

9.14

Classes #7-8: Spinal cord development and anatomy **Wednesday February 16; Friday February 18, 2005**

Readings:

Swanson ch 4a pp 40-60, (ch 4b pp 60-79).
Purves and Lichtman ch 1 pp 3-23.
Striedter pp 220-223, fig. 7.1

Questions on readings: Swanson

- 1) What are the four elements of the fundamental body plan of all members of the phylum Chordata, from the worm-like Amphioxus to the Primates, Elephants and Cetaceans?
- 2) Vertebrate embryos at early stages consist of what three layers? Which of these layers is the last to form, by cell migration from which one of the earlier-formed layers?
- 3) What is Baer's Law, from Karl von Baer (1828)?
- 4) Which layer forms a thickened region called the neural plate – which later becomes the nervous system? What causes the neural plate to form?

Questions on readings: Purves & Lichtman

- 5) Explain why Wilhelm Roux is considered the founder of experimental embryology, even though his major experimental contribution was soon proved to be invalid.
- 6) "Ontogeny recapitulates phylogeny": How is this phrase both useful and misleading?
- 7) What is the fate of the three germ layers of the gastrula ?
- 8) What is an epidermal placode or sensory placode?
- 9) Why is the wall of the neural tube described as a "pseudostratified epithelium"?

Question on readings: Striedter

- 10) What is "epigenetic population matching"? How is it related to trophic factors ?