments that this view is wrong: hence the answer to question 1.
3. What happens if the surgeon refrains from getting the permission of anyone except the coroner?
   Answer—Probably nothing except public outcry, bringing the medical profession into disrepute, and possibly also restrictive legislation. But it is suggested that the professions continue to obtain the permissions indicated above.

I turn at last to the transplantation of tissue from a *living* donor, and reiterate that I am speaking deliberately without

regard to any religious or moral considerations except in so far as they might invoke the common law or the statute law.

As I have said, it is laid down in Hawkin's *Pleas of The Crown* and in other works of high authority that there can be no property in a human body *either living or dead.* As far as I have been able to ascertain, there is no reported decision to the contrary. The law has given little or no attention to small *parts* of a human body. One can imagine borderline cases, such as a lock of hair, or a whole head of hair, or the bottled appendix, originally a part of my own body, which Sir William Upjohn or one of his assistants gave me (or was it mine all the time?) as a souvenir 30 years ago, and which I kept for a short time as a grisly exhibit.

Again one cannot give a concluded opinion, but the law so far declared indicates that, before a portion of the body can become the subject of property, it must undergo some change as the result of labour or skill which it exhibits. A woman's hair made into a wig, for example, an Egyptian mummy, perhaps a dried head from Borneo, can, I think, be the subject of property. But one's own working internal organs are not, I think, the subject of property at all. Nevertheless, if the tissue transplanter wishes to transplant from a living donor, there is no doubt that he should obtain the consent of the donor. If he does not do so he may be guilty of assault or of maim or of a number of offences punishable by imprisonment: he will be liable civilly at the suit of the donor as well as liable criminally.

The permission of the donor, however, does not by any means end the matter. It constitutes the crime of *maim* to inflict bodily harm whereby a man is deprived of the use of any member of his body, or of any sense, which he can use in fighting, or by the loss of which he is permanently weakened. It is stated in *Stephen's Digest of the Criminal Law* and in other texts that no person has the right to consent to the infliction upon himself of bodily harm amounting to a maim "for any purpose injurious to the public". Stephen added the quoted words because, he said, it is absurd to say that if A gets his dentist to pull out a front tooth solely because it looks unsightly, though not diseased, A and the dentist commit a misdemeanour. Later editions of Stephen have omitted this reasoning. I cannot hope to deal tonight with the extraordinarily difficult problems that here arise, though I refer the interested person to the authorities discussed in Articles in Vol. 2, No. 1 (May 1959) of *Melbourne*

*University Law Review* page 77, and Vol. 2, No. 3 (May 1960) page 397. It will suffice to say that the surgeon, before taking any organ from a living donor's body to give to another person's body, should not merely obtain the consent of the donor but should consider very seriously two questions—

1. What is the likelihood of death or permanent grave physical disability to the donor?
2. Is this transference necessary in order to save the life of the donee?

I think myself that a surgeon who removed a healthy eye or some vital portion thereof from a living patient would be technically guilty of a misdemeanour punishable by imprisonment, notwithstanding the consent of the donor. But the law and those who administer it are likely to do what Barton, J. referred to in *Doodeward's Case,* i.e., to "wink" at technical breaches of the law in cases where the object is saving the life or sight of another person. If, as I believe, it is becoming common to remove healthy organs from living donors, the time has come for comprehensive legislation dealing with the matter. The difficulty is, of course, the strong religious and moral scruples of many sincere people in the community, and the profession must decide when the time is opportune to press for legislation.

In the absence of legislation, I can only say that it is an offence to maim a person, that a person can consent to any bodily harm upon himself provided that it is neither a maim nor an injury likely to cause death, that a person has a right to consent to any surgical operation upon himself provided that it is not an *unnecessary maim,* and suggest that an unnecessary maim is one which is not necessary to the health of the donor himself.

To amputate a gangrenous leg is legitimate with consent, and in many cases without consent. To amputate a healthy leg is a misdemeanour with or without consent. To remove a healthy kidney without consent is a civil and criminal wrong. To remove a healthy kidney with consent is technically a criminal wrong only if it so generally and permanently weakens the donor that he is transformed from a person capable of fighting in the armed services into one who is not so capable. In any case of homotransplantation, with the consent of the donor and to save the life of the donee, it is most unlikely that the Crown authorities would ever seek to set the law in motion, and certain that the Courts would lean very hard against holding that any offence had been comitted.

To sum up the views which I have put forward on transplantation from a living body, I would say that provided the consent of the donor is obtained, assuming it to be an adult, it is most unlikely that the law would hold that any offence had been committed by the removal of an organ from that donor. Of course, if the time ever comes, as well it may, that the medical profession feel that legislation ought to deal with this, then they are, no doubt, aware that in the political sphere they may (as I have said) come into collision with moral views and religious views held by numbers of sincere people in the community. It is on any view a serious thing to take an organ from a healthy human body and leave that body thus impaired, and the profession should think carefully before moving for legislation in this field. The time has come, from the lawyers' point of view, however, when it would be a good thing to have the questions made clear by litigation, rather, I mean, legislation. (That was what might be called a pardonable error.) However, in the absence of legislation, it is thought that the only likely collision between the surgeon and the law would be on the ground of some offence such as maiming, and this is again more a theoretical than a practical likelihood. There is a decision in England in a case of *Bravery* v. *Bravery* in 1954, in which a number of these questions were canvassed by one of the Lords Justice of the Court of Appeal, but the majority of the Court held that all the matters with which that Lord Justice dealt were entirely irrelevant to the decision, that they had not been argued, and that it was quite unsafe to place any reliance on them whatsoever. Having regard to that, I do not think I should speak to you here about what his Lordship said, but the matter is there in the Law Reports to be read. Lastly, lest it be thought that I am painting an unhappy and dangerous picture of the position of a surgeon, let me hasten to add that to perform surgical operations for the saving of life, with the reasonable expectation of saving life, or for the purpose of attempting to save life, is always legitimate. The medical profession and the legal profession have certain ethics which govern their behaviour, and, as I understand it, no surgeon would think of removing a healthy leg of a patient merely for the amusement and practice which it might give him, just as no lawyer would think of advising a client to engage in litigation which was entirely profitless to the client. It is thought, therefore, that these problems, interesting though they are, are very unlikely

to arise in practice. Professor Ewing spoke of a healthy kidney that could reasonably be spared by another person. If it ever became necessary for a lawyer to say whether an offence had been committed by the removal of a kidney, it is thought that the decisive question in the eyes of the law would not be whether it could reasonably be spared by the other person, except in the sense of whether the removal made certain or likely the early death of the "donor" when such death was not certain or likely before, and on reflection I think this is what the Professor had in mind.

The last matter to which I wish to refer is the content of the sections of the Medical Act to which I have referred. They are Sections 26 to 44. Sections 26 to 39 are concerned with authorising anatomy schools and students to dissect dead bodies. Section 40 is concerned to provide for the removal of eye corneas from deceased donors into the bodies of donees, and the interesting thing about these provisions is that they provide that, for example, it shall be lawful for a medical practitioner, if permitted or directed so to do by a person who has lawful possession of a body, to permit the body to be anatomically examined or to anatomically examine it. The actual wording seems to presuppose that if it were examined anatomically by an unauthorised person, then this would be unlawful, and yet the preamble—that is, the long title, as it were, to the original English Statute—was clearly drawn upon the footing that what the medical profession were doing was quite lawful, because they were entitled to an Act, the purpose of which was to increase the lawful supply of bodies for the anatomists. One is left in considerable doubt, however, having regard to the phraseology of the present Medical Act, whether two unlicensed lawyers who were interested in dissecting human bodies would be committing an offence if they decided to dissect human bodies. One would have thought that they would be committing some offence under the Common Law, but it is very difficult to say that they would be committing any offence under the Anatomy Act. Section 40 is important because it provides that where a person has, during his life, authorized in writing the giving of the part of his eye after he is dead, then the executor or other person having possession of the body shall see that this is given over, unless some relative or the executor objects. If the deceased has not given such an authority in writing during his lifetime, then still the executor or other person having possession of the body *may* offer this part of the

eye, providing no one objects. The significance of this, it is suggested, is that the legislation appears to proceed upon the basis that there might be something illegal in doing that if it were not for this legislation, and, therefore, it is submitted, it suggests a warning to medical men, when they embark upon removing whole organs from living bodies, to obtain such consents as the surrounding circumstances reasonably allow.

*Discussion*

MR. R. FOWLER: Mr. Chairman and gentlemen, I am fully aware of the lateness of the hour. I have a lot of my comments transposed into the form of questions which inevitably must, I think, be directed at Mr. Fullagar. I believe Professor Ewing, in his inimitable style, has covered the main ground from the point of view of the medical profession, and from the point of view of biological problems. I think we have passed beyond the stage when people can fairly ask the question, "Is it reasonable to attempt to transplant kidneys?" I think it is both reasonable to attempt it and reasonable not to attempt it, if one feels so inclined. Professor Ewing also posed the problem, quite clearly, that the choice of donor is one of the most practical problems we have to face, and this boils down, in the simplest terms, to a living donor or a dead donor. From a little bit of practical experience, I can say that, observing all the criteria which Mr. Fullagar enunciated, that if one does seek the permission of the Coroner and the permission of the relatives, and if one uses the common or garden definition of when some one is dead —the cessation of life signs—that few problems arise. Problems do arise, but I do not think time permits me to go into them. Mr. Fullagar did discuss the legal question solely in terms of the law of property in a dead body, but one problem which has concerned us is whether, if circumstances were such that one sought to act without the permission of the relatives, one would be open to a law suit on other grounds, other than the question of common law of property. One is familiar with cases in the Courts where a suit is brought for mental ill-health and distress and suffering, and substantial sums have been awarded on this ground. One wonders whether it really comes down to a matter of good public relations, and whether to attempt to do this other than with the consent of the next of kin will ever be appropriate. I would like to hear his comment on that, and remind him in the corridors of most public hospitals there is a notice in very

fine print, one suspects so fine that the relatives cannot read it, that anybody seeking admission to such a hospital does so with the foreknowledge that the body may be used for anatomical purposes. Turning to the far more vexing question, the use of a voluntary donor, again Mr. Fullagar has discussed the legal issues solely in the context of the specific crime of maiming, and I wonder whether, with regard to his allusions to the evolution of this, in terms of the fighting man, the law has any cognisance of the existence of a fighting woman analogous to its disregard of a reasonable woman in the presence of a reasonable man.

Stretching the legal argument or the legal question a little bit further, I wonder whether the common law as to assault must apply even more than the question of the specific crime of maiming. Taking this to another context, other medical men in this city have been very cautious, over a number of years, concerning sterilisation, where the consent of the man or woman has not been taken to be sufficient grounds for performing sterilisation, and the medical profession has almost developed a history about this, so that even with physical or mental reasons for performing the sterilisation, and quite apart from any religious or moral grounds, they have hesitated to do so, because of the fear of legal consequences. I would like to hear some elaboration on the question of whether to perform any operation of this sort is an assault and is a felony, quite apart from the specific crime of maiming. In one unconscious slip Mr. Fullagar made, about litigation rather than legislation, he may have come closer to the mark than he realized, because there is one common example where people have apparently condoned this technique of assault in using parents or next of kin for skin grafting in burn cases. In England, I believe, there was a case where litigation involved a third party. A girl had given skin to a younger brother who had suffered burns from negligence on the part of some industrial concern and the industrial concern, when sued for the recovery of the medical expenses of the sister, denied liability on the ground that the sister had engaged in an act which was not strictly within the law. I would like to hear some elaboration on this point.

MR. JUSTICE SMITHERS: The sentences which caught my eye were something to do with the unpredictable time of death, and it reminded me of a case I tried in New Guinea of a leper who was in a very advanced stage of leprosy, and was fairly old, and was likely to die fairly soon, but, of course, the precise time of

death, no matter how Mr. Fullagar would have defined it, was unpredictable. It was essential that something be done at the precise moment of death, because the people of the village were quite certain that unless at the time of death this gentleman were covered with something called "tree oil", and the appropriate words were said by the sorcerer, that the spirit of this leprosy would go out to one of the others of the next of kin, and so the next of kin were a bit concerned about this, because, although not predictable, death was fairly imminent. There was another complication because the sorcerer was, naturally, like any medical practitioner, a very busy man, and you could not keep him hanging around. So the next of kin went to a gentleman of another clan, and they said to him, "Well, you can see what our problem is. After all, it is a bit unpleasant for us to bump off one of our own clan, but it is necessary that all the steps be taken, and could you make that which is unpredictable certain in time?" He said that he had no animus against the gentleman with the leprosy, but in view of the exigencies of the situation, he was willing to oblige. So there was a coincidence of the appearance of the sorcerer and the appearance of the obliging gentleman from the other clan, and the leper was duly bumped off, the "tree oil" was applied, the "abracadabras" said, the gentleman was dumped in the river, and all was well, and I sincerely hoped that the next of kin were not to be troubled, because one of them happened to be a young man of 18 years of age. He was the finest native whom, I think, anyone had ever seen, and he had lived in the same hut with the gentleman with leprosy ever since he had been a child.

The other case was one of interfering with a dead body, and the Administration of New Guinea was outraged by this particular thing. Up there, if somebody dies and you do not know why, foul play, of course, is suspected. A gentleman died, and he was hoisted up on a couple of poles, and it was the duty of everybody in the village to go past this man, and as they went past, it was their duty to gaze on the dead body, and if, at the time of their gazing, the dead body did anything unpleasant, that was clear proof that the person who was doing the gazing was the guilty party. The only way for the person to get over his difficulty was to eat portion of the body, and then, if after about ten days he survived and all was well, that was regarded as some proof of his innocence. In this case, two young men had gazed at the body and it had behaved unpleasantly, and they

would have been destroyed if they had not agreed to undergo this test of eating portion of the dead body and seeing how they got on. At this stage, the patrol officer came along and said that, according to the Queensland Criminal Code, this was an indecent interference with the body. I had the unpleasant duty of hearing this case, and I had considerable doubts about whether it was particularly indecent in the circumstances, having regard to everybody's history and so on, but I was able to find for the defendants on the ground that it was not proved that they were not acting under duress, because there were a large number of gentlemen round about who were ready with their bows and arrows if they had not bona fide eaten portion of the body.

THE CHAIRMAN: Gentlemen, we have present tonight, the President of the British Association of Plastic Surgeons and, at least, where the skin is concerned, I am instructed, the members of that Association rush around homografting or homotransplanting practically every day. It may be that there are some matters that came out of the discussion which particularly concerned members of that Association and its President, Mr. Rank.

MR. B. K. RANK: Mr. Chairman, I rise only to make two comments on these papers. The first one is a fundamental one. It is in relation to this question of death. I think we know now that death is not an instantaneous process. It is something that takes a long time and the law is quite out in that regard. As you know, in the American way of death, you at least have one or two shaves after death if you are to be decently buried. That is a fact. You grow a midnight shadow. The death of tissue is a very slow process that goes on for a long time and, despite all that has been said tonight, when Professor Ewing wants a kidney he does not want a dead kidney. He wants a live one. He does not want a decomposing one. We can graft skin and that applies to organs too, no doubt, long after. In other words, the person is not dead. That is why we want the graft, and that is why we do the graft. Cellular death of tissue comes long after the heart has stopped beating. The other thing that has occurred to me, as Professor Ewing has indicated, from his excellent description of the homologous problem, is that medical science is not static, and we run into problems on this thing because the legal principles which govern us and control our actions are lagging behind. It is not that medicine is slowly progressing. It is undergoing violent changes of attitude, and it is faced with

legal arrangements which do not match up to that. It is true that changes do come. We know, when organ grafting becomes an accomplished clinical fact, that legislation will be introduced. The important thing is, what should be the timing? Is it apt, at this moment, to introduce changes of legislation in regard to organ transplantation. It is my own view, and I suppose, being a little slow and conservative and somewhat cynical, that this is still very much the province of the research worker and the experimental surgeon, and I think we are raising bogies and troubles if we push for changes in legislation to give us powers which we have by just taking them. I offer my advice to Professor Ewing, with his problem, for what it is worth, to go on and do kidney transplantations, and do not take any notice of the law. When it is all said and done, by the very nature of their calling, the lawyers are only right about 50 per cent of the time. It is no good examining the verbiage of legislation which was designed to govern one thing, and try to relate it to something which it was never invented to govern. It is not the verbiage. It is the purpose behind the legislation.

Legislation set up was not set up to govern homotransplantation. This field is one in which development of techniques has taken a long time. I think we should leave it there and get on with it.

MR. P. BALMFORD: Those of us who are students of not medicine but of the law and science-fiction, have been familiar for a good many years with the kind of stories that have been written, of what might be done one day. I do not recall the legislative or parliamentary discussions which took place in relation to the Corneal Grafting Act which now, I think, is about 8 or 9 years old, but it does seem to me quite remarkable that Parliament got around to dealing with that particular question as long ago as that. Practising as a solicitor in the interval, I do recall one occasion where somebody has actually come into the office wanting to do something in pursuance to the provisions of that Act. Before Christmas, I had a young man and woman about to get married who came in to see me. The young man was a University student who had heard that there was some provision that enabled this to be done, and his fiancee said that she did not like the idea of that very much. In the end, he put it in his Will but she did not put it in hers. The other comment I wish to make is, in relation to the time of death, or if death does take place at all. It has not been mentioned tonight, although many

of us may have read in the newspapers the other day of the putting into a deep freeze of somebody who has died, or is about to die, or thought likely to die, in the hope that that process will preserve them from further deterioration until such time as the medical profession is able to produce a cure for their disease. This apparently is a young but important industry in America. It, of course, has been familiar to us who read science-fiction, for a long time. The other question I would like to ask Professor Ewing is whether he would care to make any comment as to how far it might be possible to go, putting the science-fiction on one side?

MR. E. E. DUNLOP: The only point of my speaking at all tonight on the subject of the dead is, I have found the Act remarkably restrictive really. It is all very well to say, "You must obtain the consent of the Coroner", but if you want a spare part within four hours of death, the type of person who is a suitable donor usually means a young person under forty who has been killed in a road accident, and not someone who has died of certain diseases, and it takes a nervy man to ring the Coroner up at a certain hour of the night to ask him about this matter. In fact, the first time it came to my notice was in 1950, when a man had had his thigh crushed on the docks and needed an arterial graft from a suitable donor. We went ahead and did the graft, and for very many years afterwards, I think, the Melbourne Hospital just went on doing this. I would agree with Mr. Rank that the Act, following 16 years after Waterloo, was enacted for Victorian purposes, and I think it is high time we brought all these things out in the open, like we are doing tonight, and really thrashed them out, and replaced the provisions with suitable Acts.

MR. P. JONES: Mr. Chairman, I would like to make some mention of a point raised by Professor Ewing as to the determination of the exact time of death. This is something that has involved me, in my pursuit of cardiac surgery, and it has been pretty well established that neither the disappearance of heart beat nor the cessation of respiration means necessarily the death of the patient. There are well-documented cases, as well as my own experience, in which recovery after such facts is perfectly feasible and may be complete. I would agree with Mr. Fullagar that the determination of the presence of cortical brain waves by the use of electro-encephalograms is the logical method to be

used, but as these machines cost somewhere between £3,000 and £6,000, and I am reliably informed that there are less than 4 in the State of Victoria, and all of them are in Melbourne, it is hardly a feasible resort. Perhaps my chief purpose in rising is that I would like to join with Mr. Rank in saying that the medical profession yields to no one and no other profession in their ability to cloud an issue.

MR. S. E. K. HULME: I am interested not so much in when death has taken place, but whether it has taken place. One problem that gives rise to this was mentioned by Mr. Balmford, the man who is put in the deep freeze. It is not just a question of that man. You may have a will or settlement which says that the income shall go to that person as a life tenant for life, and it shall then go to somebody else. Let us say a man in this year either is an adventurer, willing to take part in a scientific experiment, or knows that he is going to die fairly soon and hopes that medical research will advance in 100 years to find his cure, and says, "Put me in a deep freeze at the Royal Melbourne Hospital for 100 years", and he is put in a deep freeze at the hospital for 100 years. The question arises, is he dead? Should you distribute the money to the people next entitled, and, if so, when do you distribute it, when you put him in the deep freeze, or when you think he would have died from his illness, or when he would have died in the normal course of age, or do you wait for 100 years?

The other problem, more directly connected with tonight's problem, is: Let us say you get a man who has a bad kidney, and you say, "This man would die in a few weeks", and the relatives say, "All there remains is the course of waiting for the life tenant to die and we will take the asset". The doctors say, "Look, we have got here a kidney, and we will put it into you, and we will keep you for 30 years", and he says, "Well, that sounds fine to me", and everybody is fine except the relatives, who say, "This fellow should die next May". The question raised is, is the man living after next May with his kidney, which was not the kidney he had earlier, the same man? True it is, if you transplant a piece of skin on a toe or a kidney, you can say, "Of course it is", but when you get to transplanting a heart or a head, is this the same person? I was hoping, in view of his experiences with this kind of case, both at the Bar table and in New Guinea, what we might have heard Mr. Justice Smithers on this. We are, perhaps, too late to do so, but maybe Mr. Fullagar will have some way of

saying how far this transplantation will have to go before you say, "This is not the man that the testator was talking about. He is now a different person."

MR. R. K. FULLAGAR, Q.C.: In answer to Mr. Fowler, I would say that the case put forward by him of the fighting woman demonstrates the high probability that the law would not apply the old common law relating to maiming in the cases to which I referred. If the surgeon operated on a deceased body without permission, it is possible in certain additional circumstances that he could be successfully sued for inflicting suffering, although I am inclined to the view that the action would in most cases fail. On the other hand, it is quite unsafe for the medical profession to assume that sterilization, when not necessary for health or saving life, is legal. There is a great deal to be said for the view that it is illegal. It has never been decided, and I would not advise any one here to set himself up as the person to get it decided. Mr. Hulme's question will get the answer it deserves at a later date, in another place. But his question raises the possibility that we will yet see repeated what is said to have occurred on circuit in Ireland, where the judge, having said after a very long dispute over a Will, "The meaning of the Will is perfectly clear. On its proper construction, it means so and so". There was a shout from the back of the Court, "Begorrah, that's just what it doesn't mean". When the judge asked, "Who the devil are you, Sir?", the voice replied, "The testator, Your Honour."

PROFESSOR M. EWING: I am really not at all sure, sir, whether any questions were, in fact, addressed to me. We seem to have travelled a little way from the pure question of homotransplantation into very much more interesting considerations about when an individual ceases to be an individual when he has borrowed other components from other people, and the philosophical arguments, and the varieties, the complexities of this issue obviously provide a unique opportunity for those who are interested in science fiction. The one point which really does vex me a little but, out of all the contributions from the whole, is the one that touches me most closely, and that, of course, is the one that came from Geoffrey Newman-Morris. I wonder whether I existed as a graft in the sense a corneal graft does? A corneal graft does not, in fact, become incorporated in the host at all, and does not agitate the immune mechanism. In other words, did I, in fact, exist as a corneal graft and enjoy the facility of a new home

without having to pay a subscription, or did I come into the other category? I think it would be much better, as Mr. Rank suggested in relation to the whole general issue of legislation, to leave matters as they are.

THE CHAIRMAN: Gentlemen, before drawing this evening's proceedings to a close and asking you to thank our speakers and calling you to supper, I move to say something in response to what Mr. Rank said. Professor Ewing said surgeons were optimistic. There are some other adjectives that certain people describe them by, from time to time. I remember one very senior member of the medical profession, in this State, saying they ought to pray nightly for humility. The thing that occurs to me, however, is this, that if you have a large hospital, a sort of surgical factory, going on almost 24 hours a day, and one section of that hospital is interested in homotransplantation, and other people in that hospital are engaged in auto-transplantation and perhaps other kinds of surgery, is it not almost inevitable, considering human nature, they will be pinching little bits here and there, for one purpose, to be used in another. If Mr. Rank's plea to use common sense and to get on with the job means to pursue that activity, I am reminded of the sign of the three draftsmen that used to be on a table at the State Rivers and Water Supply Commission in about 1937. One of them said, "Why worry, it may never happen." The second said, "Who can check us?" The third said, "Even the gods fight in vain against stupidity." Perhaps this is where the matter lies at this stage. I ask you to thank our speakers in the usual way, and proceed to supper.