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Human Cloning and the Constitution

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HUMAN CLONING AND THE CONSTITUTION

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The thing that has saved man from his limited visions in the past has been the difficulty of devising suitable means for reaching them.[1]

I. INTRODUCTION

The recent publicity given to the cloning of a sheep in Scotland and the January 1998 declaration by a Chicago physicist, Richard Seed, that he will attempt to clone a human being in the next few years have sparked public anxiety about real or imagined dangers of human cloning and spurred efforts in Congress and many states to prohibit human cloning. The scientific and public interest is not new; this is at least the third episode of intense publicity given to cloning over the past thirty years.[2] This time, however, the technology apparently exists to make human cloning a reality in the near future.

The report out of Scotland sparked international opposition to human cloning. In January 1998, nineteen European nations signed a ban on human cloning. The World Health Organization (WHO) issued an official statement against human cloning in March 1997. Immediately after the Scottish report, President Clinton issued an executive order banning the use of federal funds for human cloning.[3] Subsequently, in the wake of Richard Seed's announcement

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1. Robert S. Morison, *Comments on Genetic Evolution, in* EVOLUTION AND MAN'S PROGRESS 41 (Hudson Hoagland & Ralph W. Burhoe eds., 1962).

2. *See generally* GINA KOLATA, CLONE: THE ROAD TO DOLLY AND THE PATH AHEAD (1998); LEE M. SILVER, REMAKING EDEN: CLONING AND BEYOND IN A BRAVE NEW WORLD (1997).

3. One report explained:

> [R]estrictions have been in place since January 1996 which prohibit the Department of Health and Human Services (DHHS) from using Federal funds to support cloning research involving human embryos. President Clinton's March 4 directive to all Executive departments and agencies extends this ban to all federally supported research, but does not apply to research done in the private sector.

Cloning Technology: Scientific Developments and Current Guidelines, 77 CONG. DIG. 38, 38 (Feb. 1998).

in January 1998, the President urged Congress to pass a temporary ban on the implantation of cloned human embryos.[4]

At the President's request, the National Bioethics Advisory Commission (NBAC) conducted a study of human cloning and issued its report and recommendations in June 1997.[5] Focusing on implanting cloned embryos and not on the question of experimenting on cloned human embryos, the Commission concluded, "given the current stage of science in this area, that any attempt to clone human beings via somatic cell nuclear transfer techniques is uncertain in its prospects, is unacceptably dangerous to the fetus and, therefore, morally unacceptable."[6] The Commission made several recommendations: it suggested that the moratorium on the use of federal funds for purposes of cloning a child should continue, it urged private researchers "to comply voluntarily" with the intent of the moratorium, and it encouraged Congress to pass a federal law to "prohibit anyone from attempting . . . to create a child through somatic cell nuclear transfer cloning" with a three-to-five year "sunset provision."[7] Emphasizing that "different ethical and religious perspectives and traditions are divided on many of the important moral issues that surround any attempt to create a child using somatic cell nuclear transfer techniques," the Commission urged the federal government to "encourage widespread and continuing deliberation on these issues" and to foster "appropriate long-term policies regarding this technology."[8]

The Scottish report and the Seed announcement also spurred legislation in the U.S. Congress to prohibit human cloning, the implantation of cloned human embryos, or the use of federal funds for such purposes. The Kennedy-Feinstein bill (S. 1602) would not prevent cloning embryos but would prohibit implantation.[9] It would make it "unlawful" to "perform or use somatic cell nuclear transfer with the intent of introducing the product of that transfer into a woman's womb or in any other way creating a human being."[10] It would

4. President Clinton repeated his call for a temporary congressional ban in his January 1998 State of the Union address. Transcript, N.Y. TIMES, Jan. 28, 1998, at A21. French President Jacques Chirac has also called for a ban on human cloning. Nicholas Wade, *With No Other Dollys Yet, Cloning Report Draws Critics*, N.Y. TIMES, Jan. 30, 1998, at A8.

5. NATIONAL BIOETHICS ADVISORY COMMISSION, CLONING HUMAN BEINGS: REPORT AND RECOMMENDATIONS OF THE NATIONAL BIOETHICS ADVISORY COMMISSION (1997) [hereinafter NBAC REPORT].

6. Letter from Harold T. Shapiro, Chair, National Bioethics Advisory Commission, to William J. Clinton, President of the United States (June 6, 1997), *reprinted in* NBAC REPORT, *supra* note 5.

7. *Id.* at iii-iv.

8. *Id.* at iv.

9. S. 1602, 105th Cong. (1998).

10. S. 1602.

also preempt state laws that might regulate or prohibit human cloning. The Bond-Frist-Gregg bill (S. 1601) would prohibit cloning itself (defined as somatic cell nuclear transfer).[11] A bill to ban human cloning in the U.S. Senate failed on a procedural vote on February 11, 1998.[12]

Before Congress acts, however, legislation to ban human cloning may first pass in the states. As of February 10, 1998, thirty-two bills to regulate human cloning had been introduced in seventeen states.[13] Some bills would only prohibit implantation of cloned human embryos, allowing experimentation on cloned human embryos. Others would prohibit the cloning of a human embryo itself.

Scientists, biotechnology companies, and others invested or involved in infertility medicine and embryo experimentation have fought congressional legislation or promised to challenge the constitutionality of such legislation in the

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11. S. 1601, 105th Cong. (1998).

12. Helen Dewar & Rich Weiss, *Senate Blocks GOP Drive to Quickly Ban Human Cloning*, WASH. POST, Feb. 12, 1998, at A12. Various bills have been introduced in Congress. Neither of the earliest bills before Congress would touch cloning by blastomere separation, targeting instead "somatic cell nuclear transfer." One House bill by Congressman Ehlers, a former research physicist, would prohibit the "use [of] a human somatic cell for the process of producing a human clone." Human Cloning Prohibition Act, H.R. 923, 105th Cong. § 2(a) (1997). Another Ehlers bill would prohibit federal funds to conduct or support research on the cloning of humans. H.R. 922, 105th Cong. (1997). A separate bill by Senators Bond and Ashcroft would codify the President's ban on federal funding for cloning research. S. 368, 105th Cong. (1997). The Bond bill defines cloning as "the replication of a human individual by the taking of a cell with genetic material and the cultivation of the cell through the egg, embryo, fetal, and newborn stages into a new human individual." *Id.* at § 1(b). A similar bill, prohibiting federal funding for "the creation of a human embryo or embryos for research purposes," was introduced in the House. H.R. 2264, 105th Cong. (1997). A similar bill was also introduced by Senator Spector. S. 1061, 105th Cong. (1997).

13. S. 68, Reg. Sess. (Ala. 1998); S. 8, Reg. Sess. (Ala. 1998); S.J. Res. 6, Reg. Sess. (Ala. 1998); S. 241, 139th Gen. Assem., 2d Sess. (Del. 1997); H.R. 1508, 144th Gen. Assem., Reg. Sess. (Ga. 1997); S. 1243, 90th Gen. Assem., Reg. Sess. (Ill. 1997); S. 1230, 90th Gen. Assem., Reg. Sess. (Ill. 1997); S. 411, 110th Gen. Assem., 2d Reg. Sess. (Ind. 1998); H.R. 5475, 89th Leg., Reg. Sess. (Mich. 1998); H.R. Res. 197, 89th Leg., Reg. Sess. (Mich. 1998); S. 864, 89th Leg., Reg. Sess. (Mich. 1998); H.R. 2730, 80th Leg., Reg. Sess. (Minn. 1997); S. 2423, 80th Leg., Reg. Sess. (Minn. 1997); H.R. 996, Reg. Sess. (Miss. 1998); H.R. 1658, 155th Sess. of Gen. Ct., 2d year (N.H. 1998); A. 329, 208th Leg. (N.J. 1998); S. 6071, 221st Ann. Leg. Sess. (N.Y. 1998); A. 9183, 221st Ann. Leg. Sess. (N.Y. 1998); A. 9116, 221st Ann. Leg. Sess. (N.Y. 1998); S. 5993, 221st Ann. Leg. Sess. (N.Y. 1998); A. 5383, 220th Ann. Leg. Sess. (N.Y. 1997); S. 2877, 220th Ann. Leg. Sess. (N.Y. 1997); S. 218, 122d Gen. Assem., Reg. Sess. (Ohio 1998); H.R. 675, 122d Gen. Assem., Reg. Sess. (Ohio 1998); H.R. 2128, 182d Gen. Assem., Reg. Sess. (Pa. 1998); H.R. 7123, 1997-98 Leg. Sess. (R.I. 1998); H.R. 3917, Gen. Assem., 112th Sess. (S.C. 1997); S. 2295, 100th Gen. Assem. (Tenn. 1998); H.R. 2281, 100th Gen. Assem. (Tenn. 1998); H.R. 2198, 100th Gen. Assem. (Tenn. 1998); H.R. 752, 1998 Leg. Sess. (Va. 1998).

courts.[14] Although the constitutionality of such legislation has yet to be addressed by any state or federal court, it likely will be the subject of litigation in the next few years.

Several questions, as yet unresolved, are the subject of nationwide interest. What is human cloning?[15] What is the difference between implanting a cloned human embryo and cloning the embryo for use in experimentation and research? What is the legal and moral status of the extracorporeal human embryo (that is, one outside the body)? Is human cloning a constitutional liberty? Is it encompassed within the abortion liberty created by *Roe v. Wade*?[16] What scientific or medical research and development might be furthered by human cloning? Is cloning a necessary extension of *in vitro* fertilization (IVF) technology? What human interests might be served by its regulation or prohibition? These questions are relevant to the ongoing public and legislative debates throughout the country as well as to future litigation.[17]

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14. *See, e.g., Should Congress Prohibit All Human Cloning Experimentation?*, 77 CONG. DIG. 44, 47, 49, 51 (1998) (including the statements of Alison Taughton-Rigby, Biotechnology Industry Organization (BIO), and of Lester M. Crawford, National Association of Biomedical Research (NABR)).

15. The term "clone" is a botanical term for cutting which comes from the Greek root *klon* (twig) and refers to grafting procedures that botanists use to propagate plants. Francis C. Pizzulli, *Asexual Reproduction and Genetic Engineering: A Constitutional Assessment of the Technology of Cloning*, 47 S. CAL. L. REV. 476, 482 (1974) [hereinafter Pizzulli, *Asexual Reproduction*] (*updated and reprinted* Francis C. Pizzulli, *A Constitutional Analysis of Human Cloning and Genetic Engineering, in* BIOLOGICAL AND BEHAVIORAL TECHNOLOGIES AND THE LAW (Michael H. Shapiro ed., 1982) [hereinafter Pizzulli, *Constitutional Analysis*]).

16. 410 U.S. 113 (1973).

17. A few books and articles have touched on the legal and constitutional issues involved with cloning or related technologies. *See, e.g.*, NBAC REPORT, *supra* note 5, at 95 ("Whether cloning is best characterized as procreation or as something entirely new and different is a matter of debate, for which existing decisions of the U.S. Supreme Court offer only partial guidance."); IRA H. CARMEN, CLONING AND THE CONSTITUTION: AN INQUIRY INTO GOVERNMENTAL POLICYMAKING AND GENETIC EXPERIMENTATION (1985) (examining recombinant DNA research as "cloning"); Debra Feuerberg Duffy, *To Be or Not to Be: The Legal Ramifications of the Cloning of Human Embryos*, 21 RUTGERS COMPUTER & TECH. L.J. 189 (1995); Jean Macchiaroli Eggen, *The "Orwellian Nightmare" Reconsidered: A Proposed Regulatory Framework for the Advanced Reproductive Technologies*, 25 GA. L. REV. 625 (1991); Charles P. Kindregan, *State Power over Human Fertility and Individual Liberty*, 23 HASTINGS L.J. 1401 (1972); David W. Louisell, *Biology, Law and Reason: Man as Self-Creator*, 16 AM. J. JURIS 1 (1971); Pizzulli, *Constitutional Analysis, supra* note 15; John A. Robertson, *The Question of Human Cloning*, HASTINGS CTR. REP., Mar.-Apr. 1994, at 6 [hereinafter Robertson, *Question*]; Bonnie Steinbock, *The NBAC Report on Cloning Human Beings: What It Did—and Did Not—Do*, 38 JURIMETRICS J. 39, 45-46 (1997) (concluding that "[i]t is virtually inconceivable that the present Court—or any Court in the near future—would deem [somatic cell nuclear transfer] cloning to be a fundamental constitutional right. Not only is it not mentioned anywhere in the Constitution, but it is certainly not assumed by the 'majority of Americans' to be a basic right, nor is it part of our country's history and tradition, nor is access to cloning, or any other reproductive technology, essential to ordered liberty."); Mona S. Amer, Comment, *Breaking the Mold: Human Embryo Cloning and Its Implications for a Right to*

Parts II and III of this Article begin by summarizing the science of human development and human cloning. Part IV surveys Anglo-American law protecting developing human beings and how that law affects the status of extracorporeal human embryos.[18] The implications of this review may be new to contemporary lawyers and scholars who have been taught to see questions about developing human life exclusively through the lens of *Roe v. Wade*.[19] A neutral application of homicide law stretching back several centuries will show a consistent tradition of protecting the developing human being at every stage of gestation, such that the killing of a human embryo *outside the womb*, if detectable by medical evidence, has *always* been a homicide.[20] Although homicide law has yet to be applied in such a way to the conception and death of extracorporeal embryos, this legal tradition nevertheless exists and continues.

Part V reviews substantive due process, *Roe v. Wade*, and the scope of any "non-coital procreative liberty."[21] Part VI identifies other compelling state interests that exist to support legal prohibitions or regulations on human cloning.[22] Although many reasons to prohibit human cloning—whether the embryo is implanted or not—have been voiced before the NBAC, Congress, and state legislatures, the legal capacity of Congress or the states to regulate or prohibit human cloning comes down to two basic questions. First, is it possible to prove that extracorporeal human embryos are alive and then killed? Second, does *Roe v. Wade* or other constitutional law trump this neutral application of the law of homicide? While much ethical and legal analysis has addressed the implications of the implantation of a cloned human embryo and the development to birth of a fetus, it is likely that the cloning and pre-implantation destruction of human embryos will be the real issue in public policy.

II. THE SCIENCE OF HUMAN DEVELOPMENT

Before addressing the ethical and legal issues, a brief summary of human development and genetics is necessary to understand human cloning, to distinguish different types of cloning, and to distinguish cloning from other techniques of genetic engineering and manipulation.[23] In order to assess human

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Individuality, 43 UCLA L. REV. 1659 (1996).

18. *See infra* text accompanying notes 66-198.

19. 410 U.S. 113 (1973).

20. *See infra* text accompanying notes 136-49.

21. *See infra* text accompanying notes 199-281.

22. *See infra* text accompanying notes 282-333.

23. "Genetic engineering" and "genetic manipulation" have become commonly used terms. *See, e.g.*, AMERICAN MEDICAL ASSOCIATION, GENES AND INHERITANCE 16 (Charles B. Clayman ed., 1993); KOLATA, *supra* note 2, at 82 ("could keep tiny, finicky human eggs alive in the laboratory and manipulate them"); GERARD J. TORTORA ET AL., MICROBIOLOGY: AN INTRODUCTION 228 (4th ed. 1992); Leon R. Kass, *Genetic Engineering: Reprise*, 220 JAMA 1356

cloning ethically and legally, it is necessary to start by determining the ontological and legal status of the developing human embryo As Richard McCormick has written, "what we may do to" human embryos "depends on what we think of them."[24] The embryo and the fetus are the two primary names given to the unborn human during gestation. (*Embryo* refers to the unborn human from fertilization to 8-10 weeks gestation, and *fetus* refers to it from 8-10 weeks to birth). At various stages in its development, the embryo is called different things. For example, the embryo is called a *blastocyst* before implantation into the endometrium of the uterus, which occurs on day five after conception.[25]

Human cloning involves the genetic replication of a human being. (One popular magazine has already coined the term "replicant" to refer to the resulting individual.[26]) The science of genetics, the study of heredity, is a species of molecular biology, and genetics is concerned with the genetic material found in the cells that compose the human body. (Little was known about the cell before the study of molecular biology was given great advance by the development of the microscope in the middle of the seventeenth century.[27]) A cell contains a nucleus which contains chromosomes that carry or bear genes. Genes contain DNA (deoxyribonucleic acid) which is "the substance of the gene."[28] Almost all of the DNA in a cell is contained in the nucleus, and virtually every cell in the human body contains a human being's complete genetic code.

Most of the scientific understanding of DNA is about fifty years old. In 1944, Avery, MacLeod, and McCarty determined that "DNA is the agent of genetic transformation."[29] The most famous discovery came in 1953 when James Watson and Francis Crick identified the chemical structure of DNA—the double helix—for which they won a Nobel Prize.[30] With Crick and Watson's

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(1972); Leon R. Kass, *The Wisdom of Repugnance*, NEW REPUBLIC, June 2, 1997, at 17 [hereinafter Kass, *Wisdom of Repugnance*]. *See also* Leon R. Kass, *The Wisdom of Repugnance: Why We Should Ban the Cloning of Humans*, 32 VAL. U. L. REV. 679 (1998).

24. Richard A. McCormick, *Blastomere Separation: Some Concerns*, HASTINGS CTR. REP., Mar.-Apr. 1994, at 14-15.

25. *Id.* at 20-21 (Figures 1-11 and 1-12).

26. Richard Kadry, *Carbon Copy: Meet the First Human Clone*, WIRED, Mar. 1998, at 146-50, 180, 182.

27. *See generally* 19 ENCYCLOPEDIA AMERICANA 49 (1992).

28. *See generally* TORTORA ET AL., *supra* note 23, at 190-226; Cedric I. Davern, *Introduction* to READINGS FROM *SCIENTIFIC AMERICAN*: GENETICS 2 (1982) [hereinafter SCIENTIFIC AMERICAN].

29. SCIENTIFIC AMERICAN, *supra* note 28, at 3. *See* MACLYN MCCARTY, THE TRANSFORMING PRINCIPLE: DISCOVERING THAT GENES ARE MADE OF DNA 170-71 (1985).

30. *See* Francis H.C. Crick & James D. Watson, *A Structure for Deoxyribose Nucleic Acid*, 171 NATURE 737-38 (1953); Francis H.C. Crick, *Structure of the Hereditary Material*, SCI. AM., Oct. 1954, at 54-61.

discovery, "[t]he understanding of the molecular biology of DNA—its structure, replication, mutation, recombination, and expression—provided at one and the same time a material basis for what had once seemed irreconcilable—constancy and change: constancy deriving from the high fidelity of its replication and change arising from mutation and its recombination."[31]

As with the development of medical science generally, the constantly developing understanding of genetics and human embryology confirms that the life of an individual, unique, human being begins with fertilization. In fact, "[h]uman pregnancy begins with the fusion of an egg and a sperm . . . ."[32] Fertilization results in an embryo.[33] As one expert in the study of the human embryo has stated, "the nuclei of the male and female gametes unite, resulting in the formation of a zygote containing a single diploid [having the full complement of chromosomes] nucleus. Embryonic development is considered to begin at this point."[34]

Although fertilization can be described as a process or "a series of processes,"[35] at one point within that process—called syngamy—an individual member of the species *homo sapiens sapiens*—or human being—begins and before which that unique being does not exist. That is the point at which the pronuclei of the sperm and ovum merge and the twenty-three chromosomes of the male and the twenty-three chromosomes of the female combine to form a new, unique, individual human entity.[36] Fertilization of a human ovum by human sperm results in the full complement of forty-six chromosomes that mark

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31. SCIENTIFIC AMERICAN, *supra* note 28, at 4.

32. BRUCE M. CARLSON, HUMAN EMBRYOLOGY AND DEVELOPMENTAL BIOLOGY 3 (1994).

33. The "fertilized egg" is "properly called an embryo." CARLSON, *supra* note 32, at 3. *See also id.* at 24 (Figure 2-2, showing the "transport[ation] of the early embryo down the uterine tube and into the uterus" (pre-implantation)). "Embryonic life commences with fertilization." RONAN O'RAHILLY & FABIOLA MULLER, DEVELOPMENTAL STAGES IN HUMAN EMBRYOS 9 (1987).

34. WILLIAM J. LARSEN, HUMAN EMBRYOLOGY 1 (1993). Larsen has noted, "The newly formed embryo undergoes a series of cell divisions called cleavage as it travels down the oviduct toward the uterus. The cleavage divisions subdivide the zygote first into two cells, then into four, then into eight, and so on." *Id.* at 1-2. He also stated, "This moment of zygote formation may be taken as the beginning or zero time point of embryonic development." *Id.* at 19.

35. CARLSON, *supra* note 32, at 27. *See also* O'RAHILLY & MULLER, *supra* note 33, at 9 ("Fertilization is the procession of events that begins when a spermatozoon makes contact with an oocyte or its investments and ends with the intermingling of maternal and paternal chromosomes at metaphase of the first mitotic division of the zygote.").

36. CARLSON, *supra* note 32, at 31 ("through the mingling of maternal and paternal chromosomes, the zygote is a genetically unique product of chromosomal reassortment").

the human species. There is then one single entity (variously called fertilized ovum, zygote, or embryo).[37]

Before fertilization, there may be "life" but there is no unique, individual, complete human entity. O'Rahilly and Muller explain that "[a]lthough life is a continuous process, fertilization is a critical landmark because, under ordinary circumstances, a new, genetically distinct human organism is thereby formed. This remains true even though the embryonic genome is not actually activated until 4-8 cells are present, at about 2-3 days."[38] "[T]he embryonic genome is formed" with the union (or "envelope vesiculation") of the male and female pronuclei, and, at that point, "the embryo now exists as a genetic unity."[39] The genetic imput is complete with the formation of that one-celled human zygote. As two of the foremost pioneers in human embryology noted, "[i]t is to be remembered that at all stages the embryo is a living organism, that is, it is a going concern with adequate mechanisms for its maintenance as of that time."[40]

All cells in the human body start from one cell (the zygote which results from fertilization). The one-celled zygote begins to cleave, or divide, and multiply. The cells resulting from these early cleavages are called blastomeres. "Because they divide mitotically, all blastomeres contain identical chromosomes and genetic information as the original one-celled zygote."[41] Consequently, the blastomeres are considered totipotent or "capable, on isolation, of forming a

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37. *See id.* at 31 ("When the male and female pronuclei come into contact, their membranes break down and the chromosomes intermingle. The maternal and paternal chromosomes quickly become organized around the mitotic spindle in preparation for an ordinary mitotic division. At this point, the process of fertilization can be said to be complete and the fertilized egg is called a zygote."); *id.* at 33 ("Immediately after fertilization, the zygote undergoes a pronounced shift in metabolism and begins several days of cleavage. During this time the embryo, still encased in its zona pellucida, is transported down the uterine tube and into the uterus. Roughly 6 days later, the embryo sheds its zona pellucida and attaches to the uterine lining."). RONAN O'RAHILLY & FABIOLA MULLER, HUMAN EMBRYOLOGY & TERATOLOGY 28 (1994) ("The zygote is characteristic of the last phase of fertilization and is identified by the first cleavage spindle. It is a unicellular embryo and is a highly specialized cell."); CARLSON, *supra* note 32, at 33 ("After the 2-cell stage, mammalian cleavage is asynchronous, with one of the two cells (blastomeres) dividing to form a 3-cell embryo. When the embryo consists of approximately sixteen cells, it is sometimes called a morula (derived from Greek and Latin words means 'mulberry'."). *See also id.* at 34 (Figure 3-1); 2 LUCINDA L. VEECK, ATLAS OF THE HUMAN OOCYTE AND EARLY CONCEPTUS (Williams & Wilkins eds., 1991).

38. RONAN O'RAHILLY & FABIOLA MULLER, HUMAN EMBRYOLOGY & TERATOLOGY 8 (2d ed. 1996).

39. *Id.* at 29.

40. C.H. HEUSER & G.L. STREETER, DEVELOPMENT OF THE MACAQUE EMBRYO (1941), *quoted in* O'RAHILLY & MULLER, *supra* note 37, at v; *also quoted in* O'RAHILLY & MULLER, *supra* note 33, at 17.

41. 10 ENCYCLOPEDIA AMERICANA 281 (Int'l ed. 1991).

complete embryo."[42] Totipotency means "having unlimited developmental capacity"[43] (although it is not accurate to say that this capacity is absolutely unlimited). Eventually, this one cell, the zygote, divides into many cells, and these cells differentiate or become specialized, becoming, for example, bone, hair, or skin cells. Specialized cells also include the female ovum and male sperm, also called *germ cells* or *gametes*. All other cells in the human body (all non-germ cells) are called *somatic cells*. If, before the cells become differentiated, they are artificially separated *in vitro* (in glass, outside the womb), they may separately form new individual organisms, a form of artificial twinning. This explains why the early embryo is the focus of scientific experimentation; the developmental capacity of the early cells may be used to develop new medical treatments and therapies.

The human zygote or embryo has undoubted genetic individuality. The developing human being's sex and its separate and individual genetic identity are determined at fertilization.[44] As Pauerstein states in his well-recognized obstetrics text, "[e]ach member of a species begins with fertilization—the successful merging of two different pools of genetic information to form a new individual."[45] "When the pronuclei of the ovum and sperm are fused—called syngamy—[i]nstantaneously, numerous hereditary characteristics of the new individual are determined."[46] Within the one-celled human embryo is contained the entire genetic code of the individual.

Further evidence that the human embryo is undoubtedly a unique, living human organism from fertilization is provided by the scientific fact that its cells are metabolizing (processing matter and energy within the cells),[47] reproducing, and growing. But the one-celled human embryo is not simply "human life" but a human being. It has been noted:

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42. O'RAHILLY & MULLER, *supra* note 37, at 23.

43. NBAC REPORT, *supra* note 5.

44. *See generally* CARLSON, *supra* note 32; LARSEN, *supra* note 34; O'RAHILLY & MULLER, *supra* note 37; JOSEPH LEVINE & DAVID SUZUKI, THE SECRET OF LIFE: REDESIGNING THE LIVING WORLD 122c ((1993) ("For better and for worse, every individual's genetic endowment is determined at the moment of conception. Sperm and egg each carry a random selection of parental genes. Their fusion creates a genetically unique individual."). "Fertilization, the moment the sperm and egg fuse and a new individual begins to form, has been until recently shrouded in mystery." LENNART NILSSON, A CHILD IS BORN 41 (1990).

45. CLINICAL OBSTETRICS 11 (Carl J. Pauerstein ed., 1987).

46. NILSSON, *supra* note 44, at 56.

47. On "metabolism," see 18 ENCYCLOPEDIA AMERICANA 748 (Int'l ed. 1991).

> Skin and intestinal tissue, even eggs and sperm, are human life. But, unlike such instances of human life, the embryo from the earliest moment has the active capacity to articulate itself into what everyone acknowledges is a human being. The embryo is a being; that is to say, it is an integral whole with actual existence. The being is human; it will not articulate itself into some other kind of animal. Any being that is human is a human being. If it is objected that, at five days or fifteen days, the embryo does not look like a human being, it must be pointed out that this is precisely what a human being looks like—and what each of us looked like—at five or fifteen days of development.[48]

The question is not whether the developing human embryo *looks* like a mature human being but whether its development is consistent with its human nature at the particular stage of development.

While there is little biological doubt that the one-celled human zygote or embryo is a separate, unique human being, in popular and legal discussions, confusion often exists between human being and person. Human being is an anthropological term that is based on biology and species, whereas "person" is a moral or philosophical term. A human being is simply a member of the species *homo sapiens*,[49] and it is defined biologically, by species, not developmentally. The distinction between "human life" and "human being" is made clear by Bradley Patten and other human embryologists: "[a]lthough in a sense, an embryo preexists in the gametes from which it arises, its life as a new individual must be regarded as commencing at the moment of fertilization."[50] Patten emphasizes that "[i]t is the penetration of the ovum by a sperm and the resultant mingling of the nuclear material each brings to the union that constitutes the culmination of the process of fertilization and marks the initiation of the life of a new individual."[51]

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48. The Ramsey Colloquium, *The Inhuman Use of Human Beings: A Statement on Embryo Research*, FIRST THINGS, Jan. 1995, at 17, 17-18.

49. *See, e.g.*, 14 ENCYCLOPEDIA AMERICANA 545 (Int'l ed. 1991) ("Human Being. Humankind is a species with a scientific name *Homo sapiens*"); 6 ENCYCLOPAEDIA BRITANNICA (Micropaedia) 27 (15th ed. 1992) ("hominid, any creature of the family Hominidae (order Primates), of which only one species exists today—*Homo sapiens*, or human beings"). Technically, the correct term is *homo sapiens sapiens*. *See* 14 ENCYCLOPEDIA AMERICANA 545, 545a (Int'l ed. 1992) ("Modern human beings are the only living representatives of *H. sapiens* and are referred to as the subspecies *H. sapiens sapiens*."); *id.* at 545m.

50. *See generally* BRADLEY PATTEN, HUMAN EMBRYOLOGY (3d ed. 1968).

51. C.E. CORLISS, PATTEN'S HUMAN EMBRYOLOGY: ELEMENTS OF CLINICAL DEVELOPMENT 30 (1976). *See also* ERNEST BLECHSCHMIDT, THE BEGINNING OF HUMAN LIFE 16-17 (1977) ("A human ovum possesses human characteristics as genetic carriers, not chicken or fish. This is now manifest; the evidence no longer allows a discussion as to if and when and in what month of ontogenesis a human being is formed. To be a human being is decided for an organism at the moment of fertilization of the ovum."); KEITH MOORE, THE DEVELOPING HUMAN: CLINICALLY

The nature of the human being is thus formed at the time of fertilization. The rest of life is simply the development or maturation of that essential nature. Though imperfect or immature, it is still developing. Even at birth, human development is incomplete, and the developing human is still utterly dependent on other persons for basic survival. The *time* of development between fertilization and birth is much less than the time of development between birth and puberty, while the *extent* of development is much greater between fertilization and birth than between birth and puberty. Sexual identity, for example, is determined genetically at fertilization, although it is not complete structurally until many years after birth. We are at least our genes, even if we can be more than our genes. This is why, despite natural twinning and the prospect of artificial cloning, we know that each human being is unique and never to be repeated. At every stage of human life, each human has a developing personality. Each has disabilities; each is developing. Yet, it is always a difference of degree, not kind. The developing human embryo may die, but it will not articulate itself into any other species.

The technology that has fostered IVF over the past twenty-five years, and which makes possible somatic cell nuclear transfer (the cloning technique used by Dr. Wilmut), has confirmed that the human embryo is a unique human being, even while it has fostered experimentation on that embryo. While animal husbandry and IVF have been used for some time, this technology has only recently been applied to humans.[52] And yet, as this technology is applied to humans, the results conclusively demonstrate that human life begins with the

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ORIENTED EMBRYOLOGY 1, 14 (3d ed. 1982) ("This cell [zygote] results from fertilization of an oocyte, or ovum, by a sperm, or spermatozoon, and is the *beginning of a human being.*"); GREENHILL & FRIEDMAN, BIOLOGICAL PRINCIPLES AND MODERN PRACTICE OF OBSTETRICS 17 (1974) (the term "*conception* refers to the union of the male and female pronuclear elements of procreation from which a new living being develops." Likewise, Leslie Arey emphasized in his classic text that "[t]he formation, maturation and meeting of a male and female sex cell are all preliminary to their actual union into a combined cell, or zygote, which definitely marks the beginning of a new individual.") (emphasis in original).

52. *See* JACQUES COHEN ET AL., MICROMANIPULATION OF HUMAN GAMETES AND EMBRYOS vii (1992); IN VITRO FERTILIZATION AND EMBRYO TRANSFER (Alan Trounson & Carl Wood eds., 1984); *CQ Interview: Voices from Roslin: The Creators of Dolly Discuss Science, Ethics, and Social Responsibility with Arlene Judith Klotzko*, 7 CAMBRIDGE Q. HEALTHCARE ETHICS 121, 122-27 (1998) [hereinafter *CQ Interview*]. Jacques Cohen has stated:

> Micromanipulation of preimplantation embryos, although only recently applied to assisted human reproduction, has been practiced for decades by developmental biologists and animal scientists. . . . Two main reasons exist for recent changes regarding the application of micromanipulation techniques to human in vitro fertilization. First, an overwhelming need for more precise control of the fertilization process has developed . . . . Second, the advent of safe and reliable preconception and preimplantation genetic diagnostic methods that pose no risk to embryonic viability may now allow for replacement of genetically fit embryos in couples at risk for genetic disease.

COHEN, *supra*, at vii.

fertilization of a human ovum by a human sperm and that human embryos are individual members of the human species. These results also overturn medical uncertainty and doubt about developing human life that traditionally burdened law and medicine. The 1965 *Life* magazine issue that contained the well-known detailed, color photographs of the human embryo, taken by Lennart Nilsson, and the follow-up issue of *Life* in 1990, with even more advanced photographs, demonstrate how modern technology can sweep away traditional medical uncertainty.[53] These recent technological advances have startling implications for the legal protection of developing human life, though their meaning for the legal protection of extracorporeal embryos has yet to be thoroughly explored.

III. THE SCIENCE OF HUMAN CLONING

The report of the Scottish sheep Dolly is not the first cloning "scare" in America. Scientifically, cloning has progressed through many stages stretching back over sixty years, and similar incidents of cloning were highly publicized in the 1960s and 1970s.[54] Cloning is the stepchild of embryology. Although the term was not used until the 1960s,[55] the idea of cloning dates back to 1938 and the human embryologist, Hans Spemann. The cloning of frog embryos was first done by Robert Briggs and Thomas King in 1952[56] while adult frogs were first cloned in 1962.[57] Frogs were first cloned because of the relative ease of obtaining and manipulating a frog's eggs, which are large relative to human eggs. Mammalian cells, in contrast, are much smaller and more difficult to manipulate. Efforts to clone mice reportedly failed until 1979. The science was daunting: how could nuclei be effectively removed from one cell? How could a nucleus be transplanted into an ovum without damaging the nucleus or the ovum?

In both the popular press and academic writings, cloning has been portrayed as many different things, conjuring up many different prospects and supposed dangers. At various times, the term "cloning" has been used to refer to gene cloning, blastomere separation, somatic cell nuclear transfer, recombinant DNA research, or simply artificially induced asexual reproduction. In its purest sense, cloning means replication. It is important to distinguish between the cloning of a gene and the cloning of an organism. Gene cloning means gene replication or replacement and is part of a science, gene therapy, that has developed over the past fifteen years. The science of gene therapy attempts to reverse or counteract

53. *See* NILSSON, *supra* note 44.

54. *See* KOLATA, *supra* note 2, at 67, 93.

55. *See id.*

56. *Id.* at 61-65; Robert Briggs & Thomas King, *Transplantation of Living Nuclei from Blastula Cells into Enucleated Frogs' Eggs*, 38 PROC. NAT'L ACAD. SCI. 455 (1952).

57. KOLATA, *supra* note 2, at 67.

genetic diseases.[58] The federally-funded Human Genome Project is closely related to this developing science and is designed to map the 60,000-100,000 genes in the human body.[59]

In contrast to gene cloning, the recently publicized cloning of the sheep Dolly involved the genetic replication of an entire organism. This was purportedly the first cloning of a mammal from an adult cell.[60] Throughout the remainder of this Article, the term "cloning" will refer to the replication of entire organisms.

The cloning of entire organisms, especially mammals, may be performed using two different techniques with different implications. One technique is called blastomere separation or "cloning by embryo splitting."[61] This involves splitting the cells of a human embryo at its earliest stages of development, a method of artificially creating a twin. Each cell at this early stage is undifferentiated and totipotent—individually able to grow into a mature embryo, and then a fetus, leading to birth. The cloning of human embryos that was reported in October 1993 was achieved by blastomere separation.[62] This method avoids the spector of replicating a dead or living adult human being.

In contrast, the second cloning technique that reportedly resulted in the Scottish sheep is called "nuclear transfer" (or transplantation), a term which effectively describes the basic procedure. This may be attempted using embryonic or adult cells. This technique has also been called (in the bills introduced in Congress) *somatic cell nuclear transfer*, which refers to the use of genetic material from non-germ (non-sex) cells. The female's genetic material is contained in the nucleus of the ovum (the egg cell). The nucleus from an egg is removed (enucleated egg) and replaced with the nucleus from a cell of the human being to be cloned. The unfertilized egg is artificially fertilized by replacing its nucleus. Leon Kass has described the procedure as follows:

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58. *See generally* JEFF LYON & PETER GORNER, ALTERED FATES: GENE THERAPY AND THE RETOOLING OF HUMAN LIFE (1995); EVE K. NICHOLS, INSTITUTE OF MEDICINE, NATIONAL ACADEMY OF SCIENCES, HUMAN GENE THERAPY (1988).

59. *See generally Human Genome Project: An International Investigation into Heredity*, 77 CONG. DIG. 39 (1998).

60. Nearly a year after the Scottish sheep cloning report was made public, some biologists and scientists questioned the validity of the report. Wade, *supra* note 4, at A8. *See also* Jerome P. Kassirer & Nadia A. Rosenthal, *Should Human Cloning Be Off Limits?*, 338 N. ENG. J. MED. 905 (1998); Vittorio Sgaramella & Norton D. Zinder, Letter to Editor, 279 SCI. 635, 636 (1998); Nicholas Wade, *Cloner of a Sheep Moves to Persuade the Skeptics*, N.Y. TIMES, Feb. 28, 1998, at A6 (Nat'l ed.).

61. *See* National Advisory Board on Ethics in Reproduction, *Report on Human Cloning Through Embryo Splitting: An Amber Light*, 4 KENNEDY INST. ETHICS J. 251-82 (1994); Robertson, *Question*, *supra* note 17, at 6.

62. *See* Robertson, *Question*, *supra* note 17, at 6.

> The nucleus of a mature but unfertilized egg is removed and replaced with a nucleus obtained from a specialized cell of an adult (or fetal) organism (in Dolly's case, the donor nucleus came from mammary gland epithelium). Since almost all the hereditary material of a cell is contained within its nucleus, the renucleated egg and the individual into which this egg develops are genetically identical to the organism that was the source of the transferred nucleus. . . . With laboratory cultivation and storage of tissues, cells outliving their sources make it possible even to clone the dead.[63]

This technique of human cloning, like IVF, is conducted extracorporeally—outside the human body, in a laboratory. As with IVF, only after the human egg is denucleated, the nucleus replaced, and the resulting embryo is allowed to divide would it be implanted in a woman's uterus. Only then would a normal pregnancy exist. Cloning by somatic cell nuclear transfer (in contrast to other techniques) was the exclusive focus of the 1997 National Bioethics Advisory Commission (NBAC) hearings and report.[64]

The cloning of a human by nuclear transfer is, therefore, essentially artificially conceiving an identical twin. Identical (monozygotic) twins, as their name indicates, come from the fertilization of a single ovum that subsequently divides into two embryos of the same sex which are genetically identical. Non-identical (fraternal or dizygotic) twins, by contrast, come from the fertilization of more than one ovum and thus share only fifty percent of their genes. In natural sexual reproduction, a human ovum (with twenty-three chromosomes) is fertilized by a human sperm (with twenty-three chromosomes), thus combining the male and female genetic material. With somatic cell nuclear transfer, the genetic material of the ovum (with twenty-three chromosomes) is removed from the cell and replaced with a nucleus containing the full complement of forty-six chromosomes, the complete genetic material of a single human being.

Though genetically identical, a clone would not be identical in all ways, such as physical appearance. Genes do not entirely determine a human being's biological makeup. Environmental factors also play an important, yet uncertain, role. Geneticists distinguish between genotype (the genetic constitution of an

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63. Kass, *Wisdom of Repugnance*, *supra* note 23, at 18-19. Strictly speaking, monozygotic twins are not exact copies, nor would the product of cloning be, due to mutations, chemical exposure, etc. For example, the fingerprints of identical twins are not identical.

64. *See* NBAC REPORT, *supra* note 5.

organism) and phenotype (the observable expression of the interaction of the organism's genetic structure and the environment). Cloning may result in a genetically identical individual (having the same genotype), but the phenotype (the observable expression of the genotype) of the cloned individual might well be different.

The key scientific challenges are whether cloning from an adult cell (rather than an embryonic cell) can be done, whether it can be done in mammals, and whether it can be done in humans particularly. The cloning of mammals using fetal or embryonic cells is generally accepted as having been achieved. Part of the amazement surrounding the report of the cloning of the Scottish sheep was that the sheep was reportedly cloned from the cells of an adult sheep. The scientific barrier to cloning from an adult cell is related to the specialization or differentiation of cells. Can the genetic material in an adult cell, after the cell has become specialized ("fully differentiated cells"), be used to spur the development of an entirely new entity? Can the specialized adult cell nucleus spur complete, normal development in the ovum, or will it simply spur replication of the specialized cell (e.g., nerve cells, bone cells)? John Eppig, a developmental biologist from the Jackson Laboratory in Bar Harbor, Maine, and a member of NBAC, stated that "[i]f the egg is not activated with the proper signaling mechanisms, then the embryo might not reach an implantation stage, or it might not have the proper proportions of cells in order to support normal development. . . . I would be very concerned about the health of the fetus and the health of the baby that would come from this."[65]

IV. HUMAN CLONING AND THE LEGAL PROTECTION OF HUMAN LIFE

The legal issues surrounding human cloning research in the United States are the grandchildren of the Supreme Court's 1973 decision in *Roe v. Wade*,[66] which legalized abortion for any reason, at any time of pregnancy, in every state.[67] Legalized abortion fostered IVF and embryo experimentation, which now have led to cloning. IVF technology was first widely publicized in 1978 with the birth of Louise Brown, the first "test tube baby," in Britain.[68] IVF typically involves the fertilization of a number of eggs resulting in several embryos in hopes of successfully implanting at least one in a woman's uterus, and IVF researchers conduct embryo experimentation in order to increase the success rates of IVF. Human cloning, in a sense, is a type of IVF and will

65. Reuters, *Chicago Scientist Plans Human Cloning* (Jan. 6, 1998) <http://www.d-b.net/dtil/980106seed.txt>.

66. 410 U.S. 113 (1973).

67. Doe v. Bolton, 410 U.S. 179, 192 (1973). *See infra* note 245.

68. KOLATA, *supra* note 2, at 10-11.

inevitably involve embryo experimentation.[69] Hence, the legal status of the human embryo is directly relevant to constitutional issues affecting human cloning.

For much of the public and for most scholars, the legal and moral status of the unborn human being begins and ends with *Roe v. Wade*. Even legal commentators who write on the legal status of the human embryo commonly demonstrate only the most superficial understanding of the history of legal protection of the unborn human.[70] For example, in justifying human cloning and "the manipulation and destruction of embryos that cloning research, if not the procedure itself, will inevitably cause," Professor John A. Robertson, a leading advocate for reproductive technologies including cloning, contends that there is a "prevailing moral and legal consensus that views early embryos as too rudimentary in neurological development to have interests or rights."[71] Whether such a consensus truly exists to support cloning or cloning research requires a detailed review of American legal history and contemporary legislation and caselaw. Hence, the history of the legal protection of developing human life is important because it shapes substantive due process, informs the limits of *Roe v. Wade*, and undergirds protection for the developing human being in non-abortion circumstances even today.

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69. NBAC REPORT, *supra* note 5, at 29-32.

70. *Cf.* 1 WILLIAM BLACKSTONE, COMMENTARIES *125 (the right to life is "a right inherent by nature in every individual; and it begins in contemplation of law as soon as an infant is able to stir in the mother's womb"), *and* John A. Robertson, *Embryos, Families, and Procreative Liberty: The Legal Structure of the New Reproduction*, 59 S. CAL. L. REV. 942, 973 (1986) [hereinafter Robertson, *Embryos*] (stating that "[w]ith the exception of former laws that prohibited abortion, the law has never regarded fetuses as rights-bearing entities"). *See* John A. Robertson, *In the Beginning: The Legal Status of Early Embryos*, 76 VA. L. REV. 437, 450 n.38 (1990) [hereinafter Robertson, *Beginning*] (citing four articles for "early accounts of legal status" of the human embryo, all of which contain only a sketchy, incomplete, and superficial review of the history of the legal protection for the developing human: Lori B. Andrews, *The Legal Status of the Embryo*, 32 LOY. L. REV. 357, 361 (1986) (citing *Roe v. Wade* for the legal status of the human embryo in history); Patricia A. King, *The Juridical Status of the Fetus: A Proposal for Legal Protection of the Unborn*, 77 MICH. L. REV. 1647, 1657-1664 (1979) (confusing birth with viability); Robertson, *Embryos*, *supra*, at 971-75 (citing no history or the current state of the law); Marcia Joy Wurmbrand, Note, *Frozen Embryos: Moral, Social, and Legal Implications*, 59 S. CAL. L. REV. 1079, 1088-95 (1986) (citing Robertson, *Embryos, supra*, and John A. Robertson, *Procreative Liberty and the Control of Conception, Pregnancy, and Childbirth*, 69 VA. L. REV. 405 (1983) [hereinafter Robertson, *Procreative Liberty*]).

71. Robertson, *Question, supra* note 17, at 6.

A. Common Law Protection of Human Life

In Anglo-American jurisprudence, the law that protected the inviolability of human life, stretching back at least seven centuries to the ancient origins of the common law, is the law of homicide. In applying homicide law exclusively to human beings and to no other species, Anglo-American law has demonstrated that it has always considered human beings, that is, the human species, special. In American law, a fundamental distinction has always existed between the human species and every other species.

Relating this to the American political culture, the principle of natural rights of human beings, the equal creation of human beings, and the inalienability of the right to life is deeply imbedded in the American political and legal tradition. The founding political document of the United States, the Declaration of Independence, proclaims that all are created equal and endowed by their Creator with certain inalienable rights, including a right to life. The founding generation considered these basic principles as self-evident truths.[72]

At common law, homicide law provided very broad protection to human life—extending its protection to "the killing of any human creature," according to William Blackstone, the leading authority on the common law.[73] The modern debate over the moral status of the human embryo, however, typically disregards the fact that homicide law protects human beings, not persons. This disregard evidences a confusion of the Fourteenth Amendment (and the Court's discussion of "person" in *Roe v. Wade*) with the criminal code.[74] Homicide law does not protect only mature or developed persons, but all human beings, that is, all offspring of human parents. It is species-directed. In effect, *Roe v.*

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72. *See generally* MORTON G. WHITE, THE PHILOSOPHY OF THE AMERICAN REVOLUTION (1977); HARRY V. JAFFA, CRISIS OF THE HOUSE DIVIDED (1959); Clarke D. Forsythe, *The Legacy of Oliver Wendall Holmes*, 69 U. DET. MERCY L. REV. 677, 696-97 (1992).

73. *See also* 4 BLACKSTONE, *supra* note 70, at *188 (defining "Felonious homicide" as "the killing of a human creature"); 6 THE NEW ENCYCLOPAEDIA BRITANNICA 26 (15th ed. 1995) ("homicide, the killing of one human being by another"). 4 BLACKSTONE, *supra* note 70, at *177 ("homicide, or the killing of any human creatures").

74. For a good example of sowing confusion while claiming to alleviate it, see Robertson, *Beginning*, *supra* note 70, at 444 n.24 ("The abortion debate has often been confused by loose use of terms such as person, human life, human being, etc. Clearly the fertilized egg, embryo, and fetus are human and are living. The question is whether they merit the moral protection accorded to clearly defined persons.").

Wade merely created a constitutional exception to the general rule when it stipulated that legal protection of the unborn may not interfere with a woman's right to "terminate pregnancy." Even if a human being were not a "person" within the meaning of the Fourteenth Amendment, and thus without constitutional protection, that same human being may be protected under state homicide law.[75]

The Supreme Court's decision in *Roe v. Wade* and almost all contemporary scholarship surrounding abortion and reproduction ignore the intimate, inextricable relationship between law and medical science. That intimate relationship is evidenced in the historical development of legal protection for unborn human life and how advances in medical knowledge resulted in practical legal protection.[76] If the unborn human could not be viewed, how could it be determined to be dead or alive? If it could not be determined to be dead or alive, how could it be determined whether it was killed or died from natural causes? These questions are rarely asked or answered by legal commentators, who instead start with only the incomplete and superficial account of legal history given in *Roe v. Wade*.[77]

The common law protected unborn human life to the greatest extent possible given contemporary medical knowledge and had direct antecedents in the Roman civil law's protection of the unborn child from the time the mother was known to conceive.[78] The law was directly informed by medicine, and legal protection was limited or extended by the contemporary state of medical knowledge. The right to life, according to Blackstone, was "a right inherent by nature in every individual; and it begins in contemplation of law as soon as an infant is able to stir in the mother's womb."[79] But what was most important was not "personhood," but the unborn's status as a "human creature." In the face of the contemporary limitations of medical knowledge and evidence, every consideration was given to protect the life and rights of the unborn human. Thus, as Blackstone wrote, "[a]n infant in ventre sa mere, or in the mother's womb, is supposed in law to be born for many purposes."[80] That English medical-legal authorities considered abortion at any stage of gestation to be the

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75. *See infra* notes 136-49 and accompanying text.

76. *See* sources cited *supra* note 70.

77. For a collection of citations and criticisms of the legal history proferred in *Roe*, see Dennis J. Horan et al., *Two Ships Passing in the Night: An Interpretavist Review of the White-Stevens Colloquy on* Roe v. Wade, 6 ST. LOUIS U. PUB. L. REV. 229, 230 n.8, 241 n.90 (1987).

78. *See, e.g.*, Horan et al., *supra* note 77, at 276 & n.276 (citing the writings of Paulus and Marcianus in *Corpus Juris Civilis*).

79. 1 BLACKSTONE, *supra* note 70, at *125.

80. *Id.* at 126. *See also* Stemmer v. Kline, 19 N.J. Misc. 15, 17 A.2d 58, 59 (1940) ("The child was at common law a separate entity entitled to the recognition and protection of our courts. At common law such a child was recognized as a person.").

taking of human life (and thus a crime) influenced the nineteenth century development of English legislation.[81] As Glanville Williams observed, with Lord Ellenborough's Act of 1803, Parliament "made not merely a legal pronouncement but an ethical or metaphysical one, namely that human life has a value from the moment of impregnation."[82] Why these laws arose in the nineteenth century, and not before or after, is clear: Parliament only then learned of the medical evidence concerning human development.[83]

Authoritative legal treatises and materials consistently referred to the unborn human being as a "child" or an "unborn child," references that stretch back over centuries and give further evidence of the protection Anglo-American jurisprudence gave to the unborn human being. At common law, the unborn human being was commonly called a "child" without regard to the time of gestation.[84] For centuries, Fleta, Staunford, Lambarde, Dalton, Coke, Blackstone, Hawkins, and Hale used this term.[85] This is also seen in the common phrase, being "with child."[86] Early texts on midwifery, medicine, and jurisprudence used the term "child" to refer to the unborn at any stage of pregnancy.[87] In sharp contrast, the common law term "unborn child" is rarely used in contemporary scholarship, because its use would essentially predetermine the question at issue—the moral and legal status of the unborn human.

Though limited by contemporary medicine, American law incorporated this general rule of protection. Thus, the Massachusetts Supreme Judicial Court stated, "To many purposes, in reference to civil rights, an infant *in ventre sa mere* is regarded as a person in being."[88] Or, as the New Jersey Supreme Court stated in 1849, "[i]t is true that, for certain civil purposes, the law regards an infant as *in being* from the time of conception . . . ."[89]

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81. JOHN KEOWN, ABORTION, DOCTORS AND THE LAW 26-48 (1988).

82. GLANVILLE WILLIAMS, THE SANCTITY OF LIFE AND THE CRIMINAL LAW 227 (1957).

83. KEOWN, *supra* note 81, at 26-48.

84. *See, e.g.*, 1 BLACKSTONE, *supra* note 70, at *450 ("his child, either born or unborn").

85. Horan et al., *supra* note 77, at 289-91 & nn.359-78.

86. 1 BLACKSTONE, *supra* note 70, at *446 ("declares herself with child").

87. Horan et al., *supra* note 77, at 290 n.369; Clarke D. Forsythe, *Homicide of the Unborn Child: The Born Alive Rule and Other Legal Anachronisms*, 21 VAL. U. L. REV. 563 (1987).

88. Commonwealth v. Parker, 50 Mass. 263, 266 (1845) (citing 1 BLACKSTONE, *supra* note 70, at *129).

89. State v. Cooper, 22 N.J. 52, 56 (1849). The court finished this statement by saying that "yet it seems no where to regard it as *in life*, or to have respect to its preservation as a living being." *Id.* at 56-57. The distinction here is due to the difference between different burdens of proof in civil and criminal law, as well as the evidentiary issues involved.

1. Quickening as an Evidentiary Line

Nevertheless, the common law would protect the life of a "human creature" only when it could be demonstrated to be alive. Due to the limitations of contemporary medical knowledge, a conflict between the declaration of rights and the extent of practical protection existed. Thus, Blackstone could declare that the right to life commenced at the first contemporary evidence of life (quickening), but the practical application of the law of homicide required live birth and subsequent death in order to provide necessary evidence of the *corpus delicti* of homicide.[90]

For centuries, "quickening"—the time when the mother first feels fetal movements—was regarded as the most reliable medical evidence of life. Based on the medical knowledge of the day, the ancient common law adopted the presumption that the fetus first became alive at quickening.[91] At the earliest time of the common law, in the thirteenth century, the legal authorities, Bracton and Fleta, held that the killing of a "quickened child" in the womb was homicide without any explicit requirement of live birth.[92] From the fourteenth through the nineteenth centuries, "quickening" was the only reliable evidence that a woman was pregnant or that the unborn human being was alive. Texts of midwifery (the forerunner to obstetrics) typically contained chapters on the "signs of pregnancy," in which quickening was emphasized.[93] As late as 1800, a standard text on midwifery concluded that "there appears to be no unequivocal sign, whereby that state [of pregnancy] can with certainty be determined, till between the fourth and fifth months, when the child quickens, that is, when its motions are distinctly felt."[94] In 1829, Thomas Denman, a widely cited authority on the subject, expressed the developing understanding of quickening:

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90. *Cf.* 1 BLACKSTONE, *supra* note 70, at *125, *and* 4 BLACKSTONE, *supra* note 70, at *198.

91. Horan et al., *supra* note 77, at 279-80 (collecting authorities); Forsythe, *supra* note 87, at 571-74 nn.39-53 (collecting authorities).

92. Horan et al., *supra* note 77, at 285 & n.338. For a description of the common law history of legal protection of the unborn, see Robert Bryn, *An American Tragedy: The Supreme Court on Abortion*, 41 FORDHAM L. REV. 807 (1973); Joseph Dellapenna, *The History of Abortion: Technology, Morality and Law*, 40 U. PITT. L. REV. 359 (1979); Robert Destro, *Abortion and the Constitution: The Need for a Life-Protective Amendment*, 63 CAL. L. REV. 1250 (1975); Forsythe, *supra* note 87; Shelley Gavigan, *The Criminal Sanction as It Relates to Human Reproduction: The Genesis of the Statutory Prohibition of Abortion*, 5 J. LEGAL HIST. 20 (1984); Horan et al., *supra* note 77, at 278-300; Philip A. Rafferty, *Roe v. Wade*: The Birth of a Constitutional Right (Ph.D. dissertation 1992) (U.M.I. Dissertation Services); Mark Scott, Note, *Quickening in the Common Law: The Legal Precedent* Roe *Attempted and Failed to Use*, 1 MICH. LAW & POL. REV. 199, 218-42, 251-63, 265 (1996).

93. *See* Forsythe, *supra* note 87, at 571 n.42, 572-73.

94. VALENTINE SEAMAN, THE MIDWIVES MONITOR AND THE MOTHER'S MIRROR 70-72 (1800).

> The changes which follow quickening have been attributed to various causes. By some it has been conjectured, that the child then acquired a new mode of existence; or that it was arrived to such a size as to be able to dispense with the menstrous blood, before retained in the constitution of the parent, which it disturbed by its quantity or malignity. But it is not now suspected, that there is any difference between the aboriginal life of the child, and that which it possesses at any period of pregnancy, though there may be an alteration in the proofs of its existence, by the enlargement of its size, and the acquisition of greater strength.[95]

John Beck, in his *Elements of Medical Jurisprudence*—one of the primary authorities in the nineteenth century—emphasized the same understanding:

> It is important to understand the sense attached to this word [quickening] formerly, and at the present day. The ancient opinion, on which indeed the laws of some countries have been founded, was, that the foetus became animated at this period—that it acquired a new mode of existence. This is altogether abandoned. The foetus is certainly, if we speak physiologically, as much a living being immediately after conception, as at any other time before delivery; and its future progress is but the development and increase of those constituent principles which it then received.[96]

Wharton and Stille confirmed the same proposition:

> This symptom [quickening] was formerly given much weight, because at that time the child was supposed to receive its spiritual nature—to become animate. Such ideas have now become entirely obsolete in the scientific world. The time perfecting the child is at its conception. After then, in all ways, it is merely a question of growth and development.[97]

As medical knowledge grew, the quickening rule was criticized and eventually abandoned. Two of the most prestigious criminal law scholars of the nineteenth century, Bishop and Wharton, criticized the quickening rule, concluding that abortion was a crime at common law regardless of the stage of

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95. THOMAS DENMAN, AN INTRODUCTION TO THE PRACTICE OF MIDWIFERY 287 (3d ed. 1829).

96. 1 JOHN BECK, ELEMENTS OF MEDICAL JURISPRUDENCE 276 (11th ed. 1860).

97. 3 WHARTON & STILLE'S MEDICAL JURISPRUDENCE 7 (5th ed. 1905).

gestation.[98] Wharton's discussion revealed the dynamic between medical evidence and the increasing protection for unborn human life:

> There is no doubt that at common law the destruction of an infant unborn is a high misdemeanor, and at an early period it seems to have been deemed murder. *If the child dies subsequently to birth from wounds received in the womb, it is clearly homicide*, even though the child is still attached to the mother by the umbilical cord. It has been said that it is not an indictable offense to administer a drug to a woman, and thereby to procure an abortion, unless the mother is quick with child, though such a distinction, it is submitted, is neither in accordance with the result of medical experience, nor with the principles of the common law. The civil rights of an infant in ventre sa mere are equally respected at every stage of gestation . . . . It appears, then, that quickening is a mere circumstance in the physiological history of the foetus, which indicates neither the commencement of a new stage of existence, nor an advance from one stage to another . . . . There is as much vitality, in a physical point of view, on one side of quickening as on the other, and in a social and moral point of view, the infant is as much entitled to protection, and society is as likely to be injured by its destruction, a week before it quickens as a week afterwards.[99]

As Wharton intimates, substantial common law authority exists demonstrating that killing the developing human being was a crime at common law without regard to quickening and without regard to the time of gestation. As the highest court in Maryland stated in 1887,

> as the life of an infant was not supposed to begin until it stirred in the mother's womb [quickening], it was not regarded as a criminal offense to commit an abortion in the early stages of pregnancy. A considerable change in the law has taken place in many jurisdictions by the silent and steady progress of judicial opinion; and it has been frequently held by Courts of high character that abortion is a crime at common law without regard to the stage of gestation.[100]

The number of centuries during which the legal protection of the unborn was burdened by the limitations of medical knowledge dwarf the relatively few, recent years during which heightened medical knowledge has allowed *in utero*

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98. JOEL PRENTISS BISHOP, BISHOP ON STATUTORY CRIMES § 744, at 447 (2d ed. 1883); FRANCES WHARTON, AMERICAN CRIMINAL LAW §§ 1220-30, at 210-18 (6th rev. ed. 1868).

99. WHARTON, *supra* note 98, § 1220-30 (citation omitted) (emphasis added).

100. Lamb v. State, 10 A. 208, 208 (Md. Ct. App. 1887).

treatment and surgery.[101] Today, for reasons of medical advancement, quickening "provides only corroborative evidence of pregnancy and in itself is of little diagnostic value."[102]

2. The Significance of the Born Alive Rule

Today, the born alive rule, which originated around 1600, is erroneously, but commonly, thought to be a rule of morality or moral philosophy, denoting the "personhood" of the born child and the non-personhood of the unborn child. This misconception of the born alive rule is largely derived from the Supreme Court's misconstruction of that rule in *Roe v. Wade*.[103]

In reality, the born alive rule was a rule of medical jurisprudence, a bright-line rule of evidence, used to eliminate cases of uncertain evidence in the killing of a child.[104] One leading nineteenth century legal authority described the purpose of the born alive rule as follows:

> It is well known that in the course of nature, many children come into the world dead, and that others die from various causes soon after birth. In the latter, the signs of their having lived are frequently indistinct. Hence, to provide against the danger of erroneous accusations, the law humanely presumes that every newborn child has been born dead, until the contrary appears from medical or other evidence. The onus of proof is thereby thrown on the prosecution; and no evidence imputing murder can be received, unless it be made certain by medical or other facts, that the child survived its birth and was actually living when the violence was offered to it.[105]

That the born alive rule was evidentiary is clear from its application in criminal cases: if injury was inflicted on the child *in utero* at any stage of gestation, and death came outside the womb, a homicide could be charged. As a renowned nineteenth century legal commentator, Walter Russell, stated the rule:

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101. The novelty of medical technology that allows treatment and visualization of the unborn human being was highlighted by the famous Swedish photographer, Lennart Nilsson: "New technology has made it possible to see the actual events surrounding fertilization and to visualize the growing fetus more clearly. At the same time, new medical knowledge has reduced the risks of pregnancy . . . ." NILSSON, *supra* note 44, at 15.

102. F. GARY CUNNINGHAM ET AL., WILLIAMS OBSTETRICS 13 (18th ed. 1989).

103. *See generally* Forsythe, *supra* note 87.

104. *Id.*; Horan et al., *supra* note 77, at 285-88.

105. ALFRED S. TAYLOR, MEDICAL JURISPRUDENCE 411 (7th ed. 1861).

> If a person intending to procure abortion does an act which causes a child to be born so much earlier than the natural time that it is born in a state much less capable of living, and afterwards dies in consequence of its exposure to the external world, the person who by her misconduct so brings the child into the world, and puts it thereby into a situation in which it cannot live, is guilty of murder.[106]

The born alive rule demonstrated the congruence between the child before and after birth and treated the child, before and after birth, as the same entity. Thus, the law held that injury in the womb and death outside the womb were inflicted on the same entity. Had the born alive rule been a moral rule denoting "personhood" at birth, the law would not recognize any injury unless it was *inflicted after birth*. Russell's explication shows both the evidentiary nature of the born alive rule and the irrelevance of viability and demonstrates that the born alive rule recognized biological and existential continuity, at any stage of gestation, between the unborn and born child.

Under the traditional application of the born alive rule, as Russell indicates, the killing of an early, developing human being was still considered a homicide if the assault on the mother resulted, at any stage of development, in a miscarriage that produced expulsion of the child from the womb and death after that expulsion. In the course of things, the unborn human being might not survive the initial assault or the miscarriage, but if it did, the law of homicide did not consider how premature the human being was, as long as it survived expulsion from the womb and was observed outside.

The Supreme Court in *Roe v. Wade* completely misunderstood the subtle dynamic of the born alive rule. The Court—apparently in complete ignorance and without any warrant or citation of authority—converted the born alive rule from an evidentiary rule dependent on location (in or out of the womb) into a gestational rule (full-term). This is clear when the Court declared that the rights of persons do not begin until "birth"—directly contrary to Blackstone—and then concluded that this meant "term birth"—after the third trimester.[107]

The common law demonstrates, to the contrary, that a dynamic relationship existed between law and medicine with regard to the status and protection of the unborn child. As medical knowledge of human development increased, legal protection increased. The law always considered the offspring of human parents

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106. 2 WALTER RUSSELL, A TREATISE ON CRIMES AND MISDEMEANORS 671-72 (Garland Pub. reprint 1979) (1865).

107. Roe v. Wade, 410 U.S. 113, 158 (1973).

to be a human being, and the law considered the unborn child to be a human being whenever it could be determined to be alive. Evidence of life—a living human being—was what was important for legal protection, not "personhood." The modern debate about "personhood" essentially began with the Supreme Court's consideration of the Fourteenth Amendment liberty clause (protecting "persons") in *Roe* and with subsequent philosophic discussions about *Roe*. But, to the extent that Blackstone considered the status of the unborn child within his chapter on the rights of persons, it is clear that the common law regarded every living "human creature" to be a person. The common law protected unborn human life to the greatest extent possible given contemporary medical knowledge.[108] That protection encompassed living members of the human species and did not inquire into "personhood."

3. The Insignificance of Viability

The common law placed significance on two phenomena: quickening and live birth. Viability, in contrast, was never a concern of the common law,[109] and it played no role in the development of the common law concerning the unborn child.[110] A leading nineteenth century legal authority confirmed this:

> The English law does not act on the principle that a child, in order to become the subject of a charge of murder, should be born viable, i.e., with the capacity to live . . . . The capacity of a child continuing to live has never been put as a medical question in a case of alleged child murder; and it is pretty certain, that if a want of capacity to live were actually proved, this would not render the party destroying it irresponsible for the offense.[111]

It was generally recognized at common law that a pre-viable "child" (to use Taylor's term) could be born alive and that killing it was considered homicide.[112]

In American law, the concept of viability began as a judicially-imposed gloss in a 1884 opinion by Oliver Wendell Holmes for the Massachusetts Supreme Judicial Court in *Dietrich v. Inhabitants of Northampton*.[113] The

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108. Scott, *supra* note 92, at 261, 265 (stating that legal protection was extended to "a living member of the human species"). *See also* 4 ROSCOE POUND, JURISPRUDENCE 386 n.60 (1959).

109. *See* Horan et al., *supra* note 77, at 281-82 n.306-11 (collecting authorities); 4 POUND, *supra* note 108, at 386 n.60.

110. Forsythe, *supra* note 87, at 569 & n.33.

111. TAYLOR, *supra* note 105, at 413. The leading English case was *Regina v. West*, 2 C. & K. 784, 175 Eng. Rep. 329 (1848).

112. Forsythe, *supra* note 87, at 568 & n.28.

113. 138 Mass. 14, 16 (1884).

court in *Dietrich* denied recovery for the death of a child born alive but premature after a miscarriage and created a viability requirement for civil recovery that had no basis in statute or common law.[114]

Some American courts followed *Dietrich* in civil cases for nearly fifty years. But, with developing medical knowledge in the twentieth century and the 1946 decision in *Bonbrest v. Kotz*,[115] American courts increasingly rejected the viability rule, until the Supreme Court's *Roe* decision in 1973. That decision reversed the erosion of the viability rule and instead placed great emphasis on viability. Relying on *Roe*, some state courts, even outside the context of abortion, have limited legal protection for the unborn to viability.[116] More recently, other courts have recognized that *Roe*—and its emphasis on viability—does not apply outside the context of abortion.[117]

B. Modern Criminal and Tort Law Developments

1. Tort Law

Modern analyses of the tort law's protection for the unborn human being rarely notice that the common law did not allow recovery for the death of *any* human being, born or unborn.[118] While this unavailability of recovery for born human beings is never used to suggest that born human beings are not "persons" at common law, the lack of a remedy for unborn human beings is often taken to mean that they are not "persons." The fact of the matter is that modern tort law recovery for the death of born human beings has been a matter of legislative grace and judicial application or extension of that remedy, and with an increase of medical knowledge, these legal developments have encompassed the unborn.

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114. For a thorough critique of *Dietrich*, see Forsythe, *supra* note 72, at 685-89. Ironically, one biographer states that "Holmes undoubtedly would have given the common law meaning to the term 'person' in the federal [F]ourteenth [A]mendment," under the erroneous assumption that viability was the "common law" definition of "person." Sheldon M. Novick, *Justice Holmes and* Roe v. Wade, TRIAL, Dec. 1989, at 58. *See also* SHELDON M. NOVICK, HONORABLE JUSTICE: THE LIFE OF OLIVER WENDELL HOLMES (1990). The underlying assumption that the language of the Constitution is appropriately read with reference to common law terms is correct, as the Court has often done. But, as Blackstone makes clear, the common law meaning of "person" encompassed an unborn human being at the earliest point that it could be determined to be biologically alive and had no reference to viability. Effectuation of this principle was practically limited by medical evidence.

115. 65 F. Supp. 138 (D.D.C. 1946).

116. *See, e.g.*, State v. Gyles, 313 So. 2d 799 (La. 1975).

117. People v. Davis, 872 P.2d 591 (Cal. 1994).

118. *See, e.g.*, Dougherty v. American McKenna Process Co., 99 N.E. 619 (Ill. 1912).

The Supreme Court in *Roe* misrepresented the development of tort law in its protection of the unborn child,[119] violating the first rule of the legal historian: to understand the past on its own terms.[120] As Professor Kader has shown, *Roe* erroneously described the state of the law's protection of unborn human life.[121] According to Kader, *Roe's* mistaken discussion of the legal status of the unborn in tort law . . . "was perfunctory, and unfortunately largely inaccurate, and should not be relied upon as the correct view of the law at the time of *Roe v. Wade.*"[122]

The Court in *Roe* cited William Prosser to support its erroneous assertion that courts had granted recovery for prenatal injuries only where the fetus was viable or at least "quick." In fact, Prosser stated just the opposite, noting that most states permitted recovery for prenatal injuries regardless of the stage of gestation in which the injuries were inflicted:

> Most of the cases allowing recovery have involved a foetus which was then viable . . . . Many of them have said, by way of dictum, that recovery must be limited to such cases, and two or three have said that the child, if not viable, must at least be "quick." But when actually

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119. *See* Roe v. Wade, 410 U.S. 113, 162 (1973).

120. As the late legal historian, George Haskins, has written:

> The task of the historian of law is not merely one of recounting the growth and jurisdiction of courts and legislatures or of detailing the evolution of legal rules and doctrines. It is essential that these matters be related to the political and social environments of particular times and places. Broadly conceived, legal history is concerned with determining how certain types of rules, which we call law, grew out of past social, economic, and psychological conditions, and how they accorded with or accomodated themselves thereto.

GEORGE HASKINS, LAW AND AUTHORITY IN EARLY MASSACHUSETTS viii (1960).

121. David Kader, *The Law of Tortious Prenatal Death Since* Roe v. Wade, 45 MO. L. REV. 639 (1980). *See Roe*, 410 U.S. at 162:

> In a recent development, generally opposed by the commentators, some states permit the parents of a stillborn child to maintain an action for wrongful death because of prenatal injuries. Such an action, however, would appear to be one to vindicate the parents' interest and is thus consistent with the view that the fetus, at most, represents only the potentiality of life. Similarly, unborn children have been recognized as acquiring rights or interests by way of inheritance or other devolution of property, and have been represented by guardians *ad litem*. Perfection of the interests involved, again, has generally been contingent upon live birth. In short, the unborn have never been recognized in the law as persons in the whole sense.

Id. (footnotes omitted).

122. Kader, *supra* note 121, at 652-53. *See also* William R. Hopkin, Jr., Comment, Roe v. Wade *and the Traditional Legal Standards Concerning Pregnancy*, 47 TEMP. L.Q. 715 (1974).

> faced with the issue for decision, almost all of the jurisdictions have allowed recovery even though the injury occurred during the early weeks of pregnancy, when the child was neither viable nor quick.[123]

Prosser also explained both the evidentiary reasons for the born alive rule in tort law prior to 1946 and the advancements in medical science that eliminated its rationale:

> When a pregnant woman is injured, and as a result the child subsequently born suffers deformity or some other injury, nearly all of the decisions prior to 1946 denied recovery to the child. Two reasons usually were given: First, that the defendant could owe no duty of conduct to a person who was not in existence at the time of his action; and second, that the difficulty of proving any causal connection between negligence and damage was too great, and there was too much danger of fictitious claims.
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> So far as duty is concerned, if existence at the time is necessary, medical authority has recognized long since that the child is in existence from the moment of conception, and for many purposes its existence is recognized by the law. . . . So far as causation is concerned, there will certainly be cases in which there are difficulties of proof, but they are no more frequent, and the difficulties, are no greater, than as to many other medical problems. All writers who have discussed the problem have joined in condemning the old rule, in maintaining that the unborn child in the path of an automobile is as much a person in the street as the mother, and in urging that recovery should be allowed upon proper proof.[124]

Two years before *Roe*, Professor David Louisell summarized the law regarding the unborn:

> [T]he progress of the law in recognition of the fetus as a human person has been strong and steady and roughly proportional to the growth of knowledge of biology and embryology. For centuries the law of property has recognized the unborn as living persons and the criminal law, although unevenly, has accorded them substantial protection. The law of torts, because of biological misconceptions

123. WILLIAM L. PROSSER, HANDBOOK OF THE LAW OF TORTS 337 (4th ed. 1971) (footnotes omitted).

124. *Id.* at 335-36 (footnotes omitted). *See also* W. PAGE KEETON ET AL., PROSSER AND KEETON ON THE LAW OF TORTS 367-72 (5th ed. 1984); WILLIAM L. PROSSER ET AL., CASES AND MATERIALS ON TORTS 421-36 (9th ed. 1994).

> among judges and practical difficulties of medical proof, was something of a laggard, but since World War II there has been an explosive recognition "that the unborn child in the path of an automobile is as much a person in the street as the mother." . . . In a word, the unborn child is a person to be protected in his property rights and against negligence, and to be afforded the reach of equity's affirmative arm for support and sustenance.[125]

Although the Supreme Court in 1973 virtually abolished abortion law, *Roe* did not touch assaults on the unborn child outside the context of abortion. *Roe* stifled an ongoing process of increasing state protection for unborn human life through state criminal and tort law.[126] But, despite *Roe*, that progressive process has continued outside the immediate context of abortion.[127] The upshot of this progressive protection in both tort and criminal law has been an increasing abolition of the obsolete born alive rule and a growth in protection of the unborn child, even if stillborn, without regard to the stage of gestation.

In tort law, today, virtually all states allow suits for prenatal injuries for children later born alive. (Obviously, if the child is not born alive, the suit would be for wrongful death.) A majority of state courts have expressly or implicitly rejected viability as a limitation on liability for nonfatal prenatal injuries.[128] As recently as 1993, the Pennsylvania Supreme Court pointed out that "no jurisidiction accepts the . . . assertion that a child must be viable at the time of birth in order to maintain an action in wrongful death" (where the child is born alive and dies thereafter).[129] Some states, by statute, have eliminated gestational time limits for recovery for injury or death to the unborn child.[130]

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125. Louisell, *supra* note 17, at 19-20 (quoting WILLIAM L. PROSSER, HANDBOOK OF THE LAW OF TORTS 355 (3d ed. 1964)) (footnotes omitted).

126. Some courts concluded that *Roe* prevented protection of the unborn child even outside the context of abortion. *See, e.g.*, *State v. Gyles*, 313 So. 2d 799 (La. 1975). But that erroneous understanding has been abandoned in recent years. *See, e.g.*, People v. Davis, 872 P.2d 591 (Cal. 1994).

127. *See, e.g.*, People v. Davis, 872 P.2d 591 (Cal. 1994); State v. Merrill, 450 N.W.2d 318 (Minn. 1990). For various surveys of the current status of legal developments protecting the unborn child in criminal and tort law, see Forsythe, *supra* note 87, at 595-619; Horan et al., *supra* note 77, at 307-09.

128. Paul B. Linton, Planned Parenthood v. Casey: *The Flight from Reason in the Supreme Court*, 13 ST. LOUIS U. PUB. L. REV. 15, 47-48 n.141 (1993) (citing 28 states).

129. Hudak v. Georgy, 634 A.2d 600, 602 (Pa. 1993).

130. *See, e.g.*, 740 ILL. COMP. STAT. 180/2.2 (West 1989).

Today, at least thirty-six jurisdictions allow wrongful death actions for a *stillborn* child, while a dwindling minority of eight to ten states reject the action.[131] Of those allowing wrongful death suits for a stillborn child, the overwhelming majority allow causes of action for the death of a viable child,[132] while at least ten have rejected a cause of action for the death of pre-viable child.[133] Two jurisdictions allow a cause of action for the death of a pre-viable child, one by statute and one by judicial decision.[134] Most courts that decline to extend application before viability do so because of express deference to the legislature.[135]

Tort law's equal treatment of the human being at the time of injury *in utero* and after birth shows that the unborn child is treated as a human being at any stage. If the child were not a human being until viability, no suit for injury would exist until after viability; otherwise, either the born child was not injured or it was injured before it became a person. The rejection of such artificial distinctions shows that the law recognizes only one entity, who is the same entity before and after birth.

2. Criminal Law

The criminal law has also progressively developed in its protection of the unborn. In the twentieth century, where once homicide and abortion law divided due to evidentiary hurdles, homicide and abortion law have increasingly merged, with states treating abortion as manslaughter. At the time of *Roe*, several states treated as a homicide the killing of an unborn child at some stage of gestation without regard to live birth.

The born alive rule—created as a bright line evidentiary rule when medicine was more primitive—became illogical when, through advances in medical science, the elements of homicide could be reliably demonstrated even if the child was stillborn. As medical science has developed and the cause of the

131. *See generally* Sheldon R. Shapiro, Annotation, *Right to Maintain Action or to Recover Damages for Death of Unborn Child*, 84 A.L.R.3d 411 (1978 & Supp. 1997).

132. *See* Linton, *supra* note 128, at 49-50 n.147. By statute, Illinois allows suit for prenatal injuries or wrongful death of stillborn child at any stage of gestation after conception. 740 ILL. COMP. STAT. 180/2.2 (West 1989).

133. *See* Coveleski v. Bubnis, 634 A.2d 608, 609-10 (Pa. 1993) (collecting cases).

134. *See* 740 ILL. COMP. STAT. 180/2.2 (West 1989) ("The state of gestation or development of a human being when an injury is caused, when injury takes effect, or at death, shall not foreclose maintenance of any cause of action under the law of this State arising from the death of a human being caused by the wrongful act, neglect or default."); Porter v. Lassiter, 87 S.E.2d 100 (Ga. Ct. App. 1955).

135. *See, e.g.*, *Coveleski*, 634 A.2d at 609-10 (denying cause of action for death of pre-viable child).

death of the unborn human being has become more easily determinable, the born alive rule has come under increasing criticism and has been increasingly rendered meaningless. An increasing number of states have now discarded the born alive rule at some stage of gestation.

Outside the context of abortion, the number of states protecting the unborn child through their criminal laws has grown since *Roe*. Today, more than half of all states treat the killing of an unborn human being, at some stage of gestation, as a form of homicide, even though the child is not born alive (stillborn). Eleven states, including Illinois and Minnesota, define by statute the killing of an unborn child as a form of homicide, regardless of the stage of pregnancy.[136] One state defines by statute the killing of an unborn human being after eight to ten weeks gestation as a form of homicide.[137] Eight states define by statute the killing of an unborn child after quickening as a form of homicide.[138] Five states define by statute or by caselaw the killing of an unborn human being after viability as a form of homicide.[139]

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136. ARIZ. REV. STAT. 13-1103(A)(5) (West 1989 & Supp. 1997); 720 ILL. COMP. STAT. 5/9-1.2, 5/9-2.1, 5/9-3.2, 5/12-3.1, 5/12-4.4 (West 1994); IND. CODE ANN. 35-42-1-6 (Burns 1994) (feticide); LA. REV. STAT. ANN. §§ 14:32.5-32.8 (read in conjunction with § 14:2(11) (West 1997)); MINN. STAT. ANN. §§ 609.266, 609.2661-609.2665, 609.268(1) (West 1987 & Supp. 1998); MO. REV. STAT. 1.205, 565.024 (Supp. 1998) (State v. Knapp, 843 S.W.2d 345 (Mo. 1992)); N.D. CENT. CODE §§ 12.1-17.1-01 to 12.1-17-04 (1995 Supp.); S. 239, 121st Gen. Assem., Reg. Sess. (Ohio 1996); S. 45, 181st Gen. Assem., Reg. Sess. (Pa. 1997); S.D. CODIFIED LAWS §§ 22-16-1, 22-16-1.1, 22-16-4, 22-16-15, 22-16-20, 22-16-41, 22-17-6 (Michie 1988) (read in conjunction with 22-1-2(31), 22-1-2(50A) (1996 Supp.)); UTAH CODE ANN. § 76-5-201 (Michie 1995 & Supp. 1997).

Prosecutions under the Illinois law, without regard to time of gestation, are common. *See, e.g.*, Steven J. Stark, *Boyfriend, 21, Is Charged in Pregnant Teen's Slaying*, CHI. TRI., Mar. 8, 1998, § 4, at 3 (defendant charged with "intentional homicide of an unborn child").

137. CAL. PENAL CODE § 187(a) (West 1988 & Supp. 1998). *See* People v. Davis, 872 P.2d 591 (Cal. 1994).

138. FLA. STAT. ANN. § 782.09 (West 1992 & Supp. 1998); GA. CODE ANN. § 16-5-80 (Michie 1996); GA. CODE ANN., § 40-6-393.1, 52-7-12.3 (Mich 1997); MICH. COMP. LAWS ANN. § 750.322 (West 1991 & Supp. 1997) (limited by judicial decision to viability in Larkin v. Cahalan, 389 Mich. 533, 208 N.W.2d 176 (1973); MISS. CODE ANN. § 97-3-37 (1994); NEV. REV. STAT. § 200.210 (1997); OKLA. STAT. ANN. tit. 21, § 713 (West 1983 & Supp. 1998); WASH. REV. CODE ANN. § 9A.32.060(1)(b) (West 1988 & Supp. 1998); WIS. STAT. ANN. § 940.04(2)(a) (West 1996 & Supp. 1997).

139. IOWA CODE ANN. § 707.7 (West 1993 & Supp. 1998) (as amended by H.F. 2109 (1996)); R.I. GEN. LAWS § 11-23-5 (1994); TENN. CODE ANN. § 39-13-201 (1997); Commonwealth v. Lawrence, 536 N.E.2d 571 (Mass. 1989); Commonwealth v. Cass, 467 N.E.2d 1324 (Mass. 1984); State v. Horne, 319 S.E.2d 703 (S.C. 1984).

In several cases, courts have rejected constitutional challenges to statutes of this type, including statutes applying throughout gestation.[140] State and federal courts have recognized that *Roe* only limits state protection for the unborn human being when the woman's privacy interest is asserted.

By eliminating the born alive rule in the twentieth century, state homicide laws have abandoned the arbitrary use of location (outside or inside the womb) to determine whether a homicide has occurred because location is no longer relevant to medical determinations of life and death. Thus, the law focuses on the cause of death at any stage of development. For example, in *State v. Merrill*,[141] a man killed his estranged girlfriend who was pregnant with a twenty-eight-day-old embryonic human being, who then died *in utero*. The assailant was charged with a double homicide under a state statute that had abolished the born alive rule, and the Minnesota Supreme Court upheld that indictment on appeal. Similar cases involving pre-viable unborn human beings have arisen in Illinois, another state with a similar law that has abolished the born alive rule without establishing arbitrary gestational limitations.[142] In California, as a result of the state supreme court's 1994 decision in *People v. Davis*,[143] a charge of homicide can be brought for the killing of an unborn human being at any time after eight to ten weeks gestation.[144] (It is important to note that these results could be obtained under the born alive rule, as long as the pre-viable human being died outside the womb. Obviously, the process of expulsion itself might result in the death of a fragile, early human being or prevent live birth, but prematurity itself was irrelevant to the *corpus deliciti* of homicide.[145])

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140. Smith v. Newsome, 815 F.2d 1386 (11th Cir. 1987); People v. Davis, 872 P.2d 591 (Cal. 1994); Brinkley v. State, 322 S.E.2d 49 (Ga. 1984); People v. Shum, 512 N.E.2d 1183 (Ill. 1987), *cert. denied sub nom.* Shum v. Illinois, 484 U.S. 1079 (1988); People v. Campos, 592 N.E.2d 85 (Ill. App. Ct. 1992); People v. Ford, 581 N.E.2d 1189 (Ill. App. Ct. 1991); State v. Merrill, 450 N.W.2d 318 (Minn. 1990), *cert. denied*, 496 U.S 931 (1990); State v. Bauer, 471 N.W.2d 363 (Minn. App. 1991); State v. Knapp, 843 S.W.2d 345 (Mo. 1992); State v. Black, 526 N.W.2d 132 (Wis. 1994).

141. 450 N.W.2d 318 (Minn.), *cert. denied*, 496 U.S. 931 (1990).

142. People v. Shum, 512 N.E.2d 1183 (Ill. 1987), *cert. denied sub nom.* Shum v. Illinois, 484 U.S. 1079 (1988); People v. Campos, 592 N.E.2d 85 (Ill. App. Ct. 1992); People v. Ford, 581 N.E.2d 1189 (Ill. App. Ct. 1991).

143. 872 P.2d 591 (Cal. 1994).

144. The court arrived at this result from a strict, biological reading of the legislative term, "fetus," even though the term "fetus" is commonly used to denote a developing human being at any stage of development. *See, e.g.*, J.M. TANNER, FOETUS INTO MAN: PHYSICAL GROWTH FROM CONCEPTION TO MATURITY 38-39 (1978) (where conception and fertilization are properly treated as equivalent, and "true foetal age" is counted as beginning with fertilization).

145. *See* Forsythe, *supra* note 87, at 567-607.

These developments in homicide law continue in state legislative sessions in 1998. Recently, Indiana became the twenty-sixth state to treat as a homicide the killing of an unborn human being at some stage of gestation when it enacted a law, over the Governor's veto, to treat the killing of a unborn child as a homicide, whether born alive or not.[146] In addition, Michigan and Wisconsin enacted legislation in 1998 to protect the unborn child ("embryo" and "fetus") at all stages of gestation.[147] Thus, states continue to extend legal protection to the unborn human being throughout gestation, and, outside the context of abortion, a remarkable legal and legislative consensus exists across at least thirty-eight states that the life of a human being begins at fertilization or conception.[148]

The modern phenomenon of extracorporeal embryos and the focus on their gestational age thus presents an irony: the killing of a developing human being outside the womb has *always* been a homicide without regard to the time of gestation. Causing the death of human embryos outside the body, even though created through the fertilization of eggs *in vitro*, constitutes homicide under basic homicide law in effect in every state. The fertilization of eggs and death of embryos *in vitro* fall outside the scope of the born alive rule (and all of the common law evidentiary problems that gave rise to the born alive rule). In the case of natural reproduction and with the traditional application of the born alive rule, conception occurred inside the womb, and death occurred outside. With extracorporeal embryos, both conception and death occur outside, thereby sidestepping the born alive rule and rendering it irrelevant. While prosecutors will not likely begin to apply homicide laws in this way, such an application of homicide law would be consistent with the legal tradition protecting extracorporeal human beings. Because modern legal commentators ignore this legal tradition, concern for the human embryo is said to be merely "symbolic."[149] However, far from merely symbolic, such concern is deeply rooted in Anglo-American jurisprudence going back to the origins of homicide law.

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146. *See* 1997 Ind. Legis. Serv. P.L. 26-1997 (H.E.A. 1160) (West) (amending IND. CODE §§ 35-41-1-25, 35-42-1-0.5, 35-42-1-1, 35-42-1-3, 35-42-1-4, 35-42-2-1.5, 35-50-2-9). Because the publicized incidents that gave rise to the legislation involved the shooting of a pregnant woman carrying a presumably viable child, the legislation contained a viability limitation.

147. *See* S. 21, 89th Leg., Reg. Sess. (Mich. 1998); A.B. 221, 93d Reg. Sess. (Wis. 1997) (enacted June 16, 1998).

148. Linton, *supra* note 128, at 120 app. B (collecting legislation and caselaw from 38 states).

149. *Cf.* JOHN A. ROBERTSON, CHILDREN OF CHOICE: FREEDOM AND THE NEW REPRODUCTIVE TECHNOLOGIES 252 n.20 (1994) [hereinafter ROBERTSON, CHILDREN OF CHOICE] ("Although not persons or entities which themselves have rights, embryos are potent symbols of human life and deserve some degree of respect on that basis alone.").

3. Human Embryos as Persons

The common law—reflected by Blackstone—was quite clear: any human creature, i.e., any offspring of human parents, is a human being, and every living human being is a person. The Supreme Court departed from this longstanding tradition in its decision in *Roe v. Wade*. In *Roe*, the Court held that the human "fetus" was not a "person" and therefore not within the meaning (and protection) of the Fourteenth Amendment.[150] *Roe* has now become the primary reference point for popular and academic discussion concerning the legal and moral status of unborn human beings and for the proposition that unborn human beings are not persons. Thus, much of the public debate regarding abortion and embryo experimentation (including cloning) focuses, immediately and instinctively, on whether the fetus and embryo are "persons," not on whether the fetus and embryo are human beings.[151]

As a legal matter, identifying an unborn human as a "human being" or a "person" does not determine whether states can protect the unborn through homicide law.[152] Under the Constitution, states can protect unborn children, outside the context of abortion, without regard to their *constitutional* status as persons.[153] Thus, states can protect human embryos because neither *Roe* nor the embryo's constitutional status limits the states in protecting human embryos outside the context of abortion.

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150. It is important to point out that the Court could not, and did not, determine whether the unborn child was a human being or person for all purposes of federal or state law.

151. Peter Singer, for example, seems to concede that the unborn human is a human being, while denying that it is a person.

> When opponents of abortion say that the embryo is a living human being from conception onwards, all they can possibly mean is that the embryo is a living member of the species *Homo sapiens*. That is all that can be established as a scientific fact. But is this also the sense in which every "human being" has a right to life? We think not. To claim that every human being has a right to life solely because it is biologically a member of the species *Homo sapiens* is to make species membership the basis of rights.

Helga Kuhse & Peter Singer, *The Moral Status of the Embryo, in* TEST-TUBE BABIES 60 (William Walters & Peter Singer eds., 1984).

This does not mean that all moral philosophers or legal commentators concede that the unborn human is a human being at every stage of development after fertilization. *See, e.g.*, Stephen C. Hicks, *Law, Policy and Personhood in the Context of the Techniques of Human Experimentation in Modern Medicine*, 19 CAP. U. L. REV. 255, 298 (1990) ("The simple fact is that the embryo and the pre-viable fetus are not persons, individuals or human beings, albeit human life, no matter how romantic we may be about the human species.").

152. *See* People v. Davis, 872 P.2d 591 (Cal. 1994); People v. Campos, 592 N.E.2d 85 (Ill. App. Ct. 1992); State v. Merrill, 450 N.W.2d 318 (Minn. 1990).

153. *Roe* has been held to be limited to abortion, and, outside the context of abortion, the states can protect the unborn human being at *every* stage of development. *See supra* note 141 and accompanying text.

However, as a policy matter, the same rational attributes in the developing human being that are scrutinized to deny personhood to the unborn human as a matter of moral philosophy are used to deny them any legal protection. But, just as state law may reasonably protect the unborn human at every stage of development because the unborn is a human being, state law may also reasonably consider—based on legal history, contemporary law, and medical science—the unborn human, at every stage of development, a person as well, and to protect it as such.

One standard American dictionary defines "person" as "a human being."[154] This has also been the case in many areas of law, traditionally.[155] "Person" may mean more than that, but it means at least that.[156] For constitutional purposes, state laws, legislation, and court decisions are more relevant to determining the scope of substantive due process than are the unenacted opinions or policies of medical organizations, trade associations, or contemporary moral philosophers or theologians. As the Supreme Court noted in *Washington v. Glucksberg*, "[t]he primary and most reliable indication of a national consensus is . . . the pattern of enacted laws."[157]

In opposition to legal and normative tradition, many alternative moral theories about the status of the human fetus have been proferred over the past three decades. While these few decades of moral and legal thought represent a very short period of time when compared to the many centuries during which

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154. *See, e.g.*, AMERICAN HERITAGE STUDENT DICTIONARY 720 (1994) ("a living human being; an individual"); RANDOM HOUSE DICTIONARY OF THE ENGLISH LANGUAGE 1445 (2d ed. 1987); WEBSTER'S NEW UNIVERSAL UNABRIDGED DICTIONARY 1338 (Deluxe Second ed. 1979); WEBSTER'S NINTH NEW COLLEGIATE DICTIONARY 876 (1987) ("Human Being, Individual"); WEBSTER'S THIRD NEW INT'L DICTIONARY 1686 (1993).

155. *See, e.g.*, Telefilm, Inc. v. Superior Court, 194 P.2d 542, 547, 551 (Cal. Ct. App. 1948) ("After death one is no longer a 'person'; he ceases to be a human being and becomes a corpse, 'death' being the cessation of all vital functions without capability of resuscitation."); People v. Gould, 179 N.E. 848, 850 (Ill. 1932) ("Word 'person,' as used in Forgery Statute, means a human being."); People v. Guzzardo, 124 N.E.2d 39, 41 (Ill. App. Ct. 1955) ("'Person' is a generic word of comprehensive nature, which includes human beings and is not a technical term or word of art . . . ."); Dufour v. Westlawn Cemetaries Inc., 639 So. 2d 843, 847 (La. Ct. App. 1994) ("'Person' within meaning of Louisiana Civil Code is living human being and does not include one who has died."); Commonwealth v. Welosky, 177 N.E. 656, 659 (Mass. 1931) ("The natural and obvious meaning of the word 'person' is a living human being."); Madden v. Board of Election, 146 N.E. 280, 281 (Mass. 1925) ("'persons,' within statute, meaning living human beings"); Bale v. Ryder, 290 A.2d 359, 360 (Me. 1972) ("'Person' is defined as a human being."); In re Searight's Estate, 5 N.E.2d 779 784 (Ohio Ct. App. 1950) ("A 'person' is a human being").

156. *See, e.g.*, State v. Logsdon, 248 N.W. 4, 6-7 (Iowa 1933) ("The term 'any person' is very broad, and includes anybody. Any being having life, intelligence, will and separate individual existence; . . . a human being, an individual of the human race, a living human being; a living person composed of body and soul. . . .").

157. 117 S. Ct. 2258, 2263 (1997) (quoting Stanford v. Kentucky, 492 U.S. 361, 373 (1989)).

the Anglo-American legal tradition considered any human creature—that is, any offspring of human parents—to be a human being, the influence of these more recent theories on modern law has been profound, even overshadowing the longstanding Anglo-American legal tradition.[158] For example, Justice Stevens, concurring in *Thornburgh v. American College of Obstetricians and Gynecologists*,[159] voiced the sentiment that the legal protection afforded to the embryo depends on its stage of development after fertilization. He stated that it is "obvious that the State's interest in the protection of an embryo increases progressively and dramatically as the organism's capacity to feel pain, to experience pleasure, to survive, and to react to its surroundings increases day by day."[160]

Thus, in contemporary moral philosophy and modern case law, a shift has occurred concerning "personhood"; rather than considering the unborn human being a member of the human species based on its essential biological nature, the current trend is to consider the expression of subjective attributes. It is often conceded—even among those who deny that the fetus is a "person"—that, with fertilization, a "genetically unique, living human entity" is formed.[161] Instead

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158. *See, e.g.*, Davis v. Davis, 842 S.W.2d 588 (Tenn. 1992); Kass v. Kass, No. 53, 1998 N.Y. LEXIS 1022, at *1 (N.Y. May 7, 1998).

159. 476 U.S. 747, 778 (1986) (Stevens, J., concurring).

160. *Id.* at 778 (Stevens, J., concurring). *See also* Richard G. Frey, *The Ethics of the Search for Benefits: Animal Experimentation in Medicine*, *in* PRINCIPLES OF HEALTH CARE ETHICS 1067-75 (Raanan Gillon ed., 1994). Yet, as one scholar has justly noted, if Justice Stevens' notion was correct,

> the State's interest in protecting the newborn as well as the mentally incompetent and disabled would be less than its interest in protecting competent adults who are arguably better capable of interacting with society, experiencing pleasure and reacting to their surroundings. Such a notion is clearly contrary to existing laws and principles of equality under the law.

Linton, *supra* note 128, at 39 n.107.

161. *See, e.g.*, Ethics Committee of the American Fertility Society, *Ethical Considerations of the New Reproductive Technologies*, 53 FERTILITY & STERILITY 1S, 7S, 35S (Supp. 2 1990); McCormick, *supra* note 24, at 15; Teresa Iglesias, *In Vitro Fertilization: The Major Issues*, 10 J. MED. ETHICS 36 (1984) ("We know that a new human individual organism with the internal potential to develop into an adult, given nurture, comes into existence as a result of the process of fertilization at conception"). As John Robertson, for example, has written, "While the preimplantation embryo is clearly human and alive, it does not follow that it is also a 'human life' or 'human being' in the crucial sense of a person with rights or interests." John A. Robertson, *Resolving Disputes over Frozen Embryos*, HASTINGS CTR. REP., Nov.-Dec. 1989, at 11. Or, as Bonnie Steinbock has written, "embryos are not mere things. They are alive and they are human." Bonnie Steinbock, *The Moral Status of Extracorporeal Embryos: Pre-born Children, Property or Something Else*, *in* ETHICS AND BIOTECHNOLOGY 82 (Anthony Dyson & John Harris eds., 1994). She sees herself as developing "a theory of moral status that I call 'the interest' view based on Joel Feinberg's 'interest principle.'" *Id.* at 91 n.2.

This is not universal, however, and even the human status of the fetus is still denied sometimes. *See, e.g.*, Jennifer Nedelsky, *Property in Potential Life? A Relational Approach to*

of genetic individuality, however, IVF practitioners and advocates emphasize "developmental individuality."[162] Clifford Grobstein, for example, emphasizes six elements of individuality: "genetic, developmental, functional, behavioral, psychic, and social."[163]

For those with a developmental perspective of personhood, the beginning of personhood may be marked by many different events, attributes, or "morally significant qualities" after fertilization. These include implantation, the development of the embryonic disk or primitive streak (about fourteen days after fertilization and apparently the last stage at which twins may form),[164] sentience (the capacity for sensation or feeling), the occurrence of brain waves or "brain birth,"[165] viability,[166] consciousness,[167] birth, or even some time

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Choosing Legal Categories, 6 CAN. J. L & JURIS. 343, 343 n.2 (1993) ("I shall consistently refer to 'stages of potential life'. . . . I should note that 'stages of potential life' is actually a short-hand form of the more appropriate phrase, 'stages of potential *human* life.' These various stages are in fact alive, they are just not yet human.").

162. This reliance on developmental attributes is a key piece of Clifford Grobstein's argument, whose writings on human development, in turn, have heavily influenced Professor John A. Robertson, author of many works on IVF and embryo experimentation and manipulation. *See generally* CLIFFORD GROBSTEIN, FROM CHANCE TO PURPOSE (1981); CLIFFORD GROBSTEIN, SCIENCE AND THE UNBORN: CHOOSING HUMAN FUTURES (1988) [hereinafter GROBSTEIN, SCIENCE]; Clifford Grobstein, *The Early Development of Human Embryos*, 10 J. MED. & PHIL. 213 (1985) [hereinafter Grobstein, *Early Development*]; Clifford Grobstein et al., *External Human Fertilization: An Evaluation of Policy*, 222 SCI. 127 (1983); Clifford Grobstein, *The Moral Uses of "Spare" Embryos*, HASTINGS CTR. REP., June 1982, at 5. Robertson's legal theories are almost entirely derived from Grobstein's account of human development. *See, e.g.*, Robertson, *Embryos*, *supra* note 70, at 968-69 nn.85-94 (citing Grobstein, *Early Development*, *supra*); John A. Robertson, *Decisional Authority over Embryos and Control of IVF Technology*, 28 JURIMETRICS J. 285, 294 n.26 (1988) [hereinafter Robertson, *Decisional Authority*] (citing Grobstein, *Early Development*, *supra*, at 213, 214). According to John Robertson, the preimplantation embryo "has not yet developed the biological structures of personhood and is not yet developmentally individual." Robertson, *Embryos*, *supra* note 70, at 972.

163. GROBSTEIN, SCIENCE, *supra* note 162, at 22. *See also id.* at 21-57.

164. *See, e.g.*, NORMAN M. FORD, WHEN DID I BEGIN? 170-71, 181 (1988); Robertson, *Embryos*, *supra* note 70, at 969-70; Steinbock, *supra* note 161, at 82-83.

165. *See, e.g.*, Gary B. Gertler, *Brain Birth: A Proposal for Defining When a Fetus Is Entitled to Human Life Status*, 59 S. CAL. L. REV. 1061 (1986).

166. *See, e.g.*, Agota Peterfy, *Fetal Viability as a Threshold to Personhood*, 16 J. LEGAL MED. 607 (1995).

167. *See, e.g.*, RONALD DWORKIN, LIFE'S DOMINION 23 (1994) (a human embryo does not have rights because not conscious). *See also* Stephen C. Hicks, *Law, Policy and Personhood in the Context of the Techniques of Human Experimentation in Modern Medicine*, 19 CAP. U. L. REV. 255, 299 (1990) ("Only with consciousness can a person be said to exist."); Michael Lockwood, *Warnock Versus Powell (and Harradine): When Does Potentiality Count?*, 2 BIOETHICS 187-213 (1988); Michael Lockwood, *When Does Life Begin?*, *in* MORAL DILEMMAS IN MODERN MEDICINE (Michael Lockwood ed., 1985).

after birth.[168] When faced with such a smorgasbord of developmental criteria, the 1994 National Institute of Health (NIH) Human Embryo Research Panel dismissed all as "single criterion views" and adopted a "pluralistic approach," which emphasizes "a being's increasing possession of qualities that make respecting it . . . more compelling."[169] But this is a distinction without a difference.

For example, a key "marker" purportedly occurs with the appearance of the embryonic disk (or embryonic axis or primitive streak) at approximately fourteen days after fertilization. Apparently, this event is important because it "roughly corresponds to the time of implantation and to the initiation of physiological changes of pregnancy in the mother. Prior to this point, the pre-embryo is not individual since twinning . . . could still occur."[170] The embryo is more developed after implantation than before—there is "no possibility of feeling or experience" before the "embryonic disk, axis, and primitive streak" appear.[171] Much emphasis is placed on the distinction between the inner cell mass and outer cell mass of the early embryo.[172] It is argued that the embryo deserves no respect before the appearance of the embryonic disk because the outer cell mass will become placenta while the inner cell mass will become the "embryo proper."

How this is morally relevant is not apparent. Regardless, a human organism is present. Moreover, whether, with further development and differentiation, some cells provide nourishment, while some form the placenta, and still others form the embryonic disk, they are inextricably intertwined. Although current levels of scientific knowledge may not be sufficient to draw clear lines of distinction, the single, genetically-unique, human entity is still present throughout this entire developmental process.

This notion of "developmental individuality" is arguably advanced by the use of a new term, "pre-embryo." Various trade and other organizations and advocates who support fetal experimentation now use the term to help justify

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168. *See* DWORKIN, *supra* note 167, at 84. *Cf.* Gerard Bradley, *Life's Dominion: A Review Essay*, 69 NOTRE DAME L. REV. 329 (1993); Richard Stith, *On Death and Dworkin: A Critique of His Theory of Inviolability*, 56 MD. L. REV. 289 (1997).

169. NATIONAL INSTITUTE OF HEALTH, FINAL REPORT OF THE HUMAN EMBRYO RESEARCH PANEL 49 (1994).

170. John A. Robertson, *Embryos, supra* note 70, at 970 (quoting American Fertility Society, *Ethical Considerations in the Use of New Reproductive Technologies*, 46 FERTILITY & STERILITY (Spec. Supp. 1986)).

171. *Id.* Robertson, for example, looks for "precursors of embryonic and fetal nervous structures." *Id.* at 970.

172. *See, e.g.*, C.R. AUSTIN, HUMAN EMBRYOS: THE DEBATE ON ASSISTED REPRODUCTION 12-13 (1989).

embryo experimentation,[173] and their moral and policy conclusions regarding experimentation flow directly from this label, "pre-embryo." Their premise is that "singleness is not established until an embryonic axis is formed, an event which roughly corresponds to the time of implantation . . . ."[174] The Tennessee Supreme Court adopted the term in *Davis v. Davis*,[175] being heavily influenced by the American Fertility Society, now called the American Society for Reproductive Medicine, which represents fertility clinics.

The term "pre-embryo" is artificial and was unknown to medical literature before 1979 when the NIH Ethics Advisory Board used the term. The term is not based on any new scientific discoveries or data and has never been proposed for any other species than human. It is noteworthy that human embryologists do not use the term and have in fact criticized it as inaccurate.[176] For instance, Lee Silver, professor and microbiologist at Princeton University and author of a recent book defending the prospect of human cloning, aptly summarized the political motivations that underlie the use of the term "pre-embryo":

> The term pre-embryo has been embraced wholeheartedly by IVF practitioners for reasons that are political, not scientific. The new term is used to provide the illusion that there is something profoundly different between what we nonmedical biologists still call a six-day-old embryo and what we and everyone else call a sixteen-day-old embryo.
>
> The term pre-embryo is useful in the political arena—where decisions are made about whether to allow early embryo (now called pre-embryo) experimentation—as well as in the confines of a doctor's office, where it can be used to allay moral concerns that might be expressed by IVF patients. "Don't worry," a doctor might say, "it's only pre-embryos that we're manipulating or freezing. They won't turn into *real* human embryos until after we've put them back into your body."

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173. *See generally* Dianne N. Irving, Philosophical and Scientific Analysis of the Nature of the Early Human Embryo (1991) (unpublished D. Phil. Dissertation, Georgetown University) (on file with author).

174. Robertson, *Embryos*, *supra* note 70, at 970. In contrast, Richard McCormick would define "pre-embryo" as an "embryo whose cells have not yet differentiated into placenta and fetus." McCormick, *supra* note 24, at 14-15. So, the "pre-embryo" is an embryo. *See also* Karen Dawson, *Introduction: An Outline of Scientific Aspects of Human Embryo Research*, *in* EMBRYO EXPERIMENTATION 4 (Peter Singer et al. ed., 1990) (equating pre-implantation embryo with "pre-embryo" as identifying this as "the entity which exists during the first 14 days of development after fertilization").

175. 842 S.W.2d 588 (Tenn. 1992).

176. O'RAHILLY & MULLER, *supra* note 37, at 55.

> Biologically speaking, an important developmental event does occur at fourteen days. But there are other important developmental events that occur before that time and many more that occur later.[177]

Biochemicist Erwin Chargaff had a similar critique of the result-oriented label:

> The "pre-embryo" is a designation that appears to me entirely unjustified. I fear that it is merely an alibi function . . . . The attempt to determine, by scientific means, the stage at which what for times immemorial had been called the human soul makes it appearance, is ridiculous. The setting of a calendar date serves only as a permit for the performance of experiments that normal reverence before human life would have outlawed. . . .[178]

The 1984 Report of the British Committee (the Warnock Committee), the first governmental body to review IVF policy, noted the continuity of the development process: "There is no particular part of the developmental process that is more important than another; all are part of a continuous process, and unless each stage takes place normally, at the correct time, and in the correct sequences, further development will cease."[179]

Four compelling flaws undermine the use of "developmental individuality" to determine "personhood." First, emphasizing expression and appearance over essential nature and capacity is superficial. The essential nature of the human being is more significant than the exercise of powers which follow from that nature. This tends to fall into the "danger of identifying or locating the self within the brain."[180] Human nature is not identical with any of these activities or powers; in fact, human nature remains even when these activities are not undertaken or these powers are not excercised. Activities and powers are only attributes of human nature. An organism is not less of a being (an integral whole with actual existence) because it is immature or because it cannot perform functions that mature members can perform. Denying that a human being is a person because some of its attributes are not yet expressed is tantamount to saying that a human being is not a person because it is not mature. It is ironic

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177. SILVER, *supra* note 2, at 39.

178. Erwin Chargaff, *Engineering a Molecular Nightmare*, 327 NATURE 199, 200 (1987).

179. *See* SILVER, *supra* note 2, at 40 (quoting WARNOCK COMMITTEE REPORT IN GREAT BRITAIN, UNITED KINGDOM, DEPT. OF HEALTH & SOCIAL SECURITY, REPORT OF THE COMMITTEE OF INQUIRY INTO HUMAN FERTILISATION AND EMBRYOLOGY (1984)).

180. O'RAHILLY & MULLER, *supra* note 33, at 8 (quoting Mario Moussa and Thomas A. Shannon, *The Search for the New Pineal Gland: Brain Life and Personhood*, HASTINGS CTR. REP., May-June 1992, at 30).

that advocates of the developmental individuality perspective emphasize an unborn human being's lack of attributes during the very time when the human being is going through its greatest and most rapid period of development. We know that something deeper than what appears on the surface defines the nature of the embryo and will determine its future perfection.

Second, advocates of developmental individuality highlight partial characteristics and fail to examine the whole being. Biological markers after conception (fertilization) are inevitably based on only a few or partial characteristics of the developing entity, not on its intrinsic nature or integral wholeness, and are thus arbitrary. The nature of the developing human being (the whole genetic constitution, including the gender) is established at fertilization; subsequent growth continues throughout gestation and beyond. Indeed, as developmental biologists suggest, "morphogenesis [] continues right up to adulthood and, indeed, in some parts of the body, into old age."[181] The notion of developmental individuality does not rely on any new modern scientific knowledge that shows the human embryo to be less than human, but rather it slices and dices the biological facts to create arbitrary lines. It is an application of the old adage, "familiarity breeds contempt."

For example, the possibility of twinning within the first two to two-and-a-half weeks of embryonic development is sometimes said to indicate that the embryo is "non-individuated" and has yet to acquire "determinate individuality, a stable (ontological) human identity."[182] However, it is not logically sound to formulate general principles on the rare case of twinning. At least two problems attend the not-an-individual-until-after-twinning argument. First, it supplants a rare exceptional occurrence for the rule. Second, it deflects attention from the unique entity that does exist, which has genetic individuality at all points, and which may become two, but it will not become less than one. While a single embryo may twin, though it may die, it will not become less than a twin (with rare exceptions). Whether a singleton or twins, the developing embryo deserves protection because of its human nature. The possibility for rare exceptions does not determine proper treatment for the living embryo that is developing.

Similarly, it is not logically sound to formulate general principles on the possibility that the developing embryo may die from various natural causes or cease to develop (emphasizing that many embryos "fail to implant" or are "spontaneously aborted" due to natural causes). With born human beings, the law does not discount responsibility for induced causes of death simply because

181. TANNER, *supra* note 144, at 39.

182. O'RAHILLY & MULLER, *supra* note 33, at 8.

many human beings die from natural causes. There is no reason to do this before birth either, although biologists sometimes tend to disregard the distinction between natural and unnatural causes. And yet, even in such cases, we are inclined to refer to them as children socially.[183] The very purpose of homicide law is to give significance to unnatural causes and to determine those causes and assess responsibility. Because the law gives great emphasis to the distinction after birth, it has reasonably done so before birth, as the born alive rule attests.

A related argument that disputes the proposition that a human embryo is a person is the argument that the fetus or embryo is only a "potential person."[184] This argument often confuses the potential with the possible and reveals an underlying ontological dualism, a notion that there is a mind-body split in the human being. Potential also confuses nature-capacity with relative maturity. It is not enough, under this rationale, that a capacity is possessed, it must also be actively exercised or exhibited. These abstractions miss the practical way in which we think about human potential. It can be captured in the notion that a young man or woman may "achieve their potential." Maturity, or fetal development, is simply the actualizing of potentiality. We commonly recognize developmental stages after birth—infancy, childhood, adolescence, adulthood, and etc.—as common stages of the maturing process without denying that a person exists throughout that process and that an immature person is still a person.

Third, the concept of developmental individuality has no consistent or logical stopping point. The distinctions based on rational attributes and the expression of innate capacities logically extend beyond birth itself, and some philosophers frankly acknowledge this and would defend infanticide as well. An infant, throughout the first several months after birth, cannot speak and can utter few sounds beyond crying. Its only means of communication is crying. It may smile within the first month or two, but it is unclear whether this reflects pleasure or simply mimicking the smile of another person. The newborn does not know its name and will not respond to its name. The newborn does not readily focus its gaze or keep eye contact with another person. It will not speak

183. *See, e.g.*, TANNER, *supra* note 144, at 38. "In as many as 1% to 2% of all conceptions a fertilized ovum is made with a single x chromosome only, without either a Y or a second X. The karyotype is written XO. The very great majority of *such children* die *in utero*, often so early in pregnancy that the mother does not even know she has aborted an embryo." *Id.* at 55 (emphasis added).

184. *See, e.g.*, Stephen Buckle, *Arguing from Potential, in* EMBRYO EXPERIMENTATION (Peter Singer et al. eds., 1990); Peter Singer & Karen Dawson, *IVF Technology and the Argument from Potential, in* EMBRYO EXPERIMENTATION (Peter Singer et al. eds., 1990); John Harris, *Embryos and Hedgehogs: On the Moral Status of the Embryo, in* EXPERIMENTS ON EMBRYOS 65-81 (Anthony Dyson & John Harris eds., 1990).

(at least not coherently) until nearly two years after birth. Other developmental attributes that are delayed beyond infancy could also be mentioned. Is the infant really "conscious" before the child can have its first memory of life?

These marker events inevitably result in breaches of the line drawn by birth itself, resulting in the sanctioning of infanticide, as seen in the writings of Englehardt,[185] Tooley,[186] Singer,[187] Kuhse,[188] Dworkin,[189] Frey,[190] and Pinker.[191] The same arguments that various philosophers employ to deny protection to the embryo or fetus would justify infanticide as well. Indeed, even the language is changed (e.g., neonaticide) to blur birth as a dividing line. Thus, Stephen Pinker, Professor of Psychology at the Massachusetts Institute of Technology and author of a recent book, *How the Mind Works*, has recently

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185. H. TRISTAM ENGLEHARDT, THE FOUNDATIONS OF BIOETHICS 104-13 (1986).

186. *See, e.g.*, Michael Tooley, *Abortion and Infanticide, in* THE RIGHTS AND WRONGS OF ABORTION (Marshall Cohen et al. ed.,1974) ("an organism possesses a . . . right to life only if it possesses the concept of a self"); Michael Tooley, *Abortion and Infanticide*, 2 PHIL & PUB. AFF. 37 (1972).

187. *See, e.g.*, PETER SINGER, PRACTICAL ETHICS 122-23 (1979):

> I have argued that the life of a fetus is of no greater value than the life of a non-human animal at a similar level of rationality, self-consciousness, awareness, capacity to feel, etc., and that since no fetus is a person no fetus has the same claim to life as a person. Now it must be admitted that these arguments apply to the newborn baby as much as to the fetus. A week-old baby is not a rational and self-conscious being, and there are many nonhuman animals whose rationality, self-consciousness, awareness, capacity to feel, and so on, exceed that of a human baby a week, a month, or even a year old. If the fetus does not have the same claim to life as a person, it appears that the newborn baby does not either, and the life of a newborn baby is of less value than the life of a pig, a dog, or a chimpanzee.

Id.

188. HELGA KUHSE & PETER SINGER, SHOULD THE BABY LIVE? THE PROBLEM OF HANDICAPPED INFANTS 138 (1985).

189. DWORKIN, *supra* note 167.

190. *See generally* Frey, *supra* note 160.

191. *See, e.g.*, STEVEN PINKER, HOW THE MIND WORKS (1998); Steven Pinker, *Why They Kill Their Newborns*, N.Y. TIMES, Nov. 2, 1997, (Magazine), at 52, 54.

> What makes a living being a person with a right not to be killed? . . . Perhaps only the members of our own species, Homo sapiens, have a right to life? But that is simply chauvinism; a person of one race could just as easily say that people of another race have no right to life. No, the right to life must come, the moral philosophers say, from morally significant traits that we humans happen to possess. One such trait is having a unique sequence of experiences that defines us as individuals and connects us to other people. Other traits include an ability to reflect upon ourselves as a continuous locus of consciousness, to form and savor plans for the future, to dread death and to express the choice not to die. And there's the rub: our immature neonates don't possess these traits any more than mice do.

Id.

suggested that birth as a line of protection for human beings be reexamined.[192] These elevated tests apply just as well to infants and older children. If we reject their application to newborns because we recognize that immaturity does not detract from moral status, we should question their application to unborn human beings as well. More human development occurs between conception and birth than between birth and puberty.

Defining personhood by various attributes, rather than by membership in the human species, has serious problems. We begin to attach significance to select attributes and differentiate people based on the presence of these attributes or rational behavior. Under this approach, personhood is human status *plus* attributes. As we define people by attributes before birth, we place higher priority on those attributes after birth and rate superiority or inferiority on the expression of these select attributes. Social and then legal treatment will be based on these attributes.[193] As Roscoe Pound illustrates, this is not liberal; rather, it is illiberal and a throwback to pre-modern notions of legal personality.[194]

Fourth, the developmental individuality perspective does not reflect practical reality. The reality of IVF technology itself undercuts this perspective. IVF technicians do not implant only embryos with select developmental attributes, on some theory that only then is it known that they are human. Instead, IVF technicians implant human embryos who are fertilized *in vitro* at the earliest stages—"usually at the 2-8 cell stage."[195] (In an *in utero* pregnancy, by comparison, the embryo at the 2-8 cell stage is still passing through the Fallopian tube and has yet to enter the uterus for implantation.) The IVF technicians transfer the embryo to the uterus at this stage knowing that the developmental capacity is there, that the embryo has the inherent capacity to develop and mature, and that this capacity will be expressed in time. They cannot, and do not need to, wait for the embryo to mature or to express certain characteristics before the embryo is transferred.[196]

Across all its developmental stages, the human being, as one-celled zygote, embryo, fetus, newborn, adolescent, and adult human being, has genetic uniqueness and developmental continuity. The insight of John Beck, a leading

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192. Pinker, *supra* note 191, at 52, 54 ("The leniency shown to neonaticidal mothers forces us to think the unthinkable and ask if we, like many societies and like the mothers themselves, are not completely sure whether a neonate is a full person.") *Id.*

193. *See, e.g.*, Martha A. Fields, *Killing "The Handicapped"—Before and After Birth*, 16 HARV. WOMEN'S L.J. 79 (1993).

194. 1 POUND, *supra* note 108, at 411.

195. Dawson, *supra* note 174, at 4 ("It is usually at the 2-8 cell stage that the *in vitro* pre-embryo is transferred to the uterus of a woman for further development.").

196. *Id.* at 6. The longest that an *in vitro* embryo can survive is 13 days.

nineteenth century legal authority, is as relevant today as it was then: "The foetus is certainly, if we speak physiologically, as much a living being immediately after conception, as at any other time before delivery; and its future progress is but the development and increase of those constituent principles which it then received."[197] Modern science provides reasonable confirmation of the common law position, reflected in Blackstone, that any human creature—that is, the offspring of human parents—is a human being and that every living human being is a person. As the Scottish philosopher, Thomas Torrance has pointed out, "[i]f . . . we want to think of the human embryo as 'potentially person,' that must be taken to mean, not that the embryo is in the process of becoming something else, but rather that the embryo continues to become what he or she already is . . . ."[198]

V. HUMAN CLONING, "PROCREATIVE LIBERTY," AND THE LIMITS OF *ROE V. WADE*

Whether human cloning is a constitutional right involves an application of, as one renowned scholar has phrased it, "the most fundamental question of modern constitutional theory: when, and under what conditions, may courts invalidate duly enacted state or federal laws on the basis of unenumerated constitutional rights?"[199] The Supreme Court's 1973 decision in *Roe v. Wade* has spawned twenty-five years of litigation, legislation, scholarship, cultural change, and public discussion concerning the scope of a constitutional right to sexual reproduction. Proponents of an expansive right to sexual reproduction have given it various names and descriptions, among them "procreative liberty," "a right of the couple to reproduce," and "a right to form a family." John Robertson, one of the leading advocates of a broad "procreative liberty," contends that "reproductive freedom" has traditionally been a right taken for granted.[200] Of course, this begs a definition of "reproductive freedom." Charles Kindregan was undoubtedly more accurate in stating that "the responsibility for the transmission of life has by tradition, necessity, and law been entrusted to the private discretion of the family."[201] But a unique and

197. 1 JOHN BECK, ELEMENTS OF MEDICAL JURISPRUDENCE 276 (11th ed. 1860).

198. THOMAS F. TORRANCE, TEST-TUBE BABIES (1984), *quoted in* NIGEL M. DE S. CAMERON, EMBRYOS AND ETHICS: THE WARNOCK REPORT IN DEBATE 9 (1987).

199. Amicus Brief for Senator Orrin Hatch et al. at 1, Vacco v. Quill, 117 S. Ct. 2293 (1997) (No. 95-1858), 1996 WL 657755. *See also* Michael W. McConnell, *The Right to Die and the Jurisprudence of Tradition*, 1997 UTAH L. REV. 665 (1997).

200. *See* ROBERTSON, CHILDREN OF CHOICE, *supra* note 149, at 22-42.

201. Charles P. Kindregan, *State Power Over Human Fertility and Individual Liberty*, 23 HASTINGS L.J. 1401, 1402 (1972). From his citation of Justice Goldberg's concurring opinion in *Griswold v. Connecticut*, 381 U.S. 479, 495 (1965), it is clear that Kindregan understood "family" to mean the marital relations between a husband and wife. *See also* Daniel Callahan, *Cloning: Then and Now*, 7 CAMBRIDGE J. OF HEALTHCARE ETHICS 141, 142 (1998) ("The right to procreate, as

unprecedented extension of substantive due process would be necessary to create a right to use technology for asexual reproduction such as cloning.

A. Substantive Due Process

The Supreme Court's substantive due process decisions of the twentieth century do not support a broad right to "procreative liberty" that encompasses using technology for asexual reproduction or for cloning more particularly. *Prince v. Massachusetts*[202] and *Moore v. City of East Cleveland*[203] involved traditional family relationships. Two other cases related to parenting rights are deeply based in the common law: *Meyer v. Nebraska*[204] dealt with the education of children, and *Pierce v. Society of Sisters*[205] concerned the decision of parents to send their child to a private school. *Skinner v. Oklahoma*[206] dealt with liberty against government-ordered, coerced sterilization, a negative liberty that could be based in deeply-rooted, common law notions of battery and informed consent. Justice Harlan's opinion in *Poe v. Ullman* was limited to the marital *use* of contraception, which had been criminalized by a state statute. Indeed, he considered what the states had done with the marital use of contraception and found that the "utter novelty of this [state's] enactment" was "conclusive."[207] *Loving v. Virginia*[208] involved the freedom to marry, a union deeply rooted in Anglo-American law, and racial discrimination contrary to the text of the Fourteenth Amendment. *Eisenstadt v. Baird*[209] involved the use of contraceptives by individuals, not married couples.[210] In summarizing this line of cases, it may be said that *Skinner* is to cloning as *Cruzan v. Director, Missouri Department of Health*[211] is to assisted suicide: both *Skinner* and *Cruzan* involved negative liberties that relate to the refusal of treatment based on concepts of battery and informed consent; they did not involve positive liberties to an activity or power. To use Charles Kindregan's description of the

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a claimed human right, is primarily of post-World War II vintage.").

202. 321 U.S. 158 (1944).

203. 431 U.S. 494, 503 (1977).

204. 262 U.S. 390 (1923).

205. 268 U.S. 510 (1925).

206. 316 U.S. 535 (1942).

207. Poe v. Ullman, 367 U.S. 497, 554 (1961) (Harlan, J., dissenting). *See also* Griswold v. Connecticut, 381 U.S. 479, 499 (1965) (Goldberg, J., concurring).

208. 388 U.S. 1 (1967).

209. 405 U.S. 438 (1972).

210. *Id.* at 453 ("If the right of privacy means anything, it is the right of the *individual*, married or single, to be free from unwarranted governmental intrusion into matters so fundamental . . . as the decision whether to bear or beget a child.") (emphasis added)

211. 497 U.S. 261 (1990) (holding that a state may require clear and convincing proof of a patient's desire to withhold medical treatment, that a competent person has a constitutionally protected liberty interest in refusing unwanted medical treatment, and that a state has a legitimate interest in the protection and preservation of human life).

scope of the constitutional rights, these cases deal with either "the traditional privacy of the nuclear family" or "the right to control one's body."[212] In American law, procreation is inextricably intertwined with the marital relationship between husband and wife. "Procreative freedom" is too broad a description of what the Supreme Court has actually held to be constitutionally protected from popular, democratically-approved limitations or regulations. Because no general right to medical treatment exists,[213] the strength of any possible "right" to human cloning is diminished, especially when one considers the fact that cloning does not alleviate infertility, but rather circumvents it, and that cloning is not therapeutic.

To put it another way, substantive due process cases in the area of family law and reproduction that preceded *Roe* are limited and distinguishable in a number of ways.[214] First and foremost, with the exception perhaps of *Eisenstadt v. Baird*, the rights recognized have historical antecedents that are deeply rooted in American law and were explicitly recognized as such.[215]

While American law may establish a privacy interest in marital coital reproduction, even this *is* limited to marriage, and the precedents leading to *Roe* fairly establish this. Harlan's specific emphasis in *Poe v. Ullman* was that the state statute in question criminalized *marital use* of contraception.[216] While a right to the use of contraceptives, even by minors, may exist, there is still no established liberty in premarital or extramarital sexual relations.[217]

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212. *See* Kindregan, *supra* note 201, at 1403.

213. United States v. Rutherford, 442 U.S. 544 (1979).

214. Eisenstadt v. Baird, 405 U.S. 438 (1972); Griswold v. Connecticut, 381 U.S. 479 (1965); Skinner v. Oklahoma, 316 U.S. 535 (1942); Pierce v. Society of Sisters, 268 U.S. 510 (1925); Meyer v. Nebraska, 262 U.S. 390 (1923).

215. Moore v. City of East Cleveland, 431 U.S. 494, 503 (1977) ("[T]he Constitution protects the sanctity of the family precisely because the institution of the family is deeply rooted in this Nation's history and tradition."); Pierce v. Society of Sisters, 268 U.S. 510, 534-35 (1925) ("the liberty of parents and guardians to direct the upbringing and education of children under their control," "engaged in a kind of undertaking . . . long regarded as useful and meritorious"); Meyer v. Nebraska, 262 U.S. 390, 399 (1923) (summarizing the Fourteenth Amendment as encompassing an individual's right "to enjoy those privileges long recognized at common law as essential to the orderly pursuit of happiness by free men").

216. 367 U.S. 497, 554-55 (1961) (Harlan, J., dissenting from dismissal on jurisdictional grounds). *See also* Griswold v. Connecticut, 381 U.S. 479, 499 (1965) (Harlan, J., concurring in the judgment).

217. Indeed, in *Eisenstadt v. Baird*, the Court implicitly acknowledged the state's authority to prohibit "extramarital and premarital sexual relations. . . ." 405 U.S. 438, 448 (1972). And *Eisenstadt* was based on the Equal Protection Clause, not the Due Process Clause. Likewise, *Carey v. Population Services International*, decided after *Roe*, did not create a right to premarital or extramarital sexual activity. *Carey*, 431 U.S. 678, 688 n.5, 694, 694 n.17 (1977). *See id.* at 688 (summarizing previous decisions by the Court as guaranteeing "an individual's right to decide to prevent conception or terminate pregnancy"); *see also id.* at 702 (White, J., concurring in part and

Quite clearly, a constitutional right to cloning cannot be logically derived from the two sets of substantive due process cases that Professor Robertson posits as a basis for non-coital reproduction.[218] The first line of cases involves contraception and abortion, both of which involve a person's physical integrity and a right to *avoid* procreation— a right *not* to procreate, as Robertson points out. From this, Robertson derives a positive right to procreate by non-coital techniques but without any reasoning: "This well-established right [not to procreate] implies the freedom not to exercise it and, hence, the freedom to procreate."[219] The right to use contraception, as developed by American courts, may well assume a right not to use contraception, but this assumption involves only coital reproduction, nothing more.

The second line of cases involves rearing children or the "assignment of rearing rights," in Robertson's words, from which he infers "a right to bring children into the world."[220] Parental rights are deeply rooted in the common law. However, the several limitations on these rights suggest that they do not logically encompass any right to non-coital reproduction. First, the parental relationship is founded in duty, not ownership. It is apparent in Robertson's construction of his procreative liberty that the essence of his parental right is the exertion of parental will, a notion of ownership, the imposition of personal desire, and a conditional love or care. Indeed, these very notions characterized the complete autonomy of the Roman fathers over their children, but this authoritarian character was specifically repudiated by the common law.[221] Second, these rights assume the existence of children issuing from coital reproduction in the marital relationship, and nothing more. Third, parental rights are limited by the interests of the children. While *Roe* created a liberty to end the life of a child conceived *in utero* but not yet born, it says nothing about ending the life of children conceived *in vitro*. *Roe* involves a right to be free of the physical burden of pregnancy.[222] Hence, nothing in Supreme Court caselaw jumps the logical and physical gap between reproduction that physically burdens the woman and reproduction that does not, and scholars, legal commentator, and others cannot properly rely on the Supreme Court cases involving rights related to coital reproduction, which are based on physical integrity, to defend the cases involving coital reproduction through the extracorporeal use of somatic cells to clone.

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concurring in the judgment); *id.* at 713 (Stevens, J., concurring in part and concurring in the judgment).

218. Robertson, *Procreative Liberty*, *supra* note 70, at 415.

219. *Id.* at 416.

220. *Id.*

221. *See infra* notes 327-31 and accompanying text.

222. *See infra* part V.B.

Richard McCormick has lodged an insightful critique against Professor Robertson's utilitarian approach to the moral and constitutional issues surrounding the status of the human embryo and human cloning by blastomere separation (despite McCormick's use of the term "pre-embryo" and his general agreement that a human embryo is not a person).[223] In McCormick's words, Robertson's defense is

> breathtaking in the speed with which it subordinates every consideration to.[the] usefulness [of cloning by blastomere separation] in overcoming infertility. [Robertson's] thesis can be summarized as follows: if it aids otherwise infertile couples to have children, it is ethically acceptable . . . . [*A*]*nything* that is useful for overcoming infertility is ethically acceptable.[224]

According to McCormick, Robertson is trying to create a consensus, not protect an existing one. As Richard McCormick has noted, Robertson's analysis begs all of these questions by focusing on one consideration—the desire of infertile individuals—to the exclusion of all others, and this consideration is simply declared to overcome all others.

B. The Limits of Roe

Roe v. Wade, properly understood on its own terms, dealt with a right to "terminate pregnancy" and nothing more.[225] This right was defended on the basis of the physical impact of pregnancy on a woman and her desire to rid herself of the pregnancy.[226] To use Professor John Robertson's words, *Roe* involved "the physical burdens of bearing and giving birth."[227] As the Court noted in *Harris v. McRae*, "the Court in [*Roe*] emphasized the fact that the woman's decision carries with it significant personal health implications—both physical and psychological."[228] *Roe* created a negative right to terminate a

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223. *Compare* Robertson, *Question*, *supra* note 17, at 6, *with* McCormick, *supra* note 24, at 14.

224. McCormick, *supra* note 24, at 14 (emphasis in original).

225. *See* 410 U.S. 113, 170 (1973) (Stewart, J., concurring) (noting that the Court previously recognized "the right of a woman to decide whether or not to terminate her pregnancy").

226. *Id.* at 150 (discussing the risk to the woman, the Court concluded the state has an interest in protecting the woman's own health and safety); *id.* at 153 (detailing the "detriment" to pregnant woman by "denying this choice"); *id.* at 162 ("the rights of the pregnant woman at stake"). *See also* Planned Parenthood v. Casey, 508 U.S. 833, 852 (1992) ("The mother who carries a child to full term is subject to anxieties, to physical constraints, to pain that only she must bear."). *See also id.* at 869 (stating "the urgent claims of the woman to retain the ultimate control over her destiny and her body").

227. Robertson, *Procreative Liberty*, *supra* note 70, at 416.

228. Harris v. McRae, 448 U.S. 297, 316 (1980).

pregnancy without social (governmental) limits; it did not establish a positive liberty to procreation or a positive liberty in artificial, non-coital reproduction. In other words, *Roe* created a right to *avoid* procreation, not a right to procreate.

Planned Parenthood v. Casey affirmed this characterization of *Roe*.[229] The central discussion of "terminating pregnancy" in *Casey* is concluded by a reference to "these considerations of the nature of the abortion right."[230] Likewise, when the Court in *Eisenstadt v. Baird* referred to "the decision whether to bear or beget a child,"[231] it was understood to refer to the literal physical burden of pregnancy.[232] According to Justice Blackmun, "terminating pregnancy" is the central concept of the *Roe* liberty.[233]

Thus, legislatures may intervene to protect human beings—the traditional function of the criminal law and homicide law—as long as it falls outside the context of abortion, and a state needs no other justification, as long as this exercise of legislative authority does not interfere with woman's abortion liberty. Furthermore, human beings do not have to be "persons" within the meaning of the Fourteenth Amendment. The fact that a human being is not a constitutional person within the Fourteenth Amendment does not mean that the legislature cannot protect that human being within the homicide code, as states have in fact done and as courts have in fact held. The states can protect any extracorporeal human being under the homicide code because protecting the extracorporeal embryo or human being does not interfere with the Court's limited abortion right. The right to "procreative liberty" is a negative right and does not encompass an affirmative power over extracorporeal embryos.

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229. *Casey*, 505 U.S. at 845 ("the legitimate authority of the State respecting the termination of pregnancies by abortion procedures"); *id.* (referring to "essential holding" of *Roe* as "right of the woman to choose to have an abortion"); *id.* at 850 ("the profound moral and spiritual implications of terminating a pregnancy"); *id.* at 852 ("the woman's interest in terminating her pregnancy"); *id.* at 855 (describing *Roe* as "a rule . . . of personal autonomy and bodily integrity"); *id.* at 869 ("freedom to terminate her pregnancy"); *id.* ("the right of the woman to terminate her pregnancy"); *id.* ("the woman's liberty to determine whether to carry her pregnancy to full term"); *id.* at 870 ("a right to choose to terminate her pregnancy"); *id.* at 871 ("[t]he woman's right to terminate her pregnancy"); *id.* at 872 ("a right to choose to terminate or continue her pregnancy"); *id.* at 876 ("the right to decide whether to terminate a pregnancy").

230. *Id.* at 875.

231. 405 U.S. 438, 453 (1972).

232. *See Casey*, 505 U.S. at 875 (quoting *Eisenstadt*, 405 U.S. at 453).

233. *See, e.g., id.* at 927-28 (Blackmun, J., concurring) ("a woman's right to terminate her pregnancy") ("continue pregnancies they might otherwise terminate") ("the right to terminate pregnancies").

The limits of *Roe* are also evident in the abortion-funding line of cases. In *Maher v. Roe*,[234] the Court held that "the right protects the woman from unduly burdensome interference with her freedom to decide whether to terminate her pregnancy."[235] In *Harris v. McRae*,[236] the Supreme Court again referred, more than once, to the *Roe* liberty as "the freedom of a woman to decide whether to terminate a pregnancy."[237] The funding cases demonstrate that the states may "make a value judgment favoring childbirth over abortion" and "implement that judgment" by the use of public funding.[238] This was reaffirmed in *Casey*.

The fact that the abortion liberty expressly and forcefully excludes men, even married men, from any right whatsoever in the abortion decision also demonstrates the limits of the *Roe* abortion liberty. The father of "the developing child" (as *Casey* used the phrase[239]), even the woman's husband, has no right to spousal consent (*Danforth*) or even spousal notice (*Casey*). The courts have summarily rejected many attempts by men to intercede and have a share in the decision-making process.[240] Men have no legal right to be involved in abortion decision-making, and, formally, the decision is the woman's. *Roe* saw the decision-making as between the woman and her doctor only,[241] and, as the plurality stated in *Casey*, "[w]hat is at stake is the woman's right to make the ultimate decision."[242] The *Casey* plurality described, at great length, the total exclusion of the father or spouse from decision-making.[243] Legal commentators who reject legal regulation of IVF are inclined to wax eloquently over the involvement of "couples" in "decisions about whether and when to bear children," but fathers (and spouses) are strictly and absolutely excluded from the *Roe* framework and abortion decision-making.[244]

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234. 432 U.S. 464, 473-74 (1977) ("the right protects the woman from unduly burdensome interference with her freedom to decide whether to terminate her pregnancy").

235. *Id.* at 473-74.

236. 448 U.S. 297 (1980).

237. *Id.* at 312. *See also id.* at 316 ("the freedom of a woman to decide whether to terminate her pregnancy") (three times on the same page).

238. *Id.* at 314; Maher v. Roe, 431 U.S. 464, 474-75 (1977).

239. Planned Parenthood v. Casey, 505 U.S. 833, 870 (1992).

240. *See, e.g.*, Conn v. Conn, 525 N.E.2d 612 (Ind. Ct. App.), *aff'd*, 526 N.E.2d 958 (Ind.), *cert. denied*, 488 U.S. 955 (1988); Smith v. Doe, 530 N.E.2d 331 (Ind. Ct. App. 1988), *cert. denied*, 492 U.S. 919 (1989).

241. Roe v. Wade, 410 U.S. 113, 156 (1973).

242. *Casey*, 505 U.S. at 877.

243. *Id.* at 887-98.

244. *See, e.g.*, Lori B. Andrews, *The Legal Status of the Embryo*, 32 LOY. L. REV. 357, 359 (1986).

Even the proponents of a broad right to non-coital procreation fairly admit the limits of *Roe*. Thus, such a familiar advocate as John Robertson states:

> In the United States, the right to avoid reproduction by contraception and abortion is now firmly established. Whether single or married, adult or minor, a woman has a right to terminate pregnancy up to viability,[245] and both men and women have the right to obtain and use contraceptives.
>
> The right to procreate—to bear, beget and rear children—has received less explicit legal recognition . . . . [N]o cases (with the possible exception of *Skinner v. Oklahoma*) turn on the recognition of such a right. However, dicta in cases ranging from *Meyer v. Nebraska* to *Eisenstadt v. Baird* clearly show a strong presumption in favor of marital decisions to found a family. . . . [246]

Again, Robertson has noted the limits to *Roe* elsewhere, referring to "a woman's decision not to conceive or bear a child":

> Even though the Court has eliminated most of the legal limitations on the right to avoid pregnancy, the freedom not to procreate is still circumscribed by a number of restrictions. One such restriction derives from the negative nature of constitutional protections, which shield individuals from state interference with their liberty but do not guarantee them the means to exercise those rights.[247]

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245. This misrepresents the scope of the *Roe* liberty. *Roe* did not limit the abortion liberty to viability. Instead, with the companion decision of *Doe v. Bolton*, 410 U.S. 179 (1973), *Roe* established a right to a "health" abortion throughout pregnancy (defined as "all factors—physical, emotional, psychological, familial, and the woman's age—relevant to the well-being of the patient. All these factors may relate to health"). *Id.* at 192. Several federal courts have given such a broad reading to the "health" exception after viability. Women's Med. Prof. Corp. v. Voinovich, 130 F.3d 187 (6th Cir. 1997), *cert. denied*, 118 S. Ct. 1347 (1998) (Thomas, J., dissenting from the denial of *certiorari*); ACOG v. Thornburgh, 737 F.2d 283, 299 (3d Cir. 1984), *aff'd*, 476 U.S. 747 (1986); Margaret S. v. Edwards, 488 F. Supp. 181 (E.D. La. 1980); Schulte v. Douglas, 567 F. Supp. 522 (D. Neb. 1981), *aff'd sub nom.* Women's Servs., P.C. v. Douglas, 710 F.2d 465 (8th Cir. 1983) (*per curiam*). This "health" exception after viability was not altered in the *Casey* decision. Planned Parenthood v. Casey, 505 U.S. 833, 846 (1992) (reaffirming "State's power to restrict abortion after fetal viability, if the law contains exceptions for pregnancies which endanger the woman's life or health"); *id.* at 878 (reaffirming *Roe's* holding "that 'subsequent to viability, the State . . . may . . . regulate, and even proscribe, abortion except where it is necessary, in appropriate medical judgment, for the preservation of the life or health of the mother.'"); *id.* at 871 ("when the fetus is viable, prohibitions are permitted provided the life or health of the mother is not at stake").

246. Robertson, *Decisional Authority*, *supra* note 162, at 290 (footnote omitted).

247. Robertson, *Procreative Liberty*, *supra* note 70, at 405 n.3.

As one scholar has phrased it,

> To charactize some or all of the cases on which the Court relies in reaffirming *Roe* [in *Casey*] as standing for an abstract right to "personal autonomy" simply creates an artificial common denominator among a very disparate and largely unrelated group of cases while at the same time denying what makes abortion unique.[248]

In any case, the issue is not coital versus noncoital as much as corporeal versus extracorporeal reproduction (occurring or based outside the living body). On several occasions, the Court has explicitly disavowed a right to use one's body in whatever way desired.[249] While the "values and interests" of the "coitally infertile" may be conceded and worthy of respect, it does not follow that these may be pursued by whatever means or "techniques" possible or that these means or "techniques" are entitled to the same respect. Some techniques may be legitimate, while others are wholly illegitimate. And it does not follow that any of the techniques are necessarily of constitutional dimension that overrides other social and ethical judgments made through the democratic process.

The limits of *Roe* are apparent, as well, from the joint opinion in *Planned Parenthood v. Casey* of Justices O'Connor, Kennedy, and Souter. This opinion shifted the basic rationale of the abortion liberty from privacy to the sociological grounds of abortion as a backup for failed contraception and the "reliance interests" of Americans.[250] The joint opinion again emphasized terminating pregnancy as a backup to contraception, not a positive liberty to "procreate" by any means, much less a liberty to extracorporeal reproduction.

Roe itself identified abortion as unique and "inherently different from marital intimacy, or bedroom possession of obscene material, or marriage, or procreation, or education, with which *Eisenstadt* and *Griswold*, *Stanley*, *Loving*,

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248. Linton, *supra* note 128, at 31.

249. Roe v. Wade, 410 U.S. 113, 154 (1973) (stating that "it is not clear to us that the claim asserted by some amici that one has an unlimited right to do with one's body as one pleases bears a close relationship to the right of privacy previously articulated in the Court's decisions"); Jacobson v. Massachusetts, 197 U.S. 11 (1905) (vaccination).

250. *Casey*, 505 U.S. at 835 (arguing that *Roe* could not be repudiated because "for two decades of economic and social developments, people have organized intimate relationships and made choices that define their views of themselves and their places in society, in reliance on the availability of abortion in the event that contraception should fail").

Skinner, and *Pierce* and *Meyer* were respectively concerned."[251] As *Casey* demonstrates, *Roe* and abortion have both been treated as "sui generis,"[252] and the *Casey* plurality frankly stated that "abortion is a unique act."[253]

The courts have not gone beyond *Roe*'s formulation since 1973, and no trend among the lower federal courts alters this. One federal district court has held that a state statute prohibiting experimentation on a fetus was both unconstitutionally vague and violative of "a woman's fundamental right of privacy, in particular, her right to make reproductive choices free of governmental interference with those choices."[254] In a conclusory opinion, without much reasoning, the court simply declared that embryo transfer and chorionic villi sampling "fall within a woman's zone of privacy."[255] Another court has struck down a fetal experimentation statute on vagueness grounds alone.[256] A third court has upheld a state statute prohibiting "use" of unborn children "for experimentation."[257] One federal court has held that infertile women fall within the coverage of the Americans with Disabilities Act (ADA).[258] Some state laws mandate insurance benefits for infertility,[259] but these allowances, instances of legislative grace, are not constitutionally compelled.

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251. *Roe*, 410 U.S. at 159.

252. Planned Parenthood v. Casey, 505 U.S. 833, 857-58 (1992).

253. *Id.* at 852 ("the liberty of the woman is at stake in a sense unique to the human condition and so unique in the law").

254. Lifchez v. Hartigan, 735 F. Supp. 1361, 1376 (N.D. Ill. 1990), *aff'd without opinion*, 914 F.2d 260 (7th Cir. 1990), *cert. denied sub nom.*, Scholberg v. Lifchez, 498 U.S. 1069 (1991).

255. *Lifchez*, 735 F. Supp. at 1376. In a similar conclusion that passed for reasoning, the court declared: "It takes no great leap of logic to see that within the cluster of constitutionally protected choices that includes the right to have access to contraceptives, there must be included within that cluster the right to submit to a medical procedure that may bring about, rather than prevent, pregnancy." *Id.* at 1377. The image of a "cluster of constitutionally protected choices" was used as a handy substitute for reasoning. While it may be logical to conclude, as a matter of precedent, that a right to abortion for any reason within the first trimester includes a right to diagnosis of the condition of the fetus, the same logic does not extend to the much different procedure of IVF.

256. Margaret S. v. Treen, 597 F. Supp. 636 (D. La. 1984), *aff'd on other grounds*, Margaret S. v. Edwards, 794 F.2d 994, 999 (5th Cir. 1986) ("the use of the terms 'experiment' and 'experimentation' makes the statute impermissibly vague"). *See id.* at 999 n.13 ("This of course does not imply that the states are powerless to regulate medical experimentation. . . . A statute using more precise language . . . whether it applied to fetal experimentation or other forms of medical research, would present a different case than the one we decided today.").

257. Jane L. v. Bangerter, 794 F. Supp. 1537 (D. Utah 1992) (reasoning that the statute "requires only that a physician determine whether a procedure is performed merely to increase general knowledge, or performed to benefit the pregnant woman or the unborn child. As long as there is intent to benefit the fetus or the mother, the fetus is not being '*used* for experimentation'") (emphasis in original).

258. Bielicki v. City of Chicago, 1997 WL 260595 (N.D. Ill. 1997).

259. *See, e.g.*, 215 ILL. COMP. STAT. ANN. 5/356m (West 1997).

The broader formulation of a positive liberty in "procreation" that various scholars propound is based on contemporary moral philosophy, not caselaw or legal or constitutional history. Some would ground the concept of procreative liberty in "choice" rather than physical integrity. For example, John Robertson has written that "[t]he personal importance of a decision or activity, rather than its secrecy from the gaze of others, determines its status as part of protected privacy (or liberty, to be more precise)."[260] Professor Robertson's vision of parenthood is the "wish to replicate themselves, transmit genes, gestate, and rear children biologically related to them."[261] Robertson posits a right to "produce a child for rearing that is genetically or gestationally related to one or both partners."[262] Entailed in such a right would be "discretion to create, freeze, donate, transfer and discard embryos, because these maneuvers are necessary to overcome coital infertility." He argues for "the right of persons to use technology in pursuing their reproductive goals"[263] and for "presumptive moral and legal protection for reproductive technologies that expand procreative options."[264] But Robertson's argument is declaratory and conclusory, not reasoned: "If the moral right to reproduce presumptively protects coital reproduction, then it should protect noncoital reproduction as well."[265]

The substantive due process basis for *Roe* is exceedingly thin. It cannot be based on ordered liberty or any liberty interest deeply rooted in American history or tradition. The Court in *Webster* and Casey abandoned that premise, and no attempt was even made to reaffirm such a rationale. The rationale for *Roe* shifted from substantive due process to stare decisis—maintaining the status quo—and the rationale for maintaining the status quo was completely sociological—the "reliance interest" in abortion as a backup to contraception. The only substantive due process basis for *Roe* must be refashioned by recreating the doctrine of substantive due process itself, by shifting from the 100 year judicial reliance on history and tradition to a modern reemphasis on the strength of "interests" that are judicially defined and imposed.[266]

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260. Robertson, *Decisional Authority, supra* note 162, at 294 n.26.

261. ROBERTSON, CHILDREN OF CHOICE, *supra* note 149, at 32.

262. Robertson, *Decisional Authority, supra* note 162, at 292.

263. ROBERTSON, CHILDREN OF CHOICE, *supra* note 149, at 42.

264. *Id.* at 220.

265. *Id.* at 32.

266. Justice Souter appeared to be attempting such a revision in his concurring opinion in *Washington v. Glucksberg*, which was joined by no other justice. 117 S. Ct. 2258, 2275-93 (1997) (Souter, J., concurring). It heavily relied on a revisionist construction of Justice Harlan's opinion in *Poe v. Ullman*, 367 U.S. 497 (1961). Justice Souter's opinion ignored the limitations of *Poe v. Ullman*, enormously expanded its implications without warrant, and seriously distorted Justice Harlan's opinion. *See* McConnell, *supra* note 199, at 698-700.

The interests of infertile men, women, and couples in having children may be exceedingly strong. Discovering that one is infertile may shake one's own identity and challenge the strength of any marriage, perhaps severing the relationship irreparably. Many people strongly desire to have children, and the parent-child relationship has received legal protection virtually throughout Anglo-American history. Nevertheless, there are obvious limits to the desire for children, and people may be challenged to reexamine their most deeply-held principles and beliefs and redirect their desires, relationships, commitments, and life plans as they face these limits. However, desires alone, no matter how strongly held, do not become part of American constitutional law simply because they are strongly held. Yet, John Robertson and others essentially base the "presumptive protection" for a nearly unlimited right to procreative liberty using technology on strongly held desire.

Constitutional authority ultimately rests on the American people, not the personally-assumed authority of unelected judges. Judges do not create their own authority but derive it from the people and the constitutive acts of the people in adopting a constitution and distributing political power among the branches of government. It is clear from the unregulated nature of the infertility industry—so widely noted in recent years—that the American people have neither taken decision-making out of the political process nor enshrined it in the Constitution. The American people have not exercised any constitutive will to treat the infertility industry different from any other area of medicine or commercial enterprise. Thus, the states retain the same authority to regulate or prohibit infertility technologies as they do to regulate other branches of medical technology. This general direction is confirmed by the general proposition that there is no constitutional right to medical treatment.[267]

Finally, since *Roe*, defenders of the abortion liberty have sometimes shifted from a Due Process Clause rationale to an Equal Protection Clause rationale, thus emphasizing the unique impact on women.[268] To the extent that this is persuasive, it directly undermines any right to human cloning. (For example, Justice O'Connor, at oral argument in *Vacco* and *Glucksberg*, emphasized that suicide (and death and dying) did not affect women uniquely but affected men and women equally.) Applying this reasoning to cloning, a ban on human cloning—and the protection of extracorporeal human embryos—would fall equally on women and men, and a prohibition on somatic cell nuclear transfer would apply equally to the cells of men and women. For these reasons, *Roe* and its progeny cannot encompass a right to human cloning or somatic cell nuclear transfer.

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267. United States v. Rutherford, 442 U.S. 544 (1979).

268. *See, e.g.*, RICHARD POSNER, SEX AND REASON 339-40 (1992) (noting such a shift).

C. Differentiating Cruzan, Vacco, *and* Glucksberg

Proponents of unlimited procreative autonomy have relied on the expansive language concerning autonomy in *Planned Parenthood v. Casey*,[269] sometimes called the "mystery" passage. The *Casey* plurality opinion stated: "At the heart of liberty is the right to define one's own concept of existence, of meaning, of the universe, and of the mystery of human life. Beliefs about these matters could not define the attributes of personhood were they formed under compulsion of the State."[270] But scholars have aptly argued that this passage must be considered within the context of the plurality's entire opinion and its emphasis on stare decisis.[271] Within that context, the passage should be most accurately understood as rhetorical and not as prescriptive of any specific rights.

The Supreme Court's landmark decision in *Washington v. Glucksberg*,[272] which held that the Due Process Clause does not protect any right to assisted suicide, demonstrated the narrow scope of *Casey*. The Court in *Glucksberg* identified the two strict requirements of substantive due process. First, the Due Process Clause protects "those fundamental rights and liberties which are, objectively, 'deeply rooted in this Nation's history and tradition' and 'implicit in the concept of ordered liberty,' such that 'neither liberty nor justice would exist if they were sacrificed.'"[273] Second, a "careful description" of "the asserted fundamental liberty interest" is required.[274] Initially, it must be established that an asserted interest is fundamental so as to "avoid[] the need for complex balancing of interests in every case."[275] Then, the Court specifically emphasized the limited nature of the "mystery" passage from *Casey*:

> By choosing this language, the Court's opinion in *Casey* described, in a general way and in light of our prior cases, those personal activities and decisions that this Court has identified as so deeply rooted in our history and traditions, or so fundamental to our concept of constitutionally ordered liberty, that they are protected by the Fourteenth Amendment. The opinion moved from the recognition that liberty necessarily includes freedom of conscience and belief about ultimate considerations to the observation that "though the abortion decision may originate within the zone of conscience and belief, it is

269. 505 U.S. 833 (1992).

270. *Id.* at 851.

271. *See, e.g.*, Yale Kamisar, *Against Assisted Suicide—Even a Very Limited Form*, 72 U. DET. MERCY L. REV. 735, 765-68 (1995).

272. 117 S. Ct. 2258 (1997).

273. *Id.* at 2268 (citations omitted).

274. *Id.*

275. *Id.*

> *more than a philosophic exercise.*" That many of the rights and liberties protected by the Due Process Clause sound in personal autonomy does not warrant the sweeping conclusion that any and all important, intimate, and personal decisions are so protected, and *Casey* did not suggest otherwise.[276]

Two of the three Justices who joined the *Casey* plurality opinion (O'Connor and Kennedy) joined this opinion in *Glucksberg*.

The Court in *Glucksberg* also reaffirmed the limits of *Cruzan v. Director, Missouri Dept of Health*.[277] The right recognized by the Supreme Court in *Cruzan* was a right to "refuse unwanted medical treatment," not a "right to treatment" and not a "right to die."[278] This right is properly seen as a right to refuse medical treatment—based in bodily integrity and the common law doctrine of informed consent—and not a right to "bodily expression." As the Court stated in *Glucksberg*,

> The right assumed in *Cruzan* . . . was not simply deduced from abstract concepts of personal autonomy. Given the common-law rule that forced medication was a battery, and the long legal tradition protecting the decision to refuse unwanted medical treatment, our assumption was entirely consistent with this Nation's history and constitutional traditions.[279]

Furthermore, the Court stated in *Cruzan*, and reaffirmed in *Glucksberg*, that the states have an "unqualified interest in the preservation of human life."[280] As the Court stated in response to the contention in *Glucksberg* that the state's interest in life only applies to "those who can still contribute to society and enjoy life":

> [The State of] Washington, however, has rejected this sliding-scale approach and, through its assisted-suicide ban, insists that all persons' lives, from beginning to end, regardless of physical or mental condition, are under the full protection of the law. See *United States v. Rutherford*, 442 U.S. 544, 558 . . . (1979) (". . . Congress could reasonably have determined to protect the terminally ill, no less than

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276. *Id.* at 2271 (citations omitted) (emphasis in original).

277. 497 U.S. 261 (1990).

278. *Glucksberg*, 117 S. Ct. at 2270.

279. *Id.*

280. *Id.* at 2272 (quoting *Cruzan*, 497 U.S. at 280, 282, and the Model Penal Code § 210.5 cmt. 5: "The interests in the sanctity of life that are represented by the criminal homicide laws are threatened by one who expresses a willingness to participate in taking the life of another").

> other patients, from the vast range of self-styled panaceas that inventive minds can devise"). As we have previously affirmed, the States "may properly decline to make judgments about the 'quality' of life that a particular individual may enjoy," *Cruzan*, 497 U.S., at 282, . . . This remains true, as *Cruzan* makes clear, even for those who are near death.[281]

Although this interest in *Glucksberg* applies to the end of life, there is no reason—outside the strict constraints of *Roe* and bodily pregnancy—why this unqualified interest does not apply equally to both ends, or all stages, of human life. Thus, just as the states may decline to "make judgments about the 'quality' of life that a particular individual may enjoy," and enjoin assisted suicide despite an individual "interest" in assisted suicide, so too the states may protect extracorporeal human embryos despite varying notions about "personhood" or the interests of infertile individuals.

VI. LEGAL LIMITS ON HUMAN CLONING

A. The Interests Promoted by Human Cloning

Scientists cloned the Scottish sheep, Dolly, because they saw obvious utilitarian benefits to animal and plant cloning.[282] Raising animals and altering their breeding and genetic potential have long been widely accepted parts of animal husbandry. It even has biblical roots in the thirtieth chapter of Genesis and the account of Jacob and his flocks.[283] The motive for cloning mammals, of which the Scottish sheep, Dolly, was one of the first, "was to achieve beneficial and marketable technologies in the production of agricultural animals and the mass production of previously rare and valuable pharmaceuticals."[284] The cloning of trees is desired "to preserve their genetic diversity and spur reforestation."[285]

The utilitarian considerations that are appropriate for plants and animals, however, cannot ethically be extended to humans. To do so violates a fundamental principle of human rights—to treat human beings as ends and not as means.[286] Because it is unethical to use human beings for experiments

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281. *Id.*

282. *See, e.g.*, *CQ Interview*, *supra* note 52, at 121-40.

283. *See Genesis* 30.

284. John R.G. Turner, *Ewe Two*, N.Y. TIMES, Dec. 28, 1997, § 7, at 1. *See also CQ Interview*, *supra* note 52, at 122.

285. Sue Ellen Christian, *New Shade of Tree Preservation Involves Cloning of the Giants*, CHI. TRIB., Dec. 26, 1997, § 1, at 1.

286. *See, e.g.*, TOM L. BEAUCHAMP & JAMES F. CHILDRESS, PRINCIPLES OF BIOMEDICAL ETHICS 7 (1979).

without their consent, it is unethical to use human embryos for experimentation—no valid consent can be given for them. And, yet, that is the essential reason for human cloning and embryo experimentation generally—to use human beings and to maximize benefits through performing experiments on them.

Perhaps the three most compelling utilitarian reasons for human cloning research are to enhance the ability to do prenatal diagnosis and detect genetic defects in the embryo leading to eugenic abortion, to gain knowledge derived from cloning embryos that may result in new therapies (such as transplantation) to treat disease, and to produce children for infertile couples.[287] Thus, the NBAC referred to "important social values, such as protecting the widest possible sphere of personal choice, particularly in matters pertaining to procreation and child rearing, maintaining privacy and the freedom of scientific inquiry, and encouraging the possible development of new biomedical breakthroughs."[288]

The contributions of human cloning research and embryo experimentation to new medical therapies, however, are almost entirely speculative. The NIH Human Embryo Research Panel in 1994 speculated about similar developments from embryo experimentation in its report. Daniel Callahan, President of the Hastings Institute, expressed a healthy skepticism about such speculations:

> How are we to go about establishing some kind of moral proportionality between the claims of research . . . and that of the "moral weight" of the embryo? . . . Though the report sets up a clear moral tension between those two goods, it is utterly silent on how research claims and possibilities should be evaluated for their moral weight and benefit. . . . [N]ot a word [is] devoted to the moral status of proposed research or the criteria necessary for establishing some kind of proportionality. What a free ride this is for the researchers, whose claims of potential benefits are treated with the kind of deference and credulity not seen since the days when the golden calf was worshipped. But of course for modern medicine research is the golden calf, questioned only at one's own risk. Duly reverential, the panel satisfied itself with simply listing all the research possibilities, including the improvement and increased safety of IVF, the creation of cell lines that might someday be useful for bone marrow

287. *See, e.g.*, Robert Edwards, *Ethics and Embryos: The Case for Experimentation*, *in* EXPERIMENTS ON EMBRYOS 42, 50 (Anthony Dyson & John Harris eds., 1990); John Harris, *Embryos and Hedgehogs: On the Moral Status of the Embryo*, *in* EXPERIMENTS ON EMBRYOS 75-76 (Anthony Dyson & John Harris eds., 1990).

288. NBAC REPORT, *supra* note 5, at ii.

> transplantation, repair of spinal code injuries, skin replacement and, naturally, the hint of a greater understanding of cancer. Was not a *little* skepticism in order here? . . . Could not anyone have thought to ask how the possibilities of increased knowledge through embryo research compare with the myriad other possibilities of research that can also be pursued without the use of embryos?[289]

A similar skepticism is due the speculative claims of medical advances from human cloning. A recent medical journal article, supporting human cloning research, was elusive in setting forth any prospective medical benefits from experimentation on cloned human embryos.[290] The authors inadvertently made clear how tenuous are the claims of medical benefits, pointed out that beneficial research for humans has been derived from animals, and could not deny that alternative therapies or research avenues exist.

One of the most commonly argued reasons for human cloning is infertility. Cloning will be a handmaiden to IVF. Some couples undergoing IVF who "cannot produce enough viable embryos to initiate pregnancy" might arguably seek cloning by blastomere separation or somatic cell nuclear transfer.[291] Human cloning, it has been argued, is justified as just an "incremental step beyond what we are already doing with artificial insemination, IVF, fertility enhancing drugs, and genetic manipulation."[292] But, as Robertson states, "[s]cientific zeal and the profit motive combine with the desire of infertile couples for biologic offspring to create an enormous power to manipulate the earliest stages of human life in infertility centers across the country."[293] While the anguish of infertile women and couples may be great, it does not logically follow that they may seek any means to counteract that infertility or to have a

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289. Daniel Callahan, *The Puzzle of Profound Respect*, HASTINGS CTR. REP., Jan.-Feb. 1995, at 39.

290. *See* Jerome P. Kassirer & Nadia A. Rosenthal, *Should Human Cloning Research Be off Limits?*, 338 NEW ENG. J. MED. 905 (1998). Kassirer and Rosenthal argued:

> Research on somatic-cell nuclear transfer might yield numerous benefits. Studies of stem-cell differentiation could provide valuable information about the mechanism of aging or the cause of cancer. Stem cells derived from this technology might also be a rich source of material for transplantation if specific genes or sets of genes in their pluripotent stem cells could be activated and if, as has been described before, the cells could then be coaxed to differentiate. Such a possibility is not strictly theoretical. . . . The treatment of such diseases as diabetes mellitus, leukemia, and genetic disorders might change dramatically with the availability of genetically altered cell lines that would be immunologically compatible with a given patient and therefore not seen by the immune system as foreign.

Id. at 905.

291. *Id.*

292. Laurence Tribe, *Second Thoughts on Cloning*, N.Y. TIMES, Dec. 5, 1997, at A23.

293. Robertson, *Question*, *supra* note 17, at 7.

particular child to their liking. There is no "right" to a "perfect child," as demonstrated by the long legal tradition against infanticide. It follows that there is no right to a genetically perfect or genetically identical child. Put simply, there is no right to a child by any means.

There are times when scientific knowledge is greatly desired but not morally obtainable. At those times, one must pursue other avenues or wait until that knowledge can be obtained ethically.[294] Alternatives to cloning and embryo experimentation in general do exist, such as obtaining stem cells from other sources, such as umbilical cord blood. Much of the interest in human embryo experimentation is due to the unique nature of stem cells in the early embryo—cells that are undifferentiated and theoretically may be used to promote healthy cell growth in other humans. These other, morally permissible avenues can and must be pursued in light of the ethical obstacles to human embryo experimentation.

Other potential uses of cloning seem more remote, more weakly argued, less likely to garner public support, or more typical of the Frankenstein-type of scenarios that may have driven early public disapproval of cloning.[295] These lesser purposes might include "the possibility of creating genetically enhanced clones with a particular talent or a resistance to some dread disease" or replacing a lost child "whose biological 'rebirth' might offer solace, or creating organ donors (on the supposition that genetic similarity will reduce organ rejection)."[296] (In light of public misperceptions, it is possible that if implantation of cloned embryos is prohibited and the prospect of replicating adult human beings is avoided, public disapproval of cloning, manipulating, and killing human embryos will spark little public disapproval or attract any notice at all.)

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294. PAUL RAMSEY, THE PATIENT AS PERSON xi-xxii (1973).

295. But this does not prevent scientists from publicly speculating about the utilitarian benefits. As Lee Silver told the London Sunday Times, "[i]t would almost certainly be possible to produce human bodies without a forebrain. These human bodies without any semblance of consciousness would not be considered persons, and thus it would be perfectly legal to keep them 'alive' as a future source of organs." Charles Krauthammer, *Of Headless Mice . . . And Men*, TIME, Jan. 19, 1998, at 76 (quoting from the interview).

296. Tribe, *supra* note 292, at A23. *Cf.* Laurence H. Tribe, *Technology Assessment and the Fourth Discontinuity: The Limits of Instrumental Rationality*, 46 S. CAL. L. REV. 617, 649 (1973).

There are obvious eugenic considerations that are inextricably intertwined with cloning.[297] The earliest comments on human cloning in the late 1960s saw the eugenic potential in it,[298] and, since the 1960s, discussion of cloning has routinely been associated with eugenic desires. Nobel laureate James D. Watson explained to Congress that "[s]ome people may very sincerely believe the world desperately needs many copies of the really exceptional people if we are to fight our way out of the ever-increasing computer-mediated complexity that makes our individual brains so frequently inadequate."[299] The prospect of cloning humans with favorable traits is already being discussed positively. Karl Drlica explained how this might occur:

> For example, our search for defective, disease-causing genes will eventually reveal particular forms of genes that give especially desirable characteristics. Then we'll be able to identify human embryos that have favorable traits. At an early stage of development, embryo cells can be separated and each grown into a new embryo. Embryos survive freezing, so the clones can be stored until needed. Selective implantation of "gifted" embryos into prospective mothers will then produce "super-babies." When in place, embryo selection procedures are likely to be expensive, so only privileged groups or certain high-tech nations will have access. While this scenario is still considered science fiction by most, the necessary technology is developing rapidly.[300]

Such eugenic interests are subject to regulation within the state's traditional police powers.

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297. *See, e.g.*, Bentley Glass, *Endless Horizons or Golden Age?* 171 SCI. 23, 28 (1971); JOSHUA LEDERBERG, AMERICAN NATURALIST (1966); Pizzulli, *Asexual Reproduction*, *supra* note 15, at 489-90, 498-99 (citing the "eugenic potential" of cloning); Tribe, *supra* note 296, at 647-49; James D. Watson, *Moving Toward Clonal Man*, 227 ATLANTIC MAG. 50 (1971) [hereinafter Watson, *Clonal Man*].

298. *See, e.g.*, Joseph Fletcher, *Ethical Aspects of Genetic Controls*, 285 NEW ENG. J. MED. 776 (1971); Joshua Lederberg, *Experimental Genetics and Human Evolution*, 100 AM. NATURALIST 519 (1966); Joshua Lederberg, *Unpredictable Variety Still Rules Human Reproduction*, WASH. POST, Sept. 30, 1967, at A17; Watson, *Clonal Man*, *supra* note 297, at 50. *See also* Pizzulli, *Constitutional Analysis*, *supra* note 15, at 282-83 nn.21-22 (citing government hearings).

299. KOLATA, *supra* note 2, at 83.

300. KARL DRLICA, DOUBLE-EDGED SWORD: THE PROMISES AND RISKS OF THE GENETIC REVOLUTION 3 (1994).

B. The Interests Protected by Prohibiting Cloning

Some concerns about human cloning may never be realized or may simply be novelties but not harms. Yet, the claims of implausible dangers should not distract from the real harms that have been identified.

1. Preventing Experimentation on and Death of Human Beings

Human cloning, and the process of developing that technology, will inevitably involve creating, manipulating, and killing individual members of the human species, i.e., human beings. (Killing is not a rhetorical word, but simply the straight-forward use of the dictionary definition.[301] We may "discard" things, because things do not die, but we "kill" living beings by causing their death. The very use of the term "discard"—as is typical in most ethical discussions of embryo experimentation—reduces the living human embryo to a thing.) Indeed, congressional testimony and debates indicate that it is precisely the ambition of scientists to do research on such developing human entities, with the "disposal" of many or most. John Robertson vividly describes the casual treatment of extracorporeal human embryos.[302]

Cloning will inevitably involve the non-therapeutic experimentation on, and the killing of, human embryos.[303] Under the common law, all human beings were persons. Several international codes of medical ethics avoid making any distinction between human beings and persons by addressing the interests of "human beings" and "human subjects." For example, the Nuremburg Code of 1947 limited experimentation on the "human subject," requiring that "voluntary consent" be "absolutely essential."[304] Experimentation is not permitted on "human subjects" without "legal capacity to give consent" and cannot be continued if "a continuation of the experiment is likely to result in injury, disability, or death to the experimental subject."[305] Likewise, the Declaration of Geneva of 1948 declares: "I will maintain the utmost respect for human life from conception."[306] Similarly, on November 20, 1959, the United Nations in its Declaration of the Rights of the Child stated: "The child, by reason of his

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301. *See, e.g.*, AMERICAN HERITAGE STUDENT DICTIONARY 546 (1994) (defining "kill": "To cause the death of; deprive of life"); WEBSTER'S NINTH NEW COLLEGIATE DICTIONARY 661 (1987) ("Kill merely states the fact of death caused by an agency in any manner.").

302. Robertson, *Question*, *supra* note 17, at 7.

303. NBAC REPORT, *supra* note 5, at 63-64.

304. United States v. Brandt (The Medical Case), 2 Trials of War Criminals Before the Nuremburg Military Tribunals Under Control Council Law No. 10, at 181-82 (1949).

305. 5 ENCYCLOPEDIA OF BIOETHICS 2763 (Warren Thomas Reich ed., rev. ed. 1995).

306. *See* World Medical Association, Declaration of Geneva (1948), *reprinted in* 5 ENCYCLOPEDIA OF BIOETHICS 2646-47 (Warren T. Reich ed., rev. ed. 1995) [hereinafter Declaration of Geneva].

physical and mental immaturity, needs special safeguards and care, including appropriate legal protection, before as well as after birth."[307] Under these contemporary, authoritative ethical standards, human cloning cannot be justified. This is most clearly true regarding intentionally cloning human beings for research without intending to implant them. The cloning of children for genetic identity is not "therapeutic."[308] As Daniel Callahan has noted, it is easy to imagine some good coming from unethical acts, but this does not justify the good that results.[309]

The development of human cloning will inevitably involve the creation of new human lives who will be killed due to failed attempts. The cloning of the Scottish sheep reportedly took 277 attempts before the renucleated ovum was brought to maturity.[310] Similar attempts in humans would result in similar failures. Abnormalities in extracorporal embryos will inevitably be produced, prompting their destruction.[311]

It is precisely the prerogative of society to give respect to the dignity of these growing human beings and to require that other individuals give equal dignity and respect. Anglo-American law has always treated human beings, and the human species, as special and uniquely protected it through homicide law. The law of homicide exists to protect human beings, at different stages of development and existence, who are maltreated, marginalized, or dehumanized. This special treatment was part religious and part empirical. The justification for this special treatment is not just "in the genes."[312] Genes are not all that matter. Human beings are not just a sum of their genes. Instead, it is the human species that is special, and the genetic code signifies a member of the human species. For example, even before modern science fully developed, scientists observed that cross-species fertilization did not occur in humans. And, ironically, it is the human capacity for self-consciousness (more than subjective expression), so much touted by those who deny personhood until rational attributes are actually expressed, that marks the human species as special and deserving of the special protection of the law.

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307. Preamble, Declaration of the Rights of the Child, 14th Sess. of U.N. Gen. Assem., F.A.Res. 1286, 14 U.N.W. GAOR Supp. 16, at 19 (U.N. Doc. A1435) (1959).

308. Kass, *Wisdom of Repugnance, supra* note 23, at 24-25.

309. *CQ Interview, supra* note 52, at 132.

310. *Id.* ("Dolly was derived from one out of 277 oocytes that we used. We don't know if that was unlucky and we could get that rate higher, as we have done with the embryo cells. We don't know that it wasn't a lucky one out of 277. Maybe the true rate is one out of 10,000.") (interview with Grahame Bulfield, Director and Chief Executive of Roslin Institute).

311. *Id.* at 139.

312. *See, e.g.*, MORTIMER ADLER, THE DIFFERENCE OF MAN AND THE DIFFERENCE IT MAKES (1967).

In contemporary moral philosophy and culture, a vast divide exists between the philosophy that the human is special and the notion that human status is not enough to deserve respect and protection. This attitude is exemplified by Helga Kuhse and Peter Singer:

> To claim that every human being has a right to life solely because it is biologically a member of the species *Homo sapiens* is to make species membership the basis of rights. This is as indefensible as making race membership the basis of rights. It is the form of prejudice one of us has elsewhere referred to as "speciesism," a prejudice in favour of members of one's own species, simply because they are members of one's own species. . . . If we are to attribute rights on morally defensible grounds, we must base them on some morally relevant characteristics of the beings to whom we attribute rights. Examples of such morally relevant characteristics would be consciousness, autonomy, rationality, and so on, but not race or species. Hence, although it may be possible to claim with strict literal accuracy that a human life exists from conception, it is not possible to claim that a human life exists from conception in the sense of a being which possesses, even at the most minimal level, the capacities distinctive of most human beings. Yet it is on the possession of these capacities that the attribution of a right to life, or of any other special moral status must be based.[313]

Nevertheless, the entire thrust of Anglo-American jurisprudence is that the human *is* special. While the recognition of humans as special and deserving of certain rights did not start with the Declaration of Independence, certainly the Declaration provides the most illustrious and authoritative example of that human life-affirming philosophy in the American political tradition.

Inevitably, if a general policy of research on developing members of the human species, i.e., human beings, is allowed after conception and before a certain cell stage, that cell stage, that line, will soon be crossed in the interest of further research on that more developed entity. If such judgment is left to individual researchers, such lines will be crossed, both progressively and incrementally, as an inevitable product of intellectual curiosity or scientific interest.

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313. Kuhse & Singer, *supra* note 151, at 60.

2. Preserving Human Freedom and Dignity

Beyond the concerns regarding experimentation on cloned embryos are the concerns about implanting a cloned embryo and nurturing it to birth. In his testimony before Congress, Leon Kass, a biochemist and ethicist from the University of Chicago, provided the most acute critical analysis of human cloning to date.[314] Kass has summarized several ethical objections to the cloning of human beings:

> [C]loning threatens confusion of identity and individuality . . . ; cloning represents a giant step . . . toward transforming procreation into manufacture, that is, toward the increasing depersonalization of the process of generation and, increasingly, toward the 'production' of human children as artifacts, products of human will and design (. . . 'commodification' of new life); and cloning . . . represents a form of despotism of the cloners over the cloned, and thus . . . represents a blatant violation of the inner meaning of parent-child relations, of what it means to have a child. . . .[315]

He also pointed out that any attempt to clone a human being would constitute an unethical experiment upon the resulting child because no consent could be obtained from the child who was produced.[316] The NBAC referred to "a possibly diminished sense of individuality and personal autonomy."[317] Clearly, human cloning by any means (whether by somatic cell nuclear transfer or blastomere separation) treats unborn human beings as means, not ends, and they would be evaluated and valued precisely because of their subjective attributes.

Cloning would give parents, doctors, and others ever greater control over other human lives, allowing these individuals to impose their own highly subjective values. Clearly, human cloning is neither therapeutic to the mother nor the human being cloned, but is instead elective. Cloning is only the most recent and highly publicized example of how technology always involves the power of some people over other people.[318] As the late Oxford/Cambridge scholar, C.S. Lewis, has written, "the power of Man to make himself what he

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314. Versions of this testimony have been published in *The New Republic* and the *Valparaiso University Law Review*. *See* sources cited *supra* note 23.

315. Kass, *Wisdom of Repugnance*, *supra* note 23, at 21.

316. *Id.* at 22-23.

317. NBAC REPORT, *supra* note 5, at ii. *See also* John Finnis, *Public Reason, Abortion, and Cloning*, 32 VAL. U. L. REV. 361 (1998).

318. *See generally* PAUL RAMSEY, FABRICATED MAN: THE ETHICS OF GENETIC CONTROL (1970); C.S. LEWIS, THE ABOLITION OF MAN (1950).

pleases means . . . the power of some men to make other men what *they* please."[319] Of course, education—to a greatly limited extent—has always involved a similar power. But, as Lewis points out, "[i]n the older systems both the kind of man the teachers wished to produce and their motives for producing him were prescribed by the *Tao*—a norm to which the teachers themselves were subject and from which they claimed no liberty to depart. They did not cut men to some pattern they had chosen."[320]

Even the most sympathetic scenario that might be imagined for human cloning—the genetic replacement of a lost child—shows instead the impersonalization of the child. The notion that cloning the child will replace the child assumes a serious fallacy—that children are their genes. We know that children are at least their genes, but they are more than their genes. Instead, genetics tells us what we come to understand as human nature flourishes and the person matures. Children are not fungible; they are unique and cannot simply be replaced.

3. Diminishing Parental Ties, Increasing Parental Control

Cloning involves a striking mixture of diminishing parental ties with total parental control over the genetic destiny of the child. Each tendency is wrong-headed. Together, they will lead to great impersonalization in parent-child relationships, as human cloning will likely coarsen the relationship between parents and cloned children. The NBAC referred to a "concern about a degradation in the quality of parenting and family life."[321] With cloning, children will be manufactured, and not simply manufactured but manufactured for highly subjective and particular reasons. Because of highly subjective criteria, cloned children will be conditionally accepted. In fact, if the conditions are not satisfied, they will most likely not be born at all—the embryos will be "discarded." Such conditional acceptance treats children as commodities or possessions. Consequently, "family relationships are necessarily diminished, turned into merely contractual relationships between autonomous individuals."[322]

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319. LEWIS, *supra* note 318, at 37.

320. *Id.* at 38.

321. NBAC REPORT, *supra* note 5, at ii.

322. Allen Verhey, *Theology After Dolly*, CHRISTIAN CENTURY, Mar. 19-26, 1997, at 285, 285.

As Leon Kass has testified:

> [C]loning represents a giant step (though not the first one) toward transforming procreation into manufacture, that is, toward the increasing depersonalization of the process of generation and, increasingly toward the "production" of human children as artifacts, products of human will and design (what others have called the problem of "commodification" of new life); and cloning—like other form of eugenic engineering of the next generation—represents a form of despotism of the cloners over the cloned, and thus (even in benevolent cases) represents a blatant violation of the inner meaning of parent-child relations, of what it means to have a child, of what it means to say "yes" to our own demise and "replacement."[323]

This detachment between children and parents is not speculative, but is already evident in sperm and egg donation cases. The California case of *Buzzanca v. Buzzanca* demonstrates this detachment.[324] Jaycee Buzzanca was conceived from anonymous sperm and egg donors and born in 1995 to a surrogate mother (with her husband's consent), as contracted by John and Luanne Buzzanca. The Buzzancas separated shortly after Jaycee was conceived and subsequently divorced. Luanne Buzzanca, who had custody of Jaycee since birth but had not adopted her, was "the only one of the six people who helped create her to claim parental rights" and sued John Buzzanca for child support.[325] A California Superior Court judge ruled that Jaycee had no legal parents, but the California Court of Appeals reversed. Advocates for Jaycee argued that the court should focus on what is best for the child and not on the biological status of the Buzzancas, and the ACLU contended that the child has a "right to have parents" that supercedes the lack of legal precedent in California. The California Court of Appeals explicitly urged the state legislature to address the situation through legislation because "[t]hese cases will not go away."[326] The way to give meaning to "the child's right to have parents," however, is by preserving biological links and preventing detached, asexual reproduction through cloning, not by imposing parental responsibilities, after the fact, on people who do not have a biological link with the child.

Cloning would overturn the traditional rule of Anglo-American jurisprudence that limits parental authority over the life and health of children. The common law's protection of vulnerable human life is reflected in its clear

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323. Kass, *Wisdom of Repugnance, supra* note 23, at 21.

324. Buzzanca v. Buzzanca, 72 Cal. Rptr. 2d 280 (Cal. Ct. App. 1998).

325. Ann Davis, *Artificial-Reproduction Arrangers Are Ruled Child's Legal Parents*, WALL ST. J., Mar. 11, 1998, at B2.

326. *Buzzanca*, 72 Cal. Rptr. 2d at 293.

repudiation of the absolute power of the Roman father over the life of the child and its elevation of legal protection for human life. Blackstone pointed out this contrast.[327] Supreme Court Justice James Wilson emphasized the common law protection for the unborn and newborn child:

> I shall certainly be excused from adducing any formal arguments to evince, that life, and whatever is necessary for the safety of life, are the natural rights of man. Some things are so difficult; others are so plain, that they cannot be proved. It will be more to our purpose to show the anxiety, with which some legal systems spare and preserve human life; the levity and the cruelty which others discover in destroying or sporting with it; and the inconsistency, with which, in others, it is, at some times, wantonly sacrificed, and, at other times, religiously guarded.
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> . . . [I]n Sparta, if an infant, newly born, appeared, to those who were appointed to examine him, ill formed or unhealthy, he was, without any further ceremony, thrown into a gulph near mount Taygetus. . . .
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> At Athens, the parent was empowered, when a child was born, to pronounce on its life or its death. . . .
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> . . . .
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> . . . [A]t Rome, the son held his life by the tenure of his father's pleasure. . . .
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> . . . .
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> With consistency, beautiful and undeviating, human life, from its commencement to its close, is protected by the common law. In the contemplation of law, life begins when the infant is first able to stir in the womb. By the law, life is protected not only from immediate destruction, but from every degree of actual violence, and, in some cases, from every degree of danger.[328]

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327. 1 BLACKSTONE, *supra* note 70, at *440.

328. 2 THE WORKS OF JAMES WILSON 596-97 (Robert Green McCloskey ed., 1967). *See also* ADAM SMITH, LECTURES ON JURISPRUDENCE 172-75 (Ronald Lindley Meek et al. eds., 1978) (Liberty Classics Reprint 1982).

Wilson concluded that "[t]he formidable power of a Roman father is unknown to the common law. But it vests in the parent such authority as is conducive to the advantage of the child."[329] Apparently, this sentiment was familiar to lawyers during the Founding era, because it is also reflected in the legal training of John Quincy Adams, who observed that the common law "has restrained within proper bounds, even the sacred rights of parental authority, and shewn the cruelty, and the absurdity of abandoning an infant to destruction for any deformity in its bodily frame . . . ."[330] To paraphrase Justice Harlan, this is a tradition from which we have broken.[331]

Based on the common law principle that parental authority must be used to promote the life and health of the child, states have limited parental control that threatens the life or health of the child. For example, parental beliefs against medical treatment can be overridden to preserve the life and health of the child, and parents may be held responsibility for the death of the child if medical treatment is not provided. The states have a related interest in limiting parental control over the genetic destiny of a child.

The novelty of human cloning does not make it bad. Rather, it is bad because it involves a total control over the genetic future of a child, an empowerment made possible by novel technology. A moment's reflection reveals that parents may undertake any number of acts that would involve unwarranted control over the life and destiny of children: locking them up in a room indefinitely, or depriving them of light, food, social contacts, or education. None of these acts would have to be permanent to be seen as unjustified; none would be as permanent as cloning. A curious phenomenon among contemporary ethicists is that many, including a good number who are children of the Sixties who resented parental authority, are now advocating an exercise of total parental control through genetic engineering.

A certain balanced and well-considered desire to have children is an enduring aspiration that is entitled to qualified respect. That qualification goes to the means of acquiring children and the quality of that aspiration. Cloning, as a handmaiden to IVF, is not about children; rather, it is about adults and their desires. Consideration of the well-being of the child is not primary. IVF is about adults wanting to be parents of certain children or a certain type of child.[332] IVF cannot be about children as children because IVF entails the destruction of some, perhaps many, unborn human beings. Acceptance is

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329. WILSON, *supra* note 328, at 604.

330. 2 DIARY OF JOHN QUINCY ADAMS 1786-1788, at 193 (Robert J. Taylor et al. ed., 1981).

331. Poe v. Ullman, 367 U.S. 497, 542 (1961) (Harlan, J., dissenting).

332. *See, e.g.*, John A. Robertson, *Genetic Selection of Offspring Characteristics*, 76 B.U. L. REV. 421 (1996).

always conditional. In the world of IVF, the developing human being is something akin to property, as the Tennessee Supreme Court's decision in *Davis v. Davis*[333] makes clear. While the Tennessee Supreme Court did not explicitly say that the developing embryo was property—perhaps lacking the courage of their convictions—the implication was clear. Human cloning extends to an extreme this general tendency to value children who are produced through artificial means as property.

The compelling societal interests against human cloning cannot be protected short of a prohibition against its practice. Once cloned, the embryo's genetic identity is formed and controlled and, while subject to further possible experimentation, it cannot be unaltered. Once cloned, it is not possible to effectively protect the life of the extracorporeal embryo. Requiring implantation is inconceivable due to traditional legal and moral principles against battery, forced sex, or compelled medical treatment, and placing them for "adoption" would entail the use of freezing techniques that carry a high risk of death or injury. Requiring implantation would also be futile because, as soon as the embryo would be implanted, the woman would have a liberty interest to abort under *Roe*. The only effective way to protect the human embryo is to avoid completely the perilous spector of cloning by prohibiting it altogether.

VII. CONCLUSION

As Professor Gilbert Meilaender testified to the NBAC on human cloning, "sometimes we may only come to understand the nature of the road we are on when we have already traveled fairly far along it."[334] Human cloning is the logical outcome and the most recent extension of twenty years of embryo experimentation and manipulation. However, it is the most subtle extension of that technique and the accompanying philosophy in its denigration of human dignity. Human cloning proceeds on a cramped, artificial, and impersonal view of human beings and reflects the dehumanizing spirit of Aldous Huxley's *Brave New World*. The impersonal instinct that fosters the intent to control the genetic destiny of one's progeny comes from the same instinct that treats the human embryo as just a clump of cells. Hopefully, the publicity and analysis given to human cloning will illuminate and educate Americans on the entire misguided effort of human embryo experimentation and manipulation.

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333. 842 S.W.2d 588 (Tenn. 1992). *See also* Kass v. Kass, No. 53 , 1998 N.Y. LEXIS 1022, at *1 (N.Y. May 7, 1998).

334. Gilbert Meilaender, *Begetting and Cloning*, FIRST THINGS, June-July 1997, at 41, 43. *See also* Gilbert Meilaender, *Cloning in Protestant Perspective*, 32 VAL. U. L. REV. 707 (1998).

At important junctures in this century, scientists have recognized, as a basic tenet of bio-medical ethics, that the protection of the human being is more important than the interests of science or society. This is the essence of the Nuremburg Code, which reaffirmed limits on research on human subjects. The 1975 Helsinki Declaration of the World Medical Association explains, "[c]oncern for the interests of the subject must always prevail over the interest of science and society."[335] More than a quarter of a century ago, Nobel Prize-winning biologist James D. Watson warned that ethical decisions about human cloning could not be left to science:

> This is a matter far too important to be left solely in the hands of the scientific and medical communities. The belief that surrogate mothers and clonal babies are inevitable because science always moves forward, an attitude expressed to me recently by a scientific colleague, represents a form of laissez-faire nonsense dismally reminiscent of the creed that American business, if left to itself, will solve everybody's problems. Just as the success of a corporate body in making money need not set the human condition ahead, neither does every scientific advance automatically make our lives more "meaningful." No doubt the person whose experimental skill will eventually bring forth a clonal baby will be given wide notoriety. But the child who grows up knowing that the world wants another Picasso may view his creator in a different light.[336]

Society through its civil government must establish limits. Some scientific knowledge, however interesting or valuable, cannot be obtained by moral means. When such would occur, society must seek it by other means or wait until it can be obtained by appropriate means.[337]

Roe v. Wade and its progeny have created a woman's "liberty interest" in "terminating a pregnancy" but have limited state protection of unborn human life only when the woman's personal abortion liberty is involved. In the abortion context, a physician is only an agent of the mother and has no personal constitutional liberty interest at stake. Outside that limited context, when the woman's interest in terminating a pregnancy is not at stake, the states are free

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335. World Medical Association, Declaration of Helsinki (rev. ed. 1989), *reprinted in* 5 ENCYCLOPEDIA OF BIOETHICS 2766 (Warren Thomas Reich ed., rev. ed. 1995). *See also id.* at 2767 ("In research on man, the interest of science and society should never take precedence over considerations related to the well-being of the subject."). *See also* Declaration of Geneva, *supra* note 306, at 2646-47 ("I will maintain the utmost respect for human life from the time of conception.").

336. Watson, *Clonal Man*, *supra* note 297, at 53.

337. PAUL RAMSEY, THE PATIENT AS PERSON xiv-xv (1973).

to protect the unborn human being from homicide at every stage of gestation, even from fertilization, as some states in fact have done. In the case of extracorporeal human embryos, no pregnant woman is involved, and thus the considerations of *Roe* are absent. The state interest in protecting unborn human beings has a long tradition that is actively exercised by states today. Scientists and doctors, as third parties, have no personal constitutional liberty to deprive an extracorporeal human being of life or dignity. Their capacity as agents of the woman's liberty interest under *Roe* is entirely eliminated in the case of extracorporeal embryos. No broader constitutional liberty in "procreation" encompasses a right to use technology to clone human embryos *in vitro*. Accordingly, the Constitution leaves broad authority to the representative branches of government to ban or regulate the practice of human cloning.