



Fig. 1. Diagram illustrating the main neuronal circuit of the cerebellar cortex, detailed explanation in the text. After Szentágothai (1963, 1965)

Fig. 1 shows a composite diagram of a small piece (top of a so-called folium) of the cerebellar cortex. Part *A* of the diagram shows a transverse section of the folium with mossy afferents (*M*) entering from below. They establish synaptic contacts with the claw-shape dendrites of the small granule neurons (*G*). Axons of these neurons ascend into the superficial layer of the cortex where they divide in T-shape fashion to form the parallel fibres. This is seen in part *D* of the diagram representing a longitudinal section of the cortical folium. A comparison between the shapes of the Purkinje cells (*P*; drawn in outlines) as they present themselves in the transverse (*A*) and the longitudinal (*D*) sections, explains that the dendritic trees of these cells are forming flat sheets that are pierced at right angles by the parallel fibres. Part *C* of the diagram shows the cerebellar cortex as it would appear if looked at from above. The Purkinje cells are shown here in highly schematic way only as a circle (for the cell body) and a transverse bar (for the dendritic sheet). Only some representative cells are indicated in the diagram, in reality the space available is fully filled by similar cells in the density and arrangement as can be deduced from the drawing. Inhibitory basket cells are shown in full black in parts *A* and *C* in the Figure. Their axons extend in transversal direction and establish inhibitory synapses with the Purkinje cell bodies. The functional operation of the model is explained as follows: let us assume that a number of mossy afferents terminating in the regions of the