Homunculus

The term homunculus is Latin for "little man." It is used in neurology today to describe the map in the brain of sensory neurons in each part of the body (the somatosensory homunculus). An early use of the word was in the 1572 work by Paracelsus regarding forays into alchemy, De Natura Rerum, in which he gave instructions in how to create an infant human without fertilization or gestation in the womb. In the history of embryology, the homunculus was part of the Enlightenment-era theory of generation called preformationism. The homunculus was the fully formed individual that existed within the germ cell of one of its parents prior to fertilization and would grow in size during gestation until ready to be born.

The origin of the homunculus concept of a pre-existing fetus is usually credited to Dutch telescopist and microscopist Nicolaas Hartsoeker. He receives this credit largely because it was his sketch in the 1694 Essai de Dioptrique of a homunculus in a sperm cell that illustrated the concept most clearly. However, the Italian anatomist Marcello Malpighi proposed in 1673 that the entire structure of the embryo was present in the egg from the very beginning, and that the gestation period involved the growth and unfolding of that pre-existing structure. Around the same time, the French metaphysician Nicolas Malebranche discussed the idea of emboîtement, meaning encasement, for which preformationism is infamous. Emboîtement describes not just a homunculus in the egg cell or sperm cell, but an infinite train of homunculi stretching back to Adam and Eve.

While the imagery of the homunculus is inextricably tied to the theory of preformationism in modern thought, the idea was not taken literally by all of the proponents of the theory. Albrecht von Haller and Charles Bonnet discussed a type of preformed embryo in which the parts were already in place but grew and changed dramatically over the course of gestation; a figurative homunculus rather than a literal one. The idea that a homunculus did exist within parental sperm or eggs was often used derisively by contemporary critics of preformationism to point out its absurdity.

However, neither the critics nor the supporters of preformationism ever spoke of the concept using the term homunculus. The first use of the term homunculus to describe the little preformed man is difficult to document. Anton Leeuwenhoek, the Dutch microscopist famous for pioneering the use of the microscope, used the French "petit l'homme" in his work, and Hartsoeker referred to his homunculus drawing as "petit l'enfant." According to Clara Pinto-Correia in The Ovary of Eve, the man in the germ cell may not have been actually called a homunculus until F. J. Cole used the term in this manner in his 1930 Early Theories of Sexual Generation. In histories of embryology since, the word homunculus is tightly intertwined with preformationism.

Sources

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