Fig. 6.—Histogram of the density of synapses per 100μm² of tissue in motor (A), somatosensory (B), prefrontal (C), visual (D), and limbic-hippocampal (E) cortices at various ages. Each black dot represents the value obtained from an uninterrupted electronmicroscopic probe of the entire depth of the cortex. Dotted horizontal bar denotes the average synaptic density in the adult monkey for each area. Age is presented in conceptional days on a logarithmic scale in order to fit the entire life span of the monkey onto a single graph (from Rakic et al., 1985).
21-1 The neural tube is formed from the ectoderm of the embryo during the third and fourth weeks following conception; its development is shown in sections through the
The neural tube forms the spinal cord and the brain vesicles. In early development, there are only three vesicles; later, two additional vesicles form. The vesicles at these two stages are illustrated in a dorsal straightened-out view of the neural tube, and the flexures are illustrated in a side view. A. Three-vesicle stage. B. Five-vesicle stage.
Figure 10-7  The “bootstrap” process of cell body migration. (a) The Purkinje cell of the cerebellum begins in a brain stem region that will become the cerebellar nuclei. (b) A fiber grows out from it until it reaches the top edge of the hindbrain and cannot grow any farther. (c) The cell body migrates up the axon until it reaches the top of the brain, which is becoming the cerebellar cortex. (d) The Purkinje cell body is now in its correct location, in cerebellar cortex, and the fiber becomes its axon connecting down to cells in the cerebellar nuclei, the correct adult pattern of connection.
Figure 10-8 Formation of the cerebral cortex. (a) Initially the neural tube is just a few cells thick and consists mainly of the germinal zone (GZ). (b) As cells proliferate, some stop dividing and move to the intermediate zone (IZ). (c) The intermediate zone cells then migrate distally to take up their final positions; the first cells to migrate form the deepest cortical layers (layer VI). (d) Cells migrating later form the more superficial layers (here, layers IV and V).