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TELLING THE TIME OF HUMAN DEATH BY STATUTE: AN ESSENTIAL AND PROGRESSIVE TREND

A. CHRISTIAN COMPTON*

The Need for Time-of-Death Legislation

Advancement in the field of medical science, especially in the development of methods to maintain artificially the functions necessary to prolong life, is at least partly responsible for widening the gap between the medical and legal determinations of death. To establish the time of death for the purpose of applying criminal law, tort law, or the law of descent and distribution, the courts heretofore have generally relied upon the traditional criteria of “a total stoppage of the circulation of the blood, and a cessation of the animal and vital functions consequent thereto such as respiration and pulsation, etc.” For example, in Schmitt v. Pierce, an action for declaratory judgment to determine distribution of an estate, the issue was whether a husband and wife, who died in or soon after a motor vehicle collision, died simultaneously or whether one survived the other. Citing the foregoing definition of the time of death, the Supreme Court of Missouri affirmed the action of the trial court which found that the wife survived the husband. The evidence tended to show that although the wife sustained a severe skull fracture, she continued to breathe for a short time after the husband’s death, emitted a few groans, and bled slightly. In Smith v. Smith, a will construction case also involving the issue of simultaneous death, the husband died at the scene of the automobile accident but the wife remained unconscious from the time of the accident until her death seventeen days later. The court rejected the argument that the husband and wife died at the same time, cited the traditional definition of death, took judicial notice of the fact “that one breathing, though unconscious, is not dead,” and found that the wife survived the husband.

*Justice, Supreme Court of Virginia, A.B. 1950, LL.B. 1953, Washington and Lee University. This article was prepared while Mr. Justice Compton was a Judge of the Circuit Court of the City of Richmond, Virginia.

1BLACK’S LAW DICTIONARY 488 (4th ed. 1968).

2344 S.W.2d 120 (Mo. 1961).

3Id. at 133.


5Id. at 599, 317 S.W.2d at 281.

The traditional definition of death adopted and applied so single-mindedly by the courts is out of step with newer medical concepts, particularly that of "brain death": the complete and irreversible loss of all functions of the brain. While it seems that a majority of the medical profession is of the opinion that irreversible loss of brain function must be an element in the determination of the time of death of a human being, there is much difference of opinion over what should be the specific criteria for determining brain death. The most notable criteria are those established in 1968 by the Ad Hoc Committee to Examine the Definition of Brain Death of The Harvard Medical School. This group concluded that an organ, including a brain, which no longer functions and has no possibility of functioning again is for all practical purposes dead. The group identified its first problem to be a determination of the characteristics of a permanently nonfunctioning brain. It reported that a patient in that state appears to be in deep coma and that the condition can be diagnosed as follows: unreceptiveness and unresponsiveness, that is to say, total unawareness of externally applied stimuli and inner needs; absence of spontaneous respiration and elicitable reflexes; and an isoelectric (flat) electroencephalogram. The Committee stated that tests determining the foregoing conditions should be conducted at least twice, twenty-four hours apart. It further reported that the validity of the tests as an indicator of irreversible cerebral damage depended upon excluding the effects of accidental hypothermia and central nervous system depressants, such as barbiturates.

While the debate continues within the medical profession as to the

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2Id. at 224.


4205 J.A.M.A. at 337-38.


6205 J.A.M.A. at 337-38. Accidental hypothermia is defined as the "unintentional and dangerous fall in body temperature on exposure to a cold environment . . . [It] may occur in infants and in the newborn, particularly during operations and may also occur in the elderly." Stedman's Medical Dictionary 611 (22d ed. 1972). (All further medical definitions taken from Stedman's Medical Dictionary).
specific criteria to be used in determining brain death, this newly recognized concept is causing continued difficulty in those jurisdictions in which the courts feel compelled to rely on the traditional concept of death in the absence of legislation sanctioning the newer concept. This difficulty relates not only to the obvious problems of criminal and civil liability of physicians engaged in the transplantation of vital organs or of persons practicing euthanasia, but also to the more bizarre problem of possible interference with the criminal prosecution of those charged with initially injuring a victim-donor.\(^3\)

Illustrative of this latter problem is the case recently reported by the Associated Press from Oakland, California.\(^4\) The kidneys and heart of a shooting victim were transplanted to three dying persons at Stanford University Medical Center on September 12, 1973, after tests showed the victim to have “no brain activity” according to the criteria of the Harvard Ad Hoc Committee. The victim had been shot once in the head with a .22 caliber bullet, and it is reported that the coroner ruled that the cause of death was the single bullet to the brain. After the shooting, the victim’s heart and kidneys were kept functioning artificially by “machines” until the organs to be transplanted were removed from his body. The assailant was charged with first degree murder and the defense attorney is quoted as saying, “How could he be dead [from the gunshot wound] when his heart was beating?” The prosecuting attorney is reported to have observed that since California has no statutory definition of the time of death and since the decided cases use a standard law dictionary definition,\(^5\)

The logical extension of that definition is that as long as you can maintain the function of just one organ, you have life. Something short of that pretransplant definition must be developed. Otherwise every transplant case is a criminal homicide and the doctor who removes a heart is guilty of murder.

The problem of the gap between medical and legal concepts of the time of death with respect to the civil liability of physicians was acutely presented in Virginia in 1972 in \textit{Tucker's Administrator v. Lower,}\(^6\) in which the author was the trial judge. The case is believed to be the nation’s first damage suit involving a heart transplant which proceeded to final judgment wherein the central issue was a determi-

\(^{13}\)\textit{Missouri L. Rev.} at 231-32.


\(^{15}\)Note 1 supra.

\(^{16}\)No. 2831 (L. & Eq. Ct. of the City of Richmond, May 25, 1972).
nation of the time of death. This action was brought under the Virginia Death By Wrongful Act statute, and recovery in the amount of $100,000 was sought for the alleged wrongful death of a heart and kidney donor. Although a number of persons, including the whole heart transplant team of the Medical College of Virginia Hospital, were originally named as defendants in the suit brought by the brother of the donor, the case evolved into a proceeding against the three surgeons who participated in the heart transplant and an Assistant State Medical Examiner who purported to give permission for use of the heart and kidneys when no relatives or next of kin of the donor could be found.

A determination of the meaning of the word "death" as used in the Death by Wrongful Act statute resulted in a focus upon the question of the time of death as the central issue in the case. The plaintiff claimed that the donor was alive at the time the heart and kidneys were removed because vital signs of life were normal. The defendants contended that because the brain of the donor had previously suffered total and irreversible damage in an accidental fall, he was dead prior to the time any transplantation procedures began. The Assistant Medical Examiner and the surgeon who implanted the donor's heart in the body of the recipient were sued upon allegations which essentially alleged that they participated in a civil conspiracy to obtain wrongfully the donor's heart and kidneys for the recipient's use.

VA. CODE ANN. § 8-633 (1957 Repl. Vol.) provides in part:

Whenever the death of a person shall be caused by the wrongful act . . . of any person . . . and the act . . . is such as would, if death had not ensued, have entitled the party injured to maintain an action . . . and to recover damages in respect thereof, then, and in every case, the person who . . . would have been liable, if death had not ensued, shall be liable to an action for damages . . .

This synopsis of the case is prepared from the original court papers and from the notes of the writer taken during the course of the trial. A court reporter recorded the trial proceedings, but since no appeal was taken the transcript was not prepared.

A second count of the plaintiff's complaint sought an additional $900,000 damages for the alleged unlawful invasion of a near-relative's rights with respect to a dead body. 22 AM. JUR.2D Dead Bodies §§ 6, 36 (1965). A plea of the statute of limitations was sustained in pretrial proceedings and the count was dismissed. See Order, Tucker's Adm'r v. Lower, entered Nov. 3, 1971. For a discussion of the subject of vital organ transplantation as it relates to the legal rights in a dead body, see Note, Organ Transplantation and Donation: A Proposal For Legislation, 10 WM. & MARY L. REV. 975 (1969).

For critical comment upon the case, see Note, Determining the Time of Death of the Heart Transplant Donor, 51 N.C. L. REV. 172 (1972); 38 MISSOURI L. REV. at 220, 230, 233; 121 U. PENN. L. REV. 88, 98-100, 117; Christofferson, Defining Death, 39 POPULAR GOVERNMENT 10 (1972).
The plaintiff's evidence showed that his decedent, an adult male, was brought unconscious to the emergency room of the Medical College of Virginia Hospital in Richmond at approximately 6:00 p.m. on May 24, 1968. He had suffered a fall at another location in the City. Upon examination, the patient was found to have sustained severe head injuries, including a large right-sided lateral basilar skull fracture. He was admitted to the neurological service of the hospital and, upon further examinations and tests, a diagnosis of a subdural hematoma (collection of blood between the skull and the brain) and a brain stem contusion (bruise) was made. Surgery, including a craniotomy (opening into the skull) and a tracheotomy (opening into the wind pipe), was also performed at 11:00 p.m. the same day.

Following this operation, which was completed about 2:05 a.m. on May 25, the patient left the operating room in slightly better condition and was placed in the recovery room. There he was fed intravenously and received medication each hour until 11:30 a.m., when he was placed on a respirator which kept him "mechanically alive." At 11:45 a.m., the treating physician noted that "[the] prognosis for recovery is nil and death imminent." At 1:00 p.m. on that day, a neurologist was called upon to obtain an electroencephalogram (EEG) to determine the state of the patient's brain activity. Between 1:00 p.m. and 2:00 p.m. he examined the decedent and made a single EEG recording which showed flat lines with occasional artifact (no brain activity). He found no clinical evidence of viability (capability of living) and no evidence of cortical (outer brain) activity. Based upon this examination, he was of the opinion that the patient was then dead from a neurological standpoint. At the same time, the neurologist also found that the patient's heart was beating and that his body temperature, pulse, and blood pressure were all normal for a patient in his condition. In his opinion, the decedent's brain was "dead" prior to the time he ran the EEG. The patient showed no evidence of being able to breathe spontaneously at all; the respirator was doing all the breathing. The neurologist was also of the opinion that it was "very likely" the patient's condition was "irreversible" at the time he was admitted to the hospital on May 24.

At 2:45 p.m., the patient was taken back into the operating room in preparation for the removal of his heart and both kidneys. He was receiving oxygen to continue the viability of certain organs. From this time until 4:30 p.m., he maintained vital signs of life, that is, he maintained, for the most part, normal body temperature, normal pulse, normal blood pressure, and normal rate of respiration. During the same period, he was receiving solutions of dextrose and saline to furnish nourishment to the organs. At 3:30 p.m., the respirator was
cut off and at 3:35 p.m., the patient was pronounced dead by his attending physician. At 4:25 p.m., the incision was made to remove the heart and it was taken out and placed in the body of the recipient by his treating physician who had made the incision in the recipient at 3:33 p.m. At 4:33 p.m., the incision was made to remove the donor's kidneys which were also transferred immediately to the recipient.

At trial the plaintiff presented evidence showing that the viability of organs can and does continue with mechanical and other assistance long after the brain ceases to function, from which a jury could properly infer that had the respirator not been cut off and his heart and kidneys removed, the donor could have "lived" at least a day or probably longer. Upon the conclusion of the plaintiff's case, the court overruled the defendant's motion to strike the evidence and to enter summary judgment in favor of the defendants as a matter of law. Viewing the evidence in the light most favorable to the plaintiff, guided by case law precedents using the "traditional" concept of the time of death, and not having any Virginia legislation on the subject of the time of death, the court determined that the plaintiff had established a prima facie case.

Thereafter during the course of the defendant's evidence, a number of neurologists and neurosurgeons testified in support of the concept of brain death and its general acceptance by the medical profession. They expressed the opinion that the death of the plaintiff's decedent occurred when his brain died, which was at least two hours before his heart and kidneys were removed. Among the medical witnesses for the defendants was Dr. William Sweet, a member of the Harvard Ad Hoc Committee. He had reviewed the decedent's hospital record, including the EEG tracings, and was of the opinion that the patient was dead at the time of the examination by the neurologist because the brain was dead.

Evidence of the non-medical aspects of the case, including expert testimony reflecting theological and philosophical views, was also offered. Testifying for the defendants was Dr. Joseph Fletcher who

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2Memorandum Opinion in No. 2831 (L. and Eq. Ct. of the City of Richmond, May 23, 1972).

2See note 9 supra.

2Former Professor of Theology at Episcopal Theological Seminary, Cambridge, Massachusetts, and then visiting Professor of Medical Ethics at the University of
stated, in part,\textsuperscript{26} that he was then engaged in supervising medical students in clinical situations from the theological and philosophical point of view; that, in his opinion, modern medicine has made the understanding of death simpler; that "life" is not simply a biological function; and, that actually there is no way to define "life;" that from an ethical point of view a person is "rationality;" that for there to be a person there must be some capacity to communicate, some sense of time, some memory, and some sense of the past; and that the parts of the anatomy determine whether there is a person, with brain function being of the first priority. He stated that the "classical" definitions of death using only respiration, circulation, and pulse as criteria, viewed in the light of modern medicine from the theological and philosophical point, are "outmoded" and "simplistic" because "the essential element of death is the loss of brain function."

\textit{The dilemma of the trial judge in a case such as Tucker is obvious. He is confronted on the one hand with the doctrine of stare decisis based on an apparently archaic or incomplete legal definition of death,\textsuperscript{27} and on the other with forceful and clear evidence as to the present uniform acceptance by the medical profession of irreversible brain damage as a criterion for death. In resolving the dilemma, the court was forced to revise the conclusion reached after only the plaintiff's evidence had been heard that the "traditional" definition should control. Instead, it was decided to instruct the jury to consider the evidence in light of the several bases for determining death as disclosed by all the testimony, including but not restricted to permanent loss of all brain function.\textsuperscript{28} After a trial lasting seven days, the
jury deliberated about an hour and found in favor of the defendants.

The foregoing cases indicate that uniform state legislation recognizing brain death as a means for determining the time of death of a human being is necessary in order to achieve stability and certainty in certain areas of our criminal, tort, and inheritance law. Furthermore, the treatment and maintenance of the incurably ill person are also vitally affected by the lack of uniform statutory criteria for determining the time of death. Euthanasia, or "mercy-killing," is the term commonly applied to the act of deliberately terminating or shortening for humanitarian reasons the life of someone suffering from an acute and incurable mental or physical disorder. It is apparent that the foregoing broad definition spawns many questions for which the answers make one either a proponent or an opponent of euthanasia for that purpose. For example, what is the meaning to be attributed to the word "deliberate"? Is a valid distinction to be made between "terminating" and "shortening" a person's life? Should "humanitarian" motives be any justification for the practice of euthanasia and, if so, what is the proper scope of inquiry as to what is humane? Finally, if it is believed that some form of euthanasia, however limited, should be allowed, what safeguards are to be provided to insure

conditions are controlling: the time of the total stoppage of the circulation of the blood; the time of the total cessation of the other vital functions consequent thereto, such as respiration and pulsation; the time of complete and irreversible loss of all function of the brain; and, whether or not the aforesaid functions were spontaneous or were being maintained artificially or mechanically.

Overlooked by those who have commented on the instruction is the fact that in the first three sentences, the court implicitly directed the jury to consider the theological, sociological, and philosophical ramifications of the evidence adduced at the trial, along with the medical evidence. Unfortunately, some of the criticism of the action of the court in adopting the brain death concept in its charge to the jury appears to have resulted from lack of full information, or misinformation, about the facts of the case developed by the defendants or from a failure to consider the basic requirement that the law set forth in a jury charge must be founded upon the evidence. See, e.g., Death With Dignity—Hearings Before the Senate Special Comm. on Aging, S. Doc. No. 83-683, 92d Cong., 2d Sess. 86 (1972) [hereinafter cited as Senate Hearings]; Capron & Kass, supra note 9, at 99.

2The jury was comprised of a mechanical engineer, a Western Union clerk, a state tax examiner, a banker, a sales manager, an accountant, and a stockbroker.

3For an article which recognizes the practical problems of the courts in the areas of medical malpractice and the criminal liability of physicians participating in transplantation and of the assailants of victims whose vital organs are subsequently transplanted, see Hillman & Aldridge, Towards A Legal Definition of Death, 116 SOLLIOR'S JOURNAL 323 (1972) [hereinafter cited as Hillman & Aldridge].

Gurney, Is There A Right to Die?—A Study of the Law of Euthanasia, 3 CUMER.-SAM. L. REV. 235 (1972) [hereinafter cited as Gurney].
against its abuse, either by a simple error of the medical profession in diagnosing the incurability of the affliction, or by the inability of the patient to make a rational decision, or by a conspiracy to kill the patient prematurely? I do not purport to answer all these questions within the narrow scope of this article, but I raise them in order to show the possible effect of time-of-death legislation on the answers.

It should be stated that, at least theoretically, the practice of any form of euthanasia is a crime. The principle of the criminal law involved, of course, is that "[i]f any life at all is left in the human body, even the least spark, the extinguishment of it is as much homicide as the killing of the most vital being." Moreover, it has been said that neither the consent of the victim, the extremity of his suffering, or the imminence of his death may be pleaded in defense to a charge of homicide. However, it is undeniable that in practice a distinction has evolved between voluntary euthanasia, applied with the consent of the patient, and involuntary euthanasia. As to the latter, apparently the memories of Nazi Germany are far too vivid to permit any serious advocacy of formal legalization. Nevertheless, even in cases of involuntary euthanasia, juries have been notably reluctant to find a defendant guilty of first degree murder, preferring instead, where possible, to convict of a lesser included offense, impose a minimal penalty, or acquit on grounds of insanity. Thus it is apparent that a humanitarian motive—irrelevant according to the formal law of homicide—is considered at least as a mitigating factor in the application of that law. Furthermore, it could be argued that involuntary euthanasia is practiced with impunity in those instances where the family of a comatose patient makes a decision, whether for humane or financial reasons, to discontinue extraordinary life-supporting medical aid. The question which readily comes to mind is whether there is a crucial difference between that decision made by the family of the patient and the same decision, perhaps for different but no less altruistic reasons, made by the medical staff of a hospital when no members of the family can be found.

In addition to the distinction between voluntary and involuntary euthanasia, a further distinction has developed between "active" and "passive" euthanasia. If one affirmatively acts to shorten or end an-
other's life, even with the other's consent, the act is often considered homicide. If, by contrast, one fails to provide treatment which would prolong the life of an incurably ill person, even without that person's consent, he is seldom deemed culpable. It has been said that euthanasia is now widely practiced by omission, i.e., the suffering of the adult victim of a painful and incurable condition is ended by letting the patient die.

The distinction between active and passive euthanasia appears to be especially pertinent to the conduct of medical doctors; yet this distinction is tenuous at best, turning, it seems, on a further distinction between "customary" and "extraordinary" treatment which appears to be inaposite. In other words, once the doctor-patient relationship is established, the doctor's failure to provide the customary treatment for his patient is viewed as an act of homicide if the patient dies; but his failure to administer extraordinary treatment, e.g., to put or keep the patient on a kidney machine or in an iron lung, is regarded as a condonable omission. However, it is clear that as a matter of logic turning off a mechanical respirator is more properly regarded as an "act" than the failure to provide ordinary treatment. One might seek to eliminate this trap of illogic by condoning the failure to put the patient on the mechanical respirator in the first place but condemning his removal from it once he is on; but this approach would cause guilt to turn on the fortuitous circumstance that extraordinary treatment is sometimes administered immediately by the doctor without consent of the patient or his family in order to save the patient's life, leaving the decision as to his future for a later and calmer time. Finally, if the rationale for the distinction

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35See, e.g., Gurney, supra note 31, at 239 and his discussion of People v. Roberts, 211 Mich. 187, 178 N.W. 690 (1920), wherein the defendant was found guilty of murder for mixing poison and placing it within reach of his incurably ill wife.

However, there seems to be a limitation on condemnation of even active euthanasia in the case where a drug, such as morphine is administered primarily for the purpose of relieving pain but has the incidental and inevitable effect of shortening life. Gurney at 241-43.

36Survey, Euthanasia: Criminal, Tort, Constitutional and Legislative Considerations, 48 Notre Dame Law. 1202, 1213 (1973); Senate Hearings, supra note 28, at 34-35. See also transcript of a stimulating panel discussion upon the topic of "Matters of Life and Death," January, 1972, meeting of the Virginia Bar Association, reported in LXXXIII Reports, Va. Bar Ass'n 33, at 41-42, 56. The participants with Dr. Joseph Fletcher were Walter J. Wadlington, professor of law of the University of Virginia School of Law, Thomas H. Hunter, M.D., former Dean of the University of Virginia Medical School, and Richard L. Williams, a prominent trial attorney who is now a Virginia Circuit Judge. See also Sanders, supra note 34, at 351 n.6.

between active and passive euthanasia is that such a distinction determines the guilty intent of a course of conduct, this rationale is inconclusive. The failure to provide ordinary care could be due either to negligence or malice; and the elimination of extraordinary treatment could be motivated by negligence, malice, or humanitarian considerations.

Thus it has been seen that traditional distinctions between voluntary and involuntary euthanasia and active and passive euthanasia, while neat semantically, do not always neatly divide all fact situations into the two categories of guiltless death and crime. Of course, if the ultimate good sought to be attained through the proscription of euthanasia is the preservation of human life in any form, it is obvious that the distinctions between voluntary and involuntary and active and passive are inconsequential. If, however, one views the ultimate good as the preservation of human life with a certain quality of form, then the foregoing distinctions are pertinent to the issues raised by the concept of euthanasia but do not seem to resolve them.

Rather, I would submit that legislation of uniform application which establishes by specific criteria the time of death is much more effective in resolving these issues. Thus, if the patient is already dead according to the criteria and procedures of the statutes to be discussed infra, he is incapable of consent to the discontinuance of either ordinary or extraordinary medical aid. Moreover, neither acts nor omissions would appear to be of any legal consequence to a dead body. Furthermore, statutory criteria establishing the time of death would have the salutary effect of eliminating, at least theoretically, the apparent informal consideration by juries of the motive of the defendant as affecting his criminal or civil liability. The only question should be whether the patient had in fact been pronounced dead according to the criteria and safeguarding procedures of the statute. If so, the defendant would have a perfect defense, since homicide or wrongful death obviously are not committed with respect to a person already dead. If not, however, the defendant would presumably be liable. In short, the use of statutory criteria determining death would seem to be a better means than is currently employed to infuse certainty into the law of criminal and civil liability in this area, at the

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46Of course, tort actions in the nature of defacement of a dead body would still be valid. Cf. note 19 supra.

47This assertion is made reservedly because even in a case where the statutory criteria and procedures clearly have not been followed, the jury might take motive into consideration. Possibly the only deterrent—and perhaps an ineffective one at that—to such consideration would be a statute requiring an instruction that motive is not to be considered in such cases.
same time providing a legal outlet for the humane disposition of hard medical problems.\textsuperscript{2}

\textit{Time-of-Death Legislation to Date}

Since 1970, the legislatures of only three states, Kansas, Maryland, and Virginia, have enacted statutes which establish criteria for determining the time of death of a human being. This type of legislation has been called unique in the common law world.\textsuperscript{3} The Kansas statute\textsuperscript{4} became law on July 1, 1970, the Maryland statute\textsuperscript{5} on July

\textsuperscript{2}Dr. James F. Toole, M.D., LL.B., Teagle Professor of Neurology, Bowman Gray School of Medicine, Wake Forest University, Winston-Salem, North Carolina, cogently states the force and immediacy of one aspect of the problem facing the medical profession:

\begin{quote}
We have all seen patients comatose for months or years, requiring constant nursing care, expensive support systems, occupying scarce hospital beds, and draining the family emotionally and financially while the despairing physician prolongs this useless life hoping for miraculous recovery, wouldn't it serve a greater good to certify such patients dead before this happens?
\end{quote}

Toole, supra note 27, at 602.

\textsuperscript{3}Kennedy, \textit{The Kansas Statute on Death—An Appraisal}, 285 NEW ENG. J. MED. 946 (1971).

\textsuperscript{4}KAN. STAT. ANN. § 77-202 (Cum. Supp. 1973) provides as follows:

\begin{quote}
\textit{Definition of death.} A person will be considered medically and legally dead if, in the opinion of a physician, based on ordinary standards of medical practice, there is the absence of spontaneous respiratory and cardiac function and, because of the disease or condition which caused, directly or indirectly, these functions to cease, or because of the passage of time since these functions ceased, attempts at resuscitation are considered hopeless; and, in this event, death shall have occurred at the time these functions ceased; or

A person will be considered medically and legally dead if, in the opinion of a physician, based on ordinary standards of medical practice, there is the absence of spontaneous brain function; and if based on ordinary standards of medical practice, during reasonable attempts to either maintain or restore spontaneous circulatory or respiratory function in the absence of aforesaid brain function, it appears that further attempts at resuscitation or supportive maintenance will not succeed, death will have occurred at the time when these conditions first coincide. Death is to be pronounced before artificial means of supporting respiratory and circulatory function are terminated and before any vital organ is removed for purposes of transplantation.

These alternative definitions of death are to be utilized for all purposes in this state, including the trials of civil and criminal cases, any laws to the contrary notwithstanding.
\end{quote}

\textsuperscript{5}Md. Code Ann. art. 43, § 54F (Cum. Supp. 1973) provides:

\begin{quote}
\textit{When person considered medically and legally dead.}

(a) A person will be considered medically and legally dead if, based
on ordinary standards of medical practice, there is the absence of spontaneous respiratory and cardiac function and, because of the disease or condition which caused, directly or indirectly, these functions to cease, or because of the passage of time since these functions ceased, attempts at resuscitation are considered hopeless; and, in this event, death will have occurred at the time these functions ceased; or (b) A person will be considered medically and legally dead if, in the opinion of a physician, based on ordinary standards of medical practice and because of a known disease or condition, there is the absence of spontaneous brain function; and if based on ordinary standards of medical practice, during reasonable attempts to either maintain or restore spontaneous circulatory or respiratory function in the absence of spontaneous brain function, it appears that further attempts at resuscitation or supportive maintenance will not succeed, death will have occurred at the time when these conditions first coincide. Death is to be pronounced before artificial means of supporting respiratory and circulatory function are terminated and before any vital organ is removed for purposes of transplantation.

(c) These alternative definitions of death are to be utilized for all purposes in this State, including the trials of civil and criminal cases, any laws to the contrary notwithstanding.


When person deemed medically and legally dead.—A person shall be medically and legally dead if, (a) in the opinion of a physician duly authorized to practice medicine in this State, based on the ordinary standards of medical practice, there is the absence of spontaneous respiratory and spontaneous cardiac functions and, because of the disease or condition which directly or indirectly caused these functions to cease, or because of the passage of time since these functions ceased, attempts at resuscitation would not, in the opinion of such physician, be successful in restoring spontaneous life-sustaining functions, and, in such event, death shall be deemed to have occurred at the time these functions ceased; or (b) in the opinion of a consulting physician, who shall be duly licensed and a specialist in the field of neurology, neurosurgery, or electroencephalography, when based on the ordinary standards of medical practice, there is the absence of spontaneous brain functions and spontaneous respiratory functions and, in the opinion of the attending physician and such consulting physician, based on the ordinary standards of medical practice and considering the absence of the aforesaid spontaneous brain functions and spontaneous respiratory functions and the patient's medical record, further attempts at resuscitation or continued supportive maintenance would not be successful in restoring such spontaneous functions, and, in such event, death shall be deemed to have occurred at the time when these conditions first coincide. Death, as defined in subsection (b) hereof, shall be pronounced by the attending physician and recorded in the patient's medical record and attested by the aforesaid consulting physician.
struction"\(^4\) of Chapter 77 on "Statutes." In Maryland the act is found under the article of its Code entitled "Health" in the section headed "Miscellaneous Provisions."\(^4\) In Virginia, the statute has been codified within the Uniform Anatomical Gift Act.\(^4\) The Maryland and Virginia codifications within specialized sections seem inappropriate since the statutes by their terms are to be "utilized for all purposes" in the states, including the trials of civil and criminal cases.\(^5\)

The Kansas and Maryland statutes vary only slightly. Each provides in separate paragraphs that the time of death\(^5\) may be determined either by the "absence of spontaneous respiratory and cardiac functions" or by the "absence of spontaneous brain function."\(^6\) Each contains a caveat directing that cerebral death be pronounced before "artificial means of supporting respiratory and circulatory function are terminated"\(^3\) and before the removal of any vital organ for transplantation occurs. Neither requires a consulting physician for the determination or pronouncement of cerebral death. Maryland requires that a determination be made "of a known disease or condition"\(^7\) which results in the absence of spontaneous brain function before a conclusion of cerebral death may be made. Kansas has no such requirement.

The Virginia statute, adopted more recently than its counterparts in Kansas and Maryland, contains certain refinements not found in the latter. The painstaking manner in which the Virginia statute was drafted and the facility with which it passed through the Virginia General Assembly is significant when considered in light of the severe

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Notwithstanding any statutory or common law to the contrary, either of these alternative definitions of death may be utilized for all purposes in the Commonwealth, including the trial of civil and criminal cases.


\(^7\)See Capron & Kass, supra note 9, at 104 n.64.

\(^3\)Some of the comments on this legislation incorrectly emphasize that the statutes provide "definitions" of death. E.g., Hillman & Aldridge, supra note 30; Kennedy, supra note 43. Even though the statutes refer to the "definitions" contained therein, more precisely the legislation announces the time at which death has occurred as determined by medical opinion. The legislation does not attempt to "define" the other aspects of death involving theological, sociological and philosophical matters which any purported complete "definition of death" must include. See Reeves, When Is It Time To Die? Prolegomenon To Voluntary Euthanasia, 8 NEW ENG. L. REV. 103 (1973).

\(^4\)Notes 44-45 supra.

\(^5\)Id.

\(^6\)Note 45 supra.
criticism previously voiced of the Kansas statute. The statute began its legislative course in the House of Delegates of the General Assembly about eight months after the judgment in *Tucker*. Its patron was a surgeon whose legislative district included the City of Richmond. The bill was reported out of committee without amendment by a unanimous vote and passed each house of the General Assembly unanimously without amendment. Hearings open to the public were held before the committees of each house to which it was referred, and no one spoke in opposition to the bill at either hearing.

The bill as offered was prepared after consultation with members of the medical profession, including the principal draftsman of the Kansas statute. One of the last changes made in the final draft before the bill was introduced was a requirement that the physician before pronouncing death based on loss of brain functions must rule out hypothermia and a drug-induced isoelectric (flat) EEG. This

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24Dr. William Ferguson Reid of Richmond, Virginia.
25The bill was initially referred to the House Courts of Justice Committee and was reported out of that committee on February 12, 1973.
27Testifying in favor of the bill in committee were the patron, one of the draftsmen, and the neurologist who ran the EEG on the plaintiff's decedent in the *Tucker* case. Since there is little recorded information available concerning the legislative history of this bill, I have compiled this synopsis chiefly by consultation with the principal drafters of the Virginia bill, Messrs. John W. Crews and Theodore J. Markow, who were Assistant Attorneys General of Virginia and counsel for some of the defendants in *Tucker's* *Adm'r* v. Lower; and with State Senator Lawrence Douglas Wilder of Richmond. Senator Wilder was one of counsel for the plaintiff in the *Tucker* case and gave active support to the bill in the legislature.
28Conversation with Mr. Crews, Jan. 4, 1974. The form the act should take was discussed with leaders of the medical profession in Virginia. One of the draftsmen spent most of one day discussing the bill with the then Chairman of the Department of Surgery at the Medical College of Virginia Hospital, a *Tucker* defendant. The Medical Society of Virginia and the Virginia State Board of Medicine were also consulted. Opposition was voiced by some of these physicians to the enactment in any form of legislative criteria to determine the time of death, their position being that the issue is one of fact to be decided by the medical profession. Cf. text accompanying notes 62-70 infra.
30Conversation with Mr. Crews, Jan. 4, 1974.
31Note 12 *supra*.
32The brain is rendered "isoelectric" as the result of near lethal injury which
specific requirement was deleted because it was felt that the consulting physician would routinely take these conditions into account in making his diagnosis. After the bill was offered, at least one legislator representing a rural district voiced an objection to the requirement for a consulting specialist since specialists are not always readily available except in urban areas.66

The result of this extensive consultation and careful drafting is a Virginia statute which has been called simple, all inclusive, and acceptable under all circumstances.

It demands proper pronouncement of death and yet protects the physician involved.67

The Virginia statute provides for the two concepts of death, brain death and death as the result of cessation of spontaneous respiratory and cardiac functions. There is no reference to the transplantation of vital organs. A consulting physician who specializes in neurology, neurosurgery, or electroencephalography is required for a determination of the time of cerebral death. The attending physician must be duly authorized to practice medicine in Virginia, but the consultant is not required to be licensed in the state. The statute asserts specifically that it applies “for all purposes” regardless of “any statutory or common law to the contrary . . . ,” whereas the other two statutes make generally “any laws to the contrary” inapplicable. The noun “function” is plural throughout the Virginia Act whereas it is used mostly in the singular in the other two.68 Finally, Virginia specifically requires the patient’s medical record to be considered in determining cerebral death.69

reverts its electrical activity to the null phase; that is, the chemical processes which produce voltage fluctuations completely stop. Sedatives and anesthetics are two major classes of pharmacological agents that produce major changes in the EEG. Each may alter it in a manner resembling that associated with sleep or a coma. Other classes of drugs with major effects on the brain produce only minor changes in the EEG, such as cerebral stimulants, hallucinogens, and most of the tranquilizers. Gibbs & Gibbs, 3 Neurological and Psychiatric Disorders, Atlas of Electroencephalography 3, 469 (1964).


67Fatteh, A Lawsuit That Led To A Redefinition of Death, J. LEGAL MED. July/Aug., 1973 at 30. Dr. Fatteh was a defendant in Tucker’s Adm’r v. Lower.

68This change was deemed necessary to make the use of the word technically correct from a medical standpoint since none of the systems involved (respiratory, cardiac, and cerebral) operates as a unit. One physician observed that the brain “does not stop and start like an engine.” Note 60 supra.

69During its 1974 regular session, a bill was offered in the Virginia General Assembly to amend subsection (b) of the Virginia statute in an apparent attempt to spell out further procedural safeguards against the abuse of cerebral death determinations. The pertinent section of the amendment states:
**Criticism of Time-of-Death Statutes**

There has been persuasive objection to the enactment of legislation in any form to determine the time of death. Paradoxically, the hesitation of the law-making process in most states to keep abreast of this significant change in medical opinion and advancement in medical science is being encouraged by the policy making body of the American Medical Association (AMA). In December of 1973, the House of Delegates of the AMA adopted the "Report of the Judicial Council on Death" which recommended that "... at the present, statutory definition of death is neither desirable or necessary." To set the stage for its recommendations, the AMA Report noted that in June of 1973 at the AMA annual meeting, the Connecticut delegation had urged a moratorium on "statutory definitions of death by individual state legislatures..." and suggested that the Judicial Council draft "a guiding and consensual principle 'which may be acceptable to the medical profession throughout the country to rem-
edy the present situation and confusion regarding death.'”

Prior thereto in May of 1970 the Connecticut State Medical Society had adopted a statement which permitted death to be determined “on the basis of complete and irreversible loss of function of the entire brain” in those patients whose cardio-respiratory system was being supported artificially. The Connecticut statement further provided that in the case of transplantation, “death of the donor must be established by at least two physicians who are not involved in such transplantation to the donee.” The AMA Report further noted that in June, 1968, the AMA House of Delegates had approved “Guidelines for Organ Transplantation,” which provided that death is to be determined by the clinical judgment of the physician who will use “all the available currently accepted scientific tests.” The Report commented that Kansas and Maryland have enacted statutory definitions of death while other states have considered such legislation and that the expected statutory protection of physicians from legal problems which may arise when they declare someone to be dead is “illusory” and “may expose them to greater risks.”

Against this background provided by the AMA Report, the AMA House of Delegates adopted the recommendations of the Report that legislation defining death is not desired nor is it necessary; that local medical associations urge their state legislatures to postpone enactment of legislation defining death by statute; and that “[d]eath shall be determined by the clinical judgment of the physician using the necessary available and currently accepted criteria.”

The position taken by the AMA encourages uncertainty in the areas of the law discussed herein which vitally affect the public and the medical profession. Unfortunately, the AMA Report does not give reasons supporting the opinion that the expected protection of a statutory definition is “illusory” and may expose the physician to “greater risks.” This opinion seems to have been drawn from a 1969
expression in the Journal of the American Medical Association which concluded:

The meaning of death is clear, the problems which arise relate to the accurate determination of the time of death, the cause of death, or the occurrence of death. Except for obvious instances, i.e., when a worker falls into a pit of molten steel, these determinations are matters of different diagnoses, within the exclusive expertise of physicians.

This view seems to be based on the proposition that a determination of the time of death must be based upon detailed scientific criteria which are not susceptible of being legislated.

It is submitted that statutes such as those enacted in Kansas, Maryland, and Virginia, based upon a diagnosis resulting from recognized medical findings, i.e., absence of spontaneous respiratory, cardiac, or brain function and restoration thereof, afford protection which is more than "illusory" and shelter the physician from, rather than expose him to, greater risks. The traditional findings heretofore relied on by the medical profession are incorporated into these statutes and the new concept of brain death is included. With legislation, the physician knows where he stands. He can make a diagnosis of brain death knowing that it is recognized by the law, but he is not restricted in the criteria which he uses to reach such diagnosis. Specific detailed scientific criteria for making such a diagnosis which may change with the passage of time, such as absence of reflexes, flat EEG, and lack of response to external stimuli, are not set forth by the legislation. While it may be true that legislation which attempts to codify specific detailed criteria may be counter-productive because it may restrict recognition of scientific development of new and better standards, there is nevertheless a crucial need for more definitive general rules to eliminate existing uncertainty in the determination of the time of death.

Other responsible voices within the medical profession advocate a prolongation of this uncertainty, but for slightly different reasons. For example, Dr. Henry K. Beecher, Chairman of the Harvard Ad Hoc Committee, has stated that time for further development of a death definition is needed in the field of medicine before such defini-

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9Id. at 1760.
11See note 9 supra.
tion is "frozen" into the law.\textsuperscript{86} He suggests that the medical definition of brain death will be improved upon and that "it is too soon for legislation."\textsuperscript{87} Dr. Beecher has urged his colleagues "to risk their necks, go ahead and carry out what they believe to be right" when making a determination of death. This bold course of conduct, however, would seemingly involve at least somewhat less hazard of legal liability with the establishment of a general uniform statutory standard, however likely that standard is to become outdated.

General objections to time-of-death legislation have also been keyed to purported defects in the process by which it is enacted. Professor Kennedy states:

Let us have guidelines by all means. They are essential. But let them be set down by the medical profession, not by the legislature, so that the body best equipped to evaluate and examine them can always have them under review, rather than depend on the time-consuming and often whimsical processes of the legislature.\textsuperscript{89}

Such an argument presupposes a disinterested electorate and a recalcitrant legislature. When even a small portion of the public becomes interested in an issue, the legislative process can be quick to respond, as demonstrated by the movement of the Virginia time-of-death statute through the Virginia General Assembly in less than thirty days.\textsuperscript{90}

The need to eliminate vagueness and provide stability in the areas of the law affected by the phenomenon of death far outweighs the foregoing sentiment against time-of-death legislation. With such legislation, Doctor A making the diagnosis of brain death need not have his civil or criminal liability depend upon whether a judge decides that precedent in his jurisdiction based upon the traditional concept not recognizing cerebral death requires the question of the time of death to be decided against him as a matter of law, while another court in the same jurisdiction in a similar case against Doctor B may determine the same question to be one of fact as to which the trier of the fact may reach a contrary result. Furthermore, the public interest should not be overlooked in this medico-legal dilemma. The litigant with a potential claim arising from a case of diagnosed brain death suffered by his decedent should not be required to prosecute the claim, with the attendant time and expense, surrounded by uncer-

\textsuperscript{86}Senate Hearings at 63.
\textsuperscript{87}Id.
\textsuperscript{88}Id.
\textsuperscript{89}Kennedy, supra note 43, at 946-47.
\textsuperscript{90}See text accompanying notes 56-59 supra.
tainty as to the eventual outcome depending upon whether a trial court will adhere to legal precedent based on an outmoded medical concept or whether it will allow consideration of current medical opinion. Of course, the outcome of any particular litigation will often be unpredictable, but the speculation as to the standards to be used in these areas of the law can at least be lessened by the recognition in statutory form of such a significant change in medical opinion.

In addition to general objections to any legislation on the subject, there has been intelligent criticism of the specific form the legislation has taken. This criticism has been directed to the Kansas statute but applies with equal force to the Maryland legislation since the two acts are almost identical. The form has been called "an unfortunate example" as a potential model for other states to follow. Professor Capron and Dr. Kass state that the "primary fault with this legislation is that it appears to be based on, or at least gives voice to, the misconception that there are two separate phenomena of death." They observe that this division is especially unfortunate because it seems to have resulted from an intention to establish a special definition for organ transplantation which would not be needed to determine the death of most persons. They state that it is obvious that the Kansas statute was enacted to benefit the transplant surgeon and may indicate that the welfare of the average patient is not as important to the State of Kansas as is the facilitation of organ transplantation. They argue, as does Professor Kennedy, that the alternative definitions allow the inference that X at a certain stage in the process of dying can be pronounced dead, whereas Y, having arrived at the same point, is not said to be dead. Kennedy expresses concern because the Kansas statute "does not serve to reassure the person who may fear that during his last hours on earth his doctors will be less concerned with his condition than with the person earmarked to receive one of his vital organs." This criticism can also be applied to the Virginia statute because it makes reference to

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9Note 44 supra; Capron & Kass, supra note 9, at 108-11; Kennedy, supra note 43, at 947-49.
9Note 45 supra.
9See text accompanying notes 51-54 supra.
9Kennedy, supra note 43, at 947.
9Capron & Kass, supra note 9, at 109.
9Id. at 109-10.
9Id. at 110.
9Kennedy, supra note 43, at 948.
9Id.
9Id. at 947.
alternative definitions of death.\[^{10}\]

However, it would seem that these abstract objections have little practical merit. From a fair reading of the foregoing statutes, it is apparent that the “alternative definitions” therein relate not to separate types of death but to the several methods to be used to make one diagnosis, and to reach one legal determination, *i.e.*, the time when death occurs. In other words, a person is dead when the criteria of either of the two definitions of the time of death are satisfied.

Capron and Kass label “redundant” the statutory language which speaks of a person being “medically and legally dead,” saying that its use mistakenly implies that the “medical” and “legal” definitions could be different.\[^{102}\] However, it seems to me that precisely the contrary is implied. In fact, the Virginia drafters intentionally placed this phrase in their statute to emphasize that the medical and legal determinations of the time of death are coextensive, despite the varying concepts of death.\[^{103}\] While perhaps technically redundant, it would seem that no harm is done to the form of the statute by the use of “medically and legally dead” to give emphasis and indicate intent.

While the foregoing specific objections apply with equal force to the Kansas, Maryland, and Virginia statutes, the Virginia legislation is not vulnerable to some of the other criticisms which have been made. For example, Professor Kennedy notes that Kansas does not require two physicians to pronounce death when the patient has been kept alive artificially.\[^{4}\] He states that when such a patient may be a potential donor for a vital organ transplant, a decision as important as the pronouncement of his death should be made by two physicians.\[^{105}\] This criticism is valid and Virginia requires the death of an artificially supported patient to “be pronounced by the attending physician . . . and attested by the . . . consulting physician,”\[^{108}\] thereby requiring the responsibility to be shared.

\[^{10}\]Note 46 *supra*.

\[^{102}\]Capron & Kass, *supra* note 9, at 115 n.98.

\[^{103}\]Note 60 *supra*. Physicians themselves often have more than two concepts of death. For example, the neurologist in *Tucker* who performed the EEG on the plaintiff’s decedent testified that “neurological death” occurs when a patient is totally unresponsive and there is no electrical activity of the brain. He also testified that he recognizes three further types of death: “clinical death,” defined by him as total cessation of function of the central nervous system or brain; “biological death,” which he said is the death of a part of the body or a cell; and “theological death,” which according to his religious belief occurred when “the soul leaves the body.” Note 18 *supra*.

\[^{105}\]Kennedy, *supra* note 43, at 948.

\[^{108}\]Id.

\[^{108}\]Note 46 *supra*. 
Kennedy also argues that the Kansas act "seems to be drafted only with transplantation surgery in mind" when the real problems concerning the determination of the time of death involve terminally ill and comatose patients who are not potential donors for a transplant. This focus on transplantation in Kansas is, according to Kennedy, apparent from the statute which provides that death is to be pronounced before artificial support is terminated and "before any vital organ is removed for purpose of transplantation." This criticism has some merit and the Virginia act does not contain such a provision. It is general in its application and not specifically keyed to transplant surgery, though its genesis was from the very real and complex difficulties in a transplant damage suit.

Because of the careful scrutiny accorded the draft statute and its unanimous acceptance when tested in the legislative process, the Virginia act stands as an expression by the public in Virginia that such legislation is necessary. Another inference which may be drawn from the enactment of such a statute is that it represents a slight shift in public opinion away from complete disapproval of legalized euthanasia insofar as terminally ill patients are concerned.

Conclusion

In summary, I believe that upon consideration of the law and its need to change to adapt to significant social, philosophical, and medical advancement, definitive uniform legislation is necessary in each state on the subject of the determination of the time of death. Three states have set the example and have taken the progressive step by enacting such legislation. The statutes enacted to date may not be perfect, but they afford some protection to the physician and public alike.

As reflected in the case examples discussed, the problems revolving around a determination of the time of death are complex, and their ramifications are not confined to the inner workings of the medical and legal professions. Therefore, I feel that the legal questions arising from this issue should not be resolved either by medical opinion or by judicial fiat on a case by case basis. Instead, the perimeters of permissible conduct should be established by the people through their legislators acting with appropriate consultants and providing flexibility to accommodate the advent of new standards. In any event, it is essential that there be a continuance of the present trend of telling the time of human death by statute.

107Kennedy, supra note 43, at 947.
108Note 44 supra.
109See text accompanying notes 31-42 supra.