VIII. Atlas of Developmental Stages *(photographs and drawings)*

By way of introduction, it is worth repeating that 35 mm chromes of histological sections were scanned and placed in Adobe Illustrator, where they were traced, checking all details under a microscope next to the monitor. After a tracing was completed, it was reflected across a vertical axis (the midline), so that for most illustrations, a photomicrograph is found on the left, with our interpretation of morphological features in that photomicrograph indicated in a drawing (tracing) on the right. In the drawings for our atlas of the adult rat brain (Swanson 1992a), gray matter was generally shown as gray, and white matter as white. However, this approach was found to be impractical for drawings of the developing rat brain, at least at the scale presented here. It was found that the drawings are much easier to view and interpret when the extent of obvious white matter regions is simply indicated by light gray, and borders between distinct cellular regions are indicated by dashed lines (as was done for the adult mapping templates available originally as Swanson LW, *Brain Maps: Computer Graphics Files*, Elsevier, 1993).

Because the size, shape, and gross structure of the developing brain are constantly changing, one can only attempt in a book such as this to present reasonable glimpses of particularly informative ages and planes of section, based in part on the quality of available histological material. The series of sections illustrated here were gleaned from about 85 serially sectioned embryos, and individual series often consist of sections taken from more than one embryo. Multiple embryos for a single series were used when a single plane of section was desired—because the longitudinal axis of the brain curves so dramatically during embryogenesis, it was often necessary, for example, to choose approximately transverse sections through a particular region of the brain in one embryo, and approximately transverse sections through another region from another embryo. This approach is often taken for transverse atlases of the

adult human brain, where the longitudinal axis undergoes an approximately 90° bend in the midbrain (for example, Carpenter and Sutin 1983). Unfortunately, more than one embryo sometimes also had to be used for sections through the same part of the brain because of technical difficulties in obtaining long series of undamaged sections.

Except for e20, all sections were cut in a cryostat—thus, their general appearance is similar to that of the vast majority of histochemical work now being carried out on the embryonic rodent brain.