Press Statement

Artificial Wombs

News of lambs in womb-like devices, and plans to apply the technology eventually to human beings raise the possibility of ‘partial’ ectogenesis - supplementing pregnancy, in particular when a baby is born very premature and at real risk of death. They also raise the more distant possibility of ‘complete’ ectogenesis – artificial wombs that would replace pregnancy entirely, from in vitro fertilisation all the way to viability and ‘birth’.

Human pregnancy has a significance that goes well beyond mere provision of ‘life support’. Pregnancy is not intensive care or even babysitting but a core aspect of motherhood that grounds each of us socially in the world into which we are born. Replacing pregnancy would deprive both mother and child of a profound and unique form of human relationship. That said, we can all welcome efforts not to replace but to supplement pregnancy and improve care for highly vulnerable babies who are born very premature.

Extreme prematurity causes serious dangers for the baby and fear and/or heartbreak for the parents. It also raises very real medical dilemmas concerning how to weigh the possible benefits of technological support for the baby against its risks and burdens. In the case of babies currently below viability, the researchers seem sceptical whether the risk-benefit ratio would justify use of the new device. They see its initial use as applying more to extremely premature, but still post-viability babies.

The researchers flag up the issue of “parental perception of having their fetus in a ‘bag’”, but point out that “the comparator is the extreme premature infant on a ventilator and in an incubator” and say reasonably that “parents will be relatively reassured that their fetus is being maintained in a relatively protective and physiologic environment.” Going further, they suggest that “the clinical device will be designed with many features that should allow the parent to be connected with the fetus including ultrasound, a darkfield camera allowing real-time visualization of the

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2 See Emily A. Partridge *et al.*, ‘An extra-uterine system to physiologically support the extreme premature lamb’, *Nature Communications* 8, 2017; https://www.nature.com/articles/ncomms15112.
fetus within its darkened environment and the ability to play maternal heart and abdominal sounds to the fetus.”

The picture of parents watching their baby ‘from afar’ and playing maternal heart and abdominal sounds to him or her is touching, if a little alarming. The word ‘fetus’ used is striking, since the babies in question will already have been born once; indeed, the researchers elsewhere refer to them as ‘infants’.

Whether or not the new technology is ever extended to babies currently seen as ‘pre-viable’, this possibility illustrates the changeable nature of ‘viability’, sometimes used arbitrarily to decide, not who may be supported postnatally but who may be prenatally attacked. There is no logic in imputing lower status to those who need most nurture and protection from their mothers. Supporting women in this archetypal nurture should be foremost on our list of concerns. Wonderful as better care for premature babies would be, what most pregnant women need is not novel technology but realistic social support through pregnancy and beyond.

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