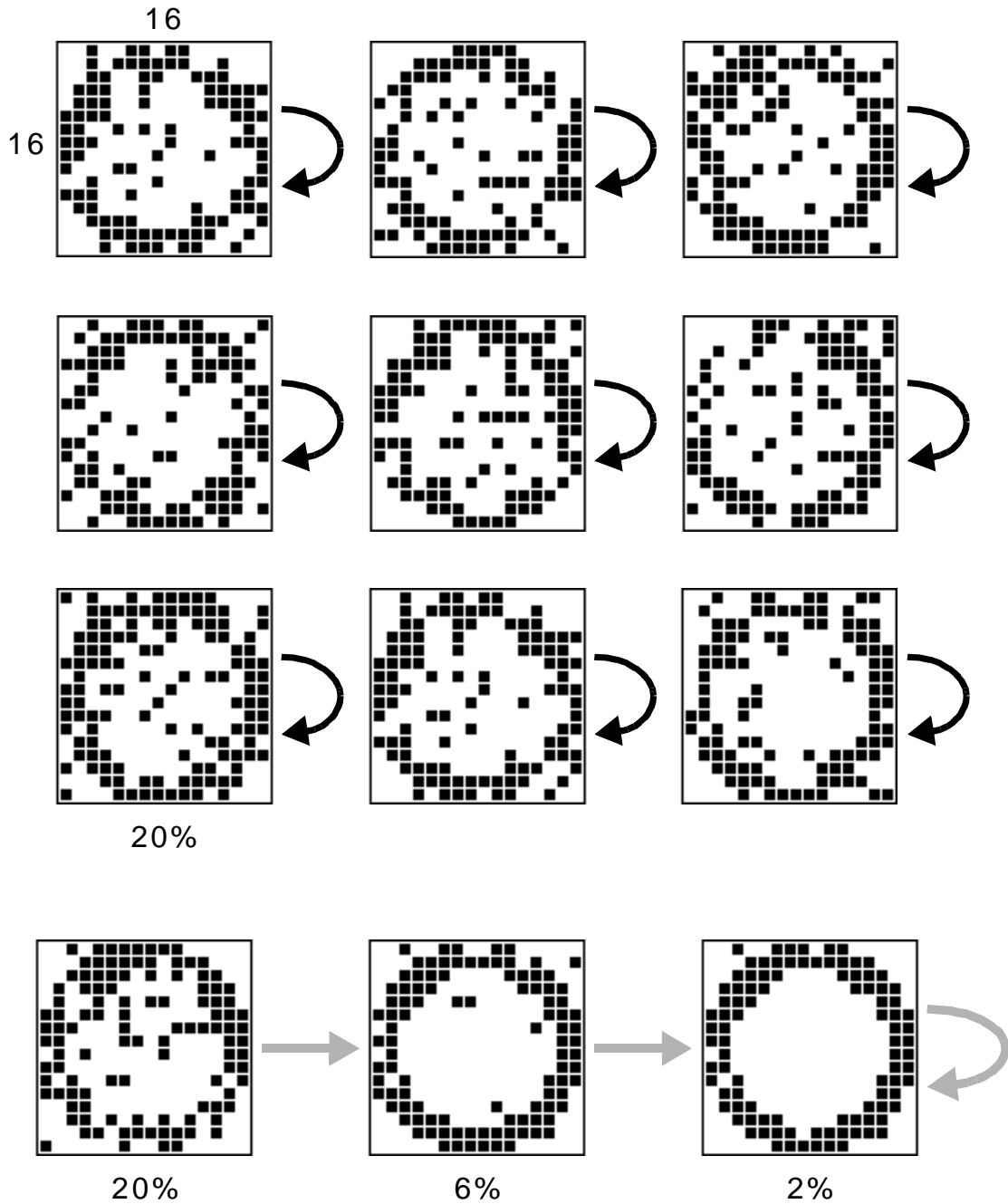
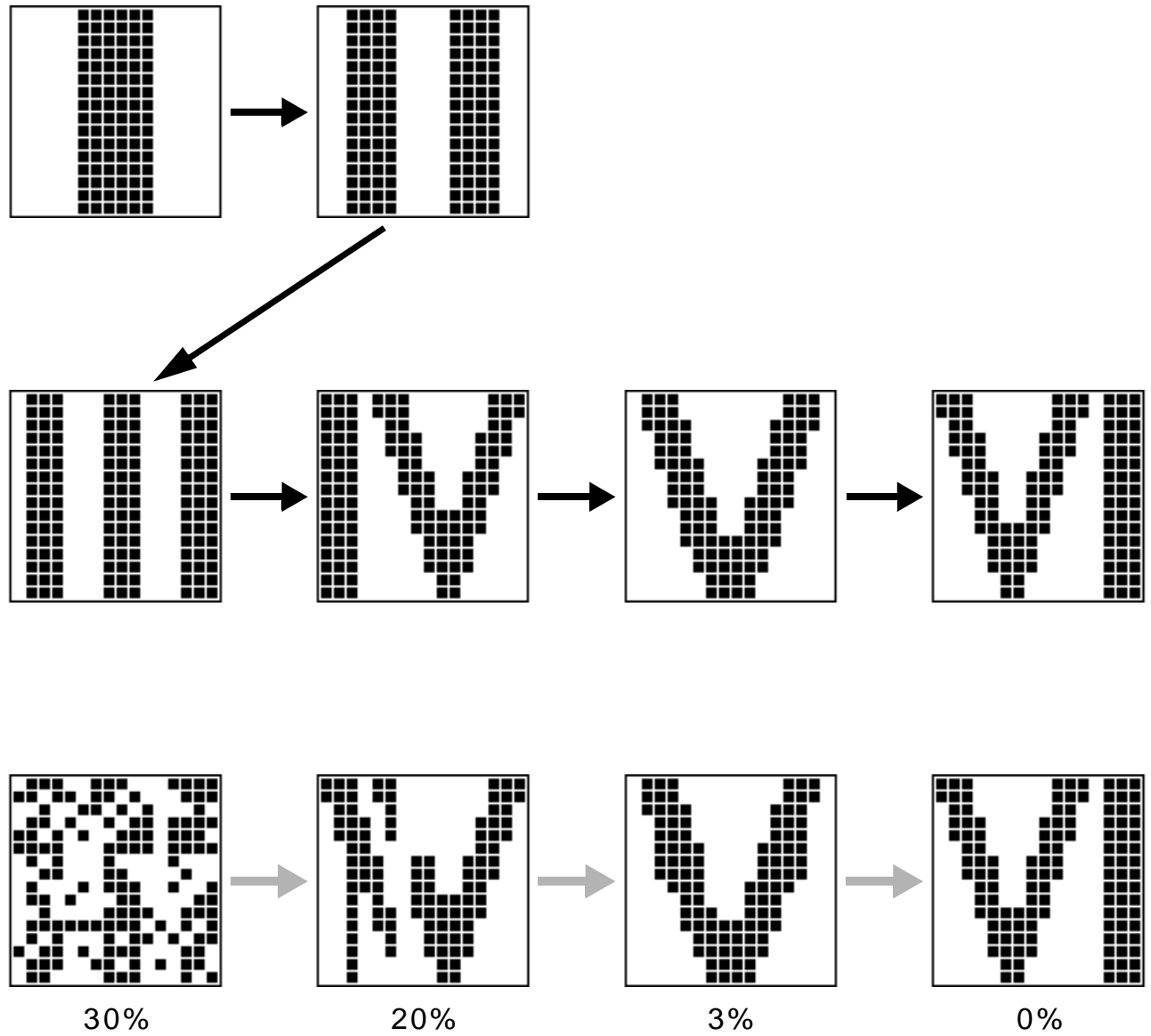


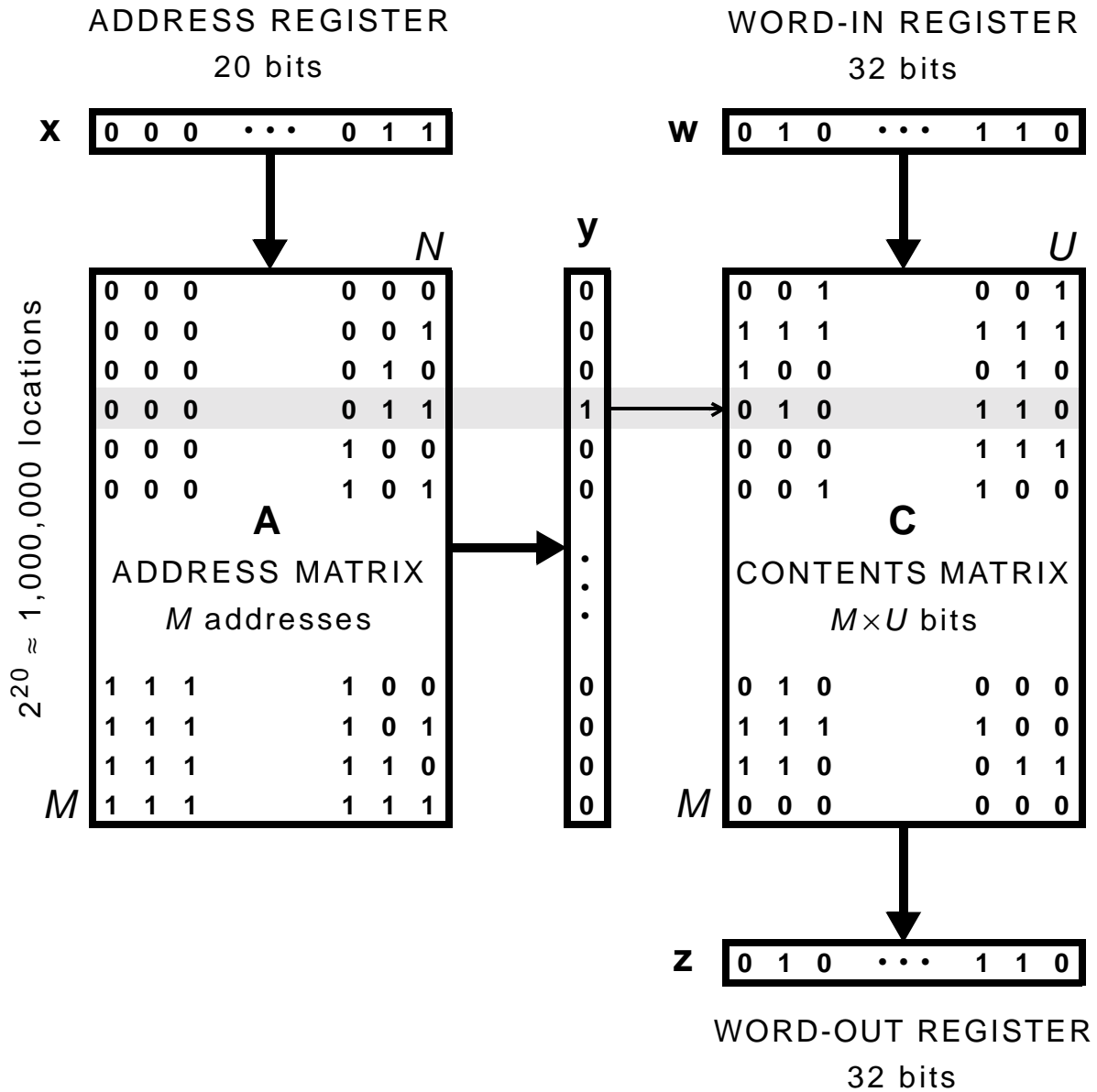
Illustrations for "Sparse Distribute Memory and Related Models."  
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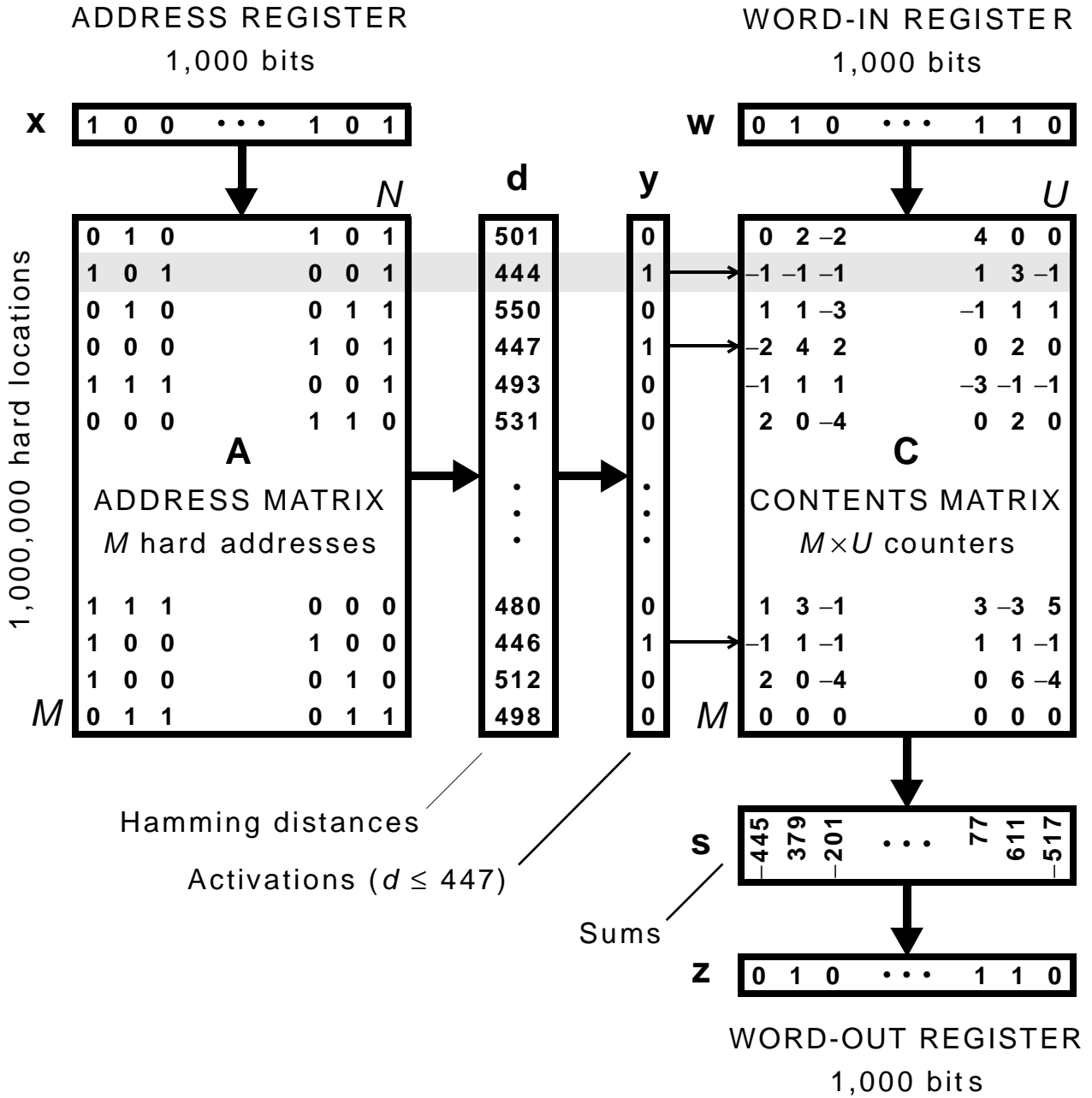
**Figure 3.1.** Nine noisy words (20% noise) are stored, and the tenth is used as a retrieval cue.



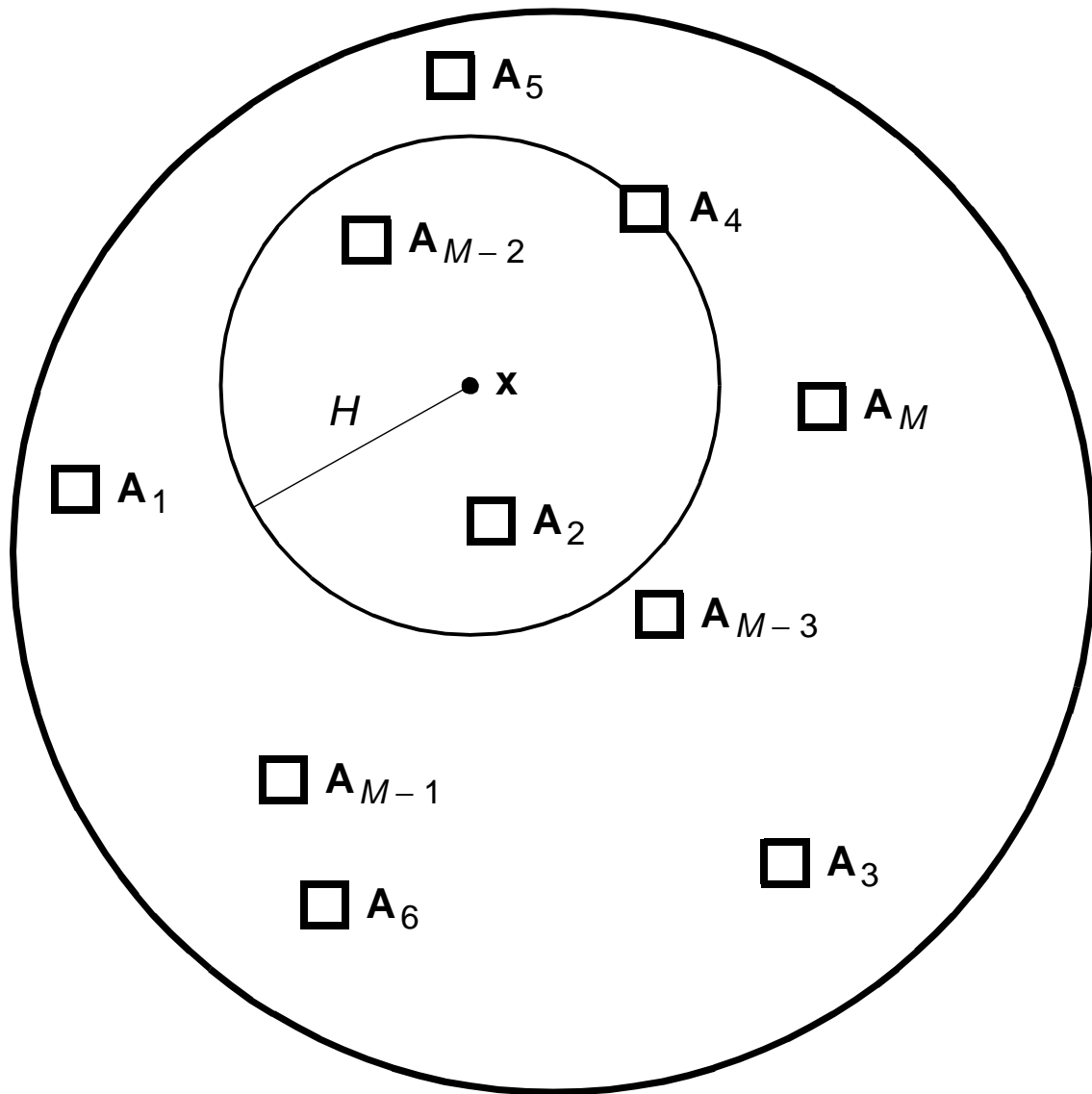
**Figure 3.2.** Recalling a stored sequence with a noisy (30% noise) retrieval cue.



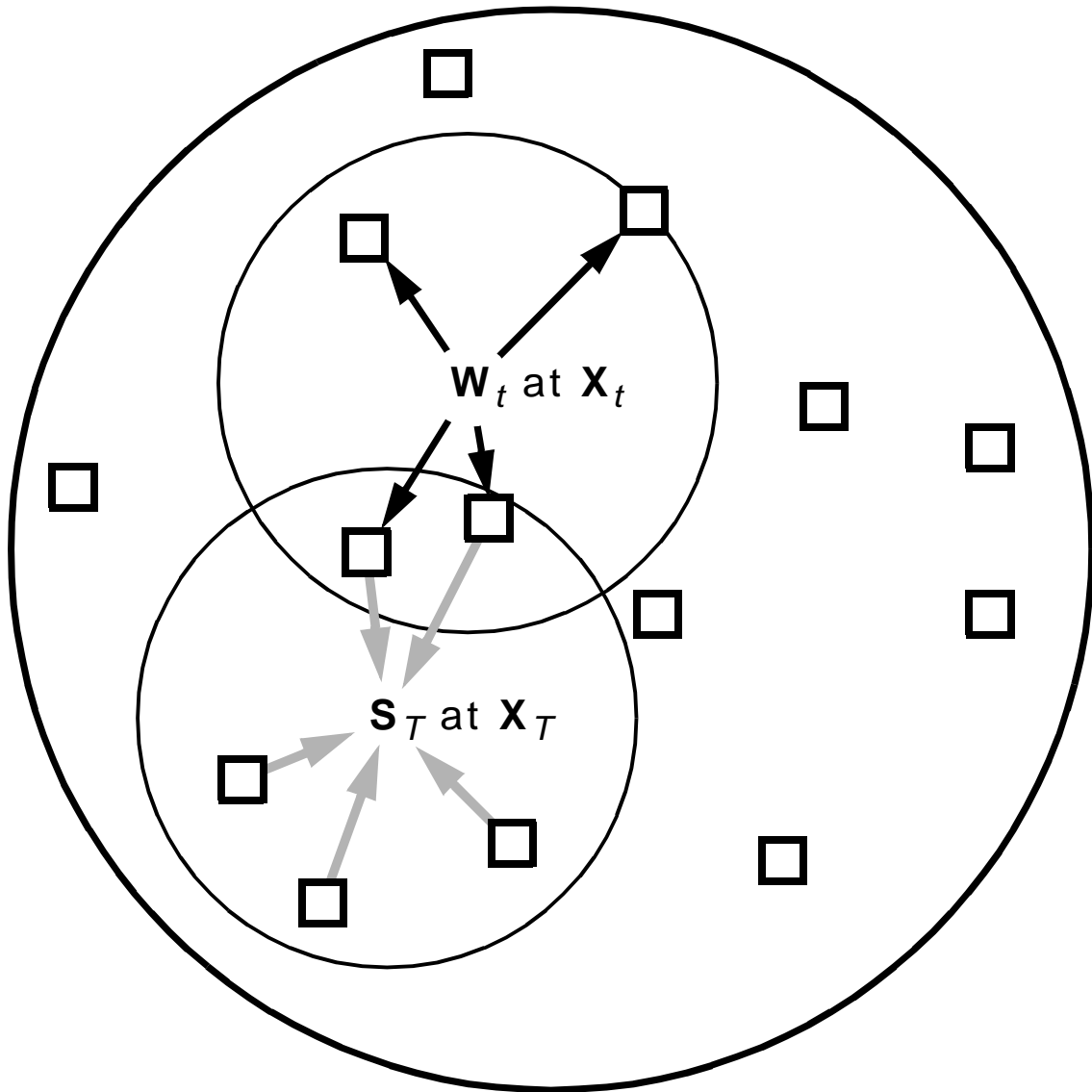
**Figure 3.3.** Organization of a random-access memory. The selected memory location is shown by shading.



**Figure 3.4.** Organization of a sparse distributed memory. The first selected memory location is shown by shading.



**Figure 3.5.** Address space, hard locations, and the set activated by  $x$ .  $H$  is the (Hamming) radius of activation.



**Figure 3.6.** Activation overlaps as weights for stored words. When reading at  $X_T$ , the sum  $S_T$  includes one copy of the word  $W_t$  from each hard location in the activation overlap (two copies in the figure).

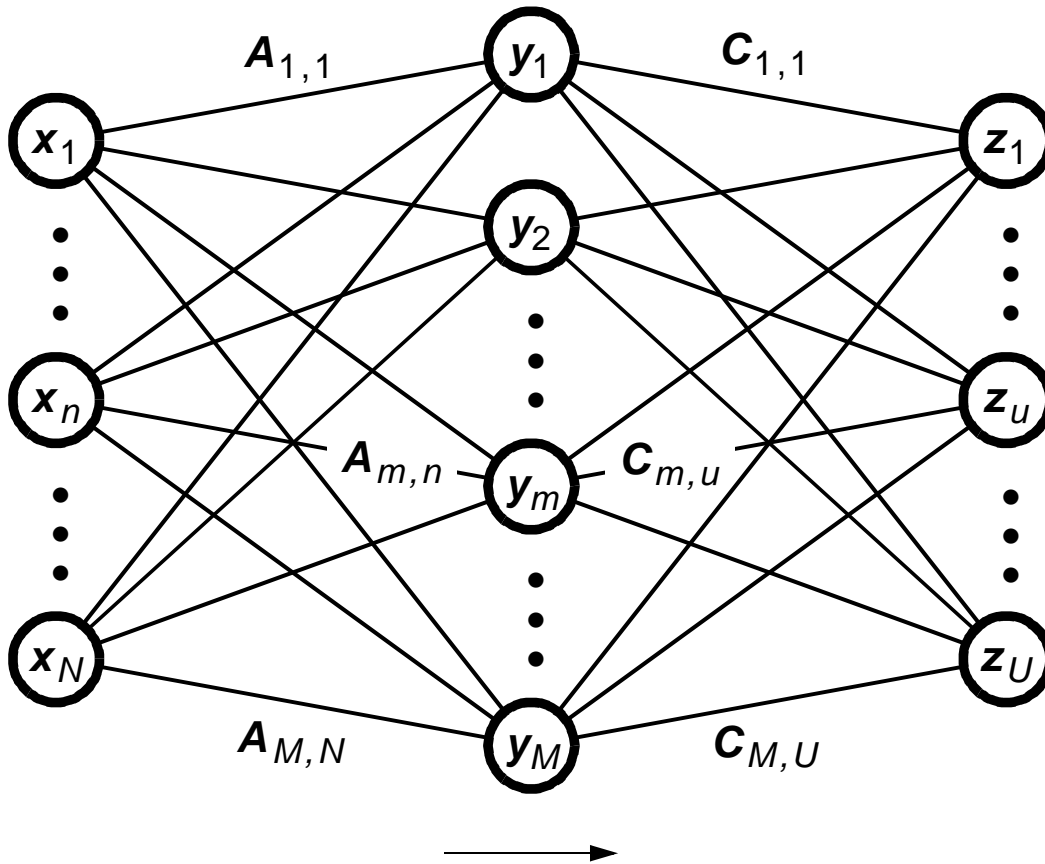


Figure 3.7. Feed-forward artificial neural network.

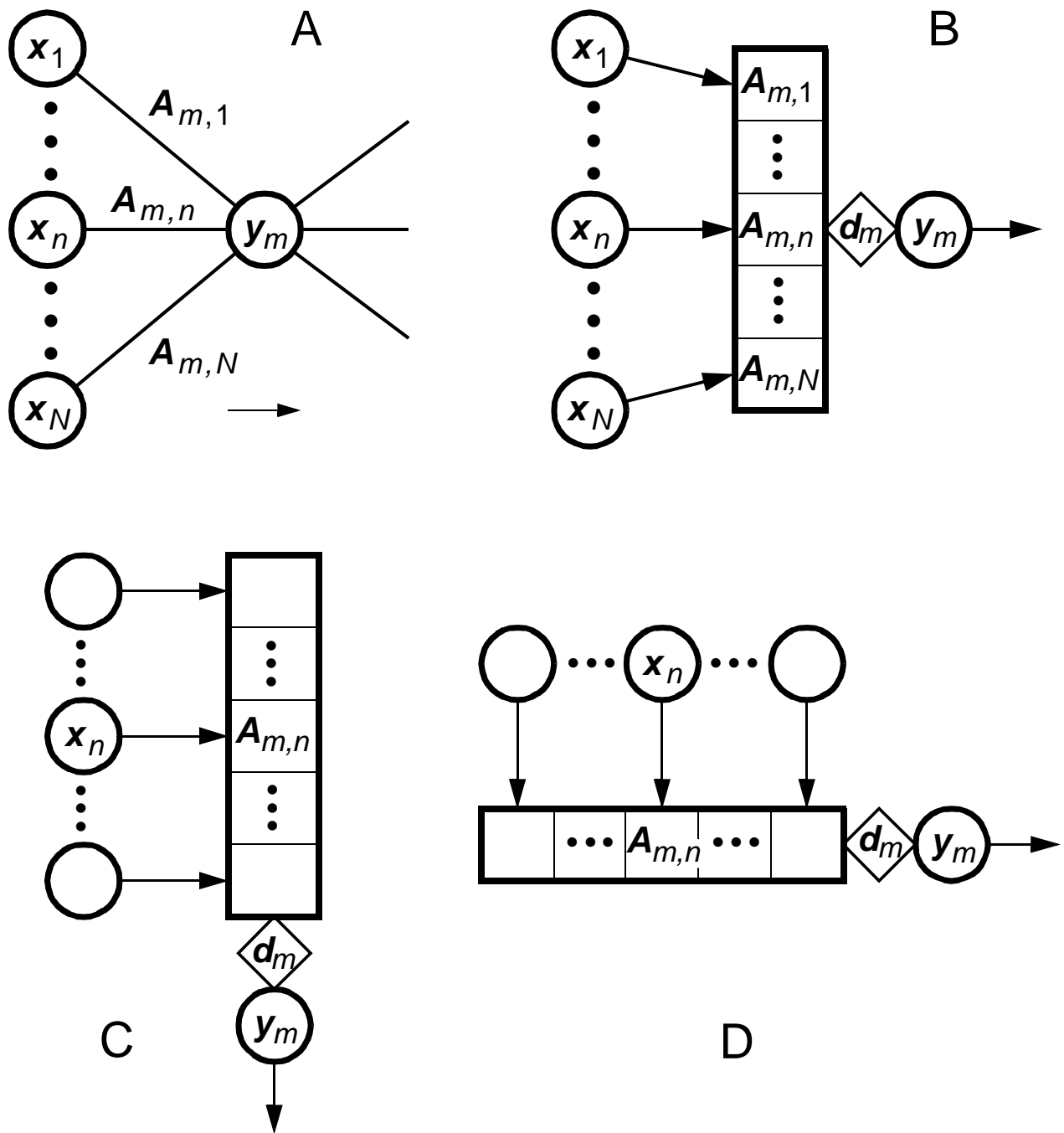
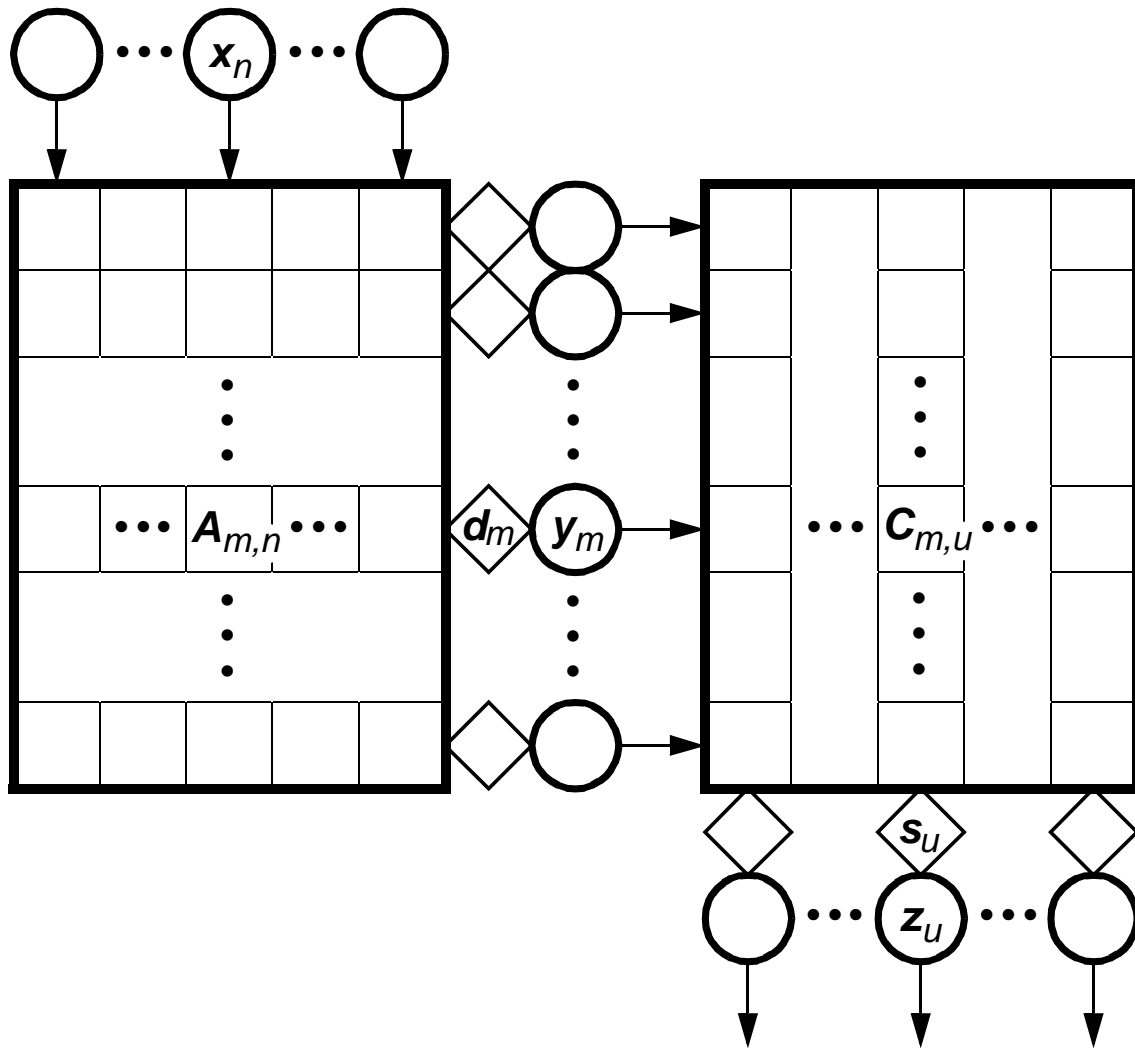
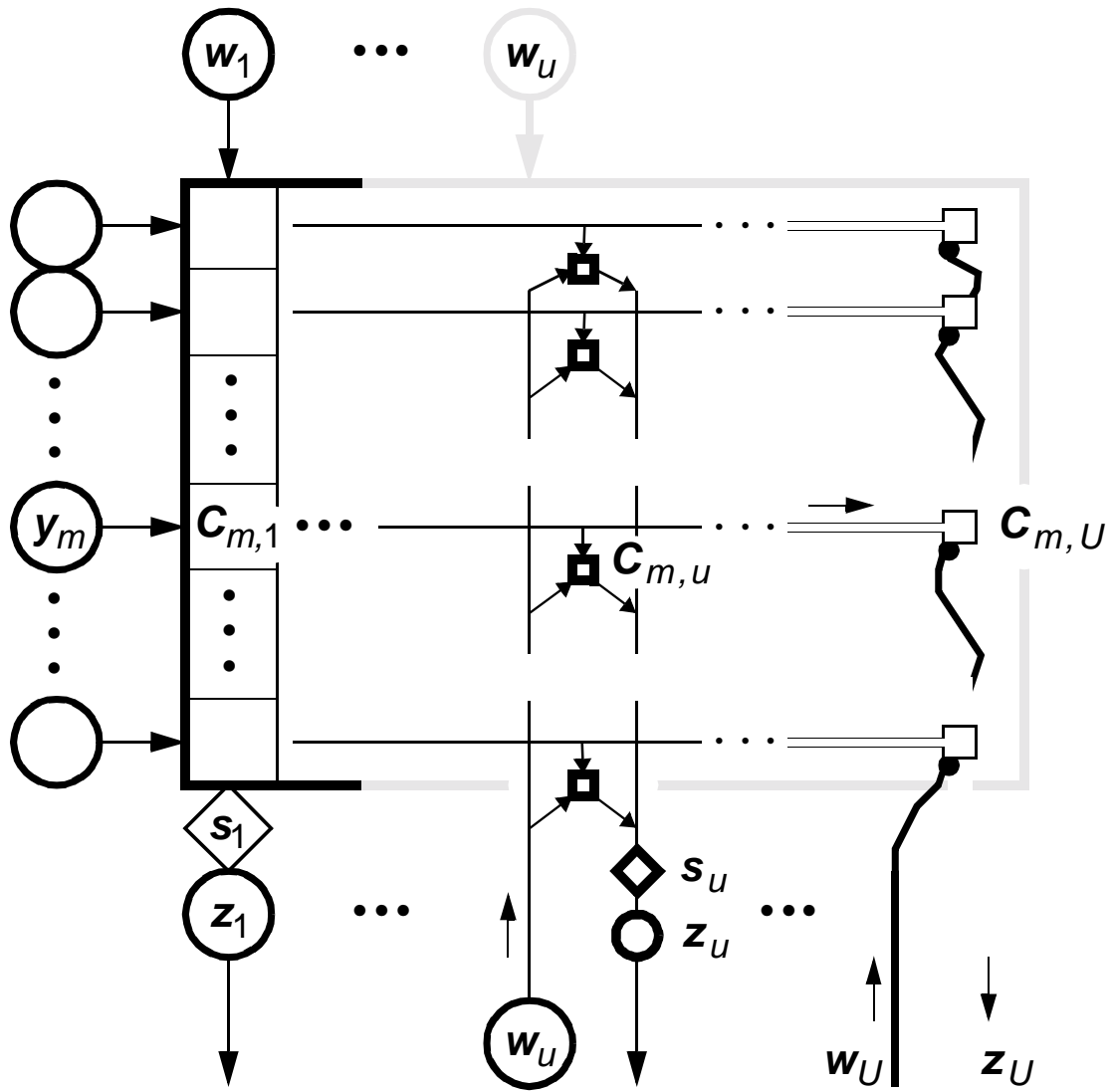


Figure 3.8. Four views of an artificial neuron.

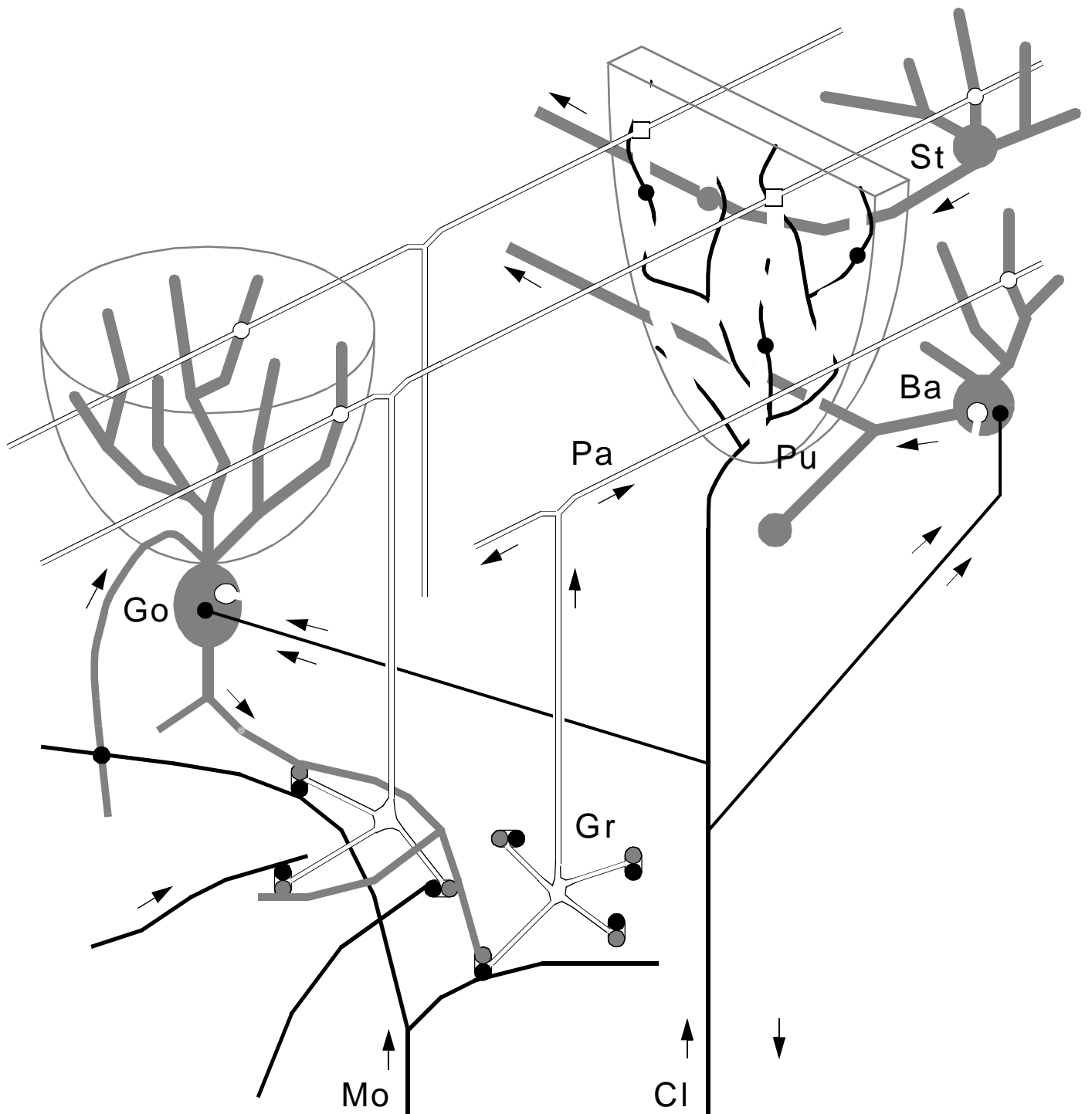




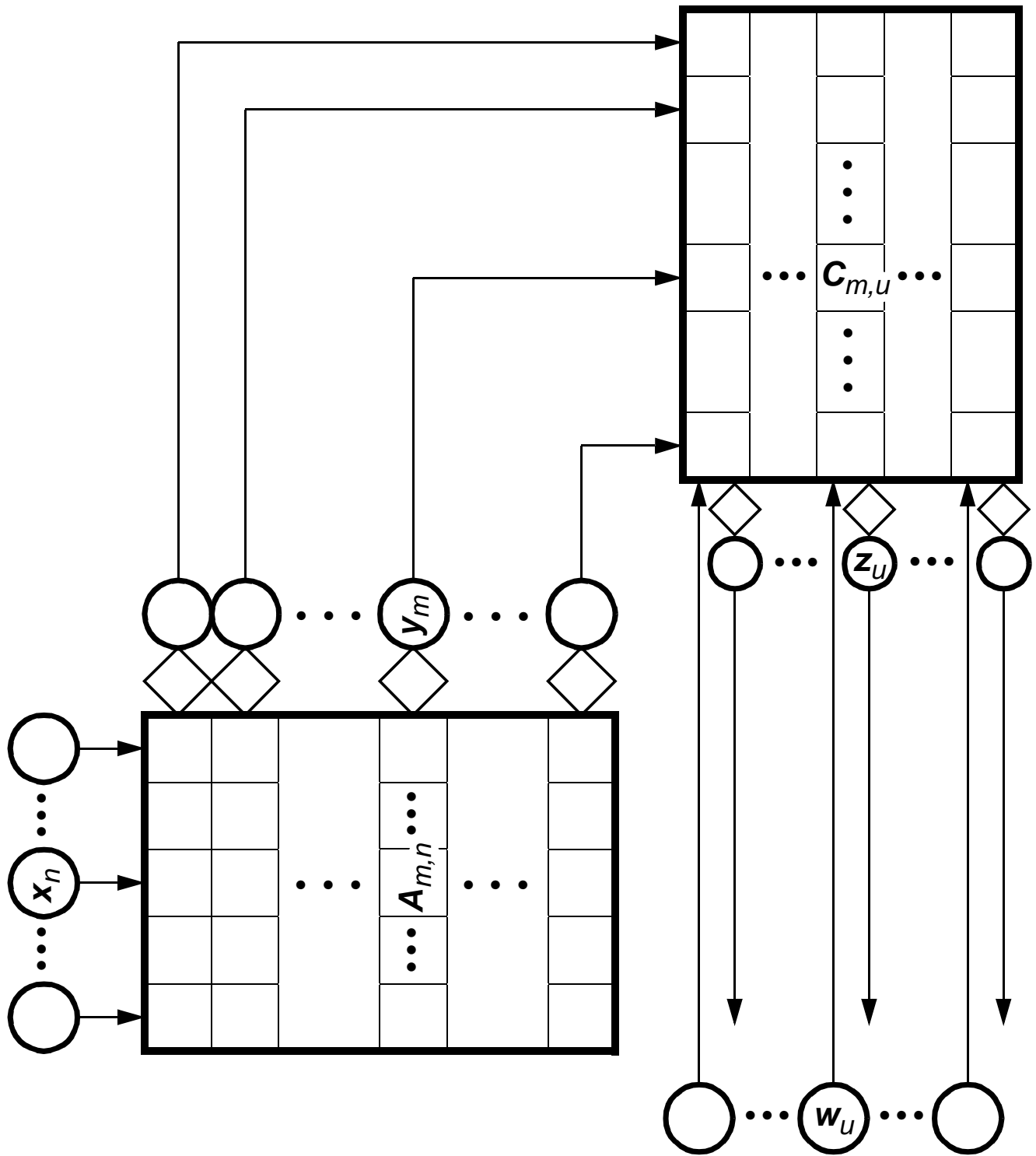
**Figure 3.9.** Sparse distributed memory as an artificial neural network (Fig. 3.7 redrawn in the style of Fig. 3.4).



**Figure 3.10.** Connections to an output neuron. Three output units are shown. The first unit is drawn as a column through the contents matrix  $C$ , the middle unit shows the connections explicitly, and the last unit corresponds to Figure 3.11.



**Figure 3.11.** Sketch of the cortex of the cerebellum. Ba = basket cell, Cl = climbing fiber (black), Go = Golgi cell, Gr = granule cell, Mo = mossy fiber (black), Pa = Parallel fiber, Pu = Purkinje cell (cross-hatched), St = stellate cell. Synapses are shown with small circles and squares of the axon's "color." Excitatory synapses are black or white, inhibitory synapses are cross-hatched or gray.



**Figure 3.12.** Sparse distributed memory's resemblance to the cerebellum (Fig. 3.9 redrawn in the style of Fig. 3.11; see also Fig. 3.10).