Ontogenetický vývoj můžeme rozdělit na několik úseků:

Období prenatální (před narozením, které dále dělíme na:

1. období zárodečné - embryonální
2. období plodové - fetální

Období postnatální:

1. období novorozenecké (narození - 28 den)
2. období kojenecké (28. den - konec 1. roku)
3. období batole (2. rok - konec 3. roku)
4. předškolní věk (4. rok - konec 6. roku)
5. mladší školní věk (7. - konec 11. roku)
6. starší školní věk (12. rok - konec 14. roku)
7. období dorostového věku (15. - 18. rok)

Období dospělosti

8. období plné dospělosti (18 - 30 let)
9. období zralosti (30 - 45 let)
10. střední věk (45 - 60 let)
11. stáří (60 - 75 let)
12. vysoké stáří (nad 75 let)
13. věk kmetský (nad 90 let)

FIGURE 19.2
Fertilization and implantation of human embryo. After the egg is fertilized, it begins cleavage as it moves toward the uterus. At the time of implantation, the embryo is developing the germ layers.

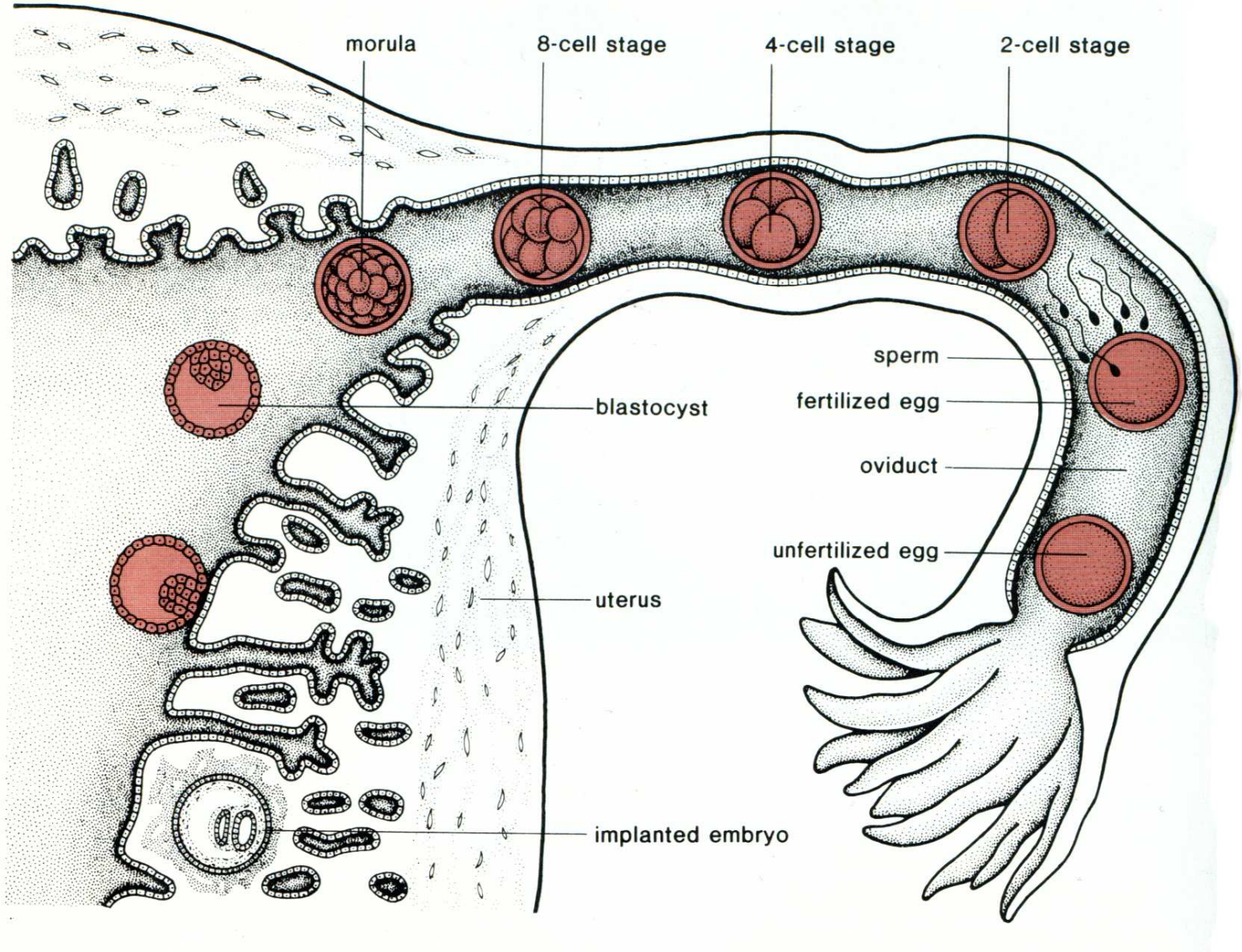


FIGURE 19.3 Early development of fetus and umbilical cord. *a*. The blastocyst with its inner cell mass and surrounding trophoblast. *b*. Amniotic cavity and yolk sac appear. *c*. Chorionic villi first appear. *d*. Embryo is connected to chorion by a body stalk. *e*.–*g*. Embryo becomes more differentiated as the umbilical cord forms.

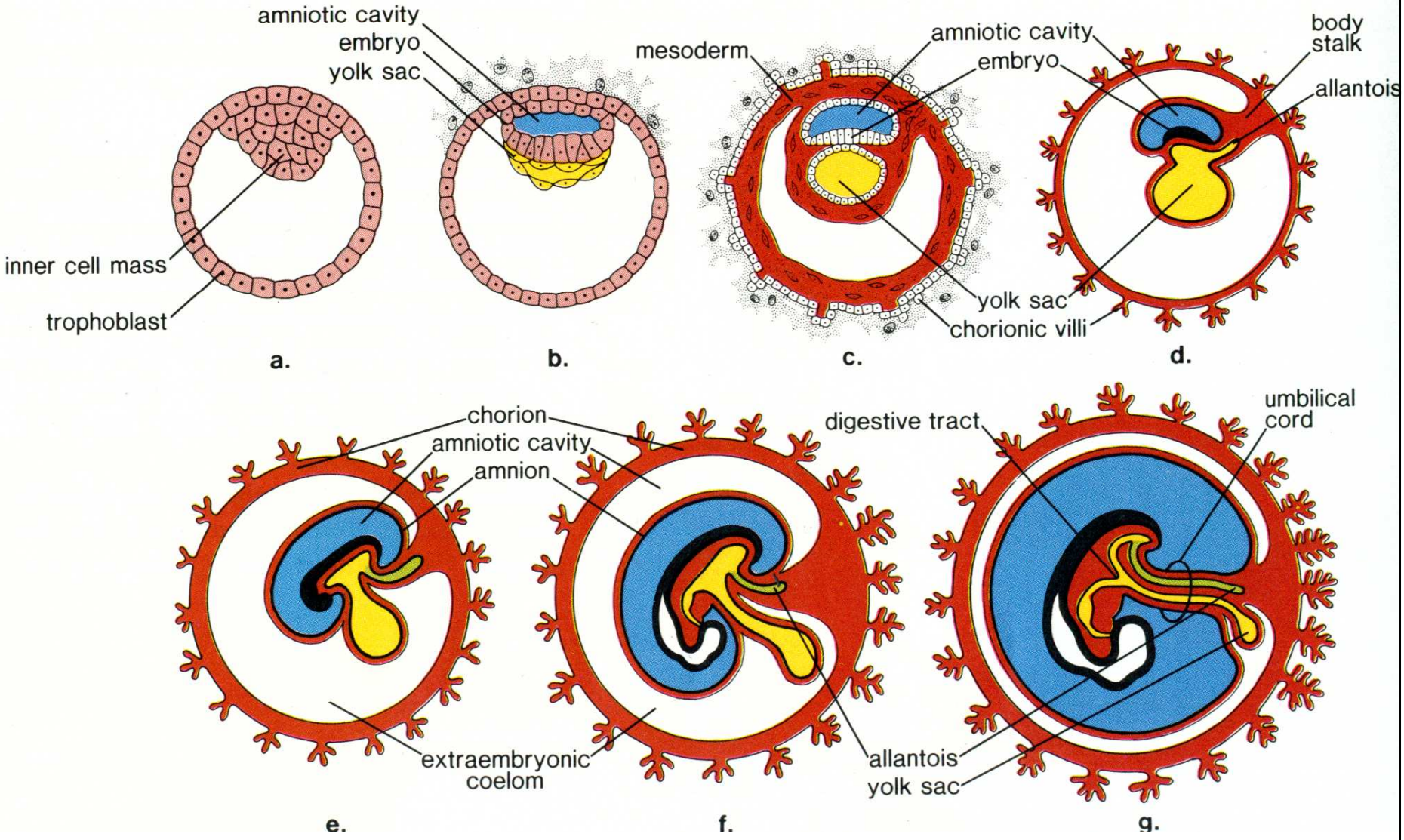


FIGURE 19.4 Conception of fraternal versus identical twins. *a*. Fraternal twins are formed when two eggs are released and fertilized. Fraternal twins receive a different genetic inheritance from both the mother and father. They can even have separate fathers. *b*. Identical twins occur when the embryo breaks in two during an early stage of development. Identical twins have the exact same genetic inheritance from both the mother and father.

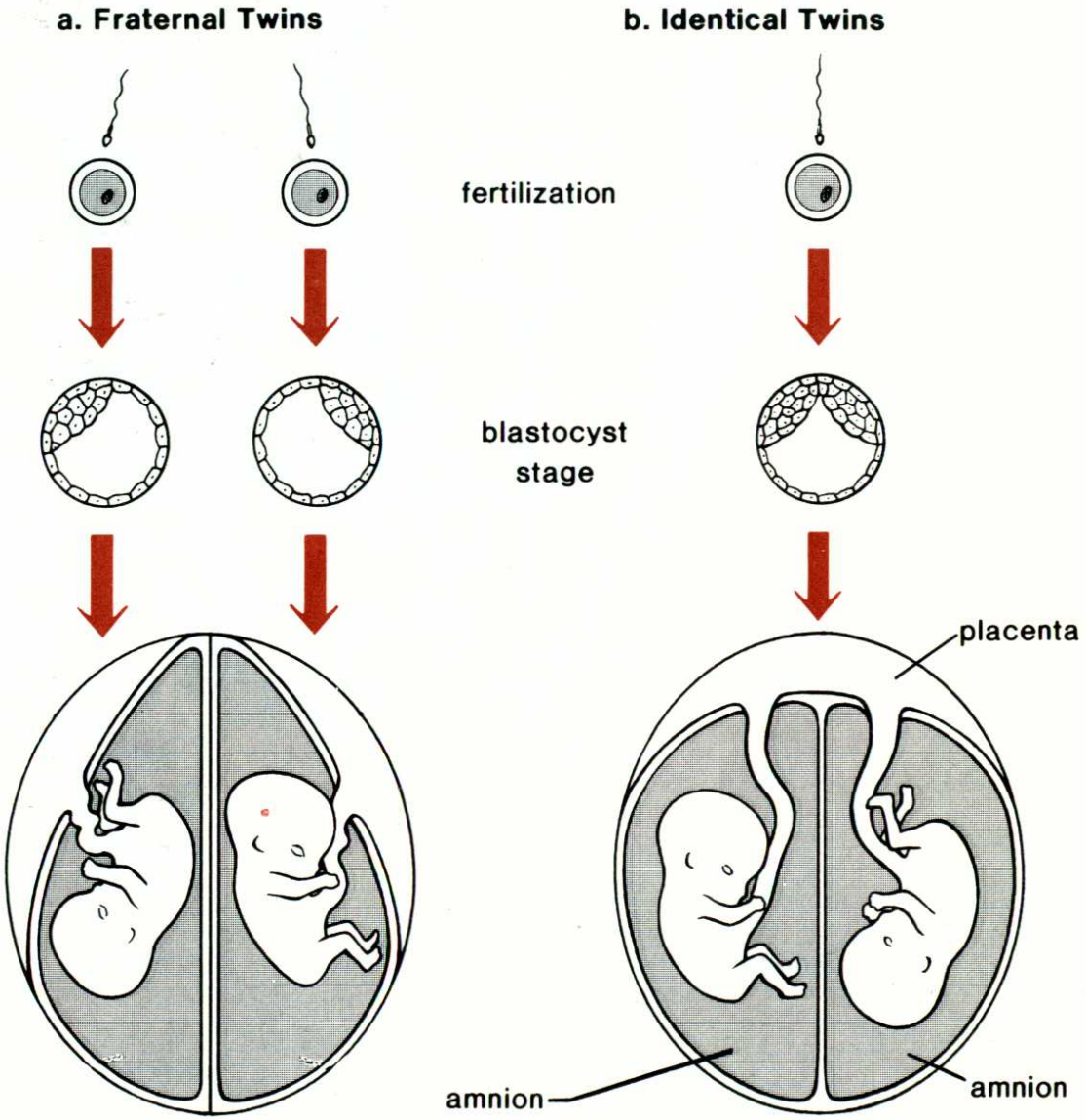


FIGURE 19.8 *a.* Neural plate is an ectoderm layer that will give rise to the neural tube. *b.* As microfilaments contract, cells begin to invaginate. *c.* Continued constriction causes the neural tube to pinch off from the outer ectoderm layer.

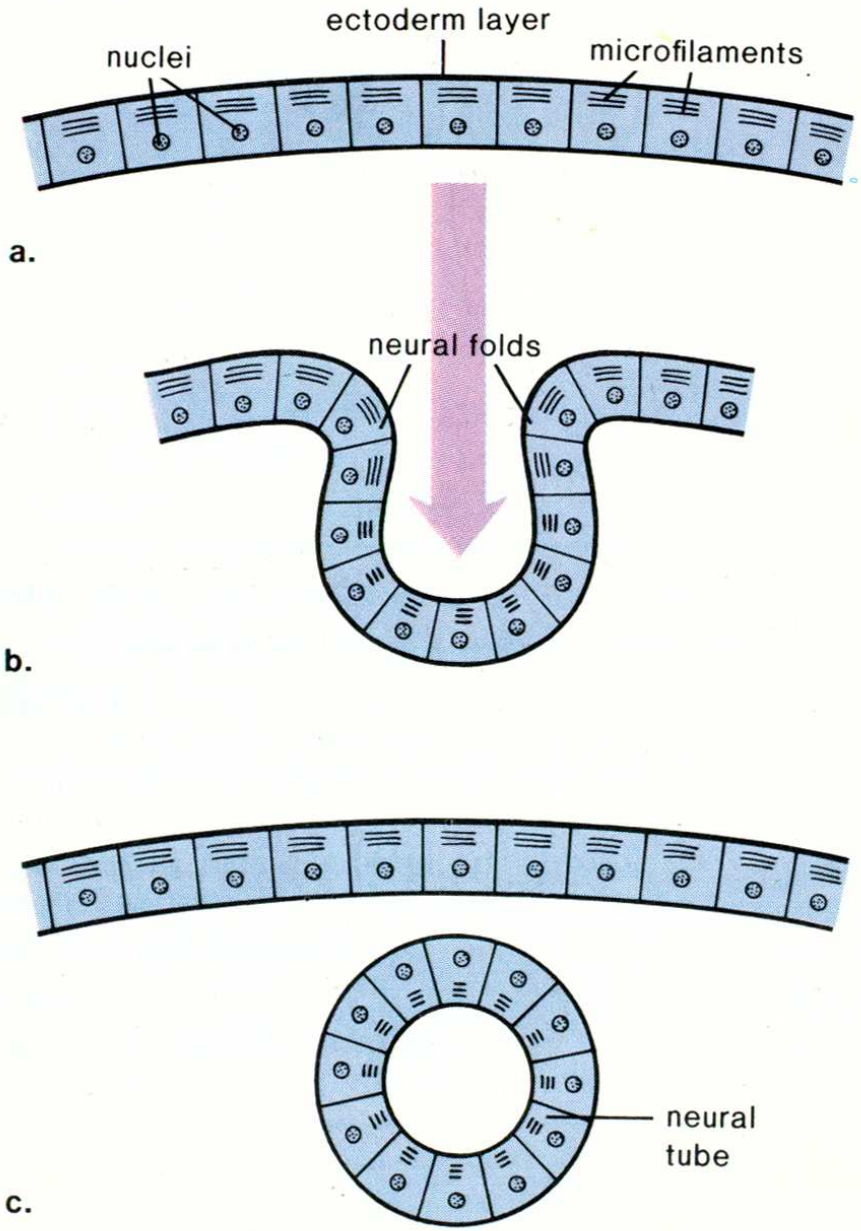
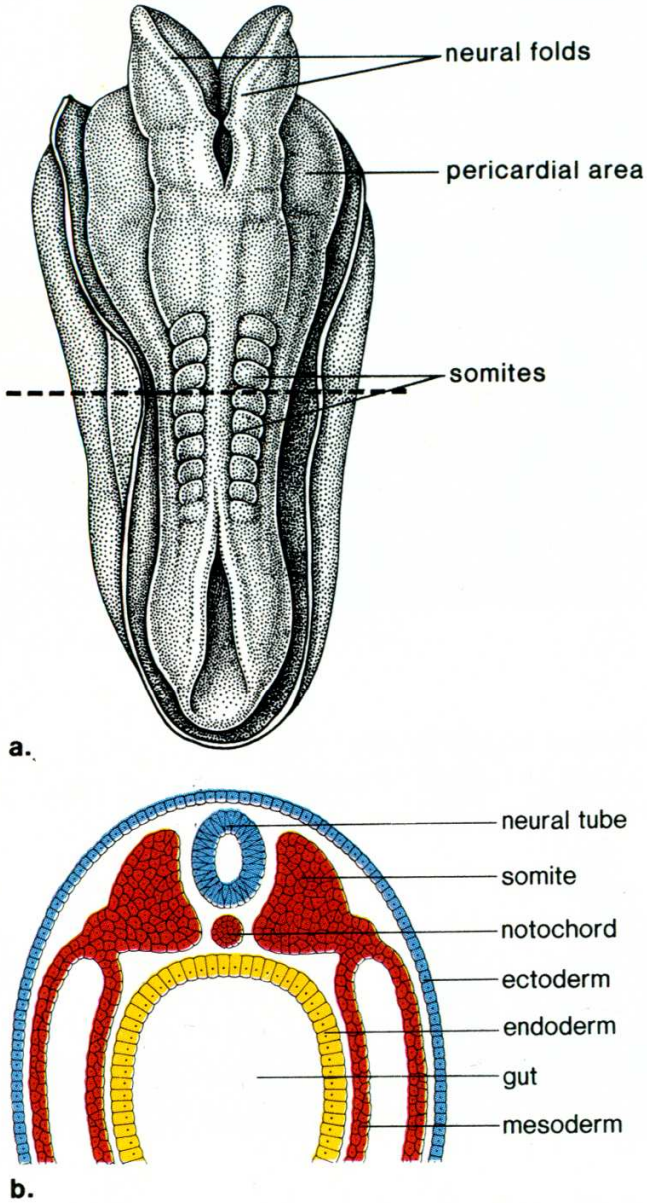


FIGURE 19.9 *a.* Human embryo at twenty-one days. The neural folds still need to close at the anterior and posterior of the embryo. The pericardial area contains the primitive heart, and the somites are the precursors of the muscles. *b.* Cross section of (*a*) where the dotted line appears. Notice that the notochord lies just beneath the neural tube. In this colored drawing, ectoderm-derived structures are in blue, mesoderm-derived structures are in red, and endoderm-derived structures are in yellow.



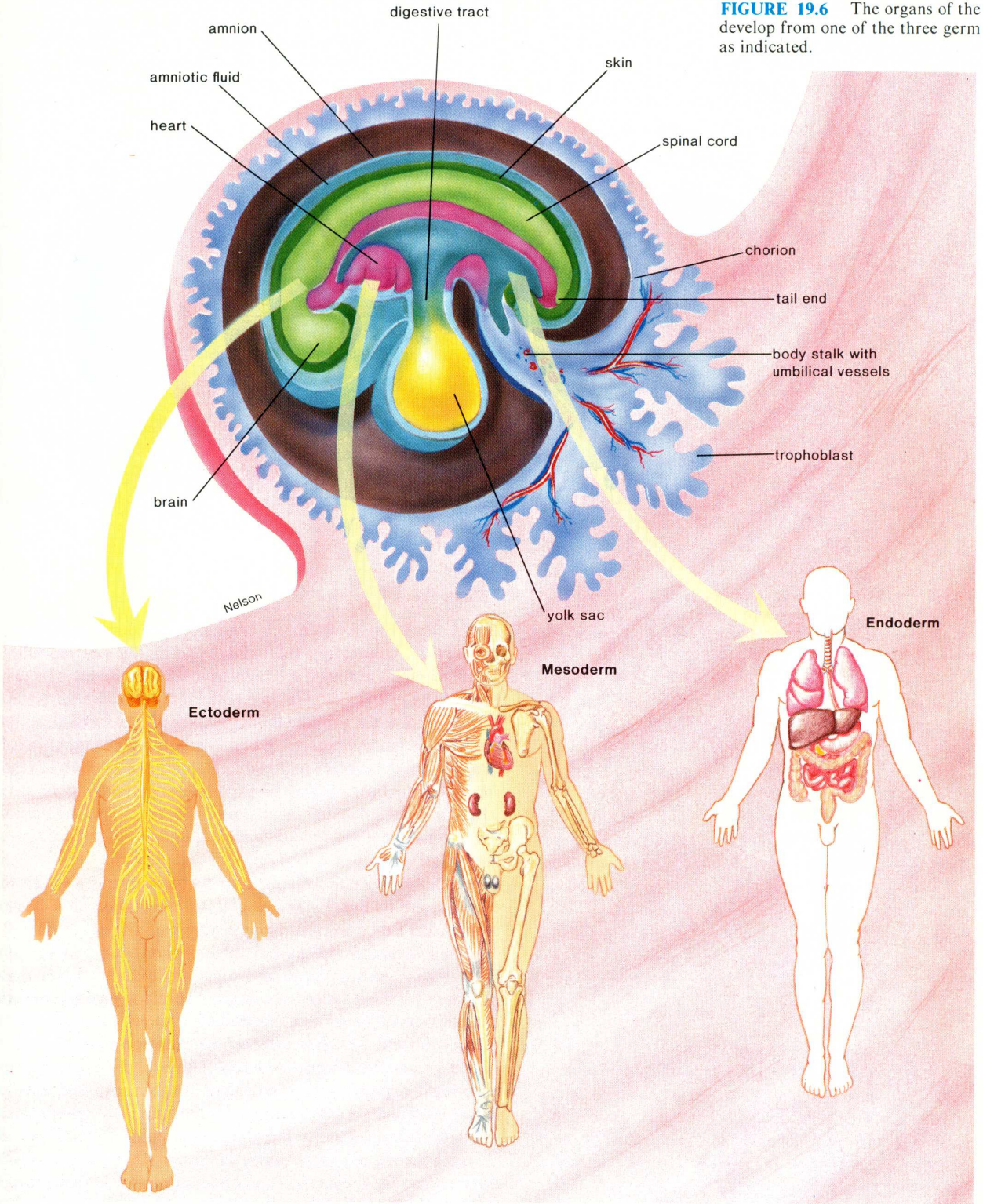


FIGURE 19.6 The organs of the body develop from one of the three germ layers as indicated.

FIGURE 19.13 Anatomy of the placenta. The placenta is composed of both fetal and maternal tissues. Chorionic villi penetrate the uterine lining and are surrounded by maternal blood. Exchange of molecules between fetal and maternal blood takes place across the walls of the villi.

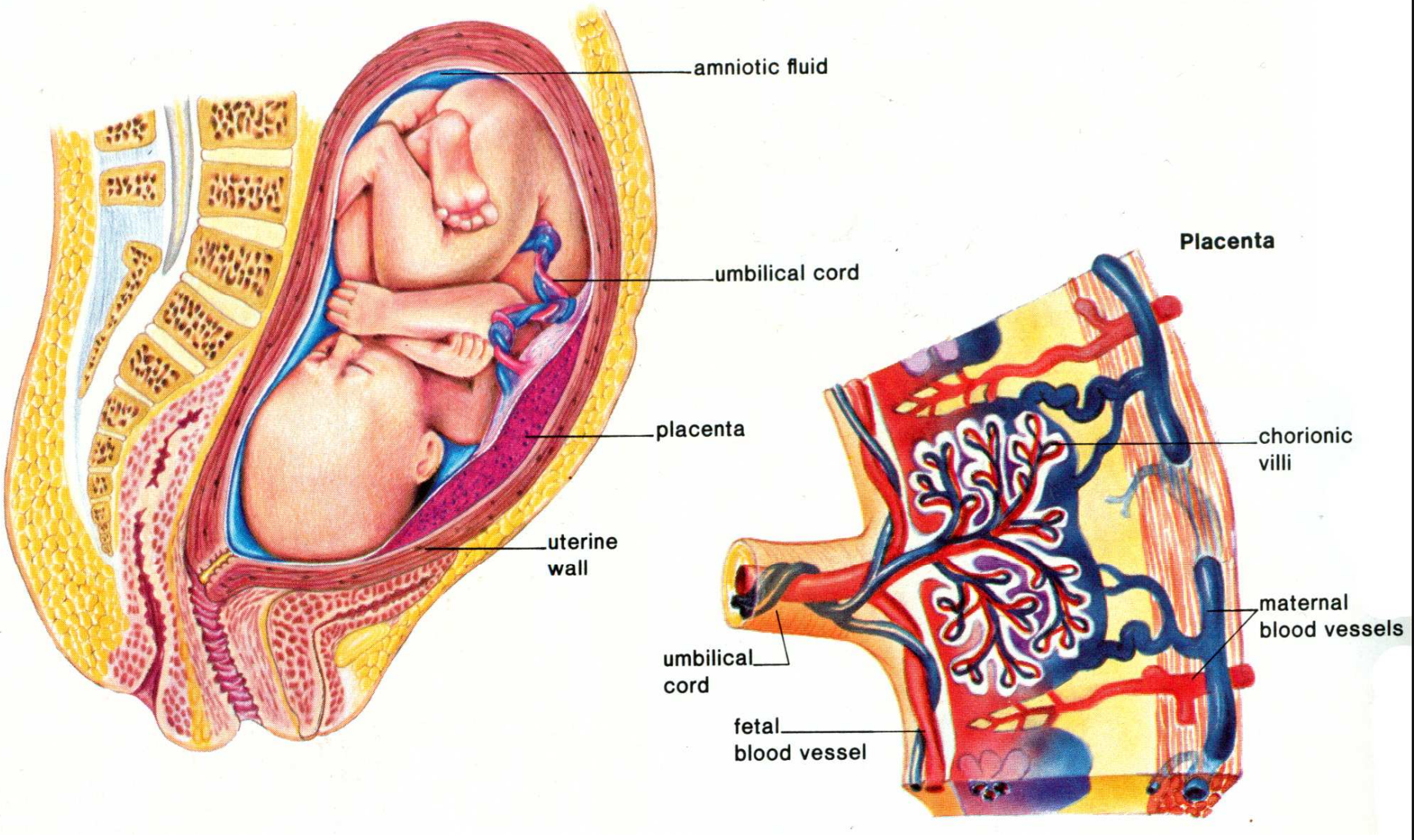
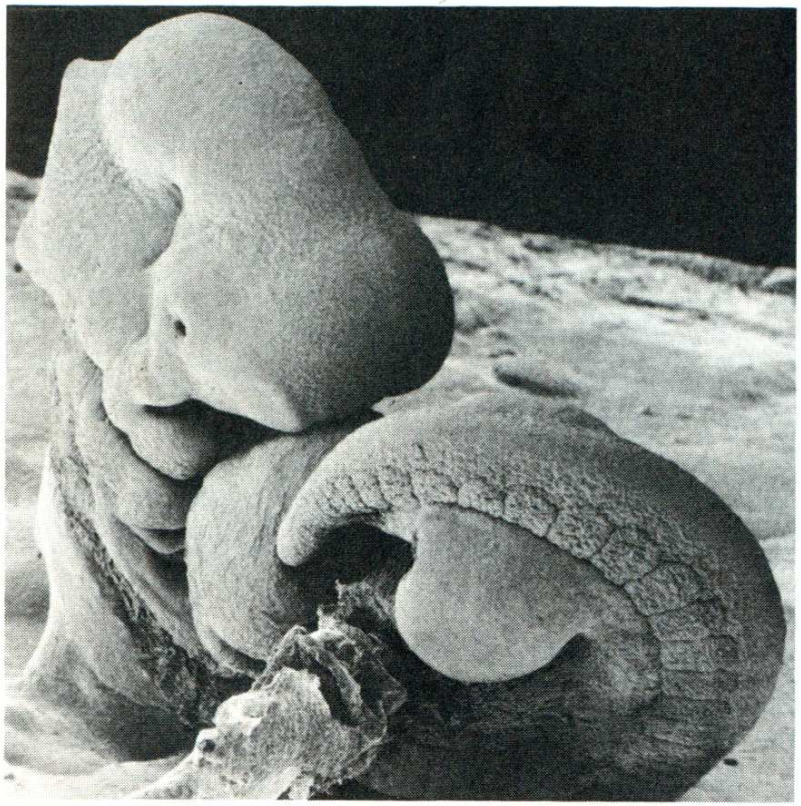
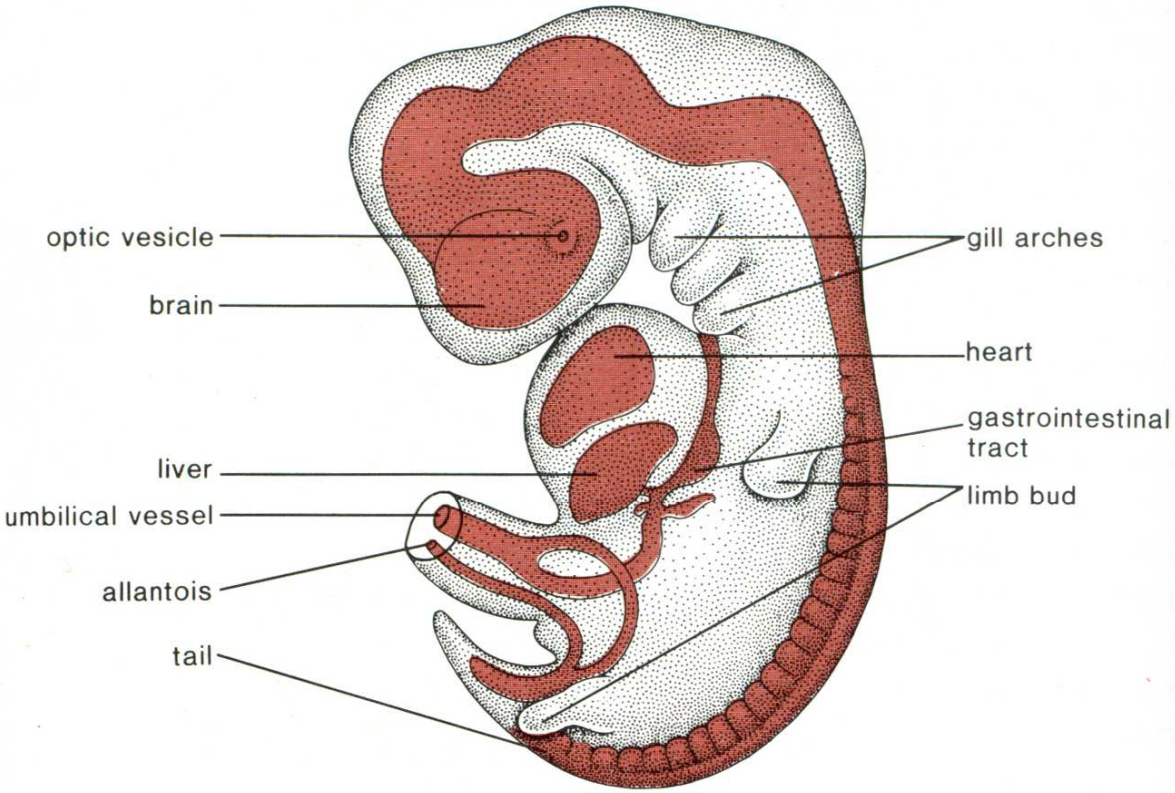


FIGURE 19.10 Human embryo at beginning of fifth week. *a*. Scanning electron micrograph. *b*. Drawing. The embryo is curled so that the head touches the heart, two organs whose development is further along than the rest of the body. The organs of the gastrointestinal tract are forming. The presence of the tail is an evolutionary remnant; its bones will regress and become those of the coccyx. The arms and legs will develop from the bulges that are called limb buds.



a.



b.

FIGURE 19.11 Human embryo at the days indicated and at the size noted. Ten millimeters (mm) equals 0.4 inches.

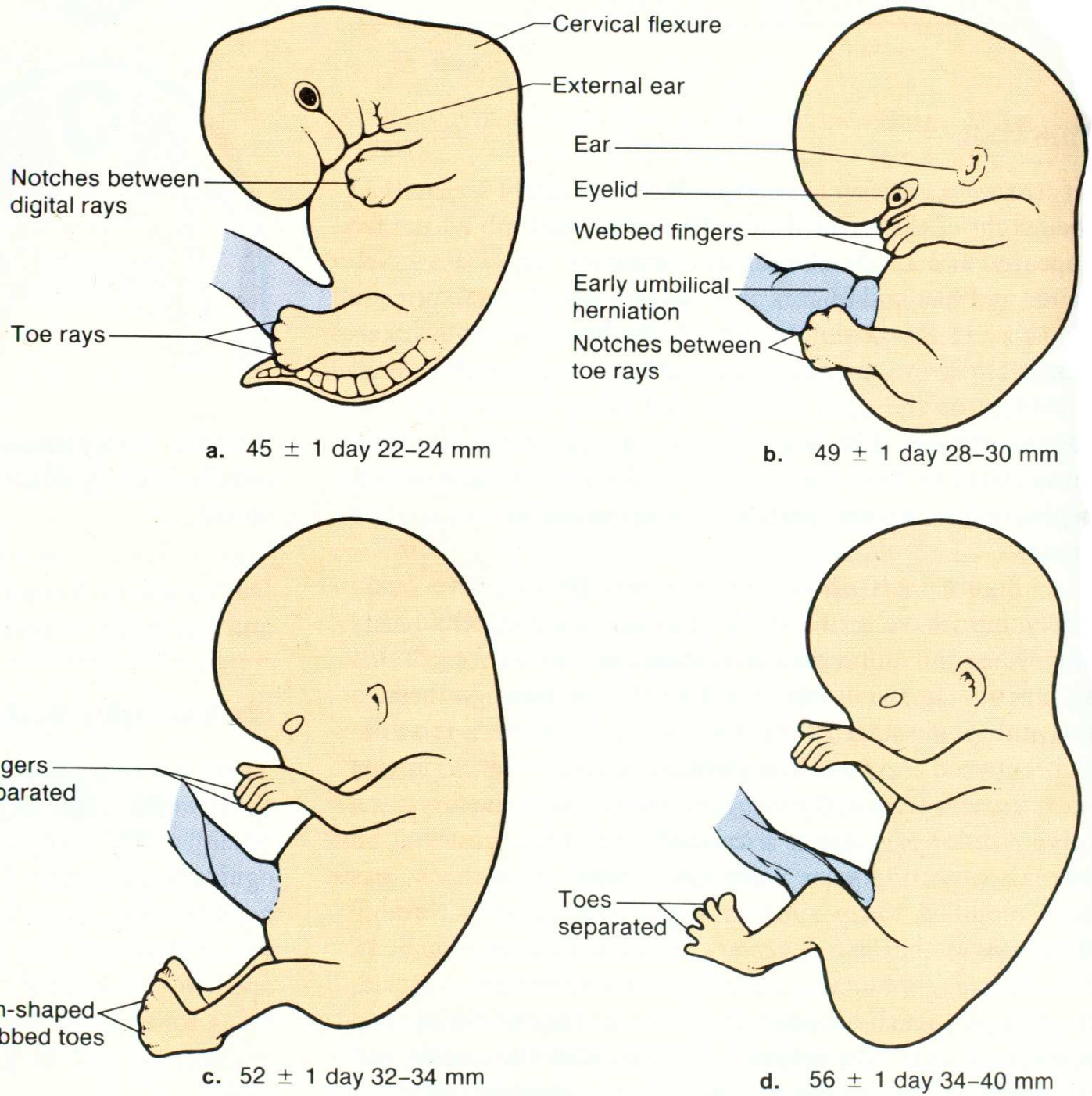
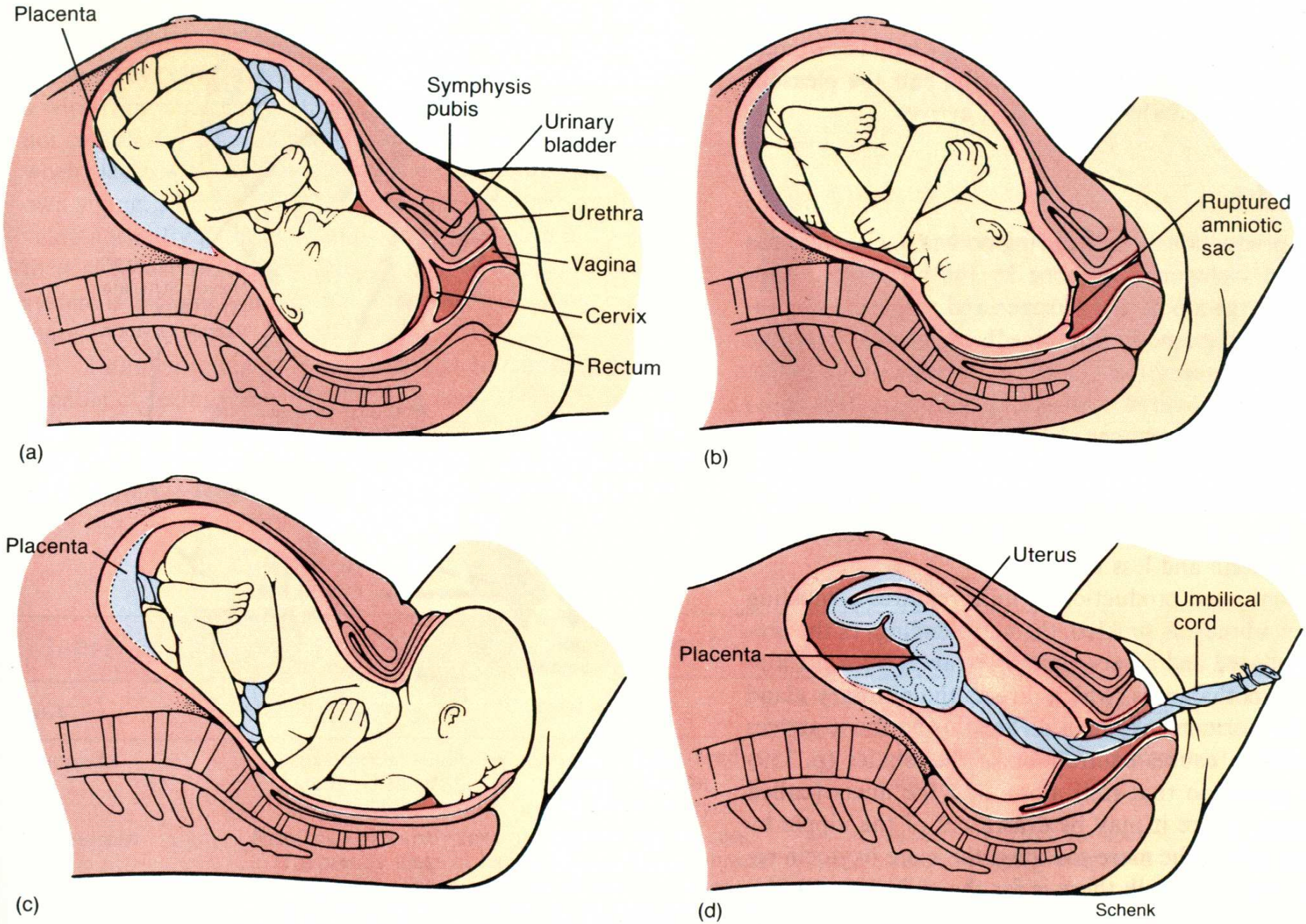


FIGURE 19.19 Three stages of partuition *a*. Position of fetus just before birth begins. *b*. Dilation of cervix. *c*. Birth of baby. *d*. Expulsion of afterbirth.



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