NOTES AND COMMENTS

Artificial Gestation: New Meaning for the Right to Terminate Pregnancy

Robert J. Favole*

Advancing technology often has the initial effect of increasing the absolute number of our choices, while societal accommodation to and conceptual assimilation of that new technology often serve to refocus and relimit those choices. This relimitation is due to society's ethical and practical evaluation of the impact of the new technology. In *Roe v. Wade*,[1] Justice Blackmun took note of just such a situation. He recognized that one reason for the traditional criminal abortion statutes was the state's interest in protecting women from what, at the time of enactment, was a very dangerous procedure. Advancing medical technology served to eliminate that rationale for state intervention by making the abortion procedure (at least in early pregnancy) as safe as childbirth.[2] Medical techniques had, in effect, increased the number of safe choices by adding the pregnancy termination choice as an equally safe alternative to childbirth. Supreme Court evaluation of the increased number of choices entailed taking a broad view of that field and then refocusing choices by redefining the limit of permissible institutional restraints.[3]

The thesis of this Note is that advancing biomedical technology will continue having just such an effect on rights and duties in the abortion context. Currently, progress is being made toward the creation of an artificial gestating apparatus. Such an advancement may well serve to stifle the raging debate over abortion. The ability to sustain a fetus

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* Winner, Charles Strouss Award.

1. 410 U.S. 113 (1973).
2. *Id.* at 149.
3. For an encapsulation of the Court's holding, see *id.* at 164. See text & notes 54-62 *infra*.

outside the body of a woman may enable reconciliation of the currently opposing interests of the woman in her privacy and of the state in protecting potential life.[4] Prospective medical capabilities in artificial gestation may also help reconcile the interests of a wife who wishes to abort and a husband who does not.[5]

This Note will first examine the state of artificial gestation technology and its prospective development. An examination of the woman's privacy right of abortion and the effect artificial gestation technology will have upon this right will follow. The discussion of the abortion right will focus upon the extent of the permissible state prescription of a nonfeticidal pregnancy termination method. Two alternative probable outcomes of a challenge to such a state prescription will be outlined. Finally, the question of whether the state is constitutionally required to fund the potentially expensive, prescribed, nonfeticidal abortion method will be analyzed. The conclusions of this Note are intended to be predictive rather than prescriptive.

ECTOGENESIS: THE TECHNOLOGY AND ITS COURSE OF DEVELOPMENT

Literally meaning "outside beginning," ectogenesis refers to various techniques enabling a fetus[6] to experience part of its prenatal development outside the female reproductive tract.[7] To understand ectogenesis, a comprehension of natural in-uterine fetal development after fertilization is helpful. Approximately one week after fertilization, the fetus attaches itself to the uterine lining. Called "implantation,"[8] this attachment is an important event in the definitional

4. What conflicts with the woman's right to privacy is the state's interest in protecting potential life, not the fetus' right to life. Because the fetus does not enjoy the status of person until birth, it has no recognizable interest. Roe v. Wade, 410 U.S. 113, 156-59 (1973). The state also has an interest in protecting maternal health that can be advanced through regulation of the abortion procedure after the point during pregnancy at which abortion becomes more dangerous than childbirth. In view of the medical knowledge existing at the time, the *Roe* Court found the end of the first trimester of pregnancy to be the point at which abortion becomes more dangerous than childbirth. *Id.* at 163.

5. In Planned Parenthood v. Danforth, 428 U.S. 52 (1976), the United States Supreme Court noted:

> [T]he obvious fact is that when the wife and husband disagree on this decision, the view of only one can prevail. Inasmuch as it is the woman who physically bears the child and who is the more directly and immediately affected by the pregnancy, as between the two, the balance weighs in her favor.

Id. at 71.

6. The term fetus will hereinafter be used in reference to "the human embryo from conception to delivery, without distinction of an embryonic and fetal period." Mahoney, *The Nature and Extent of Research Involving Living Human Fetuses*, in THE UNITED STATES NATIONAL COMMISSION FOR THE PROTECTION OF HUMAN SUBJECTS OF BIOMEDICAL AND BEHAVIORAL RESEARCH, RESEARCH ON THE FETUS app. 1-1 (HEW Pub. No. 76-128, 1975) [hereinafter cited as RESEARCH ON FETUS].

7. L. KARP, GENETIC ENGINEERING: THREAT OR PROMISE? 161 (1976).

8. *Id.* at 163.

structure of ectogenesis, because ectogenesis can be utilized before or after implantation, and the technology differs relative to that point.

Extra-uterine maintenance of the fetus prior to the time of normal implantation is called "preimplantational ectogenesis."[9] The recent births in England[10] and India[11] of the so called test tube babies were successes in *in vitro*[12] fertilization and preimplantational ectogenesis. Postimplantational ectogenesis refers to the extra-uterine maintenance of the fetus for any, or all, of the time between fetal attachment to the uterine wall and delivery at term.[13] It can refer to the time a fetus would spend in a "glass womb", or the time it would spend in transference from one womb to another.[14] The primary foci of research within the field of postimplantational ectogenesis have been toward the development of an artificial placenta,[15] an artificial uterus,[16] and the perfection of methods of fetal transference.

There remain many difficult obstacles to the development of either an artificial placenta or artificial uterus capable of a total *in vitro* gestation.[17] While some commentators have predicted imminent success,[18]

9. *See id.* at 170-71.

10. Dr. P.C. Steptoe and Dr. R.G. Edwards reported the birth, on July 25, 1978, of "a normal healthy infant girl" from an egg that had been fertilized *in vitro* (in a test tube) and had been reimplanted into the mother's uterus two and one-half days later. 2(8085) LANCET 366 (1978). For other reports of the same event, see NEWSWEEK, Aug. 7, 1978, at 66-72; TIME, July 31, 1978, at 58-70; MEDICAL WORLD NEWS, Aug. 7, 1978, at 10-12.

11. Dr. S. Mukherjee reported the birth of a "hale and hearty" baby girl in Calcutta, India from an egg removed from the mother, fertilized *in vitro*, and, after being frozen for 53 days, successfully reimplanted at the mother's next menstrual cycle. The Arizona Daily Star, Oct. 7, 1978, § A, at 9, col. 1-3.

12. The term *in vitro* refers to any procedure in the test tube. STEDMAN'S MEDICAL DICTIONARY 824 (21st ed. 1966).

13. *See* L. KARP, *supra* note 7, at 170-71.

14. *See id.* at 180; Mukherjee, *In Vitro Embryogenesis: An Experimental Model for Understanding of Reproductive Physiology and Development in Mammals*, 16 CAN. J. GENETICS AND CYTOLOGY 11, 25 (1974). The medical ability to sustain a premature infant is another utilization of postimplantational ectogenesis techniques; therefore, an increase in the ability to successfully handle earlier premature births is an advance in ectogenesis. *Id.* Mukherjee characterizes "an artificial placenta capable of maintaining a premature lamb fetus" as an advance toward an extra-uterine system of gestation. *Id.*

15. The placenta is the organ that serves to transfer oxygen and nourishment to the fetus and remove carbon dioxide and waste products. It unites the fetus to the uterus, and governs all fetal-maternal exchanges. *See* STEDMAN'S MEDICAL DICTIONARY 1244 (21st ed. 1966). The development of an artificial placenta would entail the development of an artificial organ capable of sufficiently governing those exchanges.

16. The uterus, or womb, houses the fetus. *Id.* 1725. Development of an artificial uterus would entail creating an organ to which the natural placenta could attach. L. KARP, *supra* note 7, at 175-76. Dr. Karp asks, "Since the present assortment of artificial placentas are so unsatisfactory, might it help to take the process of implantation a step back: that is, to design an extracorporeal site upon which a placenta could implant and then nurture its fetus in the customary fashion?" *Id.* at 176. Karp believes "this will be accomplished before anyone manages to come up with a satisfactory artificial placenta." *Id.* at 177.

17. L. KARP, *supra* note 7, at 177. Karp notes that "[i]t will take tremendous amounts of painstaking labor to devise a system in which mammalian embryos can implant and develop to birth." *Id.* Mukherjee notes that "progress towards a complete *in vitro* system demands prior resolution of a mulitude of more basic issues." Mukherjee, *supra* note 14, at 25. One of the most pressing difficulties is the perfection of tissue cultures necessary for varying fetal stages. "This must begin with the fractionation of genital tract fluids, follicular and tubal." *Id.* at 26.

18. *See* Note, *Choice Rights and Abortion: The Begetting Choice Right and State Obstacles to*

others emphasize the great work left undone, recognizing that since the necessary technology is available, it is only a matter of time until an extra-corporeal gestation is successful.[19] Dr. Mukherjee reports several impressive studies that indicate "that extra-uterine survival is within the realm of feasibility."[20] Among them are the works of Dr. Hsu, who reported the initiation of fetal heart beat in mice maintained *in vitro*,[21] and Dr. Zapol, who reported an artificial placenta capable of maintaining a lamb fetus for several days.[22] Dr. Karp also describes the much earlier, seminal work on human fetuses in which an artificial placenta was capable of keeping a fetus, as small as four ounces, alive for up to twelve hours.[23]

Because ectogenetic skills are not yet sophisticated, animals continue to be the most common subjects of research in this area.[24] Although successes in lower mammals do not necessarily indicate imminent human successes, what can be accomplished successfully in one mammal, theoretically, can be accomplished in all.[25]

The third main area of postimplantational ectogenetic research has been toward the perfection of fetal transference, which refers to the transplantation of the fetus from one womb to another. There has been greater success in this area than in the development of artificial uteri and placentas. Although research efforts have focused on lower mammals, the results have been impressive. Fetal lambs, prematurely explanted from their mothers have been successfully transferred and maintained in an artificial uterus, brought to term, and "born."[26] Fetal

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Choice in Light of Artificial Womb Technology, 51 So. CAL. L. REV. 877, 880 n.19 (1978) for a list of those optimists who believe that an artificial gestating apparatus will be available as early as 1980 or 1981.

19. *See* L. KARP, *supra* note 7, at 177; Mukherjee, *supra* note 14, at 26. "Although these problems, at present, may seem overwhelming, the technology necessary for their solution is available and it may only be a matter of time until workable solutions will be forthcoming." *Id.*

20. Mukherjee, *supra* note 14, at 25.

21. *Id. See* Hsu, *Post-blastocyst Differentiation in vitro*, 231 NATURE 100 (1971).

22. Mukherjee, *supra* note 14, at 25. *See* Zapol, Kolokow, Price, Vurek & Brown, *Artificial Placenta: Two Days of Total Extra Uterine Support of the Isolated Premature Lamb Fetus*, 166 SCIENCE 618 (1969).

23. L. KARP, *supra* note 7, at 175-76. This does not seem to be an example of dramatic success, but considering that the results were published 20 years ago, it does establish that work in the area of artificial gestation is neither new nor purely conjectural.

24. *See, e.g.*, New, Coppola & Cockroft, *Comparison of Growth in Vitro and In Vivo of Post-implantation Rat Embryos*, 36 J. EMBRYOL EXP. MORPHOL. 133 (1976) (similar rates of growth recorded in littermates, half of which were grown in their mother's uterus (*in vivo*) and half *in vitro* for 48 hours); Mukherjee, *supra* note 14 (outlining several mammalian studies); Whittingham, Leibo & Mazur, *Survival of Mouse Embroyos Frozen to -196° and -269°C.*, 178 SCIENCE 411 (1972) (mouse embryos frozen and transferred to foster mothers). See text & notes 20-22 *supra*; text & notes 26-28 *infra*.

25. Gourney, *The New Biology and the Future of Man*, 15 U.C.L.A. L. REV. 273, 281 (1968). L. KARP, *supra* note 7, at 176, suggests that lamb fetuses are good experimental models for human fetuses.

26. NEWSWEEK, Aug. 7, 1978, at 70.

lambs have also been transferred to the uteri of rabbits in England, and then flown to Africa, where ten days later they were again transferred to the uteri of African sheep. The successful transfers resulted in the birth of normal sheep.[27] Fetal mice, fertilized *in vitro*, have been frozen, thawed, and transferred to the uteri of foster mothers. Forty percent of those in foster mothers that had been successfully impregnated were delivered as normal, healthy newborn mice.[28]

Fetal transfer involving human fetuses has been restricted to the preimplantation stage. Within that restriction the success has been dramatic. Drs. Steptoe and Edwards, in their test tube fertilizations, have successfully transferred a human fetus to the uterus of its mother.[29] Transfer at the preimplantation stage is quite different from that which occurs after implantation, because in the course of normal reproduction the fetus is mobile prior to implantation, with no physical attachment to the mother.[30]

Although impressive, the successes in the areas of artificial placenta, artificial uterus, and fetal transference have left unresolved many difficult technical questions. Answers to these questions are preliminary to successful simulation of the gestational environment and the development of an artificial gestating apparatus capable of sustaining a human fetus from implantation to term.[31]

Predictions regarding the solution of those preliminary technical questions cannot be ventured solely on the basis of the state of scientific abilities. In order to make any projection regarding how developments in the area of postimplantational ectogenesis will progress, it is necessary to assess the socio-political climate within which those developments must progress. Because a successful artificial gestation is not presently confronting us, society's attitudes toward postimplantation ectogenesis are difficult to assess.[32]

Although many may still consider postimplantational ectogenesis to be in the realm of science fiction, the recent test tube births in India and England[33] demonstrate that preimplantational ectogenesis is a re-

27. Gourney, *supra* note 25, at 281.
28. *See* Whittingham, *supra* note 24, at 411.
29. *See* text & notes 10-11 *supra*.
30. L. KARP, *supra* note 7, at 163.
31. *See* Mukherjee, *supra* note 14, at 25. Mukherjee believes that one of the greatest problems is the "perfection of various tissue culture media necessary for different stages of embryonic development." *Id.* Solution of that problem will entail understanding of "the uterine environment and its changes during pregnancy." *Id.* at 26.
32. It is recognized that this area is generally conducive to emotional debate. Many advocate the complete termination of research in this area. The position of the Catholic Church is that "interference with nature is not acceptable." TIME, July 31, 1978, at 69. *See* Kass, *Babies by Means of In Vitro Fertilization: Unethical Experiments on the Unborn?*, 285 NEW ENG. J. MED. 1174 (1971). *Contra*, L. KARP, *supra* note 7, at 161-62, 180-84.
33. *See* text & notes 10-11 *supra*.

ality. The great interest and media coverage in those recent preimplantational test tube births provide a rare opportunity to divine current attitudinal trends toward preimplantational ectogenesis. In turn, consideration of attitudes concerning preimplantational ectogenesis is helpful in extrapolating the societal attitudes toward postimplantational ectogenesis.

The climate for ectogenetic research in the last several years has not been favorable.[34] This unfavorable climate took on an official stance in 1974 when a moratorium on federally funded human *in vitro* fertilization research was declared.[35] Although the official moratorium pertained to federally funded research only, its spirit and agonizing ethical questions inhibited private research as well.[36] The moratorium was a response to serious ethical questions perceived in experimentation with human conception in a test tube.[37]

The birth of Louise Brown[38] in the summer of 1978, however, had the effect of easing traditional fears of what once conjured visions of the birth of a monster from a test tube. The overwhelmingly favorable press reception seems to reflect a change in attitudes. The world press competed for the exclusive rights to the story of her birth, and the tone of the reports evidence an active acceptance of that "miracle".[39]

To further ease traditional fears, researchers have downplayed those profound ethical concerns when the media has turned its attention to them. Instead, they have adherred to the view that the overrid-

34. L. KARP, note 7 *supra*, at 177. There has been a reduction in the number of scientific articles published concerning ectogenesis due in part to "hostile social attitudes towards this research, which, in turn, [have] led to relative unavailability of funding for ectogenetic experimentation. *Id.* Those "hostile attitudes" reflect the belief that unnatural reproduction amounts to "playing God," or less emotionally, is the first step toward engineering people to fit the needs of technology. A. Huxley's *Brave New World* lingers as a ghost in the minds of many when human control of human reproduction becomes the topic of discussion. *Id.* at 161.

35. *See* NATIONAL COMMISSION FOR THE PROTECTION OF HUMAN SUBJECTS OF BIOMEDICAL AND BEHAVIORAL RESEARCH, REPORT AND RECOMMENDATIONS: RESEARCH ON THE FETUS, (HEW publication No. 76-127, 1975) [hereinafter cited as HUMAN RESEARCH REPORT]. Pursuant to the National Research Act, 42 U.S.C. § 289*l*-1 (1976), these recommendations were partially adopted by the Department of Health, Education, and Welfare [HEW]. 45 C.F.R. § 46 (1978). 45 C.F.R. § 46.204(e) pertains to an Ethical Advisory Board which must review an application for funding of human *in vitro* fertilization research before it may be approved.

36. Tucson Citizen, Feb. 6, 1979, § A, at 9, col. 1.

37. Secretary Califano of HEW has noted that "*in vitro* fertilization 'holds enormous promise' but also 'raises questions that reach to our most profound moral and ethical beliefs.'" 202 SCIENCE 198, 198 (1978). "Some of the ethical problems raised by this research include whether *in vitro* fertilization will lead to damaged embryos, selective breeding, and poor women hired as surrogate mothers by the rich." *Id.* See note 34 *supra* for mention of deeper ethical concerns.

38. See text & note 10 *supra*.

39. British headlines appeared such as "Our Miracle Baby," "Baby of the Century," and "The Miracle at Midnight," TIME, July 31, 1978, at 70, and "The Lovely Louise," NEWSWEEK, Aug. 7, 1978, at 69. The last headline was accompanied by a front page closeup photograph of the infant. NEWSWEEK had a cover picture of the newborn on August 7, 1978. Certainly our fears of test tube monsters have been modified by that closeup of the newborn in swaddling clothes. It is not contended here that this media display represents a conclusive or scientific measurement of societal attitudes. It merely offers some indication of society's acceptance of test tube fertilization.

ing ethical justification for their work is that it makes pregnancy available to many otherwise infertile couples.[40] For women with obstructed fallopian tubes, this method offers new hope. This emphasis on the humanitarian aspects of the research promotes its public acceptance.

Prior to Louise Brown's birth, one commentator had noted that once the public has been exposed to the idea of test tube fertilization and has had time to assimilate the implicated concepts, then the novelty and the horror will disappear.[41] This observation was apparently accurate. The federal funding moratorium will shortly be lifted, partly because several clinics in the United States are ready to begin work regardless of the stance of the federal government.[42] Apparently, the chill initially felt by private researchers when the federal funding moratorium was imposed has been alleviated by public acceptance of the work.[43]

Athough the preceeding discussion has been of attitudes toward preimplantation ectogenesis, it reflects a mood that certainly can affect a very similar issue—postimplantational ectogenesis. It should be noted that although these issues are similar, they are different in a way that might preclude parallel attitudes toward them. Postimplantational ectogenesis, for instance, can accomplish gestation without the maternal proximity and human interaction inherent in a natural prenatal experience. Preimplantational ectogenesis does not, by itself, entail the elimination of these potentially important beginnings of human relationships.[44] Thus, the extent of applicability of society's present attitudes toward preimplantational ectogenesis to postimplantational ectogenesis remains a matter of conjecture.

Federal funding regulations governing postimplantational ectogenesis are already in existence.[45] Under these regulations, the greatest advances in human postimplantational ectogenesis will probably be in the ability to sustain life for progressively younger gestational

40. *See* THE WASHINGTON POST, Oct. 12, 1978, § A, at 26, col. 1. "All I want to do is help mothers whose childbearing mechanism is slightly faulty." *Id.*, § D, at 1, col. 5. The British Medical Association has called *in vitro* fertilization "a new form of treatment for infertile women," MEDICAL WORLD NEWS, Aug. 7, 1978, at 11, and Dr. Soupart, a Vanderbilt University researcher, has labeled it "a potentially tremendous therapeutic advance." *Id.*

41. L. KARP, *supra* note 7, at 162.

42. Tucson Citizen, Feb. 6, 1979, § A, at 9, col. 3.

43. *See id.*, § A, at 9, cols. 1-4.

44. Gestation *in utero* has been identified as the beginning of all human relationships. "Gestation in that portenous pouch initiates not only physical closeness, but the rudiments of *psychic intimacy*, the indispensible condition for healthy human work and love and play." Gourney, *supra* note 25, at 277 (emphasis in original). Thus, there are reasons for not eliminating *in utero* gestation. There are, however, advantages to artificial gestation. "Birth trauma to fetus and mother would be eliminated. Perhaps the incidence of birth defects could be reduced by ectogenesis, since fetuses would be less likely to be exposed to environmental teratogens: drugs, radiation, and viruses." L. KARP, *supra* note 7, at 180.

45. All federal funding for research on human fetuses in the area of postimplantational ectogenesis is governed by 45 C.F.R. § 46 (1978).

age premature infants. The regulations permit a federally funded medical team to experiment[46] with a premature fetus to the extent of trying to "enhance the possibility of its survival," or if there is no added risk to the fetus, to the extent that the experiment will yield important and otherwise unobtainable biomedical knowledge.[47] In other words, every time a living fetus is delivered, either spontaneously or by induction, and it is too young to respond to presently accepted medical treatment of premature infants,[48] the medical team could experiment with other means that might enhance its possibility of survival. This has special significance for projection of the course of development of postimplantational ectogenetic technology. This frontier of prematurity will probably be the point at which ectogenetic abilities increase.

Research on human fetuses that are much younger than those at the frontier of prematurity (i.e., those at the implantation stage), would be prohibited by those regulations that require more animal studies before work on humans is attempted.[49] Animal studies can help researchers to understand much about human gestational processes, but those processes are sufficiently different[50] so that practical advances

46. The distinction between experiment and therapy should be explored, for much of what has been loosely referred to as experimental, is considered by many to be therapeutic. *See* Fox, *A Sociological Perspective on Organ Transplantation and Hemodialysis*, 169 ANNALS OF THE N.Y. ACADEMY OF SCIENCE 406, 409 (1970). The experimentation allowed by these regulations may not be experimental at all. Experiment entails a tentative procedure, uncertain as to result. *See* WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 800 (1961). Therefore, an experiment on a human fetus can be a distasteful thought. Therapy, on the other hand, connotes attention by one trained to cure or treat. *Id.* at 2372. Therapy for a human fetus is a concept none would deny. The kind of experiment permitted under the regulation is therapy by definition, even though the desired results may be uncertain. In its report the National Commission for the Protection of Human Subjects of Biomedical and Behavorial Research defined "therapeutic research" as referring "to research designed to improve the health condition of the research subject by prophylactic, diagnostic or treatment methods that depart from standard medical practice but hold out a reasonable expectation of success." HUMAN RESEARCH REPORT, *supra* note 35, at 6. Leon Kass, one of the stronger opponents of human *in vitro* fertilization, notes:

> An attempt to produce a live baby by means of laboratory fertilization and culture certainly must be deemed 'experimental' in the sense of being new and untested, full of uncertainties and unknown hazards. Yet the use of untested, potentially hazardous procedures can often be justified if the purpose is therapeutic (i.e., "non-experimental") and if the likely therapeutic benefits outweigh the likely risks.

Kass, *supra* note 32, at 1176.

47. 43 Fed. Reg. 1759 (1978) (to be codified in 45 C.F.R. § 46.209).

48. "If a fetus is viable after delivery, it is premature infant." 45 C.F.R. § 46.203(d) (1978). " 'Viable' as it pertains to the fetus means being able, after either spontaneous or induced delivery, to survive (given the benefit of available medical therapy) to the point of independently maintaining heartbeat and respiration." *Id.*

49. *Id.* § 46.206(a)(1) and (2) preclude experiments on human fetuses unless appropriate animal studies have been completed, except where the particular fetus will be benefitted and the procedure entails the least risk known in achieving the desired objectives. Extraction of a fetus for research at or near the implantation stage would be placing the fetus needlessly at risk because there is much preliminary research on animals needed before understanding of the complex gestational processes warrants application to human fetuses. *See* Mukherjee, *supra* note 14, at 25. In contrast, the experimentation on a nonviable expelled fetus could be viewed as an attempt to promote its survival.

50. *See* Behrman & Rosen, *Report on Viability and Nonviability of the Fetus*, RESEARCH ON

will probably result more rapidly from the research that involves fetuses at the frontier of prematurity. The number of opportunities for experimentation on nearly premature infants, without the researchers having taken an action calculated to place a fetus at risk, will be great.[51]

The projected course of development of postimplantational ectogenetic technology is that a total *in vitro* system of gestation is on the horizon, and progress toward that end will come in the form of the ability to handle progressively younger gestational age fetuses. One incident of the application of this technology would be to allow a method of pregnancy termination which does not necessitate fetal death, as do current methods of abortion. A pregnancy could be terminated by transferring the fetus from the uterus of its natural mother to the artificial gestating device, or to the uterus of another woman.[52]

The impact of this technology on the current right to pregnancy termination by abortion could be profound. If an abortion could be accomplished so that the fetus would continue its gestation to birth, then the entire analytical framework of the right of abortion, as well as the state's authority to prohibit abortion, need reevaluation and possibly restructuring.

THE IMPACT OF POSTIMPLANTATIONAL ECTOGENESIS ON THE RIGHT TO TERMINATE PREGNANCY

Although the Constitution nowhere mentions a right of privacy, the Supreme Court has recognized such a right implicit in the Constitution.[53] This right comprehends an individual's decisions regarding marriage,[54] procreation,[55] family,[56] and the use of contraceptives.[57] In

THE FETUS, *supra* note 6, app. 12-1, at 12-13; text & note 25 *supra*.

51. *See* Stroh & Hinman, *Reported Live Births Following Induced Abortion: Two and One-half Years Experience in Upstate New York*, 126 AM. J. OBSTETRICS AND GYNECOLOGY 83 (1976). During the course of two and one-half years, 38 live births following induced abortion procedures were reported in one section of New York state alone. Spontaneous premature births provide additional numbers, as do other rarer incidents similar to the one reported in the Los Angeles Times, Nov. 11, 1976, § 1, at 2, col. 3. This report was of a woman, 15 weeks pregnant, who was in an automobile accident. She was considered "brain dead" and if removed from life support machinery, all her vital functions would cease. Mother and fetus died simultaneously before the machinery was "unplugged." Advancing abilities to sustain premature infants might have saved this fetus, even though its mother could not be saved.

52. For an interesting discussion of contracts between a woman incapable of carrying her own child and a surrogate carrier mother, see Comment, *Contracts to Bear a Child*, 66 CALIF. L. REV. 611 (1978). The same discussion could apply to a woman who, though capable of gestating a fetus, wished to not be so burdened.

53. For a brief discussion of the historical development of the right of privacy, see Roe v. Wade, 410 U.S. 113, 152-53 (1973).

54. *See* Loving v. Virginia, 388 U.S. 1, 12 (1967).

55. *See* Skinner v. Oklahoma, 316 U.S. 535, 541-42 (1942).

56. *See* Prince v. Massachusetts, 321 U.S. 158, 160 (1944); Pierce v. Society of Sisters, 268 U.S. 510, 535 (1925).

57. *See* Eisenstadt v. Baird, 405 U.S. 438, 453-54 (1972).

Roe v. Wade,[58] the Court held that a woman's right to privacy is broad enough to encompass her decision to terminate a pregnancy.[59] This right, however, is not absolute; it is qualified by legitimate state interests in safeguarding the woman's health and in protecting potential life.[60]

In *Roe*, the Court treated the privacy right to terminate pregnancy as a fundamental right.[61] According to traditional rules of constitutional scrutiny, therefore, a state action which substantially infringes upon a fundamental right requires the state to show an overriding, compelling interest to justify such an infringement.[62] The *Roe* Court chose the gestation period as the scale upon which to judge the compellingness *vel non* of the state's interest.[63] The process of gestation was characterized as a continuum along which the conflicting interests of the woman and the state rise and fall in comparative importance. The point at which the state's interest in maintaining maternal health becomes compelling, is approximately at the end of the first trimester of the pregnancy.[64] The point at which the state's interest in protecting fetal life[65] becomes compelling is "viability."[66]

"Viability" was defined in *Roe* as the point at which the fetus is "potentially able to live outside the mother's womb, albeit with artificial aid."[67] This was determined to be at the end of the second trimester, approximately twenty-four to twenty-eight weeks into the gestational process.[68] At and beyond the point of viability, the state may proscribe abortion, based on its interest in protecting potential life, unless the mother's health would be endangered as a result.[69] Conversely, prior to viability the state may not proscribe abortion. Viab-

58. 410 U.S. 113 (1973).
59. *Id.* at 153-54.
60. *Id.* at 154. For purposes of this Note, the state's interest in maternal health is irrelevant because the predicted technology will provide a vehicle only for advancing the state's interest in potential life. It would have no effect upon advancing the state's interest in maternal health provided that the postulated technology involved no danger to the woman. The state's interest in protecting potential life, however, will at some point conflict with the woman's interest in terminating a pregnancy.
61. *Id.* 152-56.
62. *Id.* at 155. *See In re* Primus, 436 U.S. 412, 432 (1978); Kramer v. Union Free School Dist., 395 U.S. 621, 627 (1969); Shapiro v. Thompson, 394 U.S. 618, 634 (1969).
63. 410 U.S. at 164-65. For the purposes of its analysis, the Court divided pregnancy into three segments, or trimesters.
64. *Id.* at 163. The Court reasoned that until the end of the first trimester abortion may be safer than childbirth. The criteria for determining safety was mortality in abortion compared to mortality in childbirth. *Id.* at 149, 163.
65. *See* note 4 *supra*.
66. 410 U.S. at 163.
67. *Id.* at 160.
68. *Id.*
69. *Id.* at 163-64.

lility is thus the pivotal concept when assessing a woman's right of access to an abortion against the state's authority to prohibit her access.

After *Roe* the question remained whether the Court intended viability to be a fixed concept, thereby limiting the state's right to proscribe abortion to the third trimester, or whether it intended viability to be a flexible concept, varying fetus-to-fetus as well as in light of advancing technological ability to care for premature fetuses.[70] The court answered this question unanimously in *Planned Parenthood v. Danforth*,[71] stating that viability was "a point purposefully left flexible for professional determination, and dependent upon developing medical skill and technical ability."[72] The state may proscribe abortion to protect the life of the fetus, based on the flexible concept of viability.[73]

Because pregnancy termination and feticide are currently cotermi-

70. *See, e.g.*, Nyberg v. City of Virginia, 495 F.2d 1342, 1345 (8th Cir. 1974) (statute not based on separate trimesters is invalid); Doe v. Zimmerman, 405 F. Supp. 534, 538-39 (M. D. Pa. 1975) (*Roe* Court's discussion of viability generates vagueness and confusion, determining that the *Roe* Court never actually defined it at all); Wolfe v. Schoering, 388 F. Supp. 631, 636 (W.D. Ky. 1974) (rejecting contention that *Roe* held flatly that viability can occur no sooner than 24 weeks). *See also* Comment, *Viability and Abortion*, 64 KY. L.J. 146, 160-62 (1975). The crux of the issue may be stated another way: Should the definition of "viability" be fixed at 24 to 28 weeks gestational age, or should it be defined as the ability to sustain meaningful life with artificial aid outside the mother's womb? Either choice is supported by the language of *Roe*. 410 U.S. at 160.

71. 428 U.S. 52 (1976).

72. *Id.* at 61. Section 2(2) of the contested Missouri abortion statute defined "viability" as "that stage of fetal development when life of the unborn child may be continued indefinitely outside the womb by natural or artificial life-supportive systems." *Id.* at 63. Appellant, a planned parenthood organization, contended that the definition of viability in section 2(2), conflicted with the definition of viability in *Roe* because it failed to define viability in terms of gestational trimesters and because of its use of the word "indefinitely." *Id.* at 63. Planned Parenthood alleged that these faults served to expand the definition of viability beyond that outlined in *Roe*, and to place upon the legislature a determination that is properly a medical judgment. *Id.* The Court found no conflict between section 2(2) and *Roe*. Instead, it emphasized that viability was not to be legislatively determined, but was "a matter of medical judgment, skill, and technical ability" and should remain a flexible concept. *Id.* at 63-64. The Court concluded that section 2(2) furthered those objectives. *Id.* Recently the Court has again emphasized that the point of viability is left flexible "for anticipated advancements in medical skill." Colautti v. Franklin, 99 S. Ct. 675, 681 (1979). The Court has also reemphasized that the determination of viability is not for the courts or legislatures; rather, it is within the province of the physician, it differs from pregnancy to pregnancy, and the state may not dictate which factors shall be determinative in the physician's ascertainment of viability. *Id.* Factors to be considered are the estimated gestational age of the fetus (determined through the woman's reported menstrual history), estimated fetal weight (determined by size and condition of the uterus), the woman's general health and nutrition and the quality of available medical facilities. *Id.* Estimation of gestational age is not very exact, as the most accurate method has a margin of error of plus or minus two weeks. Behrman & Rosen, *supra* note 50, at app. 12-16.

73. WILLIAMS OBSTETRICS, relied upon by the *Roe* Court in defining viability, states that infants weighing below 1000 grams (about 28 weeks gestational age) "have little chance of survival." L. HELLMAN & J. PRITCHARD, WILLIAMS OBSTETRICS 493 (14th ed. 1971). A chart of survival by birth weight shows that infants below 1000 grams have only a 4.1% chance of survival (percentages are for single births, as twins have different numerical chances). *Id.* at 680. An infant weighing more than 1000 grams has a 52.2% chance of survival. *Id.* Arguably, then, the *Roe* Court's definition of viability as "potentially able to live outside the mother's womb," 410 U.S. at 160, was intended to mean a better than 50% chance of survival. *See* Comment, *Towards a Practical Implementation of the Abortion Decision: The Interests of the Physician, The Woman and the Fetus*, 25 DEPAUL L. REV. 676, 692 n.73 (1976). In Colautti v. Franklin, 99 S. Ct. 675 (1979) the Court referred to viability as the "reasonable likelihood of . . . survival." *Id.* at 682.

nous, the only method available to the state to protect the life of the fetus at viability is to completely proscribe pregnancy termination. Given a flexible definition of viability, a state arguably could proscribe termination at whatever point medical technology places viability.[74] Thus, one commentator has concluded that if the state of medical technology was such that the point of viability coincided with conception, then termination could be absolutely proscribed.[75]

To assert that the state might totally proscribe pregnancy termination, however, misconceives the nature of the state interest that is involved. When abortion no longer necessarily entails danger to the fetus, it becomes important to examine the nature and scope of the state's interest in protecting potential life and the woman's right to terminate a pregnancy. An examination of those competing interests and rights illustrates that changes in medical abilities can reconcile those currently conflicting positions. The state's compelling interest is in protecting potential life[76] and not in proscribing pregnancy termination. Therefore, if a method of pregnancy termination was available that did not threaten fetal life, the state would be powerless to proscribe it.

It may be contended, however, that the woman's right to be free of an unwanted pregnancy entails a right authorizing feticide. The *Roe* Court, outlining the adverse impact of an unwanted pregnancy, spoke in terms of the harm of additional offspring, the burdens of child care and the stigma of unwed motherhood.[77] These examples relate, however, not to an unwanted pregnancy, but to an unwanted child, and suggest that the woman's right to terminate her pregnancy should entail exercise of a method that would preclude the birth of an unwanted child, in effect, fetal destruction.

This position, however, is difficult to sustain. Adoption, for example, serves to remove an unwanted child from the family unit. Such an alternative becomes important when considered with the *Roe* Court's rejection of the contention that the woman is "entitled to terminate her pregnancy at whatever time, in whatever way, and for whatever reason she alone chooses."[78] If the woman's right to terminate her pregnancy is conceded to entail a right authorizing feticide, it certainly is limited to the previability stage of pregnancy. If no such concession is made, the woman's recognized interest is not in destroying the fetus, but only

74. *See* Comment, *supra* note 70, at 161. The author stated that "the most obvious result of such movement [moving viability to an earlier point in gestation] is that abortions will be proscribed and subject to criminal sanctions at earlier points during gestation." *Id.*

75. *Id.* at 162.

76. Roe v. Wade, 410 U.S. 113, 153-54 (1973). *See* Comment, *supra* note 70, at 162.

77. 410 U.S. at 153.

78. *Id.* at 154.

in terminating her pregnancy.[79] Either way, if a postviability method of pregnancy termination were available that did not entail feticide, a woman would have no right to authorize feticide.

Similarly, if such a method were available, the state could assert its interest in protecting fetal life by proscribing termination *qua* feticide at the point viability is reached. If a method of pregnancy termination were available that did not involve feticide, then the woman's privacy right to terminate a pregnancy would not be infringed by the state's interest in fetal life. She could terminate her pregnancy at any point during gestation as long as termination would not endanger the fetus. Thus, utilization of a nonfeticidal pregnancy termination method would reconcile the state's interest in protecting the potential life of a viable fetus with the woman's right to terminate her pregnancy.

An example may aid in understanding the suggested reconciliation of these seemingly conflicting interests. Suppose postimplantational ectogenesis progressed to the point of being able to sustain successfully to term a twelve week gestational age fetus.[80] Consequently, viability would occur at no later than the twelfth week, the week at which the fetus could potentially maintain life with artificial support outside the mother's womb.[81] Prior to the twelfth week, the woman could terminate her pregnancy unregulated by the state's interest in fetal life.[82] After the twelfth week, the state's interest in protecting potential life would only justify proscription of methods of pregnancy termination that endangered fetal life. Since methods of pregnancy termination that do not endanger fetal life would not transgress the state's interest, they could be utilized to accomplish the woman's asserted privacy right. In this manner the state's interest, and the woman's right are reconcilable through advancements in medical technology.

If the twelfth week was the point at which artificial gestation did not appreciably endanger the fetus, then at that point the mother could

79. Horan, *Fetal Experimentation and Federal Regulation*, 22 VILL. L. REV. 325, 338 (1977). See text & notes 58-60 *supra*.

80. See text at note 52 *supra*. The 12th week has been chosen here because it is in the first trimester, when the woman's current right to terminate is the strongest.

81. Viability would probably occur earlier than the twelfth week because there is reason to believe that viability refers to only better than a 50% chance of extra-uterine survival. *See* note 73 *supra*. The postulated artificial gestation apparatus would have to provide a survival rate higher than 50% in order to endanger the fetus no more than natural gestation. The requirement that artificial gestation provide a higher survival rate than that at viability can be seen by examining the present administration of these competing interests. Presently, after viability, the state is able to totally prohibit any pregnancy termination procedure that will endanger the fetus. Although viability is at approximately 28 weeks, a woman may not undertake to terminate her pregnancy at 28 weeks by placing her fetus in an incubator. Similarly, a woman would not be able to place a 12 week old fetus in an artificial gestation apparatus until it could be done in a way essentially as safe as carrying it to term herself.

82. Prior to viability the state may only regulate pregnancy termination in ways reasonably calculated to protect maternal health. Roe v. Wade, 410 U.S. 113, 163 (1973). *See* text & notes 59, 64 *supra*, and 139-143 *infra*.

terminate her pregnancy by fetal transfer to the postimplantational ectogenetic apparatus. She could, therefore, terminate even in the third trimester because fetal transfer would accomplish termination without abrogating the state's interest in fetal life.

In the foregoing hypothetical, it has been assumed initially that, if viability occurred at the twelfth week, the state could then proscribe pregnancy termination that endangered the fetus, even though the twelfth week is within the first trimester of the normal forty week period of gestation.[83] That initial assumption must be further scrutinized, because currently, the decision to terminate a pregnancy within the first trimester belongs solely to the woman and her doctor.[84] If viability occurred at the twelfth week, a question arises as to whether the state may invade the first trimester by proscribing terminations *qua* feticide.

Policy Considerations and the Woman's Absolute Right to an Unrestricted First Trimester Pregnancy Termination Decision

A woman's first trimester right to an abortion decision unrestricted by the state has often been stated as an absolute.[85] Nonetheless, given an advanced medical capability[86] a state could conceivably, even during the first trimester, proscribe postviability pregnancy termination

83. STEDMAN'S MEDICAL DICTIONARY, *supra* note 12, at 1291.

84. Roe v. Wade, 410 U.S. 113, 163-64 (1973).

85. In *Roe*, the Court emphasized that in the first trimester the attending physician and her patient are free to make the abortion decision "without regulation by the State." *Id.* at 163. In *Danforth*, the Court stated it more directly: "*Doe* and *Roe* clearly establish that the State may not restrict the decision of the patient and her physician regarding abortion during the first stage of pregnancy." Planned Parenthood of Central Missouri v. Danforth, 428 U.S. 52, 66 (1976). Section 3(2) of the Missouri abortion statute challenged in *Danforth* required the woman to sign a consent form prior to an abortion being performed. The Court upheld the constitutionality of that section because full knowledge of the nature and consequences of abortion is important prior to the procedure, and, more importantly, this requirement did not represent an unconstitutional state burden on the woman's first trimester abortion decision. Instead, section 3(2) succeeded in ensuring the woman's first trimester control even over the discretion of her physician. *Id.* at 66-67. In discussing section 3(2), the Court noted that it has been "clearly established" that the state may not restrict a first trimester abortion decision. *Id.* at 66. Appellants, Planned Parenthood, also objected to the confidential hospital record keeping on abortions imposed by provisions 10 and 11 of the Missouri Act, arguing that this state regulation affected the decision to terminate even during the first trimester. *Id.* at 79-80. Because of the confidentiality of the records and the medical usefulness of such information, the Court concluded these provisions were not constitutionally infirm, but were "perhaps approaching impermissible" state regulation of first trimester abortion decisionmaking. *Id.* at 80-81. If an informational record keeping procedure approaches the impermissible, then the first trimester right of the woman to an abortion decision unregulated by the state has been elevated to the status of nearly absolute. *Cf.* Gary-Northwest Indiana Women's Services, Inc. v. Bowen, 421 F. Supp. 734, 736 (N.D. Ind. 1976), *aff'd*, 429 U.S. 1067 (1977). Judge Sharp, concurring, characterizes the woman's right as "the absolute right to terminate human life . . . during the first three months." *See* Emma G. v. Edwards, 434 F. Supp. 1048, 1051-52 (E.D. La. 1977); Abortion Coalition v. Michigan Dept. of Public Health, 426 F. Supp. 471, 475 (E.D. Mich. 1977) (the state may regulate first trimester abortions to the extent of enforcing reasonable regulations that apply generally to all surgical procedures); Mahoning Women's Center v. Hunter, 444 F. Supp. 12, 17 (N.D. Ohio 1977) (noting that first trimester abortion requirements may be adopted as long as they do not impair the abortion decision).

86. See text & notes 80-82 *supra*.

that endangered the fetus. There is a tension between these two concepts. When viability occurs in the first trimester the issue is whether the state may limit pregnancy termination to an ectogenetic method, even though such a state prescription could have a severe impact on the woman's absolute right to decide. If the state were to limit pregnancy termination methods to ectogenesis, the birth of the child would result even though the woman chose to terminate her pregnancy. Certainly, knowing that her child will be born even though she decides to terminate her pregnancy is the kind of state created condition that is constitutionally suspect in its impact on the woman's decision.

When faced with a challenge to a state prescription of a single method of pregnancy termination, a court could hold that the first trimester right of the woman to be free of state restrictions is absolute. Alternatively, it could hold, based on the flexible meaning of viability, that the state may assert its compelling interest in protecting potential life by prescribing the methods of pregnancy termination even in the first trimester. The tension between these two mutually exclusive concepts cannot be resolved by legal doctrine alone. Policy considerations presented by social conditions and needs must also be examined.[87]

Examination of social needs that may exist at the time of the court's decision will aid in illustrating these alternative holdings. Assume that contraception advanced to the point that unwanted pregnancies were relatively few[88] and the birth rate in the United States declined,[89] leaving a progressively smaller percentage of young people in the total population.[90] Further, assume that infertility continued to

87. A Supreme Court decision is often based in part on social expediency, not solely on legal doctrine. *See* Dahl, *Decision-Making in a Democracy: The Supreme Court as a National Policy-Maker*, 6 J. OF PUB. L. 279 (1957). Dahl considers it an underestimation of the Court's importance to ignore the fact that the Court makes policy decisions on controversial issues. He defines "policy decision" as an effective choice of the most preferable alternative based on the value and probability of consequences. *Id.*; J. BARRON & C. DIENES, CONSTITUTIONAL LAW: PRINCIPLES AND POLICY 25 (1975) (noting that Holmes "thought it was inevitable that the Court should reflect contemporary social realities"). *Cf.* P. BREST, PROCESSES OF CONSTITUTIONAL DECISIONMAKING 923-38 (1975) (illustrating the impact of social reality and attitude in the construction of the eighth amendment's prohibition of "cruel and unusual punishment").

88. *See* 113 SCIENCE NEWS 150 (March 11, 1978). The possibility of use of an inhibitor of the enzyme acrosin, without which the sperm cannot penetrate the ovum, is promising and potentially very safe, because the head of the sperm is the only place in the body where acrosin is found. Rosenfeld, *Controls on Male Fertility Now Seem Within Our Reach*, SMITHSONIAN, July, 1977, 36, 42. The uniqueness of the enzyme reduces possible side effects. *Id.* An optimistic prediction is that new male contraceptives will be available in four or five years. *Id.* Contraceptives based on control of the pineal gland have fantastic possibilities, although it will be at least 10 years until marketable results are realized. The Arizona Daily Star, Jan. 21, 1979, § D, at 1, col. 5.

89. In 1976 and 1977 the birth rate in the United States was .08 percent as compared with 1.1 percent between 1966 and 1967. Tucson Citizen, Nov. 24, 1978, § A, at 17, col. 1.

90. "The Census Bureau estimates that if ZPG (Zero Population Growth) occurs, the proportion of Americans 65 and over will rise from 9.8% now to 16%, and the median age will climb from 28 to 37." NEWSWEEK, Dec. 25, 1972, at 28.

plague many American couples[91] and perfection of fetal transference gave these couples the option of prenatal adoption, allowing the adoptive parent to actually carry and give birth to the adopted child. The plethora of willing adoptive parents would make more acute the present shortage of infants available for adoption.[92] This scenario presents social realities that would encourage the Court to permit a state to assert its compelling interest in postviability fetal life by proscribing feticidal pregnancy termination even in the first trimester.

Assume now that our country was severely overpopulated,[93] its resources dwindled, our ability to support an increasing population waned, and hopes of safe contraception were never fulfilled. Use of ectogenetic devices might produce many unwanted infants that might become wards of the state.[94] Conditions like these would encourage the Court to take note of the psychological trauma a woman suffers, knowing her unwanted pregnancy will result in an unwanted child.[95] The Court also might note the state's "legitimate demographic concerns about its rate of population growth."[96] Such factors could influence a conclusion that a woman's privacy right to pregnancy termination in the first trimester is absolute, even if it entails feticide.

State Funding of State Prescribed Ectogenetic Pregnancy Termination

Assuming a state could constitutionally restrict postviability pregnancy termination to an ectogenetic method, an issue arises as to whether the state could then be required to fund those procedures.

91. An estimated 20 to 24% of American couples cannot have children, or have less than they would like. NEWSWEEK, Aug. 7, 1978, at 70.

92. Typically, there is a three to seven year wait for those desiring to adopt an infant. Comment, *supra* note 52, at 611.

93. Population experts, Paul and Anne Ehrlich, warn that a slight decline in population growth rate should not be equated with a decline in population. The decline considered slight is a decline of 0.1%. At this rate the world's population will double in about 39 years. Arizona Daily Star, Feb. 11, 1979, Parade, at 12.

94. Several states have displayed a willingness to take custody of unwanted fetuses who survive an abortion attempt. For example, a Minnesota abortion statute, MINN. STAT. § 145.415(3) (1974) provides for the termination of parental rights if an abortion results in a live birth. *See* Hodgson v. Lawson, 542 F.2d 1350, 1355 (8th Cir. 1976). The Illinois Abortion Statute provides that if an infant were born live from an attempted abortion that was not performed to protect the mother's health, it would be an abandoned ward of the state. ILL. REV. STAT. ch. 38, § 81-27 (1975). *See* Wynn v. Scott, 449 F. Supp. 1302, 1322 (N.D. Ill. 1978) (U.S. appeal pending). A Missouri statute provides that parental rights would terminate if a live birth resulted from an attempted abortion. MO. REV. STAT. § 188.040 (1974). *See* Frieman v. Ashcroft, 443 F. Supp. 1390 (E.D. Mo. 1978). Utah's abortion statute provides that any child surviving an abortion shall become a ward of the state. UTAH CODE ANN. § 76-7-311 (1973). *See* Roe v. Rampton, 366 F. Supp. 189, 196-97 (D. Utah 1973).

95. The Supreme Court in *Roe* took note of the psychological harm caused by an unwanted child. Roe v. Wade, 410 U.S. 113, 153 (1973). Reportedly, when a woman gives a newborn up for adoption, she goes through a period of mourning similar to that caused by the death of a child. The Jackson, Mississippi Clarion-Ledger, June 7, 1977, § A, at 10, col. 1.

96. Maher v. Roe, 432 U.S. 464, 478 n.11 (1977). "Such concerns are basic to the future of the state and in some circumstances could constitute a substantial reason for departure from a position of neutrality between abortion and childbirth." *Id.*

This issue is significant because it is quite probable that the costs of artificial gestation procedures, devices, and personnel to operate them would be markedly more expensive than traditional abortion costs. The state could only restrict pregnancy termination method to ectogenesis after viability, so prior to viability the less expensive, feticidal methods of abortion would remain available to women. As ectogenetic ability and viability progresses toward the point of conception, a woman's access to traditional abortion methods will diminish.[97] If access to traditional methods were extinguished, and if the alternative available method were more expensive, many women would perhaps be unable to afford ectogenesis as an alternative method of pregnancy termination. If so, it could be argued that if a state prescribes such an expensive method of pregnancy termination, the state would be required to provide funding in order to avoid infringing upon the woman's right to terminate her pregnancy.

Maher v. Roe[98] offers an excellent framework for analyzing this issue. The Court was faced with the issue whether the Constitution requires state funding of nontherapeutic,[99] first trimester abortions when the state also funds childbirth.[100] The Court held that the Constitution does not compel such a result.[101] The case arose as a challenge to a Connecticut Welfare Department regulation that limited Medicaid payments to first trimester abortions that were medically necessary.[102] The plaintiffs[103] contended that they were being denied equal protection of the law[104] because the funding of childbirth for indigents, but not nontherapeutic abortion, created a statutory scheme based on a suspect classification and infringed upon a fundamental right.[105]

97. The woman's access would gradually diminish only if her first trimester right has been determined not absolute, but rather susceptible to state regulation. This presupposes that the issue of absoluteness had been resolved. It has not. *See* text & notes 85-96 *supra*. If that issue were resolved in favor of the woman's absolute first trimester right, then state action requiring a more expensive postviability ectogenetic pregnancy termination would not raise the issue whether such state action denied a woman the exercise of her privacy right by diminishing her access to an affordable pregnancy termination. This is so because a woman's access would not be diminished at all if her unregulated first trimester right remained intact. If her right was determined not absolute, the state prescription of the ectogenetic termination method would have the effect of limiting many pregnant women to an illusory choice between bearing the child or election of a termination method inaccessible due to cost.

98. 432 U.S. 464 (1977).

99. Nontherapeutic abortions are those that are not medically necessary. *See* Beal v. Doe, 432 U.S. 438, 441 (1977); Maher v. Roe, 432 U.S. 464, 466 (1977).

100. 432 U.S. at 466. The issue presented in *Maher* is different from the postulated issue. In *Maher*, the state funded childbirth but not nontherapeutic abortions. In the hypothetical, the state would neither be funding ectogenetic pregnancy termination nor ectogenetic childbirth.

101. *Id.* at 479-80.

102. *Id.* at 466.

103. The action was brought by two indigent women against the Commissioner of Social Services. *Id.* at 467.

104. *Id.*

105. *Id.* at 470.

The Court noted initially that the "Constitution imposed no obligation on the States to pay the pregnancy related medical expenses of indigent women,"[106] but when the state decides to fund some medical care, the way it dispenses those funds is subject to the strictures of the Constitution.[107] Funding childbirth but not nontherapeutic abortion raised an equal protection problem,[108] so the Court outlined the well-settled framework for analysis of the problem. If the state action disadvantages a suspect class or infringes upon a fundamental right then only a compelling state interest can sustain it.[109] If no suspect class or fundamental right is implicated, then the state need only show a legitimate state interest that is rationally furthered by the state action.[110]

The Court reaffirmed *San Antonio Independent School District v. Rodriguez*,[111] holding that financial need alone does not identify a suspect class.[112] Therefore, unless a fundamental right was implicated, the state's funding scheme would be subject to the reduced scrutiny of the rational relation standard. The Court looked to *Roe v. Wade*[113] to determine if the fundamental right identified in *Roe* was impinged, and held that it was not.[114] The fundamental right identified in *Roe* was not a right to abortion,[115] but was a right to be free of unduly burdensome interference with a woman's decision whether to terminate her pregnancy.[116] In *Maher*, the fundamental right recognized in *Roe* was not implicated,[117] because there is a constitutionally significant difference between direct state interference with a protected activity, as in *Roe*, and state encouragement of an alternative activity.[118] Since no fundamental right was infringed, the State was not required to show a compelling interest to justify its funding policy.[119] The State satisfied the "less demanding test of rationality"[120] based upon its "legitimate interest in encouraging normal childbirth" which was rationally related to the funding scheme.[121]

In determining that no fundamental right was implicated, the

106. *Id.* at 469.
107. *Id.* at 469.
108. *Id.*
109. *Id.* at 470-71.
110. *Id.* at 470.
111. 411 U.S. 1, 17 (1973).
112. 432 U.S. at 471.
113. 410 U.S. 113 (1973).
114. 432 U.S. at 474.
115. *Id.* at 473.
116. *Id.* at 473-74.
117. *Id.* at 474.
118. *Id.* at 475. In *Maher*, the alternative activity was childbirth, encouraged by the state through funding of childbirth. Nontherapeutic abortion was not funded. *Id.* at 470.
119. *Id.* at 477.
120. *Id.* at 478.
121. *Id.*

Court provided considerations highly pertinent to determining whether the fundamental right to be free of unduly burdensome interference in the pregnancy termination decision is implicated in our ectogenesis hypothetical. The Court reasoned that state imposed drastic limitations on the availability of pregnancy termination services clearly burdens that fundamental right and can only be justified by a compelling state interest.[122] The state has a recognized compelling interest in viable fetal life,[123] and our hypothetical deals with a postviability regulation.[124]

Therefore, assuming that a fundamental right is infringed upon by the state in our hypothetical, the state can demonstrate the compelling interest requisite to justify such infringement. When required to show advancement of a compelling interest, the state usually must also show that the statute advancing such interest is narrowly drawn[125] or is the least restrictive[126] of the infringed fundamental right. The state's interest in fetal life, however, has been recognized to be stronger than other compelling interests. The interest is so strong that, without the traditional further scrutiny as to whether the statute is narrowly drawn, it can justify total proscription of a fetus-endangering procedure.[127]

If the state is presumptively able to enforce a total proscription of feticidal pregnancy termination, apparently it could also prescribe more expensive medical resolutions to an unwanted pregnancy without being constitutionally required to fund those alternative resolutions. In *Poelker v. Doe*[128] the Court upheld a city's scheme of providing public medical facilities for childbirth, but not for nontherapeutic abortions.[129] The fact that denying publicly financed hospital facilities caused women to resort to possibly more expensive private hospitals was deemed irrelevant.[130] Therefore, under a framework gleaned from *Maher v. Roe* and *Roe v. Wade*, a state could apparently refuse to fund

122. *Id.* at 471-72. No fundamental right was impinged upon in *Maher* because the obstacle inhibiting indigent women's access to abortion, lack of money, is not a state imposed obstacle. *Id.* at 474. Whether a fundamental right is actually infringed depends on whether the state action unduly interferes with the pregnancy termination decision. *Id.* "Unduly" is a difficult standard to construe because it is itself conclusory. The Court's examples of "undue" restrictions are the "complete abridgement" in *Roe, id.* at 472, and the absolute, unilateral obstacle imposed by Missouri's husband consent statute in *Danforth*, although the "state-created obstacle need not be absolute to be impermissible." *Id.* at 473. Justice Brennan dissented: "The fact that the Connecticut scheme may not operate as an absolute bar . . . is not critical. What is critical is that the State has inhibited their fundamental right to make that choice free from state interference." *Id.* at 488.

123. *Id.* at 472. *See* text & notes 61-69 *supra.*

124. *See* text & notes 97 *supra.*

125. Roe v. Wade, 410 U.S. 113, 155 (1973).

126. San Antonio Independent School Dist. v. Rodriguez, 411 U.S. 1, 51 (1973); Dunn v. Blumstein, 405 U.S. 330, 343 (1972).

127. Maher v. Roe, 432 U.S. 464, 472 (1977). Roe v. Wade, 410 U.S. 113, 165 (1973). The state can totally proscribe a fetus-endangering procedure except if the woman's health is endangered. *Id.*

128. 432 U.S. 519 (1977).

129. *Id.* at 521.

130. *Id.* at 520-21.

a more expensive pregnancy termination method when it has imposed a statutory scheme limiting termination to that method. Such a refusal by the state would not be held unconstitutional as a state imposed, drastic limitation of a fundamental right.

One last contention remains to challenge the constitutionality of the hypothesized state scheme. It has been contended that the requirement that pregnancy termination be achieved through the more expensive ectogenetic procedure would have the effect of violating the standard of "meaningful availability."[131] Simply stated, the standard is that a state may not proscribe a method of pregnancy termination unless the alternative method is available in a meaningful way.[132] "Available in a meaningful way" has been interpreted to mean that the alternative method must be actually available so as to avoid constituting an unjustified inhibition of the woman's privacy right to decide to terminate her pregnancy.[133] That standard originated in *Danforth*, where the Supreme Court struck down a statute proscribing use, after the twelfth week, of the saline amniocentisis method of abortion.[134] The statute prohibited the use of that common method, purportedly to protect maternal health.[135] More dangerous methods remained available,[136] however, and the safer prostaglandin technique was apparently not available in Missouri.[137] The statute, viewed in light of these facts, had the anomalous effect of banning only the safest meaningfully available method of abortion in the name of safety, while continuing to permit only those methods that were either more dangerous, or that were in fact not available.[138]

The Court utilized the analytical framework announced in *Roe v. Wade* to assess the constitutionality of that statute. Beyond the point where the state's interest in maternal health becomes compelling,[139] the state need only show a rational relation between that interest and the state action.[140] The *Danforth* Court followed its earlier holding in *Roe*

131. *See* Note, *supra* note 18, at 890-91, 920-21.
132. *Id.* at 890-91.
133. *Id.* (citing Planned Parenthood v. Danforth, 428 U.S. 52, 77-79 (1976)).
134. Planned Parenthood v. Danforth, 428 U.S. 52, 75-79 (1976).
135. The challenged Missouri statute prohibited use of the saline amniocentisis method after the first 12 weeks as deleterious to maternal health. MO. REV. STAT. § 188.050 (1974). *See* Planned Parenthood v. Danforth, 428 U.S. 52, 75-76, 86-87 (1976).
136. *Id.* at 78-79.
137. *Id.* at 77-78.
138. *Id.* at 78-79.
139. The point of compellingness with respect to maternal health is at the end of the first trimester, when mortality in abortion is no longer less than mortality in normal childbirth. Roe v. Wade, 410 U.S. 113, 163 (1973).
140. *Id.* Usually, under the strict scrutiny of the compelling state interest test, the state, after establishing the existence of a compelling interest, must show that the statute is narrowly drawn to effectuate only that interest, or to state it another way, that the statute advances the interest utilizing the alternative least restrictive of the individual's fundamental right. *See* text & notes 125-26 *supra*. Just as the state's interest in fetal life is even stronger than the ordinary compelling state

that the state may regulate abortion after the first trimester "in ways reasonably related to maternal health."[141] The statute was struck down because, although the state's interest was compelling,[142] it did not satisfy the additional requirement that its statute be rationally related to the interest in maternal health.[143] The statute failed to be rationally related to the interest in maternal health because the safer alternative method, the prostaglandin technique, was not meaningfully available.[144] A woman was, therefore, forced to undergo more dangerous methods, or forego termination of her pregnancy. The Court characterized the statute as an "unreasonable or arbitrary regulation designed to inhibit, and having the effect of inhibiting, the vast majority of abortions after the first twelve weeks."[145] The meaningful availability standard, then, is a component of the rational relation portion of the unique test designed to assess the constitutionality of a statute advancing the state's interest in maternal health.

A statutory scheme (as in the hypothetical), however, that is calculated to advance the state's compelling interest in potential life, rather than the interest in maternal health, would face a different constitutional test. The meaningfully available standard then, does not apply and cannot dictate a result to the hypothetical. The test applicable to the hypothesized statutory scheme constitutes a lighter burden for the state than the one imposed on a scheme advancing the interest in maternal health. At viability, the state may totally abrogate the woman's rights to a decision that would threaten the state's very strong interest in fetal life.[146] The statutory scheme that advances the compelling interest in fetal life is presumed to meet the additional requirement if the scheme is rationally related to the asserted interest.[147] In essence, a postviability regulation protecting potential life need face no test whatever, as it is presumptively constitutional. With this last challenge

interest, see text & notes 124-30 *supra*, the state's interest in maternal health is stronger than the ordinary. After the point when the state's interest in maternal health during pregnancy becomes compelling (presently at the end of the first trimester), the state need only show that the statute reasonably relates to the interest in maternal health. This hybrid test was announced in *Roe*, 410 U.S. at 163, and applied in *Danforth*, 428 U.S. at 76. Therefore, the state's recognized compelling interest in maternal health must be stronger than other interests deemed compelling, because the state need only show a rational relationship and need not meet the stricter least restrictive alternative analysis.

141. 428 U.S. at 76. This test is a bit of an anomaly in that it combines aspects of the usually separate compelling state interest test and the rational relation test.

142. The state's interest was compelling because the regulation was of second trimester abortions. *Id.*

143. *Id.* at 79.

144. *Id.*

145. *Id.*

146. Roe v. Wade, 410 U.S. at 164-65. This abrogation of the woman's decision to threaten that interest may be backed up with criminal penalties. Maher v. Roe, 432 U.S. 464, 472 (1977). *See* text & notes 124-130 *supra*.

147. The statute is presumably rationally related and thus constitutional, as long as it allows abortions to save the woman's health. *See* text & notes 124-130 *supra*.

to the hypothetical statutory scheme disarmed, it appears that the state may require that postviable pregnancy termination be accomplished by the possibly more expensive ectogenetic method, without financing that method.

CONCLUSION

Ectogenetic ability is likely to develop so as to present new concepts to assimilate and new realities to confront. Society must become accustomed to the idea of artificial gestation, entailing use of "glass boxes" or surrogate mothers to carry our future generations to birth. Termination of pregnancy without endangering the fetus can plausibly reconcile the morality of choice with the legality of choice. It can also reconcile the currently conflicting right of a woman to choose to terminate her pregnancy with the state's very strong interest in protecting fetal life.

Ectogenetic advances will have the effect of moving the legal concept of viability backward toward the point of conception. Concurrent with that movement, the state will be within constitutional limits in regulating the pregnancy termination decision so as to ensure fetal survival. When viability occurs in the first trimester, there will be a clash between the state's authority to protect viable fetal life and what may be deemed the woman's absolute first trimester right to an unregulated pregnancy termination decision. Resolution of that clash may depend greatly on social conditions present when it arises.

Although the state may prescribe ectogenetic methods of pregnancy termination after viability, the state cannot be constitutionally required to fund those procedures. The state prescription will not be held to constitute a constitutionally impermissible impact on the woman's privacy right to choose termination.

Development of ectogenetic abilities can be viewed as greatly increasing a woman's decisional freedom regarding her pregnancy. Ectogenesis can add methods of pregnancy termination that could be available even through the second and third trimesters, and conceivably right up to the time of birth. We will be faced with assaying the importance we place on a natural, in-uterine prenatal experience.

Technology will increase the absolute number of our choices, but societal response may refocus and relimit the realm of permissible choices. When faced with changed facts, the assertion of state interests and individual rights will change, requiring a reforging of the compromise struck in *Roe v. Wade*. The *Roe* compromise, however, does present the raw materials necessary for reaching a humane result through that reforging.