

facing facts

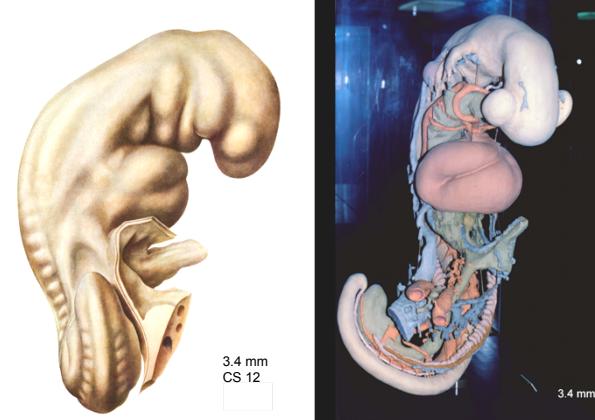
craniofacial development

pharyngeal arches, nasal gubernaculum,
nasal placode & pit; cranial meninges;
dural girdles; skull

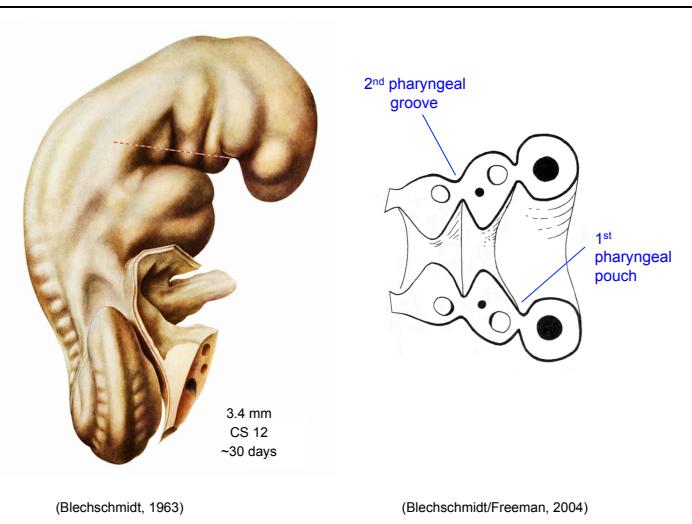
Brian Freeman

OSD, Berlin, Dec. 2014

www.drawingonanatomy.com.au



Blechschmidt E. *The Human Embryo. Documentations on Kinetic Anatomy*, 1963



Ernst Haeckel
(1834–1919)

“father of evo-devo”

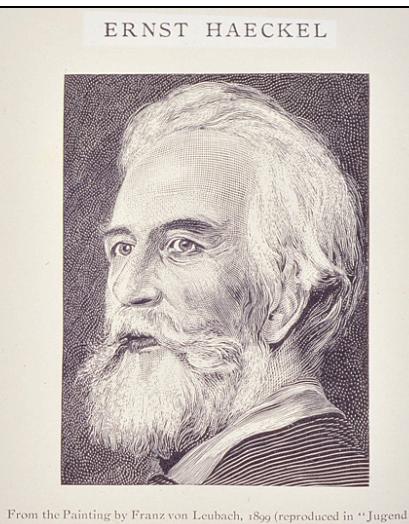
The Biogenetic Law
= Haeckel's Law
(1868–1874)

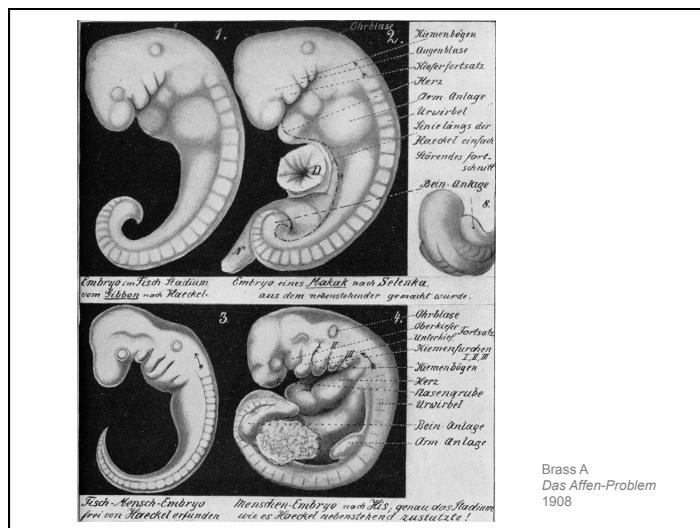
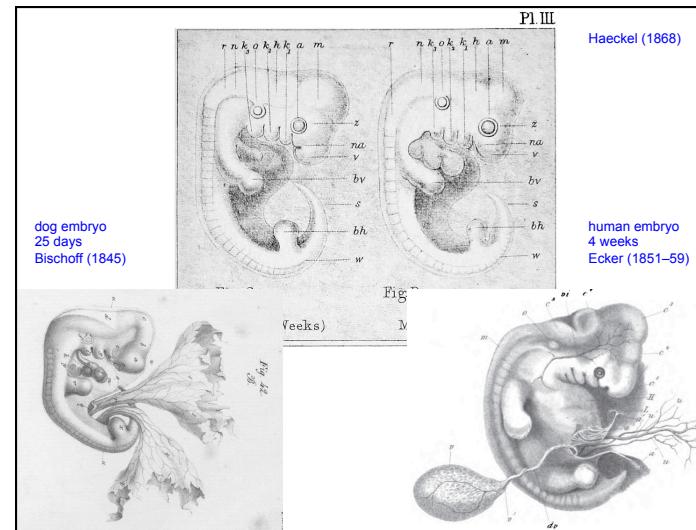
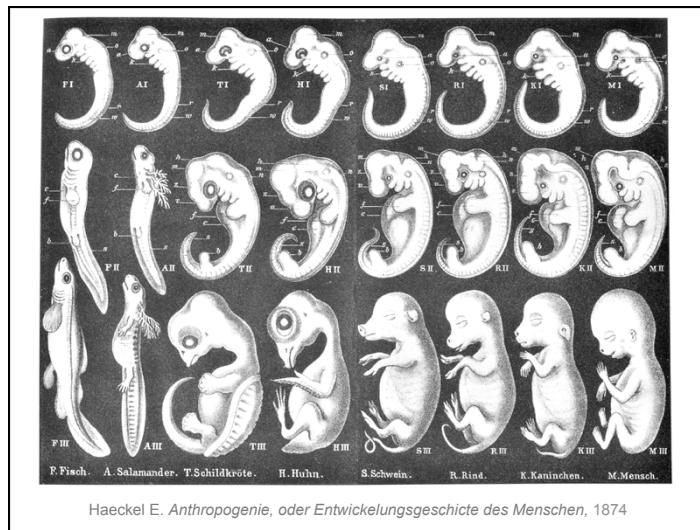
“...the history of the fetus is a
recapitulation of the history of the
race...”

“...ontogeny is a recapitulation of
phylogeny...”

“The Fundamental Law of Organic
Evolution”

“...phylogenesis is the mechanical
cause of ontogenesis...”



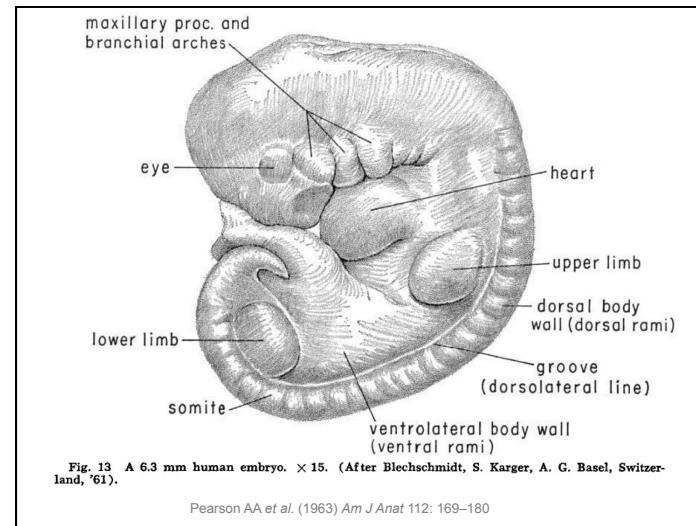
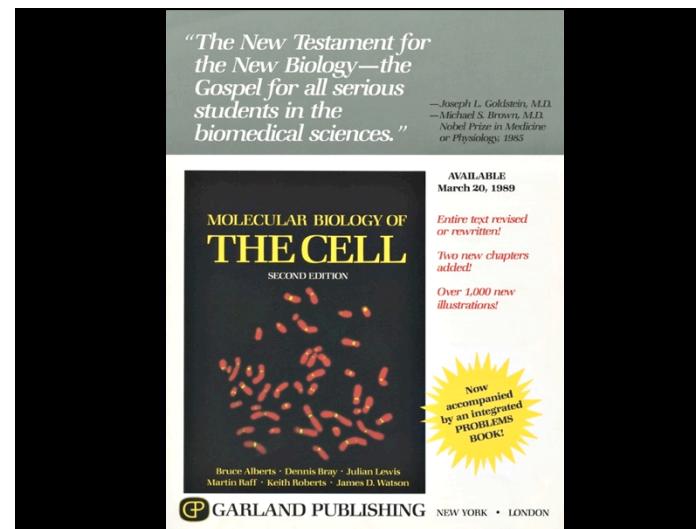
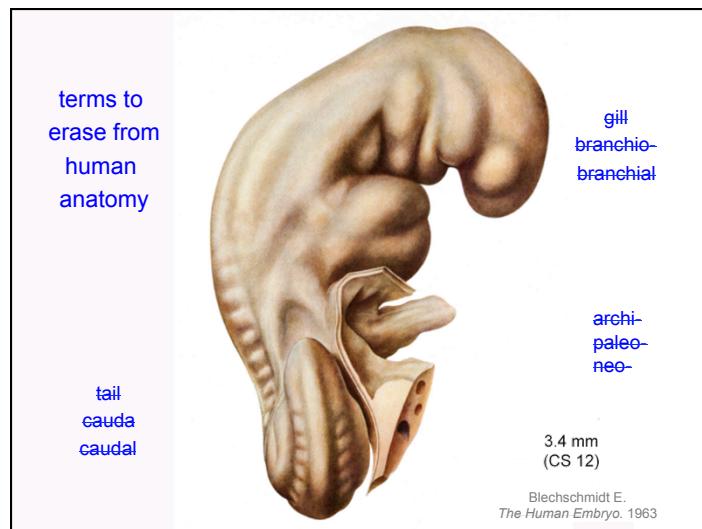


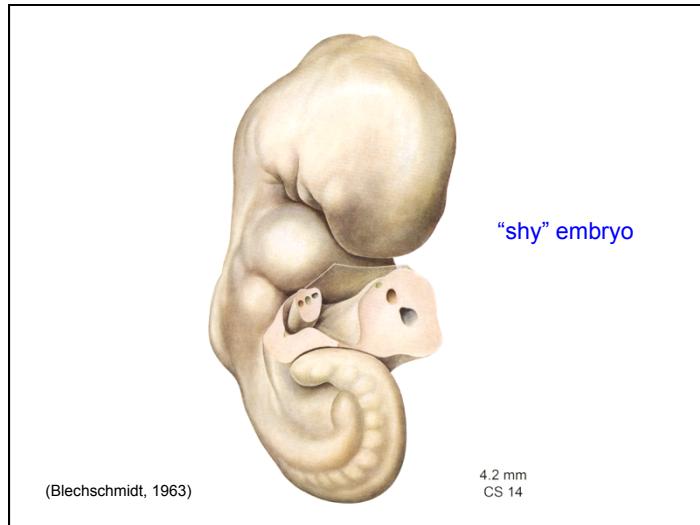
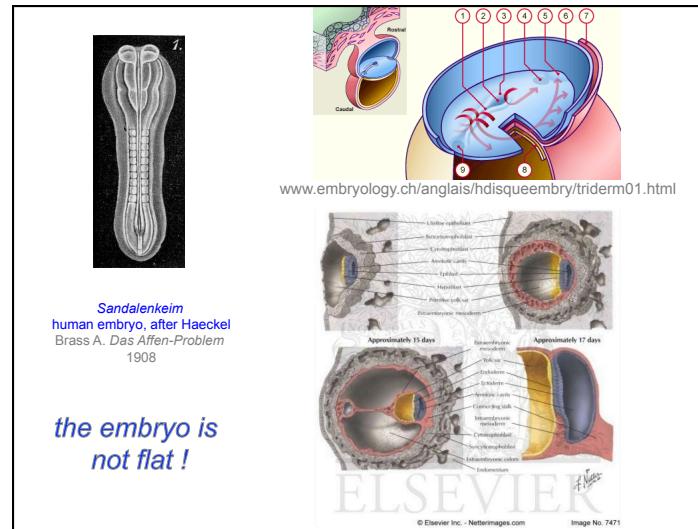
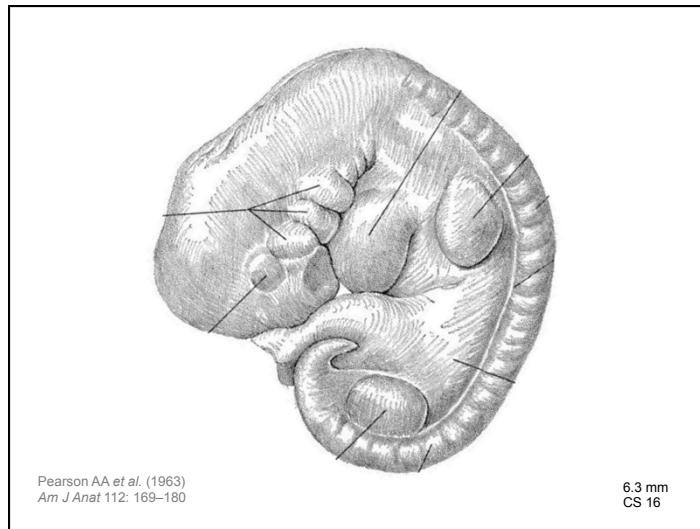
Haeckel's 'confession'

“...to cut short this unsavoury dispute, I begin at once with the remorseful confession that a small fraction of my numerous drawings of embryos (perhaps 6 or 8 per cent.) are really, in Dr. Brass's sense, ‘falsified’...”

E. Haeckel, *Berliner Volkszeitung*, Dec 29, 1908

“...um dem ganzen wüsten Streite kurzerhand ein Ende zu machen, will ich nur gleich mit dem reumütigen Geständnis beginnen, daß ein kleiner Theil meiner zahlreichen Embryonenbilder (vielleicht 6 oder 8 von Hundert) wirklich (im Sinne von Dr. Braß) ‘gefälscht’ sind...”



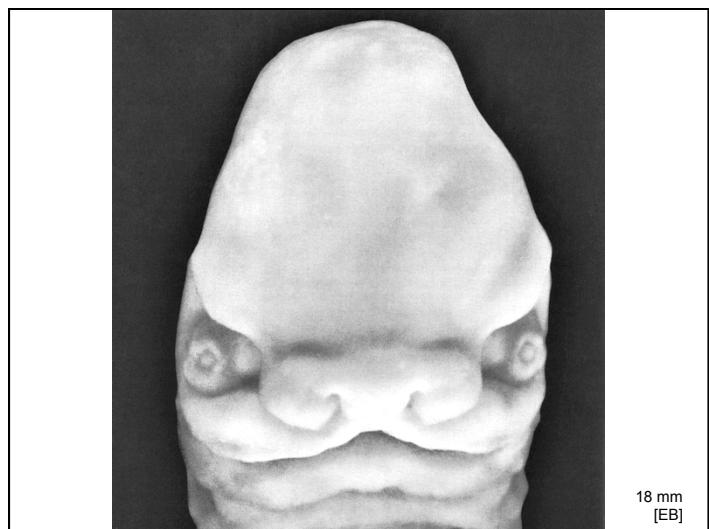




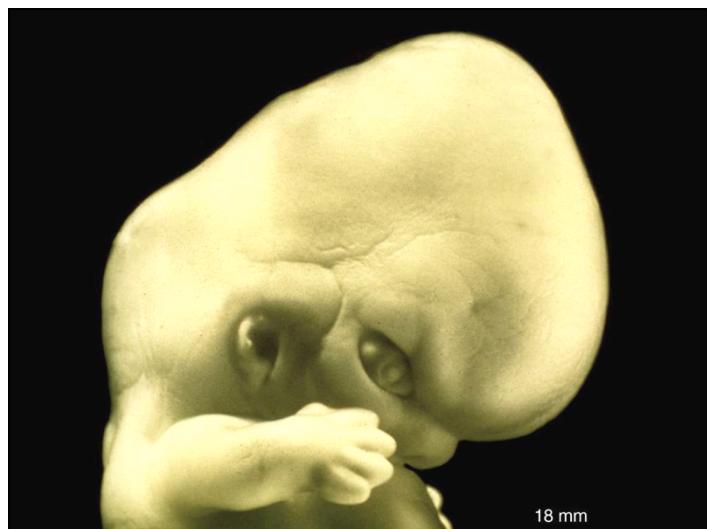
11.7 mm (CS 17) – Hinrichsen (1986)



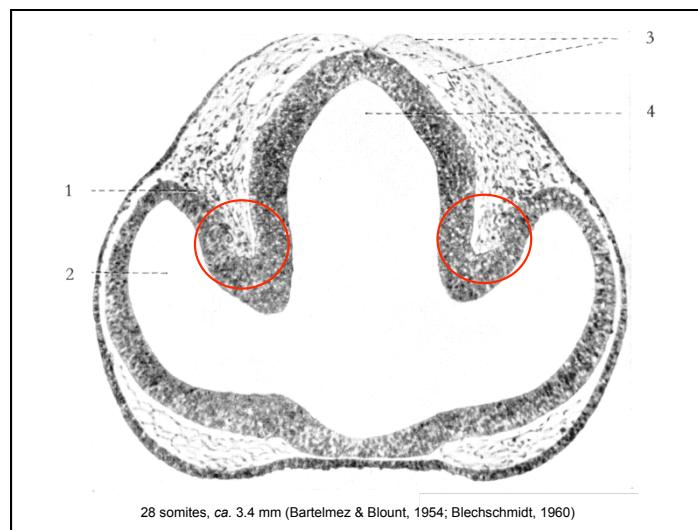
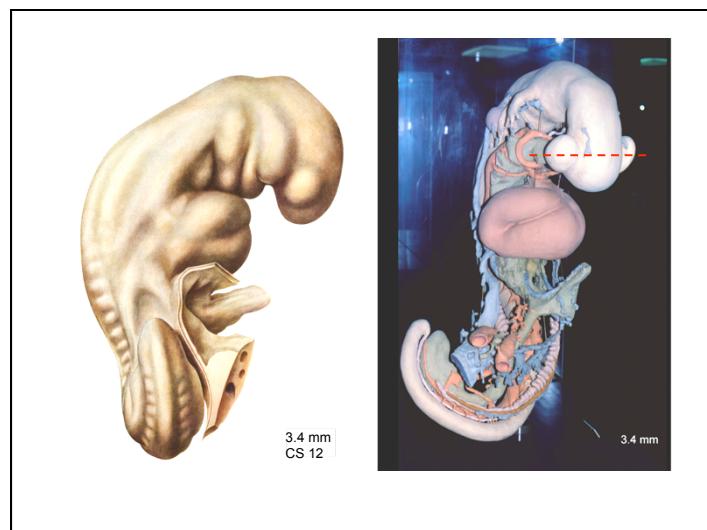
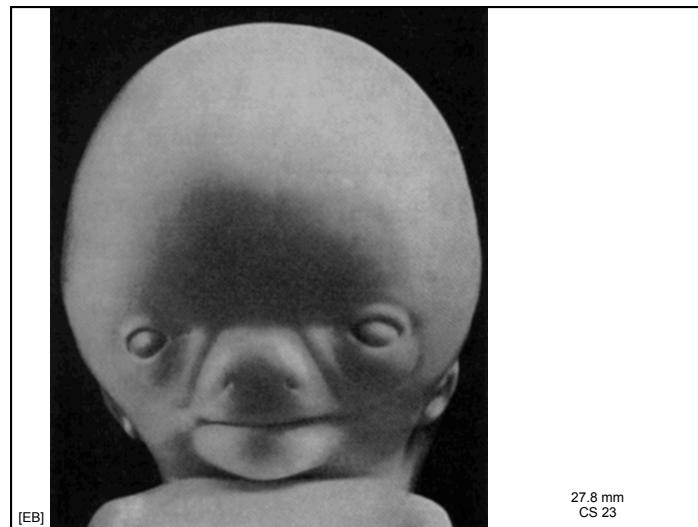
16.2 mm

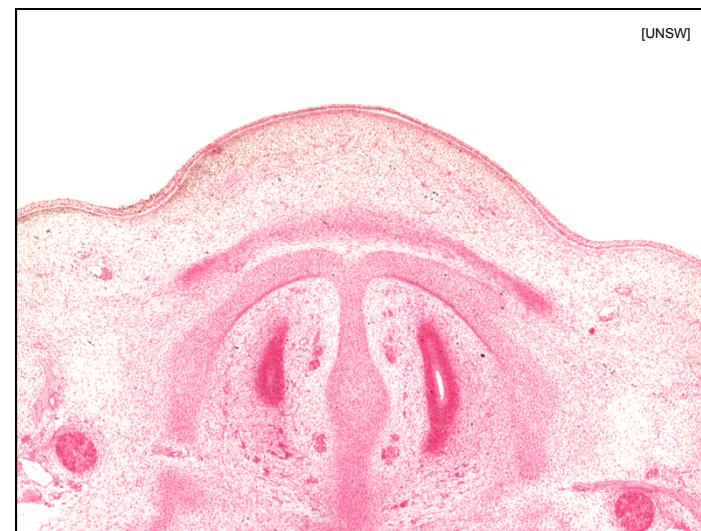
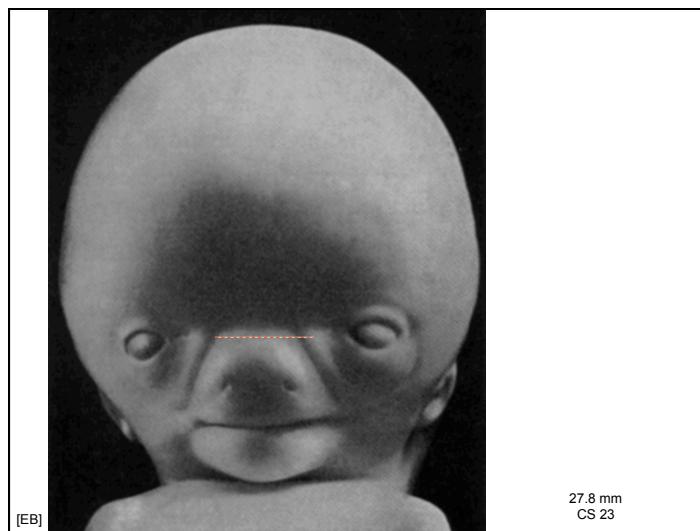
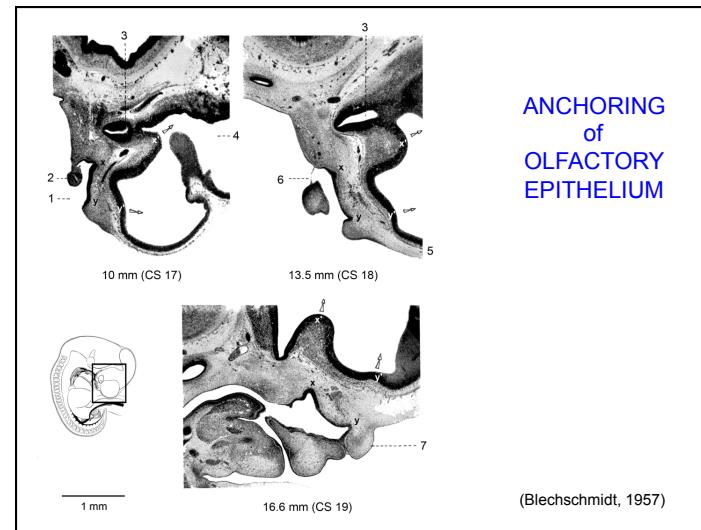
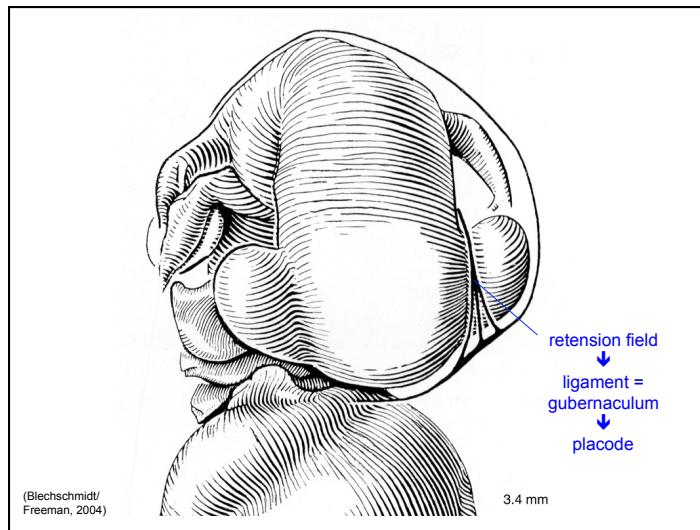


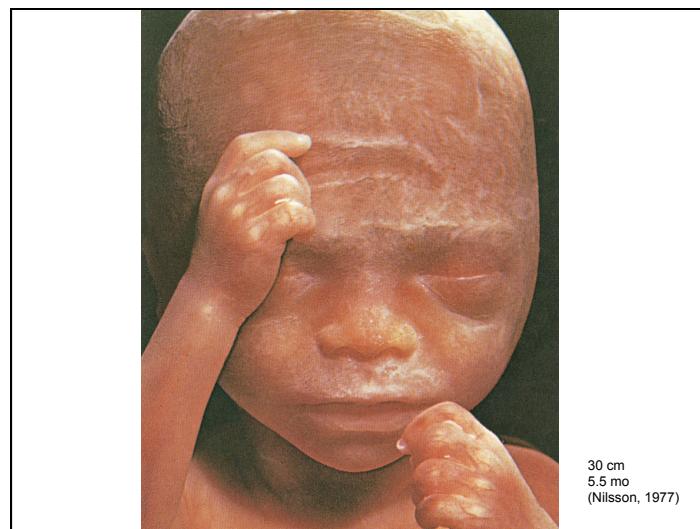
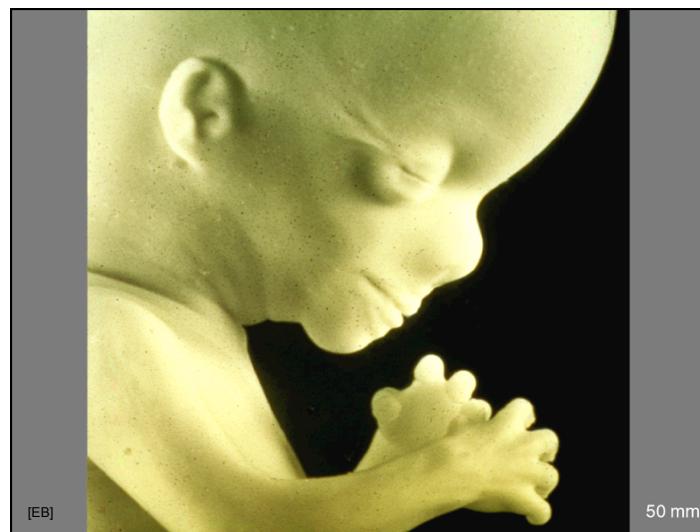
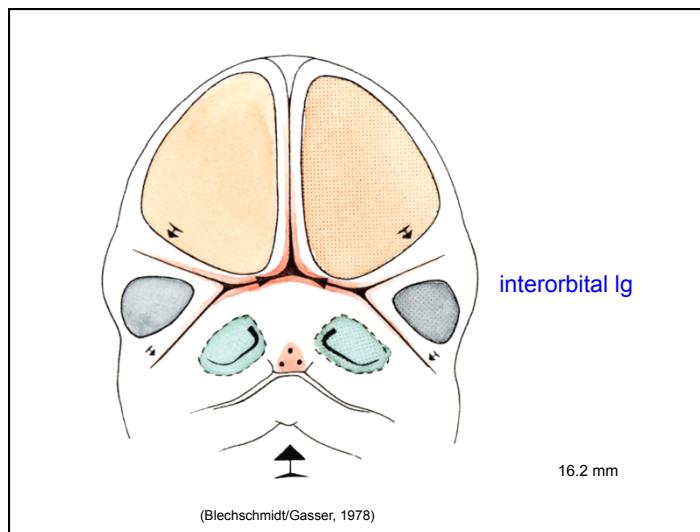
18 mm
[EB]

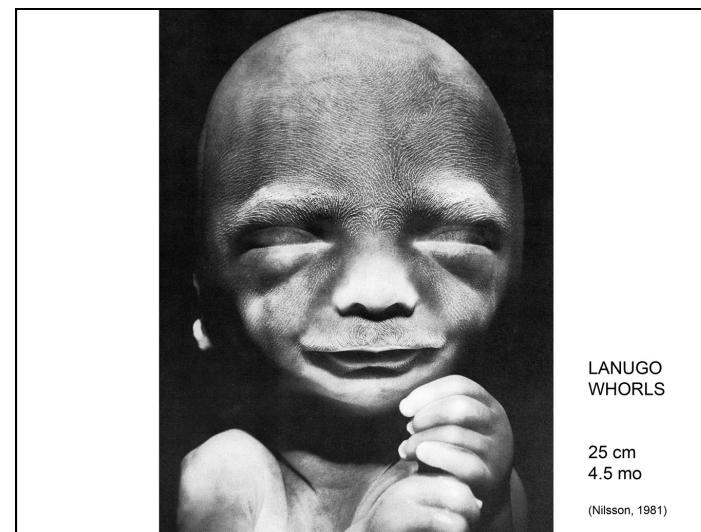
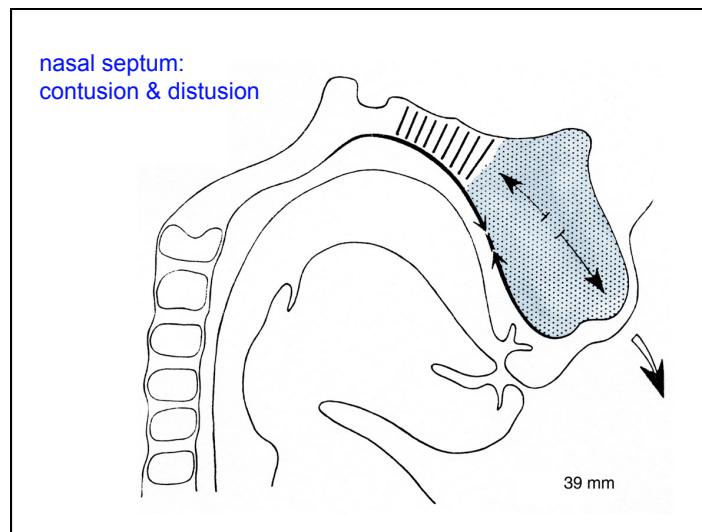
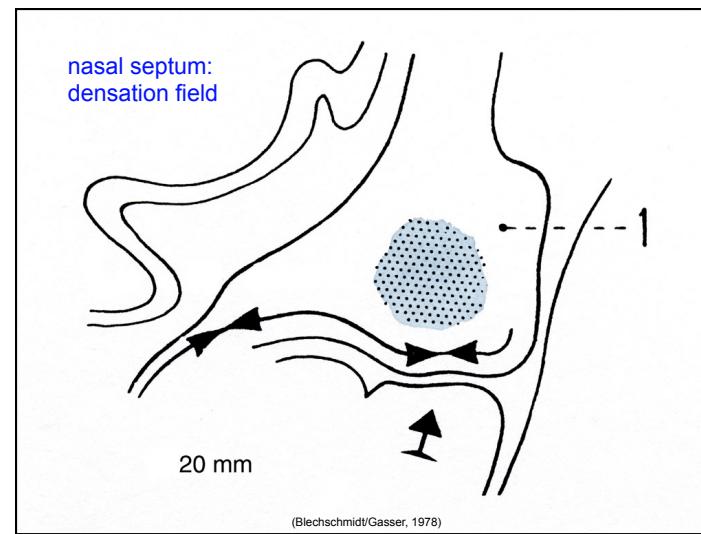
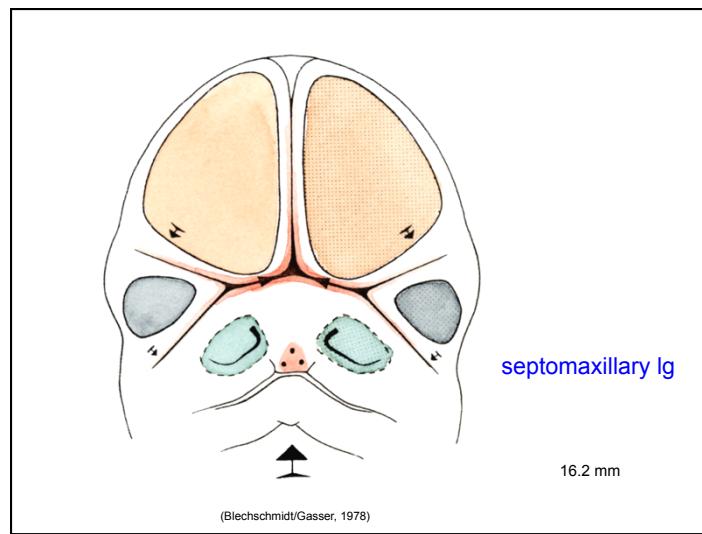


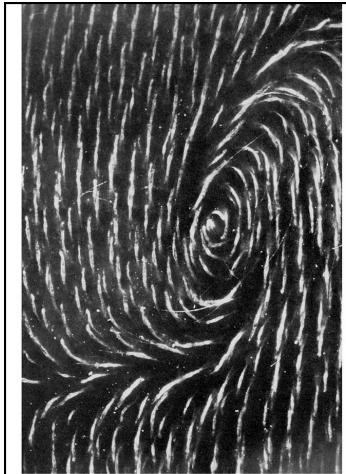
18 mm



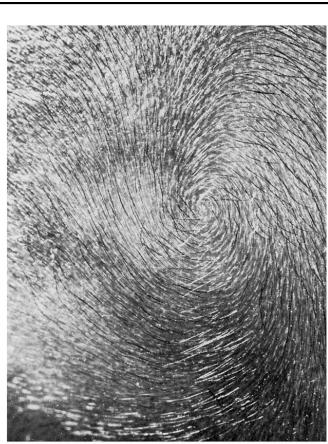








Lanugo (forehead, 4 mo.)



Lanugo (scalp, 5.5 mo.)

(Nilsson, 1981)

[whorls are a sign of asymmetrical brain growth \(e.g., Smith & Gong, 1973\)](#)