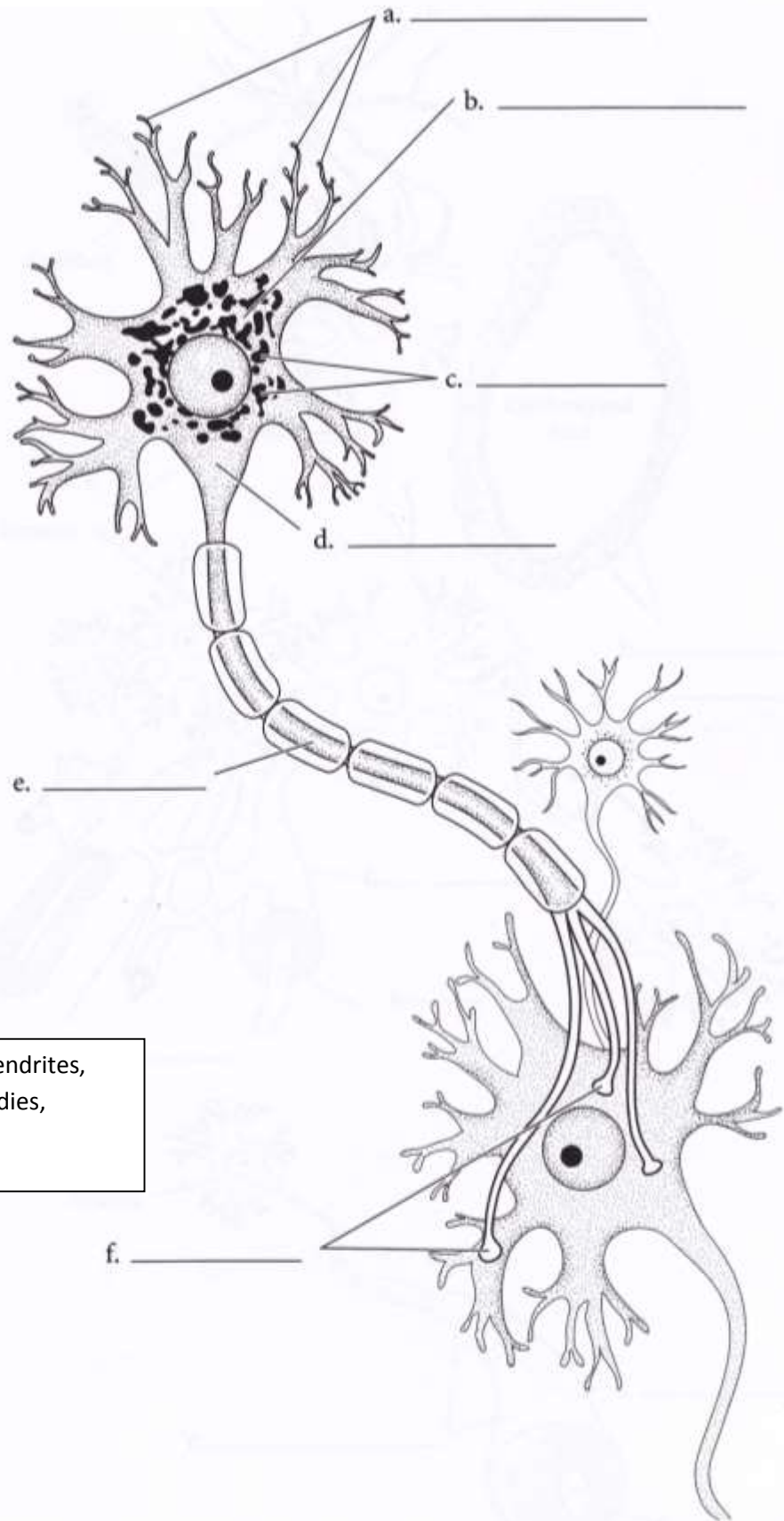


NEURON

The nerve cell or **neuron** is the functional cell in the nervous system. Most electrical conduction in the body is due to the transmission of impulses by the neuron. The neuron consists of branched structures called **dendrites**. The main portion of the nerve cell is called the **soma** or **nerve cell body**, and the elongated part of the neuron is the **axon**. Two neurons are connected by gaps called **synapses**. The nerve cell body is the metabolic center of the cell consisting of a nucleus, an endoplasmic reticulum called the **Nissl bodies**, and a region where the axon attaches called the **axon hillock**. Color in the parts of the neuron and label the parts.



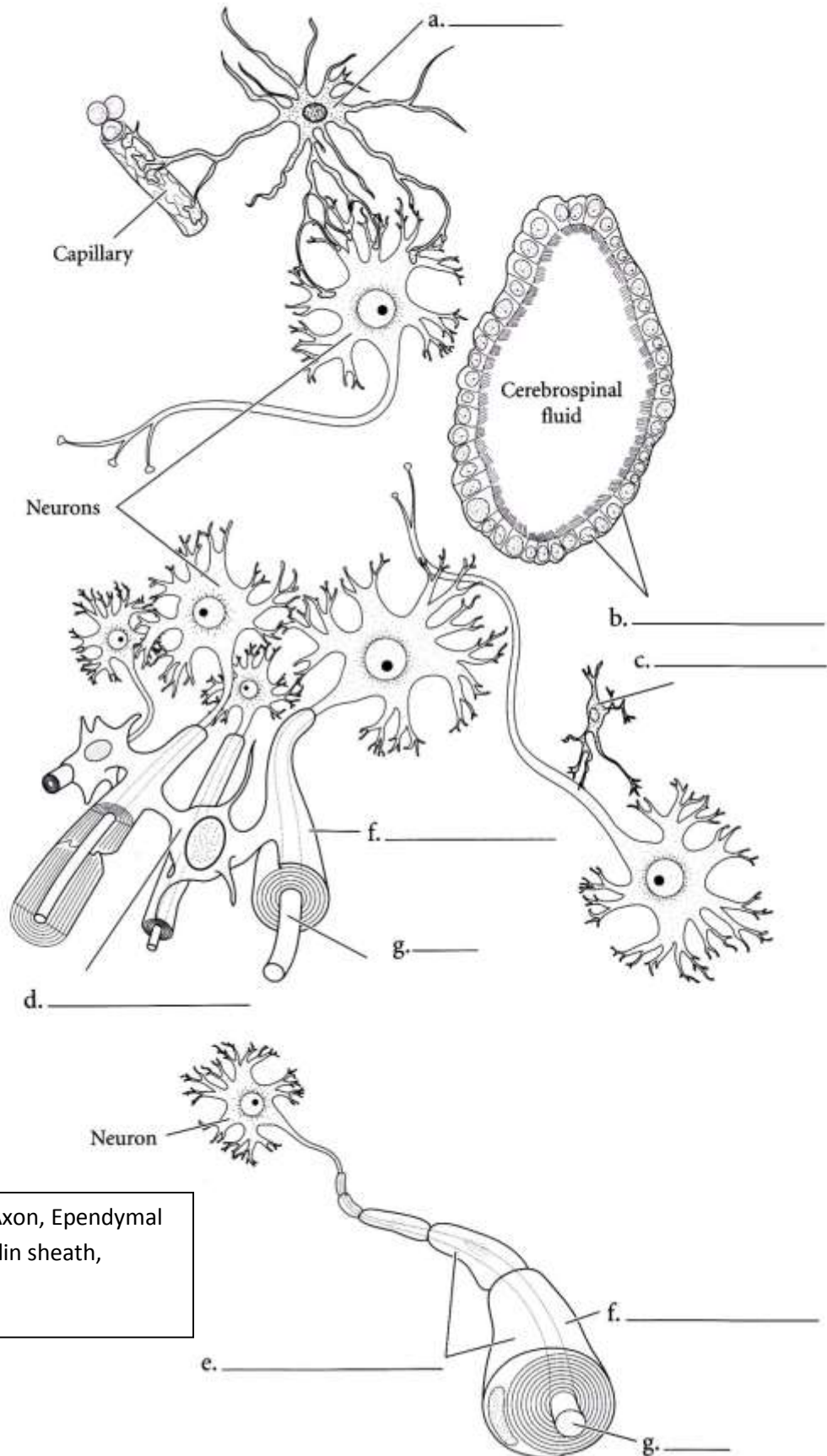
Word List: Axon, Axon hillock, Dendrites, Nerve Cell Body (soma), Nissl bodies, Synapse

NEUROGLIA

Neuroglia or **glial cells** have many specialized functions in the nervous system. The **neurolemmocyte** or **Schwann cell** is found in the peripheral nervous system. These cells make up the **myelin sheath** that wraps around **axons**.

The other neuroglia are located in the central nervous system. **Astrocytes** are glial cells that, along with the brain capillaries, form the blood-brain barrier. They also have a role in transferring nutrients from the capillaries to the deeper regions of the brain. Another glial cell that functions as a barrier is the **ependymal cell**. These cells are located between the CNS and cavities filled with cerebrospinal fluid. **Microglia** are also found in the CNS, and their function is one of protection. Microglia respond to invasions of the nervous system and destroy microbes.

Oligodendrocytes are neuroglia that produce myelination in the CNS. Myelinated nerve fibers comprise white matter. Myelinated fibers conduct impulses faster than unmyelinated fibers. White matter is mostly associated with transmission of neural impulses from one area to another. Color each glial cell a different color and write the name of each cell in the space provided.



Word List: Schwann cells, Axon, Ependymal cell, Oligodendrocyte, Myelin sheath, Microglial cell, Astrocyte