3. In the hippocampus the molecular layer is very thick and contains a large number of Golgi cells. It has been divided into three strata: (a) s. convolutum or s. granulosum, containing many tangential fibers; (b) s. lacunosum, presenting numerous vascular spaces; (c) s. radiatum, exhibiting a rich plexus of fibrils. The two layers of pyramidal cells are condensed into one, and the cells are mostly of large size. The axons of the cells in the polymorphous layer may run in an ascending, a descending, or a horizontal direction. Between the polymorphous layer and the ventricular ependyma is the white substance of the alveus.

4. In the fascia dentata hippocampi or dentate gyrus the molecular layer contains some pyramidal cells, while the layer of pyramidal cells is almost entirely represented by small ovoid cells.

5. The Olfactory Bulb.—In many of the lower animals this contains a cavity which communicates through the olfactory tract with the lateral ventricle. In man the original cavity is filled up by neuroglia and its wall becomes thickened, but much more so on its ventral than on its dorsal aspect. Its dorsal part contains a small amount of gray and white substance, but it is scanty and ill-defined. A section through the ventral part (Fig. 755) shows it to consist of the following layers from without inward:

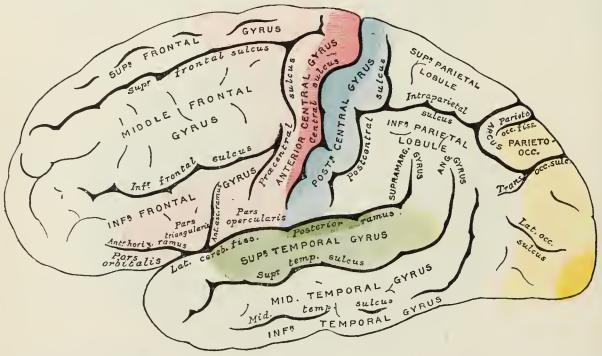


Fig. 756.—Areas of localization on lateral surface of hemisphere. Motor area in red. Area of general sensations in blue. Auditory area in green. Visual area in yellow. The psychie portions are in lighter tints.

1. A layer of olfactory nerve fibers, which are the non-medulated axons prolonged from the olfactory cells of the nasal cavity, and reach the bulb by passing through the cribriform plate of the ethmoid bone. At first they cover the bulb, and then penetrate it to end by forming synapses with the dendrites of the mitral cells, presently to be described.

2. Glomerular Layer.—This contains numerous spheroidal reticulated enlargements, termed glomeruli, produced by the branching and arborization of the processes of the olfactory nerve

fibres with the descending dendrites of the mitral cells.

3. Molecular Layer.—This is formed of a matrix of neuroglia, imbedded in which are the mitral cells. These cells are pyramidal in shape, and the basal part of each gives off a thick dendrite which descends into the glomerular layer, where it arborizes as indicated above, and others which interlace with similar dendrites of neighboring mitral cells. The axons pass through the next layer into the white matter of the bulb, and after becoming bent on themselves at a right angle, are continued into the olfactory tract.

4. Nerve Fiber Layer.—This lies next the central core of neuroglia, and its fibers consist of the axons or afferent processes of the mitral cells passing to the brain; some efferent fibers are, however, also present, and end in the molecular layer, but nothing is known as to their exact

origin.

Weight of the Encephalon.—The average weight of the brain, in the adult male, is about 1380 gms.; that of the female, about 1250 gms. In the male, the maximum weight out of 278 cases was 1840 gms. and the minimum weight 964 gms. The maximum weight of the adult female brain, out of 191 cases, was 1585 gms. and the minimum weight 879 gms. The brain increases rapidly during the first four years of life, and reaches its maximum weight by about the twentieth year. As age advances, the brain decreases slowly in weight; in old age the decrease takes place more rapidly, to the extent of about 28 gms.