

When Human Life Begins

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ABSTRACT: The predominance of human biological research confirms that human life begins at conception—fertilization. At fertilization, the human being emerges as a whole, genetically distinct, individuated zygotic living human organism, a member of the species *Homo sapiens*, needing only the proper environment in order to grow and develop. The difference between the individual in its adult stage and in its zygotic stage is one of form, not nature. This statement focuses on the scientific evidence of when an individual human life begins.

It has been recognized for millennia that both a paternal (semen) and a maternal contribution are required for the formation of a new human life. The first recorded embryological reports are in the fifth century B.C. books of Hippocrates, who noted from the study of incubating chicken eggs that the nature of the bird can be likened to that of the man. A century later, Aristotle studied the chick and other embryos but incorrectly thought that they arose from a formless mass of semen combined with menstrual blood. In 1677, Hamm and Leeuwenhoek observed spermatozoa under the microscope, but thought they contained miniature humans. Spallanzani demonstrated in 1775 that both oocyte and sperm were necessary. In 1827, von Baer observed oocytes in the ovarian follicle and in the Fallopian tube and blastocysts in the uterus of a dog.¹

Finally, it was with the advent of the cell theory developed by Schleiden and Schwann in 1839 that it was recognized that the embryo develops from the single-celled zygote.¹ Directly based upon this observation and the knowledge that the single-celled zygote was alive and an independent being, in 1859 the American Medical Association published a statement strongly opposing abortion, particularly commenting on the independence of the zygote during the time between its formation and its implantation.^{2,3}

Although the American College of Obstetrics and Gynecology in 1965 attempted to redefine “conception” to mean implantation rather than fertilization,⁴ medical dictionaries and even English language dictionaries both before and after 1966^{5,6} define “conception” as synonymous with fertilization (sometimes via the intermediary term of “fecundation”).^{7,8,9} Moore’s 1974 edition of a human embryology textbook states that development is a continuous process that begins when an ovum is fertilized by a sperm and ends at death. It is a process of change and growth that transforms the zygote, a single cell, into a multicellular adult human being.¹⁰ Moore’s 2008 edition emphasizes that development does not end at birth but extends into early adulthood.¹ Professor Emeritus of Human Embryology of the University of Arizona School of Medicine, Dr. C. Ward Kischer, affirms that “Every human embryologist, worldwide, states that the life of the new individual human being begins at fertilization (conception).”¹¹ Even authors who philosophically lean towards not attributing the same value to human life at the one-cell stage as they do to later stages of development admit that “As far as human ‘life’ per se, it is, for the most part, uncontroversial among the scientific and philosophical community that life begins at the moment when the genetic information contained in the sperm and ovum combine to form a genetically unique cell.”¹² J. T. Eberl goes on to say – and this is really the debate:

“However, what is controversial is whether this genetically unique cell should be considered a human person.”

Nonetheless, one could sensibly make the case that “personhood” can only exist in a living human being and that the division of these two entities is arbitrary at best.