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Introduction

In the thirty years since the *Roe v. Wade* decision was handed down, the world of bioethics has undergone enormous changes. Since 1973, medical technology has opened up new vistas unimagined at that time and created new ethical dilemmas both for physicians at the bedside and legislators making public policy. For example, stem cell, embryo and fetal tissue research are going ahead (with or without federal funding) and show promise for alleviating the symptoms of various diseases, though there have been surprisingly few significant breakthroughs to date. Scientists can now clone human embryos and may one day in the near future accomplish human cloning from cells taken from adults, formerly the material for science fiction. Furthermore, the Human Genome Project has provided new avenues for genetic testing and diagnosis of genetic disease, opening up vast new pools of information on one’s genetic predispositions. These tests can be performed on both adults and children in the womb. Though medicine is no closer to treating many of the most debilitating genetic diseases, the new information is very useful to patients in managing their risk and beginning available treatments in a timely fashion.

When the *Roe* decision was delivered and law protected abortion on demand, few people imagined the impact that the Court’s decision would have on other aspects of bioethics. In fact, only a handful of pro-life advocates were bold enough to predict that it would radically alter the ways in which society viewed prenatal life. Some even predicted that the decision would come back to affect the way society views euthanasia, a claim widely dismissed as extreme pro-life rhetoric. Yet, thirty years later, those who predicted such things are able to say, “I told you so.” The *Roe* decision profoundly changed the landscape of bioethics in the United States. Its impact is still felt today and the background of legal abortion has changed the way society thinks about many important bioethical issues. It is clear that the change in the law left an indelible pedagogical impression on society and the way we think about ethics at the edges of life. I will suggest that the ripple effect of *Roe* is felt today in the areas of partial-birth abortions, fetal tissue research, genetic testing, *in vitro* fertilization, embryo and stem cell research, and physician assisted suicide.

Partial-Birth Abortion

The conventional wisdom in the popular culture today is that *Roe* legalized abortion up to the point of viability, which in 1973 was roughly at the end of the second trimester. In fact, if you ask most people on the street today at what point abortion is legal most will reply that it is up to the point of viability. *Roe* arbitrarily divided up pregnancy into three trimesters and ruled that the state had a different interest in each one. In the first trimester, the right to abortion is legal most will reply that it is up to the point of viability. *Roe* arbitrarily divided up pregnancy into three trimesters and ruled that the state had a different interest in each one. In the first trimester, the right to abortion is virtually unlimited. Women could procure abortions for any reason and at any time. In the second trimester, when performing abortions became a bit more com-
complicated, a woman’s right to choose abortion could be limited in order to protect her safety. For example, the state could mandate that only licensed physicians at licensed medical facilities could perform abortions. In the third trimester, once viability had been reached, the state had a critical interest in the preservation of life, which could only be overridden by significant threats to the woman’s life or health. Thus abortion was still available, but the Court’s design was to make late term abortions more difficult to obtain than those in the first trimester. The burden was on the pregnant woman to show that abortion was necessary to safeguard her life or health. In the light of Roe, one might legitimately ask how it could be that partial-birth abortions are occurring as frequently as they are.

Roe, however, was not the only abortion related Court decision handed down in January of 1973. In a companion case, Doe v. Bolton, the Court clarified the definition of a woman’s health that could be jeopardized sufficiently to warrant a third trimester abortion. The Court ruled that a woman’s health included factors that were much broader than simply her medical or physical health. They included her emotional and psychological health and what the court referred to as “familial” health. That is, the impact of having another child on the pregnant woman’s family was considered a part of her health, and could include the woman’s financial condition and even the health of the unborn child. That is, if the child was genetically handicapped, the impact on the family of raising such a challenged child could be considered in the assessment of the woman’s health. The Court put it like this: “We agree that the medical judgment (about the woman’s life or health being jeopardized) may be exercised in light of 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. This allows the physician the room he needs to make his best medical judgment.”

In addition, the Court ruled that this assessment of the woman’s health, including emotional and familial factors, was a decision to be made between the pregnant woman and her physician. That is, it was to be a private decision, with no place for anyone to second-guess the opinion of her physician. The Court put it this way: “The statute’s emphasis is on the attending physician’s judgment that an abortion is necessary. That should be sufficient.” Even though physicians are not trained to make psychosocial assessments, exclusively the physician made the estimate of the threat to the woman’s health. In reality, the definition of health had been broadened and the decision so privatized that the result was predictable—abortion virtually on demand for virtually any reason, throughout the entire nine months of pregnancy. Roe and Doe together legalized abortion on demand in all three trimesters of pregnancy, thus setting the stage for partial-birth abortions, which occur today largely for the same reasons that first trimester abortion do—as birth control measures of last resort. Had Roe alone been passed in January 1973, one could make a better case that abortion was legal up until the point of viability. But in concert with Doe, even late term abortions are legal, for virtually any reason. Thus, while Roe in itself limited late term abortions to those of necessity only, as broadened by Doe, it left a legacy that included the death of virtually full term unborn children by means that, if the public were fully aware, would shock
most. Under these Court decisions, life and
death for the unborn third trimester child
is literally a matter of inches, since once the
child is fully out of the womb, ending the
child's life is no longer abortion, but infan-
ticide.

**Fetal Tissue Research**

A second legacy of *Roe* concerns the area
of fetal tissue research. Since the late 1980s,
researchers have proposed using the tissue
from electively aborted fetuses to help
alleviate the symptoms of diseases such as
Parkinson's disease and diabetes. Different
parts of the fetus are useful for treating dif-
ferent diseases, depending on the timing
of the abortion and the condition of the tis-
sue following the abortion. The result is
that aborted fetuses are being used as a
source of biological spare parts, as organ
and tissue donors. Opponents of fetal tis-
sue research hold that the means by which
the tissue is obtained means that it is mor-
ally tainted, similar to money for commu-
nity development obtained through the
drug trade, or some other morally ques-
tionable industry such as pornography.
Though media attention is now focused on
stem cell research and a good deal of fetal
tissue research is still considered experi-
mental, fetal tissue research and transplan-
tation clearly could not have gotten off the
ground without the *Roe* decision.

For many proponents of fetal tissue
research, the legality of abortion makes this
a non-issue. That is, since abortion is legal,
and clearly by implication, morally per-
missible, then donating the tissue from
induced abortion fetuses should not be a
problem. For proponents of the research,
the issue is that simple. Abortion is legal;
therefore, fetal tissue donations are analo-
gous to adult organ donations. Most pro-
ponents of this research have sought to put
limits on the practice to prevent abuses. For
example, tissue is not to be bought and sold
on the open market, the consents to abor-
tion and to donation should be entirely
separate, there should be no relationship
between the abortion clinic and research
facility and the woman authorizing the
abortion should not be able to designate
the recipient of the tissue. But the propo-
nents assume that because abortion is legal,
there is no problem per se with use of the
tissue. Some have even suggested that it
would be immoral not to use the tissue,
given that abortion is legal. Had *Roe* not
been handed down, it would have been
much more difficult to make the moral case
for fetal tissue transplants. *Roe* created the
legal, and by extension, the moral context,
for using unborn children as a source of
biological spare parts.

**Infertility Treatments**

In the past 25 years, new treatments for
infertility have enabled couples who are
struggling to have children to conceive the
child of their dreams. Treatments such as
*in vitro* fertilization (IVF), in which the child
is conceived in the lab and not in the body
have revolutionized the way infertility is
treated and have given hope to infertile
couples. Many other treatments for infer-
tility involve a heightened risk of multiple
pregnancies. If you see a woman on the
streets today pushing a stroller with trip-
lets or more, you can rest assured that they
were conceived with expensive high-tech
assistance. For example, techniques as
simple as intrauterine insemination (IUI),
in which the husband’s sperm is given
technological assistance in reaching the egg
in his wife’s body, is now done in conjunc-
tion with the same high-powered fertility
drugs used with IVF that enable a woman
to release multiple eggs in a single cycle.
Some of the most celebrated multiple births have come as a result of IUI and fertility drugs. When IVF is performed, the woman is given the same drugs to enable her to release as many eggs as possible in a single cycle. The eggs are then harvested; fertilized \textit{in vitro} and then normally 3-4 embryos are implanted in the woman’s uterus, though in some cases, more embryos are implanted. The remainder of the embryos, if any are left over, are stored by cryopreservation should the first round of implants fail and the couple have need for additional embryos to be implanted.

In both IUI and IVF there is the risk that the couple will become pregnant with more unborn children than they either can safely carry, or wish to have. This risk is considered a necessary part of the process, since the most expensive part of the process is harvesting and fertilizing the eggs. Infertility physicians implant 3-4 embryos in IVF to give the couple the best chance at achieving a single pregnancy. But with IUI, it is more difficult to say how many pregnancies are possible, since it is unknown prior to insemination how many eggs the woman has released. Thus, the risk of multiple pregnancies is actually greater with IUI in conjunction with fertility drugs than it is with IVF.

For some couples who have heard and read the accounts of couples who give birth to even larger numbers of children, for example, anywhere from 5-8 children, the risk of multiple pregnancies can be a daunting obstacle for those who want to utilize these technologies. But infertility clinics have managed this difficulty by offering a referral to what is called “selective termination.” That is, if the couple achieves more pregnancies than they are comfortable with, for whatever the reason, the clinic will refer them to specialty abortion clinics that will reduce the number of pregnancies to the number the couple desires. Every couple who is at risk for multiple pregnancies is presented with the option of a referral for selective termination. The conventional wisdom is that clinics refer couples for selective termination in those cases in which they become pregnant with more pregnancies than the woman can safely carry, to avoid endangering her life or health, or the life or health of the unborn children. For example, in most cases of quadruplets or more, they must be delivered prematurely, and as a result have many medical problems due to insufficient development prior to birth. That presents a difficult moral dilemma for a couple when that is indeed the case. But the little known fact in this area is that every couple who utilizes a procedure that might result in multiple pregnancies is given the option of a selective termination referral, for any reason they choose. For example, if a couple gets pregnant with triplets through IVF, but they only desire a single child, they can have their number of pregnancies reduced from three to one.

The ease with which infertility clinics give selective termination referrals and the availability of selective termination for any reason (in reality, the couple does not even have to give a reason) is part of the legacy left by \textit{Roe v. Wade}. With abortion being legal on demand as a result of \textit{Roe}, it is a simple matter to refer couples for this procedure. Abortion has not only become the birth control of last resort, but as a result of its legality and social acceptance in the aftermath of \textit{Roe}, selective termination has become the safety net under the technologies of IVF and IUI. The callousness with which couples can do selective termination, when going to such lengths to conceive children, simply because they don’t
like the result of the procedure, is a very disturbing and problematic legacy of Roe. Even for someone who is pro-choice, the decision to take life deliberately created in the lab at great length and expense, should strike a person as problematic, and illustrates the callous disregard for unborn life that is the legacy of Roe.

Less direct a connection but one worth mentioning is the routine discarding of leftover embryos after a couple is finished with IVF. In order to minimize the expense of harvesting eggs, couples routinely fertilize all the eggs that are harvested, but only implant 3-4. That usually leaves some embryos left over for use at a later time should the couple not achieve a pregnancy. The embryos are placed in storage and thawed out to be implanted should the couple so desire. When the couple is finished with the process, usually as a result of becoming pregnant and achieving their goal, they do not have further use for the embryos. Generally, they are discarded, though at times, they are donated to another infertile couple or donated to research facilities.6

Though Roe did not technically deal with embryos, the decision surely has had a major impact on how embryos, particularly ex-utero embryos, are viewed. In fact, the first baby born from IVF was not born until five years after Roe.7 In infertility practice, given the acceptability of selective termination that did directly result from Roe, it is a small logical step from there to routine discarding of leftover embryos. If one argues that the easy access to abortion that Roe enabled has undercut respect for the unborn, that is clearly the case with embryos. Though one can argue that location and stage of development make a morally relevant difference, the personhood of the unborn does not depend on either location or degree of functional ability. The Scripture strongly suggests a continuity of personal identity from the earliest points of pregnancy to adulthood, implying that personhood is a matter of essence, not function or location.8 Thus discarding embryos is the moral equivalent of abortion. Given the routine nature of selective termination services, it should not be surprising that discarding embryos is equally routine. Both are a part of the legacy of Roe.

**Prenatal Genetic Testing**

With the completion of the first draft of the Human Genome Project (HGP), we now have at our disposal much clearer information about the various genetic factors that contribute to a wide variety of diseases. Though gene therapy is still in the experimental stage and has had some significant steps backward in the past few years, the HGP has provided an extraordinary amount of information about the risks for disease that people face due to their genetic makeup. There are an increasing variety of diagnostic tests for people who might be at risk. For example, women who have a family history of breast cancer now have genetic diagnostic testing available to pinpoint the genetic factors that increase their risk of developing breast cancer. These tests do not generally establish a cause and effect link with a disease; they only identify risk factors for the person. Single gene diseases where there is a causal link between the genetic factor and the development of the disease constitute an exception to this, as for example in the cases of Huntington’s disease, cystic fibrosis, and Tay-Sachs disease. Of course, some of the diseases are treatable and some are not. In the former case there is substantial benefit to knowing one’s genetic risk factors.
These diagnostic tests are also available to pregnant women to test their unborn children for a variety of genetic anomalies. These are performed largely through amniocentesis, a procedure in which the unborn child’s cells are obtained through the mother’s amniotic fluid and then subject to genetic testing. In this area the legacy of Roe has made a subtle but significant contribution. Though claiming objectivity, the genetic counselors and physicians who test children in the womb often carry forward an assumption that is premised on the availability of abortion. That is, if the couple received bad news back from their genetic testing, it is widely assumed that the couple will end the pregnancy, sparing the child a difficult life and sparing the parents the task of raising a child with what could be severe challenges. The standard practice in genetic testing and genetic counseling industry is to present the abortion alternative to every couple who receives bad news from testing. The legacy of Roe is that couples can prevent the incidence of genetic disease, but must do so preemptively, by taking the life of the unborn child. This abortion assumption can actually put the burden on the couple to justify why they are keeping the pregnancy when carrying a genetically anomalous child. Of course, this rationale for abortion in the case of genetic testing assumes a view of the unborn that is the lasting legacy of Roe—that the unborn child is less than a full person. For only if one assumes that premise can the argument from handicap make any sense. That is, unless it is assumed that the unborn child is not a person, then there is no morally relevant difference between abortion for genetic problems and infanticide for genetic problems.

In order to avoid the necessity of abortion to deal with genetic anomalies, couples have another option, that of preimplantation genetic diagnosis (PGD). In this procedure, couples who are at risk for a specific genetic problem can conceive using IVF, screen the embryos prior to implantation, and then implant only the embryos that are free from the genetic anomaly. The rest, that is, the genetically defective embryos, are discarded, similar to embryos that are left over after infertility treatments. This is the standard of practice with PGD. For those who hold that embryos are persons, there is no morally relevant difference between abortion for genetic problems and discarding genetically defective embryos. Although Roe did not deal specifically with embryos, it provided an important source of educational information about the moral status of embryos for society. By denying legal personhood to the fetus in making abortion legal, the decision made a powerful statement by extension about the moral status of embryos. Roe ruled that in the first two trimesters, prior to viability, the unborn child had no interests that could override the mother’s right to choose to end the pregnancy. This was especially true in the first trimester, in which the Court ruled that abortion on demand was legal. That is, according to the Court, the unborn child has no rights in the first trimester that merited protection from the desire of the mother to end the pregnancy. By extension (even though the Court was not addressing that extension), embryos would have had even fewer rights, since they are not even implanted and exist outside the womb. It would seem that the desensitizing impact of Roe on society’s view of fetuses was quite easily applied to ex-utero embryos. Thus the standard of practice in both infertility and genetic testing could include discarding embryos at least as easily, if not more so, than abortion of already
implanted and developing unborn children.

**Embryo and Stem Cell Research**

This application of *Roe* to ex-utero embryos has shaped much of the public debate over the latest bioethical issue in public policy. With the advent of technology that can isolate embryonic stem cells, embryo research has gained new significance and greater public prominence. With all the hope for medical progress from stem cell research, the source of these stem cells was easily pushed into the background. Originally, the source of stem cells was to be the embryos left over from infertility treatments, analogous to using fetal tissue from induced abortions. Proponents reasoned that since the embryos, like the fetal tissue, were going to be discarded, why not put them to good use? But the debate went a bit further. Propelled by the predictions of major scientific and medical progress and the ability to help suffering patients, stem cell researchers proposed what came to be known as therapeutic cloning, a process whereby embryos were being created in order to be the source of stem cells.

In both cases, the legality of abortion and the resultant low view of fetuses and embryos contributed to the ease with which the source of these stem cells was viewed as irrelevant. Concerns about the destruction of human life in order to harvest stem cells were dismissed as “symbolic.” In other cases, views that upheld the moral status of embryos were minimized because of their religious roots, even though opponents had sought to make the argument against stem cell research on the basis of publicly accessible reasons. In the public debate, for proponents the potential for medical progress trumped any concerns about the destruction of embryos.

This low view of embryos, as is the case in IVF and genetic testing, is an outgrowth of *Roe*. According to *Roe* reasoning, if it is permissible to end a pregnancy for virtually any reason, including the health of the mother, then by extension, ending the lives of ex-utero embryos, particularly if doing so could potentially save the lives of others, must surely be permissible. If women can end pregnancies for any reason consistent with *Roe*, then surely it must be permissible to end the lives of human embryos for such noble purposes as medical progress. Though it is true that *Roe* did not address embryos, the logic of the decision has clearly been extended to apply also to embryos. This is its legacy by application.

**Physician Assisted Suicide**

It is more difficult to identify the legacy of *Roe* when one moves from the beginning edge to the end. But even at the end of life in the debate over physician assisted suicide (PAS), the impact of the abortion decision has been felt. In 1973, opponents of abortion predicted that the arguments used to justify abortion would someday be used to justify various forms of euthanasia. It wasn't until 1996 that such a prediction was realized, when the Ninth Circuit Court of Appeals explicitly used the abortion decisions as the basis for its ruling that laws prohibiting PAS are unconstitutional.9 This ruling was overturned upon appeal to the United States Supreme Court in 1997.10

In the decision issued by the Court of Appeals, they relied heavily on the abortion precedent set by both *Roe* and the 1992 *Casey*11 decision that upheld the central ruling of *Roe*. In fact, the Court of Appeals admitted its dependence on the abortion cases for its reasoning on PAS. The Court of Appeals put it like this:
In deciding right-to-die cases, we are guided by the [Supreme] Court’s approach to the abortion cases. *Casey* in particular provides a powerful precedent, for in that case the Court had the opportunity to evaluate its past decisions and to determine whether to adhere to its original judgment. Although *Casey* was influenced by the doctrine of *stare decisis*, the fundamental message of that case lies in its statements regarding the type of issue that confronts us here: “These matters, involving the most intimate and personal choices a person may make in a lifetime, choices central to personal dignity and autonomy, are central to the liberty protected by the Fourteenth Amendment (*Casey*, 112 S. Ct. 2791, at 1807 [sic], 1992).”

The Court of Appeals used the notion of privacy inherent in the abortion decisions and extended *Roe* and *Casey* by application. They reasoned that if the decision to have an abortion is protected by privacy and autonomy because it involves life’s most intimate and value-laden choices, then surely the decision about the timing and manner of one’s death is analogous. So if there is a liberty interest that cannot be taken away without due process in the abortion decision, then there is an equivalent liberty interest in choosing the timing and manner of one’s death. The Court of Appeals, in their view, extended the notion of liberty and privacy to include assistance in dying in the same way that they read the Supreme Court in their extension of liberty and privacy to apply to abortion decisions. In *Casey*, which echoed *Roe*, the Court of Appeals reminded the parties that prior Constitutional protection had been granted people making decisions that involve the most intimate and personal choices one can make. These choices involve a concept of liberty that 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.” The Court of Appeals goes on to admit that they found the Court’s reasoning “highly instructive” and “almost prescriptive” for deciding the right to die cases. The Court put it in this way:

Like the decision of whether or not to have an abortion, the decision how and when to die is one of “the most intimate and personal choices a person may make in a lifetime, a choice central to personal dignity and autonomy.” A competent terminally ill adult, having lived nearly the full measure of his life, has a strong liberty interest in choosing a dignified and human death rather than being reduced at the end of his existence to a childlike state of helplessness, diapered, sedated, incontinent. How a person dies not only determines the nature of the final period of his existence, but in many cases, the enduring memories held by those who love him.

The dependence of the Court of Appeals on the abortion decisions makes it clear that the legacy of *Roe* has had a powerful impact on decisions concerning PAS at the end of life. Even though the Supreme Court overturned this decision and rejected the extension of *Roe*, in popular culture and among many in the bioethics community, the notion that abortion and PAS are analogous is still a powerful one. This is seen by the way in which the debate over PAS is carried on today. The autonomy argument is central to the discussion. This is a change from the past, when the argument from mercy was considered the most powerful one. But with pain management getting better and more widely accessible, the argument from mercy is more difficult to sustain. That is, if a dying person’s pain is
alleviated adequately, then the urgency for PAS, and often, the patient’s desire for PAS, is gone. Not so with the argument from autonomy. PAS is seen as an expression of one’s most intimate and value-laden choices. It is the autonomy argument that is carrying the weight in the ongoing debate over PAS. That is another of the enduring legacies of abortion decisions such as Roe.

ENDNOTES
1 Doe v. Bolton, 93 S. Ct. 739 (1973) at 747.
2 Ibid., 751.
3 For a clear statement of this position, see John Robertson, “Rights, Symbolism and Public Policy in Fetal Tissue Transplants,” Hastings Center Report 18 (Dec 1988) 5-12. There is a good counter-argument to this that suggests that fetal tissue donations are actually not analogous to adult organ donations, granting the legality of abortion. See Scott B. Rae, “Spare Parts from the Unborn?,” Christian Research Journal 14:2 (Fall 1991) 28-33.
4 See this argument in Bonnie Steinbock, Life Before Birth: The Moral Status of Fetuses and Embryos, (New York: Oxford University Press, 1996). Steinbock interestingly admits that for opponents of abortion, the notion that fetal tissue use involves complicity with an immoral practice has persuasive force. Of course, given Roe, she has neither a moral nor legal problem with abortion.
5 The standard of practice in infertility clinics is moving toward implanting no more than three embryos per attempt, in order to reduce the prospect of becoming pregnant with more embryos than is safe.
6 Embryo adoption is another term for donation of leftover embryos and is a growing practice. One can argue that this may be a better way to put a child up for adoption due to the continuity in gestation and parenting: there is no break in relationship when the child is born.
7 The first baby born from IVF occurred in 1978 in England.
8 Space does not afford a fuller defense of the personhood of the unborn. For further discussion see J. P. Moreland and Scott B. Rae, Body and Soul: Human Nature and the Crisis in Ethics, (Downers Grove: InterVarsity Press, 2001).
12 Ibid., 2807.