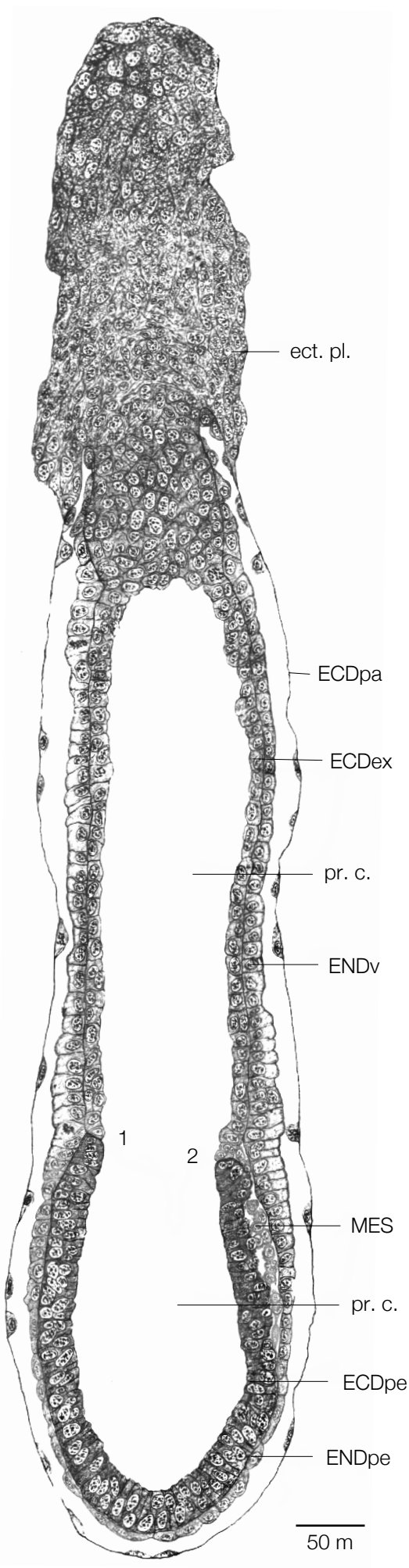


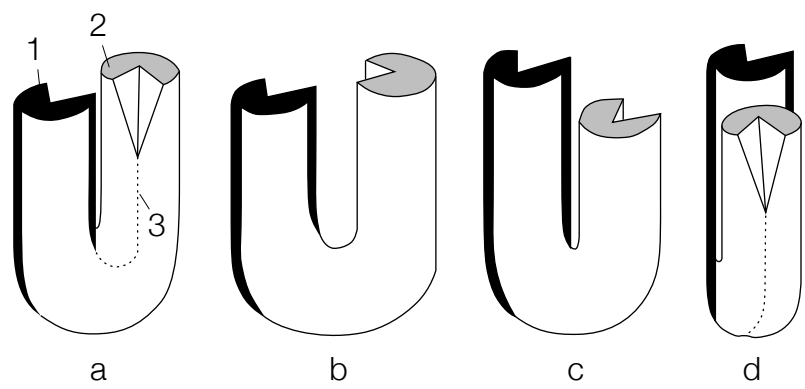
### **A. Embryonic Day 8: *gastrulation***

The early development of the albino rat, from the fertilized egg to the first appearance of mesoderm, has been admirably described and illustrated by Huber (1915). In many rodents, the early trilaminar embryonic disc is U-shaped when viewed in longitudinal section (e8.75 rat, left; below numerals 1, which is rostral, and 2, which is caudal), with the ectodermal layer on the inside, facing the proamniotic cavity. This reflection or inversion of the embryonic layers is known as entopy, although the topology of the rodent embryonic disc is similar to that of the more familiar human, for example, which is considerably flatter. In the albino rat, the earliest mesoderm (presumptive) appears caudally, between the primary embryonic ectoderm and endoderm (below, or just rostral to, 2). As the mesodermal layer spreads throughout the trilaminar embryonic disc, it becomes differentiated. As indicated in the three-dimensional drawing at the lower right (where the endoderm has been removed), early on parts of the mesoderm have been described as forming a series of somitomeres (Meier and Tam 1982). At the stage shown here (e7.5 mouse), somitomere 1 underlies the prospective forebrain region of the neural plate, somitomeres 2 and 3 underlie the prospective midbrain region of the plate, and somitomeres 4-6 underlie the prospective hindbrain region of the plate. The early rodent embryo also undergoes around the longitudinal axis a complex series of rotations, which are summarized in the illustration at the upper right (arranged from early to later, a-d; as in other two parts of the plate, 1 indicates rostral, 2 indicates caudal; here, 3 indicates rostrocaudal midline axis of the neural plate), and described thoroughly by Kaufman (1990). The drawing on the left was slightly modified from Huber (1915), that on the upper right was redrawn from Kaufman (1990), and that on the lower right was slightly modified from Meier and Tam (1982).

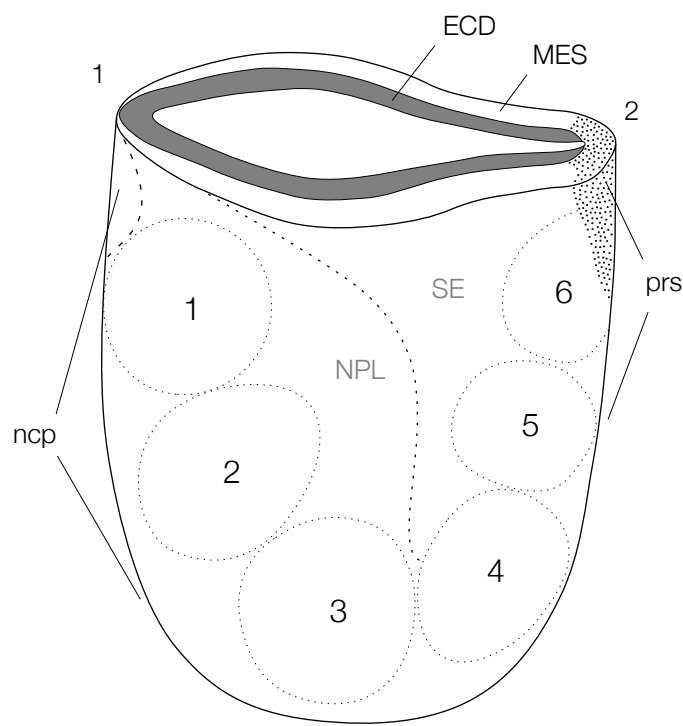
EC Dex, pa, pc	ectoderm, extraembryonic, parietal, primary embryonic
ect. Pl.	ectoplacental cone
ENDpe, v	endoderm, primary embryonic, visceral
MES	mesoderm (in anlage)
ncp	notochordal plate
NPL	neural plate
pr. c.	proamniotic cavity
prs	primitive streak
SE	somatic ectoderm



e8.75 RAT  
EGG CYLINDER



ROTATION OF THE EARLY EMBRYO



e7.5 MOUSE EGG CYLINDER

# e8 (Gastrulation)