

## HEALTH & SCIENCE ECTOGENESIS



Ectogenesis is the gestation of a fetus in an artificial environment. Georgi Boorman reported at the *Federalist* (10/26/17) that researchers project that in less than 10 years we should be able “to improve the survival rates of extremely premature babies by letting them develop inside ‘extracorporeal devices,’ or artificial wombs. It has been successfully tested on 8 lambs from what equates to 22-24 weeks’ human gestation.” The lambs remained in the Biobags for 28 days, but the researchers stated that the lambs could have stayed in the Biobags longer. The study, published in *Nature Communications*, was led by fetal surgeon Alan Flake at Children’s Hospital of Philadelphia. He stated, “The whole idea is to support normal development; to re-create everything that the mother does in every way that we can to support normal fetal development and maturation.” According to Boorman, Flake “hopes to test the device on premature infants within the next 3-5 years, but they don’t plan on pushing viability back any farther than about five months’ gestation.”

Xavier Symons wrote at *Bioedge.org* (10/28/17), “the possibility of ectogenesis raises significant ethical questions, such as: ‘will ectogenesis allow us to reconcile pro-choice and pro-life positions on abortion?’” Some ethicists feel that this new technology will remove the physical burden that a child poses during the duration of fetal development. University of Toronto bioethicists Eric Mathison and Jeremy Davis argue that women have a right to abortion – having the fetus removed from their bodies – but not a right to kill the fetus; by removing the fetus and placing it in ectogenesis the rights of both the mother and the fetus are respected. Mathison and Davis call this solution ‘ectogenesis abortion’. Symons stated that other ethicists “are suspicious of this view.” Joonas Rasanen wrote in the journal *Bioethics*, “...if ectogenesis abortions become reality, some women (and men) will have genetic children... who carry their genetic material without their consent... their right to genetic privacy has been violated, and the only way to avoid this is if they have a right to the death of the fetus...the genetic parents own the fetus, and because of that, their property rights are violated if the fetus is gestated in an artificial womb without their consent.”

Boorman warns, “While this technology holds much promise for premature babies, we should...think through the potential ramifications...explore the ways in which artificial wombs could impact reproduction and our society...we must consider these potential outcomes with care. Technology is not to be feared, but the vast capacity of humans to use it for evil is important to guard against...as man’s power over nature increases, his ability to love and care for his fellow man is bound up with the ability to abuse and exploit him.”

Boorman refers to bioethicist Dena Davis of Lehigh University, who said that Biobags would ‘blur the line’ between a fetus and a baby, requiring an ‘overhaul of abortion law’. Clarke Forsythe of Americans United for Life explained that “according to the court’s formulation of abortion doctrine, ‘being born’ means ‘term’, but according to laws regarding fetal homicide, unlawful death, and fetal injury, ‘being born’ means ‘outside’ [the womb] without

regard to gestational age.” Boorman reflects that “artificial wombs would force the law to line up with itself”. The legal definition of viability varies from state to state, and the artificial womb has the potential to push viability back much earlier than five months. Forsythe asked, “If you have an available artificial womb...can the law treat the child as viable?”

Another question raised by Boorman was if the “mere fact that artificial womb technology (AWT) *can* save an extremely premature baby [does that mean] that all babies of AWT-viable age should be protected from abortion? Complicating matters is that not just the artificial womb must exist, but the technology to evacuate the baby in a manner that is relatively safe for the mother.” Law professor Stephen G. Gilles argues that the “concept of viability is in question, not just the gestational age at which it is set.” The *Roe v Wade* and *Casey* decisions defined viability as when the fetus can survive outside any womb – not simply outside the mother’s womb. Gilles admits “the literal language about ‘artificial aid’ could be stretched to cover artificial wombs.”

The authors of the lamb study are aiming to help save human preemies between 22-24 weeks gestation. However, Boorman acknowledges that as technology advances, viability outside the womb could be pushed much earlier. Currently, “roughly 90% of all abortions are done in the first trimester, which is well beyond AWT’s supposed capability ten years out.”

Boorman points out several other questions that will be raised with AWT. Gilles argues that “the right to elective abortion will continue to apply to fetuses that are not yet developmentally viable-even though these fetuses can be rescued [with AWT].” Does a woman have a right to a ‘terminative abortion’ or an ‘evacuative abortion’? AWT forces abortion extremists to admit that abortion is not about bodily autonomy, but the right to beget a child. Should courts order the removal of preborn babies from damaging circumstances? Does the welfare of the child compel the government to override ‘my body, my choice’? Will AWT require ‘womb orphanages’ or ‘preborn care centers’ that are government-run or subsidized? Could the number of abandoned babies surpass the current number of abortions? The surrogate industry will be impacted by AWT. Matthew Eppinette of the Center for Bioethics and Culture warns that we would “still be faced with pregnancy contracts and the commodification of human life...[AWT] brings the specter of the manufacture of children to reality in a whole new way.” Will AWT lead to the growth of “fetus farms” for research and tissue harvesting? Will AWT lead to the degrading of the organic family? Eppinette asks, “What is the line between shaping and forming children on the one hand, and designing and manufacturing them on the other? Where is the space to have this conversation, when the overriding factor is cost vs. benefits? The argument typically begins with, ‘this will relieve so much suffering.’ But it doesn’t end there. Soon it becomes, ‘We can control this rather than leaving it to chance. We can improve this. We should improve this. We must improve this.’ And so on.” Submitted by Regina Carbonaro 631-243-1435

**Editor’s Note:** The Good Samaritan Family Resource Center affiliated with Planned Parenthood, referenced in the Nov. 2017 H & S column, is in San Francisco, CA.