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*LOVATO v. DISTRICT COURT: THE DILEMMA
OF DEFINING DEATH*

INTRODUCTION

Medical and technological advances, such as the transplantation of a heart from one human being to another and the artificial maintenance of circulatory and respiratory functions, have created a growing uncertainty as to when life ends and death occurs. One thing has become increasingly certain: the common law definition of death as “[a] total stoppage of the circulation of the blood, and a cessation of the animal and vital functions consequent thereon, such as respiration, pulsation, etc.”¹ can no longer be considered accurate.

The Colorado Supreme Court faced the dilemma of defining death for seventeen-month-old Jerry Trujillo in *Lovato v. District Court*.² The child had been grossly abused³ and was not breathing. He was hospitalized and placed on a mechanical respirator.

The trial court determined, upon the testimony of the court-appointed neurologist, the child’s attending physician, and his consulting neurologist, that the child had suffered total brain death caused by extensive brain damage resulting from head trauma.⁴ The respondent district court ordered the guardians *ad litem* to execute a document authorizing the treating physician and the hospital involved to remove all life-support equipment if in the doctor’s opinion the child was legally dead, as defined by the court.⁵ The mother and guardians *ad litem* of the child petitioned the Colorado Supreme Court to review the order.

The court, after an extensive discussion of modern scientific views, judicial decisions, and recent legislation in other states, adopted the provisions of the Uniform Brain Death Act.⁶ The holding did not preclude a determination of death according to the traditional criteria of cessation of respiration and circulation.

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

2. 601 P.2d 1072 (Colo. 1979).

3. The child’s mother, petitioner Rosalie Lovato, was arrested for child abuse. Guardians *ad litem* were appointed for Jerry Trujillo.

4. The child was completely comatose, was not breathing spontaneously, had no reflexes, did not respond to even the most intense pain, had no cephalic responses (corneal, pharyngeal, swallowing, and blinking), had fixed and dilated pupils, had a negative toxicological screen, and had electrocerebral silence. Record, Exhibit 1 at 4, 44-47.

5. “[T]he legal definition of death in Colorado is that state which occurs when it is determined by a physician, based on reasonable medical standards, that there is no spontaneous brain function and either spontaneous respiratory function or spontaneous circulatory function cannot be restored by resuscitation or supportive maintenance.” 601 P.2d at 1074.

6. “For legal and medical purposes, an individual who has sustained irreversible cessation of all functioning of the brain, including the brainstem, is dead. A determination under this section must be made in accordance with reasonable medical standards.” 12 UNIFORM LAWS ANNOT. 5 (Supp. 1980).

I. BACKGROUND

A. *Medical Studies*

In 1968, the Ad Hoc Committee of Harvard Medical School to Examine the Definition of Brain Death published its report.⁷ The report defined for the first time irreversible coma as a criterion for death.⁸ The following criteria were presented as establishing brain death: 1) unresponsivity and unresponsivity to even the most intensely painful stimuli; 2) an absence of spontaneous muscular movements or spontaneous respiration; 3) no reflexes; and 4) a flat electroencephalogram (EEG).⁹ The report also stated that hypothermia and central nervous system depressants must be ruled out as the cause of the coma. The EEG was not regarded as mandatory but was viewed as having great confirmatory value. The criteria evaluate both higher brain functions as well as lower brainstem (vegetative) functions.

The Task Force on Death and Dying of the Institute of Society, Ethics, and the Life Sciences published a report in 1972 assessing the Harvard criteria.¹⁰ The report concluded that the criteria and procedures were reasonable and appropriate. A collaborative study group published its statement of the criteria of cerebral death in 1977¹¹ in which the Harvard criteria were slightly relaxed.

B. *Legislation*

Since 1970, when Kansas enacted the first brain death statute,¹² twenty-four other states have enacted brain death statutes¹³ and two states

7. Ad Hoc Committee of the Harvard Medical School to Examine the Definition of Brain Death, *A Definition of Irreversible Coma*, 205 J.A.M.A. 337 (1968) [hereinafter cited as *Irreversible Coma*].

8. Since the Harvard report, the medical community has distinguished between brain death and irreversible coma. Brain death implies total destruction of brain function with both volitional and reflex responses absent. Irreversible coma refers to a vegetative state where all higher brain functions are lost but certain vital functions such as respiration, temperature, and blood pressure regulation may be retained. A Collaborative Study, *An Appraisal of the Criteria of Cerebral Death*, 237 J.A.M.A. 982, 982 (1977) [hereinafter cited as *Cerebral Death*].

9. "Flat" electroencephalograph has been termed "electrocerebral silence" by the American Electroencephalographic Society to distinguish between low voltage activity in which patients can recover and no brain activity in which patients are brain dead and cannot recover. Report of the Ad Hoc Committee of the American Electroencephalographic Society on EEG Criteria for the Determination of Cerebral Death, *Cerebral Death and the Electroencephalogram*, 209 J.A.M.A. 1505, 1506 (1969).

10. Report by the Task Force on Death and Dying of the Institute of Society, Ethics, and the Life Sciences, *Refinements in Criteria for the Determination of Death: An Appraisal*, 221 J.A.M.A. 48 (1972) [hereinafter cited as *Refinements*].

11. See *Cerebral Death*, *supra* note 8.

12. KAN. STAT. ANN. § 77-202 (1977 & Supp. 1979).

13. ALA. CODE § 22-31-1 (Supp. 1980); ALASKA STAT. § 09.65.120 (Supp. 1980); ARK. STAT. ANN. § 82-537 (Supp. 1979); CAL. HEALTH & SAFETY CODE § 7180 (West Supp. 1979); CONN. GEN. STAT. ANN. § 19-139i(b) (West Supp. 1980); GA. CODE ANN. § 88-1715.1 (1979); HAWAII REV. STAT. § 327C-1 (Supp. 1979); IDAHO CODE § 54-1819 (1979); ILL. REV. STAT. ch. 110 1/2, § 302(b) (1978); IOWA CODE § 702.8 (1979); LA. REV. STAT. ANN. § 9:111 (West Supp. 1979); MD. ANN. CODE art. 43, § 54F (1980 Repl. Vol.); MICH. COMP. LAWS § 333.1021 (1980); MONT. REV. CODES ANN. § 50-22-101 (1979); NEV. REV. STAT. § 451.007 (1979); N.M. STAT. ANN. § 12-2-4 (1978); N.C. GEN. STAT. § 90-323 (Supp. 1979); OKLA. STAT. tit. 63, § 1-301(g) (Supp. 1980); OR. REV. STAT. § 146.087 (1980 Repl. Vol.); TENN. CODE ANN. § 53-459 (1977

have judicially sanctioned a concept of brain death.¹⁴ The statutes are of three general types: 1) those which define death as occurring when a person has suffered a total and irreversible cessation of brain function;¹⁵ 2) those which define death as occurring with either an irreversible cessation of spontaneous respiration and circulation or irreversible cessation of brain function;¹⁶ and 3) those which define death as the cessation of circulatory and respiratory functions or in the event these functions are being artificially maintained death occurs with the total and irreversible cessation of brain function.¹⁷

Three organizations have drafted models for brain death statutes: the

Repl. Vol.); TEX. REV. CIV. STAT. ANN. art. 4447t (Vernon Supp. 1979); VA. CODE § 54-325.7 (Supp. 1980); W. VA. CODE § 16-10-2 (Supp. 1980); WYO. STAT. § 35-19-101 (Supp. 1980).

14. *State v. Fierro*, 124 Ariz. 182, 603 P.2d 74 (1979); *Commonwealth v. Golston*, 373 Mass. 249, 366 N.E.2d 744 (1977), *cert. denied*, 434 U.S. 1039 (1978).

15. Arkansas, California, Connecticut, Georgia, Idaho, Illinois, Montana, Nevada, North Carolina, Oklahoma, Tennessee, West Virginia, and Wyoming. The state statutes are cited in note 13 *supra*. California's statute is typical:

A person shall be pronounced dead if it is determined by a physician that the person has suffered a total and irreversible cessation of brain function. There shall be an independent confirmation of the death by another physician.

Nothing in this chapter shall prohibit a physician from using other usual and customary procedures for determining death as the exclusive basis for pronouncing a person dead.

CAL. HEALTH & SAFETY CODE § 7180 (West Supp. 1979).

16. Kansas, Maryland, New Mexico, Oregon, and Virginia. The state statutes are cited in note 13 *supra*. Kansas statute is typical:

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 respiration 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

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 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.

KAN. STAT. ANN. § 77-202 (1977 & Supp. 1979).

17. Alabama, Alaska, Hawaii, Iowa, Louisiana, Michigan, and Texas. The state statutes are cited in note 13 *supra*. Iowa's statute is typical:

A person will be considered dead if in the announced opinion of a physician, based on ordinary standards of medical practice, that person has experienced an irreversible cessation of spontaneous respiratory and circulatory functions. In the event that artificial means of support preclude a determination that these functions have ceased, a person will be considered dead if in the announced opinion of two physicians, based on ordinary standards of medical practice, that person has experienced an irreversible cessation of spontaneous brain functions. Death will have occurred at the time when the relevant functions ceased.

IOWA CODE § 702.8 (1979).

This statute is almost identical to the proposal by Capron and Kass with the distinction that the proposal did not require that two physicians participate in determining brain death. Capron & Kass, *A Statutory Definition of the Standards for Determining Human Death: An Appraisal and a Proposal*, 121 U. PA. L. REV. 87, 111 (1972) [hereinafter cited as *Statutory Definition*].

American Bar Association,¹⁸ the American Medical Association,¹⁹ and the National Conference of Commissioners on Uniform State Laws.²⁰

C. Colorado's Recognition of Brain Death

In 1979, House Bill 1416, which would have statutorily recognized brain death, was introduced and passed by the Colorado House of Representatives.²¹ The bill was essentially the Uniform Brain Death Act²² with the distinction that it added as an alternative definition of death: "an absence of spontaneous respiratory and cardiac function."²³ The Senate Judiciary Committee amended the bill, adopting the American Bar Association model, primarily upon the testimony of McCarthy DeMere, a lawyer-physician and the American Bar Association's advisor to the National Conference of Commissioners on Uniform State Laws.²⁴ The bill, as amended, did not pass out of the senate committee.

Lovato presented a fact pattern which necessitated either judicial recognition or rejection of a concept of brain death. The court acknowledged the authority of the General Assembly to recognize statutorily the standards by which death is to be determined and seemed to try to adhere to the 1979 proposal of the Colorado House Judiciary Committee.

18. "For all legal purposes, a human body with irreversible cessation of total brain function, according to usual and customary standards of medical practice, shall be considered dead." 61 A.B.A. J. 464 (1975). This model was adopted by Montana and Tennessee. The state statutes are cited in note 13 *supra*.

19. The AMA changed its position on the necessity of brain death legislation when it developed a model bill in January 1979. The model, as modified in December 1979, provides: "An individual who has sustained either (1) irreversible cessation of circulatory and respiratory functions, or (2) irreversible cessation of all functions of the entire brain, shall be considered dead. A determination of death pursuant to this section shall be made in accordance with accepted medical standards." Position Paper of the American Medical Association, Legislative Department, Public Affairs Division (Dec. 13, 1979).

20. See note 6 *supra*.

21. For legal and medical purposes, an individual is dead if: (a) he has sustained irreversible cessation of all functioning of the brain, including the brainstem; or (b) he has an absence of spontaneous respiratory and cardiac function. A determination of death under this section shall be made in accordance with reasonable medical standards.

H.B. No. 1416, 52d Colo. Gen. Assembly, 1st Sess. (1979).

22. See note 6 *supra*.

23. H.B. No. 1416, 52d Colo. Gen. Assembly, 1st Sess. (1979).

24. Dr. DeMere believes that the common law definition of death is incorrect and that there is a need for a legal definition of death. DeMere advocates the ABA model. See note 18 *supra*.

Dr. DeMere's criticisms of H.B. No. 1416 are:

1. The title says, "Determination of death;" it is a definition and not a determination. "Determination" is a medical term.

2. It is wrong to establish medical purposes in law.

3. "Individual" is ambiguous; it should be "human body."

4. There is a difference between functioning of the brain and brain function.

5. The bill varied the Uniform Brain Death Act by adding an alternative definition of death. The absence of spontaneous respiration is not death if the brain is functioning. (For example, polio victims.)

6. "Reasonable medical standards" should be "usual and customary standards." *Hearings on H.B. No. 1416 Before the Colorado Senate Judiciary Comm.*, 52d Gen. Assembly, 1st Sess., April 16, 1979, Tape Top Meter 13:50:33 [hereinafter cited as *Senate Hearings I*]. See also Hamlon & Burns, *Minnesota "Brain Death" Legislation: A Step Forward . . . or Backward?*, 62 MINN. MED. 363 (1979). But see *Uniform Brain Death Act*, 29 NEUROLOGY 417 (1979).

II. ANALYSIS

Lovato sanctioned a concept of brain death. This concept prescribes that a physician who determines that a person meets the criteria of brain death, as established by the medical community, pronounce the person dead. It is crucial to realize that *Lovato* is not a part of the *In re Quinlan* line of right-to-die cases²⁵ which allow life-support systems to be withdrawn where a patient is in an irreversible coma.²⁶ It is important to keep the ethical question, "When should a person be allowed to die?," separate from the medical question, "When should a person be pronounced dead?"²⁷ Six states with brain death statutes specifically mandate that death be pronounced before means of supporting respiratory and circulatory functions are terminated.²⁸

Much of the opposition to the concept of brain death, both among those in the medical community and laymen, stems from a misconception that persons can recover from a complete cessation of brain function.²⁹ In every instance in which a person has been found to recover from "an absence of brain function" the criteria had not been fulfilled.³⁰ Thus, the validity of the criteria must be considered to be established with as much certainty as is possible in medicine.³¹ Opposition also arises among laymen who try to link brain death with euthanasia. Euthanasia is the "act or practice of painlessly putting to death persons suffering from incurable and distressing disease"³² as an act of mercy, whereas brain death criteria merely allow a physician to pronounce death.

Criticism has also revolved around the variation in statutes and proposals.³³ The critics maintain that if agreement cannot be reached, it is premature to draft legislation.³⁴ While it is true that there has not been agreement

25. *E.g.*, *In re Quinlan*, 70 N.J. 10, 355 A.2d 647 (1976); *In re Eichner*, 102 Misc. 2d 184, 423 N.Y.S.2d 580 (Sup. Ct.), *aff'd & modified sub nom.*, *Eichner v. Dillon*, 73 A.D.2d 431, 426 N.Y.S.2d 517 (1980). Other cases following *Quinlan* allow a terminal patient to refuse medical treatment. *See, e.g.*, *Superintendent of Belchertown State School v. Saikewicz*, 373 Mass. 728, 370 N.E.2d 417 (1977).

26. *See* note 8 *supra*.

27. *Refinements*, *supra* note 10. *See also* Manning & Vogel, *The Case for "Brain Death" Legislation, A Response to the Critics*, 62 MINN. MED. 121 (1979).

28. Hawaii, Maryland, Michigan, New Mexico, Oklahoma, and Texas. The state statutes are cited in note 13 *supra*.

29. *See, e.g.*, Byrne, O'Reilly & Quay, *Brain Death—An Opposing Viewpoint*, 242 J.A.M.A. 1985 (1979). The article speaks of hypothermia victims and victims of depressant poisons being "resurrected from the dead." Hypothermia is specifically excluded from the brain death criteria. *See Irreversible Coma*, *supra* note 7.

Testimony of William G. Small of the Colorado Knights of Columbus, an organization of Catholic laymen, refers to a condition where the detectable functioning of the brain has been suspended by drugs, heavy anesthesia, or hypothermia. *See Senate Hearings I*, *supra* note 24. Patients who have had central nervous system depressants or who are suffering from hypothermia are specifically excluded from the brain death criteria. *See Irreversible Coma*, *supra* note 7.

30. Veith, Fein, Tendler, Veatch, Kleiman & Kalkines, *Brain Death*, 238 J.A.M.A. 1651, 1652 (1977) [hereinafter cited as *Brain Death*].

31. *Id.*

32. BLACK'S LAW DICTIONARY 654 (4th ed. 1968).

33. *See* notes 13, 15-22 *supra* and accompanying text.

34. *See, e.g.*, *Hearings on H.B. No. 1416 Before the Colorado Senate Judiciary Comm.*, 52d Gen. Assembly, 1st Sess., May 14, 1979, Tape Top Meter 16:01:16 (testimony of Mary Urbisch of

in the drafting of statutes, there has been agreement on the medical criteria which determine brain death.³⁵ Although it might be ideal for all states to adopt a uniform definition of brain death,³⁶ the lack of an acceptable uniform definition is not sufficient grounds for rejecting the concept of brain death.

This lack of uniformity was not the reason House Bill 1416 was rejected. The Colorado Senate Judiciary Committee did not pass the bill primarily because the committee felt that there was a lack of a demonstrated need for the bill.³⁷ The Colorado Supreme Court, in *Lovato*, found a demonstrated need.³⁸ *Lovato* presented precisely the fact pattern which would necessitate the recognition of brain death: a human being who is clearly brain dead and a person with an interest so adverse as to challenge a determination of death.³⁹ *Lovato* is perhaps less controversial than other cases which have considered brain death, as the victims in the other cases had been removed from life-support systems prior to the court's ruling.⁴⁰ Many cases were further complicated by the victim's organs being removed for transplantation.⁴¹

Colorado Right to Life) [hereinafter cited as *Senate Hearings II*]; Hamlon & Burns, *Minnesota "Brain Death" Legislation: A Step Forward . . . or Backward?*, 62 MINN. MED. 363 (1979).

35. See *Irreversible Coma*, *supra* note 7; *Refinements*, *supra* note 10; *Cerebral Death*, *supra* note 8; *Brain Death*, *supra* note 30. See generally Beecher, *After the "Definition of Irreversible Coma,"* NEW ENG. J. MED. 1070 (1969) (editorial); Black, *Brain Death* (Part II), 299 NEW ENG. J. MED. 393 (1978); Black, *From Heart to Brain: The New Definitions of Death*, 99 AM. HEART J. 279 (1980) (editorial).

36. The American Bar Association, the American Medical Association, and the National Conference of Commissioners on Uniform State Laws are working together on a model which would be acceptable to all three organizations. Telephone interview with Jeffery M. Stokols, Legislative Attorney, Department of State Legislation, American Medical Association.

37. The committee relied on the testimony of Dr. Richard Weil, III, transplant surgeon at the University of Colorado Medical Center, and Dr. Earl C. Hutchins, neurologist. They testified that in the absence of a statute, patients were being declared dead on the basis of brain death criteria. See *Senate Hearings I*, *supra* note 24.

38. In the absence of all other medical testimony, after reading the affidavit of Thomas Reichert, Jerry Trujillo's attending physician, who could doubt that the child was dead? Currently a putrefying odor emanates from the baby's body through a trach tube inserted in its throat. The stench becomes stronger day by day. Nurses and technicians must leave the vicinity of the body to recuperate [sic] from time to time. For the past few weeks he has laid limp with no neurologic activity from his brain, brainstem or spinal cord. He has bilateral detached retinas. He makes no tears. They must be given to him artificially every hour to prevent his eyes from drying out. He feels no pain though the people attending him are overcome with it. His face, eyelids, and conjunctiva are swollen due to poor circulation, lack of normal brain mechanisms and lack of muscle tone. He has been unable to maintain normal temperature without heating blankets. . . . During all of this his brain has never functioned - - - not in the slightest degree. Not even for one second.

Record, Exhibit 2, Affidavit of Dr. Thomas Reichert.

39. In *Lovato*, it was established that Jerry Trujillo was brain dead. See note 4 *supra*. The petitioner, Rosalie Lovato, faced criminal charges for child abuse which could be changed to murder or manslaughter if the child died.

40. See, e.g., *State v. Fierro*, 124 Ariz. 182, 603 P.2d 74 (1979) (defendant convicted of first-degree murder); *State v. Shaffer*, 223 Kan. 244, 574 P.2d 205 (1977) (defendant convicted of first-degree murder); *Commonwealth v. Golston*, 373 Mass. 249, 366 N.E.2d 744 (1977), *cert. denied*, 434 U.S. 1039 (1978) (defendant convicted of first-degree murder); *People v. Vanderford*, 77 Mich. App. 370, 258 N.W.2d 502 (1977) (defendant convicted of involuntary manslaughter); *State v. Brown*, 8 Or. App. 72, 491 P.2d 1193 (1971) (defendant convicted of second-degree murder); *Cranmore v. State*, 85 Wis. 2d 722, 271 N.W.2d 402 (1978) (plaintiff convicted of first-degree murder).

41. See, e.g., *State v. Shaffer*, 223 Kan. 244, 574 P.2d 205 (1977); *Commonwealth v. Gol-*

The Colorado Supreme Court cannot be accused of balancing the interests of the petitioner with those of medical personnel who could be subject to criminal charges for terminating a patient's life.⁴²

The extensive discussion of the development of the concept of brain death indicates that the Colorado Supreme Court understood the problem before it.⁴³ The major flaw in the opinion is that the court, after discussing the various statutes and models for defining brain death, adopted the provisions of the Uniform Brain Death Act,⁴⁴ while acknowledging that only one state had adopted the act.⁴⁵ By adopting the model with the least support, the court's holding seems hasty. Implicitly, the court was trying to adhere to the intent of the Colorado legislature.⁴⁶ The court seems to have been unaware of the criticisms of the proposal which led to its defeat.⁴⁷ Regrettably, the court failed to address the relative merits of the various definitions of brain death.

The purpose of each of the statutes is to allow new criteria, as determined by the medical community, to be used to determine death. The approaches taken by the statutes vary: some statutes set forth what the alternatives are;⁴⁸ some statutes set forth when the alternatives will be used;⁴⁹ some statutes set forth the definition of brain death and then state that this definition does not preclude use of the traditional criteria for determining death;⁵⁰ and some statutes set forth only a definition of brain death.⁵¹ The first type of statute is criticized because it gives the appearance that there are separate phenomena of death.⁵² This fault is most serious when the brain death alternative specifically mentions organ transplantation: it can create a belief that a separate definition of death has been created permitting death to be declared prematurely to allow organs to be used more beneficially. Other statutes state that death occurs when respiration and circulation cease or, in the event these functions are being artificially maintained, death occurs upon irreversible cessation of brain function. This definition can be criticized because it is inaccurate and redundant. Death does not occur when respiration and circulation cease; a polio victim, for

ston, 373 Mass. 249, 366 N.E.2d 744 (1977), *cert. denied*, 434 U.S. 1039 (1978); Cranmore v. State, 85 Wis. 2d 722, 271 N.W.2d 402 (1978).

42. At the time of the hearing, the child's vital functions were being maintained by artificial means. 601 P.2d at 1074.

43. Part of the reason H.B. No. 1416 did not pass seems to be that the Senate Judiciary Committee did not understand the purpose of the bill. See *Senate Hearings II*, *supra* note 34.

44. See note 6 *supra*.

45. Two states, Nevada and West Virginia, have adopted the Uniform Brain Death Act. West Virginia adopted the act in the 1980 legislative session. The state statutes are cited in note 13 *supra*.

46. 601 P.2d at 1081.

47. See note 24 *supra*.

48. See note 16 *supra*.

49. See note 17 *supra*.

50. California, Connecticut, Georgia, Idaho, and North Carolina. The state statutes are cited in note 13 *supra*.

51. Arkansas, Illinois, Montana, Nevada, Oklahoma, Tennessee, West Virginia, and Wyoming. The state statutes are cited in note 13 *supra*.

52. See generally *Statutory Definition*, note 17 *supra*; Kennedy, *The Kansas Statute on Death*, 285 NEW ENG. J. MED. 946 (1971); McCaman & Hirsh, *Brain Death: Legal Issues*, 8 HEART & LUNG 1098 (1979).

example, may never spontaneously respire, but the brain can continue to function if the patient is maintained on a mechanical respirator.⁵³ The definition is redundant because one of the criteria of brain death is the absence of spontaneous respiration;⁵⁴ therefore, it need not be denominated in the statute. The statutes which state that the concept of brain death does not preclude the use of traditional criteria of death can create the feeling that there are alternative definitions of death.⁵⁵ The statutes which define death solely in terms of brain death may wrongly create the impression that each death must be determined according to the criteria of brain death.⁵⁶

In 1968, when the Ad Hoc Committee of Harvard Medical School to Examine the Definition of Brain Death made its report,⁵⁷ it stated that no statutory change in the law would be necessary unless the medical community failed to agree about the standards of brain death. Despite apparent agreement in the medical community, however, twenty-five states have passed brain death statutes.⁵⁸ Prior to the brain death statutes, the definition of death was a matter of common law.⁵⁹ As more states adopt brain death statutes there is increasing pressure on the other states to follow suit in defining death statutorily. The statutes themselves point out the difficulties in drafting a statute which will define death.

A review of the various statutes and proposals will make evident that there is no ideal definition of death. Every death could be determined according to the "irreversible cessation of brain function" test. The irreversible cessation of cardiopulmonary functions is not death so long as the person is resuscitable: death occurs when the brain has been deprived too long of oxygen. As Capron and Kass point out, however, there are disadvantages to adopting a statute which speaks of death only in terms of brain function: it would be a sharp break from tradition, and, in most instances, the traditional methods of determining death are perfectly adequate.⁶⁰

Brain death criteria in determining death are applicable almost entirely to terminal patients who are connected to life-support equipment. Their impact will also be felt in cases where there is a question of survivorship and

53. See, e.g., *Senate Hearings I*, *supra* note 24.

54. See *Irreversible Coma*, *supra* note 7.

55. The statutes are actually trying to provide for different means of detecting death.

56. The criteria for determining brain death are specific. See note 7 *supra* and accompanying text. See also *Refinements*, *supra* note 10; *Cerebral Death*, *supra* note 8. Cardiopulmonary tests are perfectly adequate for determining death in most instances. *Statutory Definition*, *supra* note 17, at 113.

57. *Irreversible Coma*, *supra* note 7.

58. The state statutes are cited in note 13 *supra*.

59. The reluctance to discard the traditional signs of life, respiratory and circulatory functions, is vividly demonstrated in *Gray v. Sawyer*, 247 S.W.2d 496 (Ky. 1952). This case was a will contest involving a question of the survivorship of Mr. and Mrs. Gugel. They were in an automobile that was hit by a train. Mrs. Gugel was decapitated; there was blood gushing from her body in spurts. "Realistically, a person is dead when there has been a complete decapitation of the head . . ." *Id.* at 497. Nevertheless, the court concluded, in reliance upon medical testimony, that a body is not dead so long as there is a heartbeat as evidenced by blood gushing from the body in spurts. This is so even though the brain may have quit functioning. Thus, the court specifically rejected brain death.

60. *Statutory Definition*, *supra* note 17.

evidence of a heartbeat in a victim is introduced.⁶¹ *Lovato* overruled *Sauers v. Stolz*⁶² to the extent that the latter negated a concept of brain death. The court in *Sauers* held that evidence of a faint pulse and blood spurting from the cracked skull of one of the accident victims refuted the application of the Uniform Simultaneous Death Act.⁶³ Medical testimony received in *Lovato* stated that the heart is an autonomous organ which can continue to beat even with complete destruction of the brain or brain functions.⁶⁴ It would appear that eyewitness testimony regarding the presence of circulation will no longer be enough to prove life.⁶⁵ One article suggests that cessation of cardiac function is a cause of death and not a component of the definition of death.⁶⁶

Although it is questionable whether there is a need for a statute defining death,⁶⁷ there is a need to recognize legally the concept of brain death. The courts, as part of an adversary process, are perhaps more subject to an accusation of engaging in a balancing game, for example, balancing the interests of the medical community against the interests of a criminal defendant. Any statute concerning brain death should make the determination of death mandatory. The word "may" in a statute has the connotation that the determination is dependent upon the consent of relatives or the attending physician. Furthermore, despite the problems with alternative standards of determining death, it is probably advisable for a statute to have alternative standards: it makes the statute more acceptable to the medical community⁶⁸ and the general public. By codifying the definition of death, a statute which does not specifically mention the standards of cardiopulmonary functions may be viewed as excluding this standard. Although this article has repeatedly attempted to show that the absence of respiratory and circulatory functions is not death, but rather that death occurs when these functions cannot be resuscitated, the author does not believe it is necessary for a statute to specify that these functions must not be resuscitable. A statute defining death should be flexible enough to keep pace with medical and technological advances but certain enough to protect the interests involved. Ultimately, the medical profession will be responsible for ensuring that customary and usual standards are followed in determining when each human being has died.

61. See, e.g., *Gray v. Sawyer*, 247 S.W.2d 496 (Ky. 1952); *Vaegemast v. Hess*, 203 Minn. 207, 280 N.W. 641 (1938) (a constricted heart empty of blood indicates that the heart kept bleeding; thus, the victim was alive even though her viscera, including the cerebrum, were strewn along the train track).

62. 121 Colo. 456, 218 P.2d 741 (1950).

63. COLO. REV. STAT. § 15-11-613 (1973). The statute specifies how property shall be disposed of if there is not sufficient evidence to show that the parties in question died other than simultaneously.

64. 601 P.2d at 1081.

65. Nonmedical testimony regarding the presence of respiration would be enough to establish life because one of the criteria of brain death is the absence of respiration. See note 7 *supra*.

66. *Brain Death*, *supra* note 30, at 1654.

67. The statutes have not put an end to litigation. See, e.g., *State v. Shaffer*, 223 Kan. 244, 574 P.2d 205 (1977); *People v. Vanderford*, 77 Mich. App. 370, 258 N.W.2d 502 (1977). There will also undoubtedly be challenges as to whether the criteria of brain death were properly applied.

68. See note 19 *supra*.

CONCLUSION

The facts of *Lovato* necessitated that the court either accept or reject a concept of brain death. The court rightly accepted the concept. Despite the court's encouragement of brain death legislation, it is unlikely that the legislature will attempt to redefine brain death in the absence of an acceptable uniform definition due to the inherent problems in drafting a statute defining death. The definition which the court adopted may not have been the best one, but it should safely allow a physician to pronounce a person dead according to brain death criteria and thus uphold the dignity of life—and death.

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