

FREEMAN, B. School of Medical Sciences, University of New South Wales, Sydney, NSW, 2052. Conceptus and embryo: early human development revisited.

As long as specimens of early stages of human development remain rare in museums, all hypotheses on underlying mechanisms should be kept open. Mesoderm in the human embryo arises as a spongy intermediate layer between two embryonic layers that exhibit differential surface growth: the rapidly expanding ectoderm and the less rapidly growing endoderm. Lateral compression of cells in the ectoderm leads to polyingression whereby ectodermal cells slip through a weak basement membrane and contribute to mesoderm formation at multiple sites (primitive streak, pharyngeal folds, crests of neural groove, placodes, ectodermal ring, etc.). The spongy nature of mesenchyme reflects growth-shearing between ectoderm and endoderm. This interpretation of the human embryo is not denied by studies in animals. Furthermore, it is a sequel process for the whole conceptus, where there is a striking difference in surface growth between superficial and more central portions. The outer tissue of the conceptus can be called *ectoblast* and the inner portion, collectively, *endoblast*. The *mesoblast*, as the precursor of the chorionic sac and so-called extra-embryonic mesoderm, arises by growth-shearing between ectoblast and endoblast. The *-blast* suffix is reserved for the conceptus and *-derm* for the embryo. This neutral terminology indicates the 'recapitulation' of processes in conceptus and embryo, avoids the impregnation of human embryology with zoological concepts, and emphasizes that the immediate product of human conception is not an embryo, legally, ethically, or scientifically.