UCSD professor's book unravels what is known about the emerging individuality of a fetus from conception to birth

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UCSD PROFESSOR'S BOOK ATTEMPTS TO "DISPEL THE DARKNESS OF THE WOMB"

The question of when a human fetus achieves the status of a person can no longer be limited to debates over abortion, says University of California, San Diego embryologist Clifford Grobstein.

"The ability to unite sperm and egg in a test tube then implant them in the uterus, the growing use of fetal tissue transplants and the research into fetal surgery and gene therapy all weigh heavily on the moral, legal and social status of the unborn," says Grobstein, professor emeritus of biological science and public policy at UCSD.

Such advances in reproductive science present us with new dilemmas in our treatment of the unborn: Should eggs fertilized in a lab dish be discarded if they cannot be returned to the donor's womb? Should physicians attempt surgery on a malformed fetus in the womb even if the procedure endangers the welfare or life of the mother? Whose welfare comes first? Who decides?

In "Science & the Unborn," published this week by Basic Books, Grobstein contends that science can inform but not resolve these value-laden issues. He calls for creation of a national, quasi-governmental commission to deliberate and lay the foundation for a rational policy on the treatment and rights of the unborn.

To pave the way for such deliberation, his book attempts "to dispel the darkness of the womb" and describe what is known about the progressively emerging individuality of the fetus from conception to birth.

"In only nine months, a single cell must grow and change into a complex individual, a process that recapitulates a billion years of evolution," Grobstein points out. "A human infant just after birth is given the full entitlement of a person although it still lacks many of the attributes of an adult. Should a fertilized egg, in turn, be given the status of a newborn when it lacks almost all the attributes of an infant?"

Grobstein outlines six aspects of "personhood" or individuality that emerge during the unborn period or after birth: genetic, developmental, functional, behavioral, psychic and social.

"Genetic individuality is determined at the moment of fertilization," he notes, "and anti-abortion groups use this attribute alone to claim personhood for the embryo."

According to Grobstein, even without the other five attributes of human personhood, genetic makeup brings with it kinship relationships that affect status--especially the ownership, disposal, storage, sale or use of eggs fertilized outside the body.

Developmental individuality begins at about the end of the second week, when the possibility of twinning is past and the egg implants in the uterus.

From the second week until birth, the tissues gradually differentiate into specialized parts and organs--heart, blood vessels, lungs, etc.--that give the unborn increasing ability to carry on its own bodily functions.

Behavioral individuality begins to emerge at six to seven weeks, Grobstein notes, when nerve and muscle tissue has developed enough to show primitive reflex responses. At 16 to 18 weeks, the "quickening" fetus begins to develop the ability for behavioral interactions--first with the mother as it moves in her womb.

The fifth attribute, psychic individuality, occurs when a sense of self and the capability for inner experience develop.

"As scientists, we don't yet know when this begins, but we know when it cannot have begun because of the lack of brain development," Grobstein says. "Subjective experience is certainly not present before 20 weeks, and probably not before 30 weeks. But after 30 weeks, the question becomes iffy. We can't even be certain that an infant has developed a sense of self by the age of a year or 18 months."

Social individuality, however, begins as soon as other people in the society recognize and treat the fetus or infant as a person. For instance, even a fetus that still lacks self awareness may be assigned the status of personhood by adults who empathize with its recognizably human appearance or reflexes, Grobstein says.

He argues that the status and rights of personhood should be allocated to the developing fetus in stages as it matures. But even an embryo that "remains too immature structurally, functionally and behaviorally to warrant classification as a person" should "be recognized as a member of the human family entitled to protection against treatment or deprivation of life that is casual and demeaning."

In a speculative epilogue, Grobstein looks toward the twenty-first century, to a time of possible space colonization when the question of controlling and intervening in human reproduction may need to be viewed very differently.

In this context, the enigma of the present status of the unborn "encapsulates the struggle to recognize and value individuality and yet achieve and maintain the reality of collective humanity," he writes. "Like the unborn, the collective human phenomenon may be still greater in its potential than so far revealed...Perhaps we have yet to discover what it means to be fully human."

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