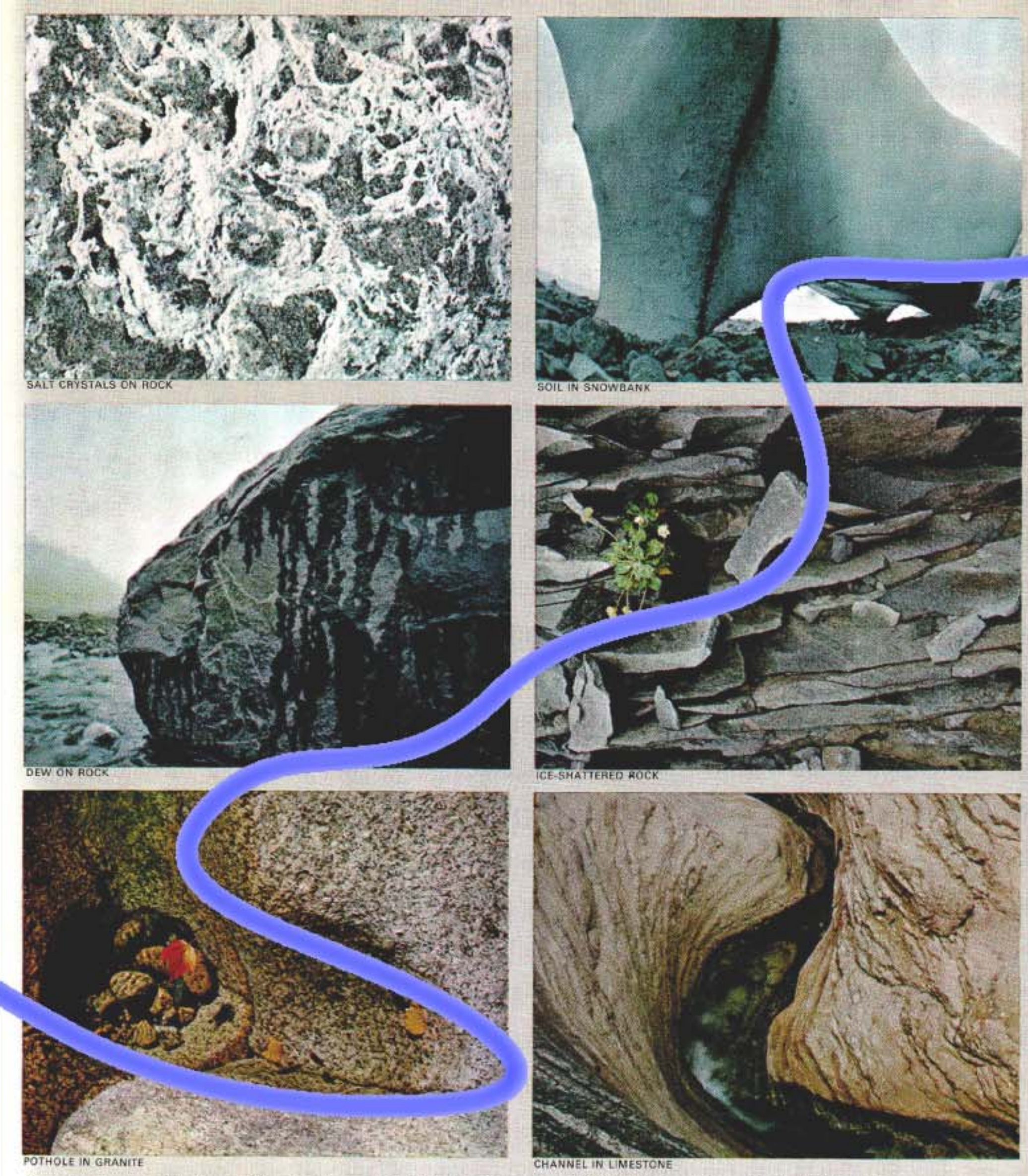


# The Language of Water

**FORMING A WATER MOLECULE.** Two atoms of hydrogen and an oxygen atom fill their electron orbits by sharing electrons. Each hydrogen atom, with one electron spinning around its nucleus, needs one more electron to become stable. The larger oxygen atom, with six electrons in its outer shell, needs two more to fill its orbit. When the three unstable atoms pool their electrons (below), the result is a stable molecule of water.

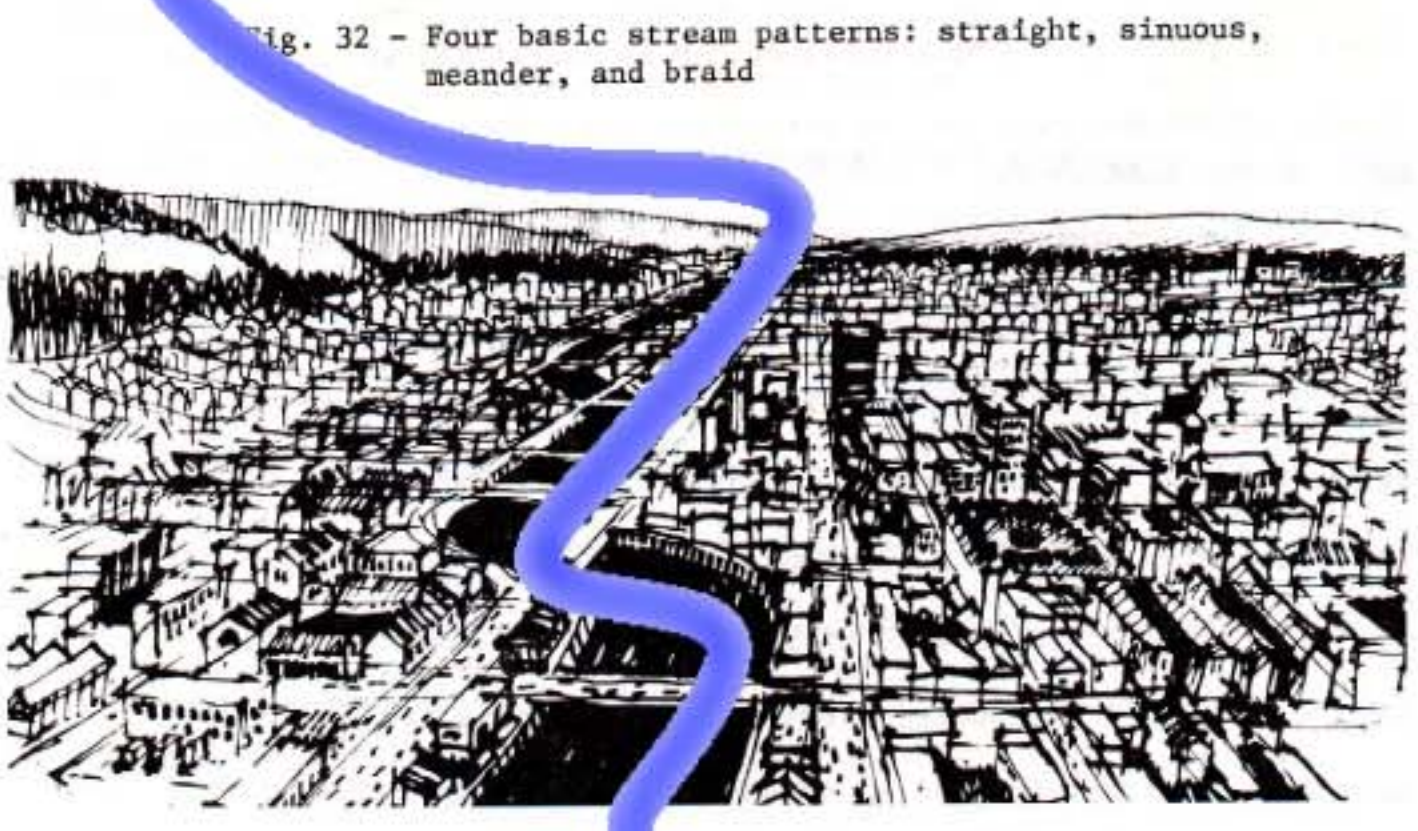
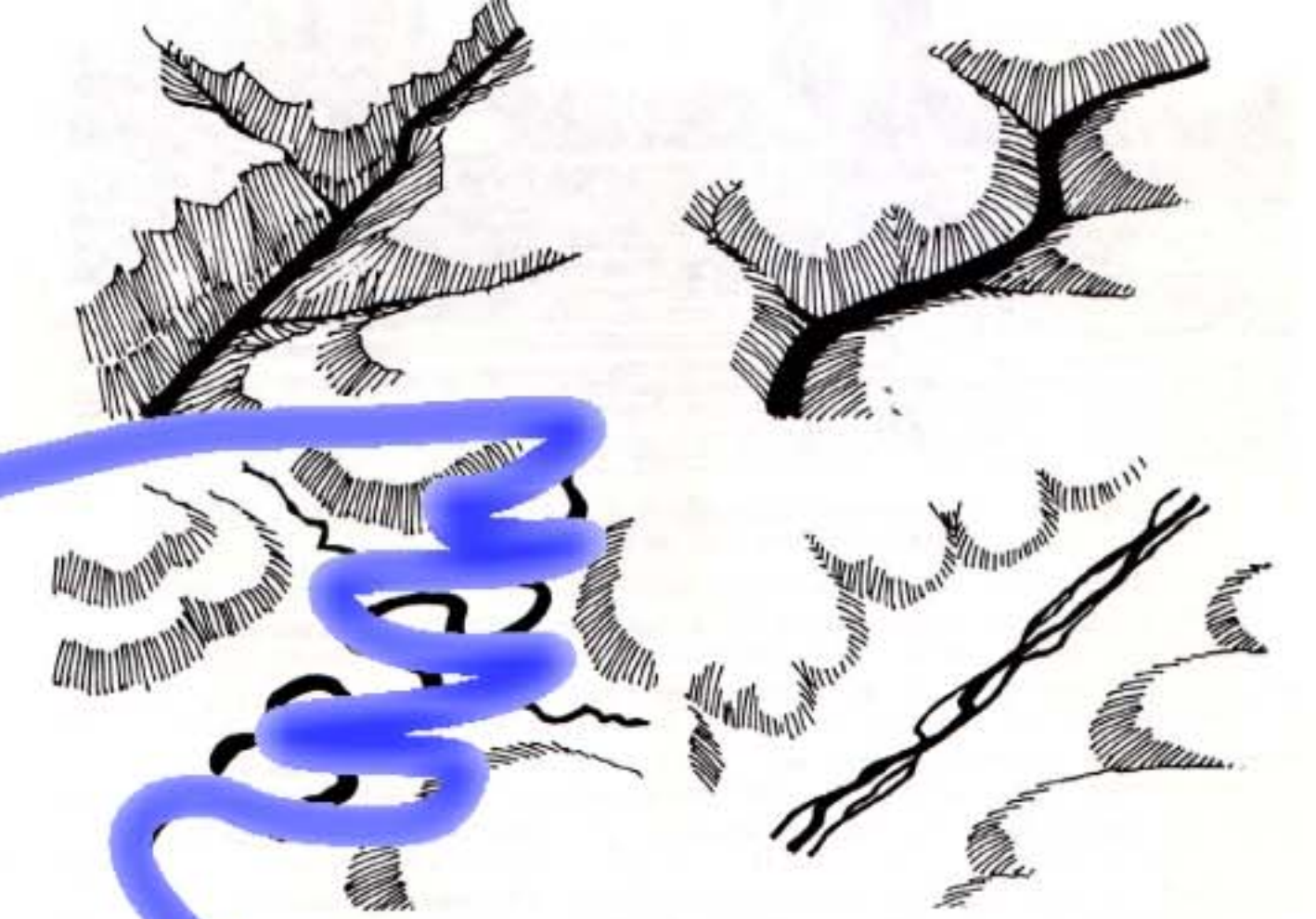
**HYDROGEN ATOMS**  
**OXYGEN ATOM**  
**WATER MOLECULE**

Source: Leopold, Luna B. and Kenneth S. Davis, eds. 1966. *Water*. New York: Time Inc.

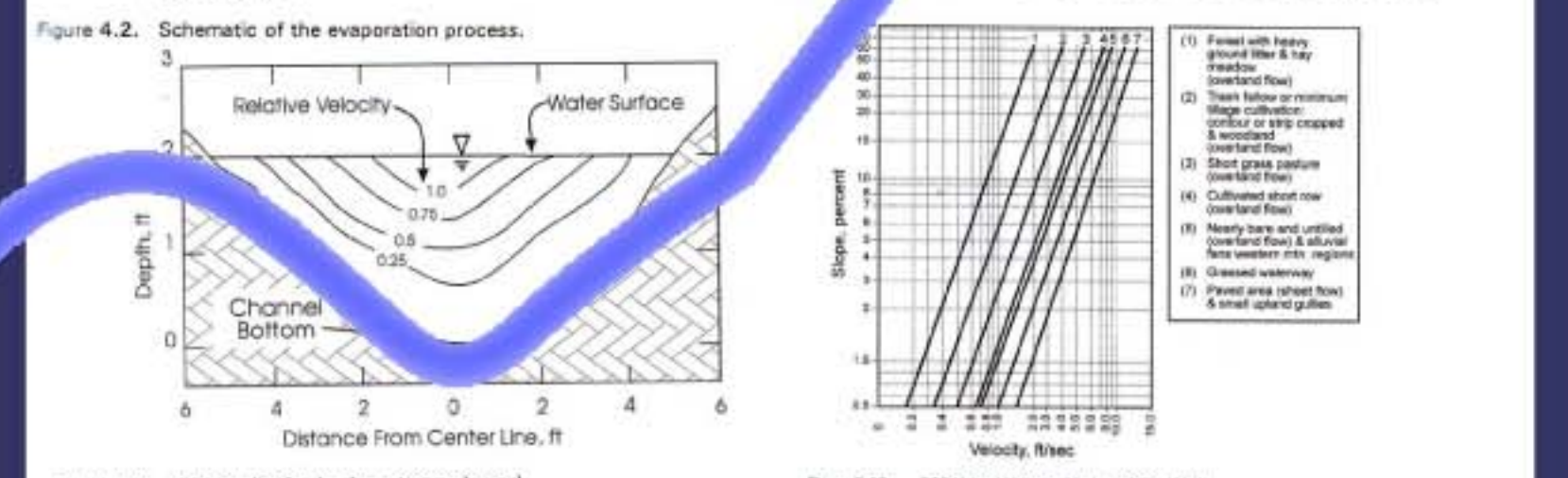
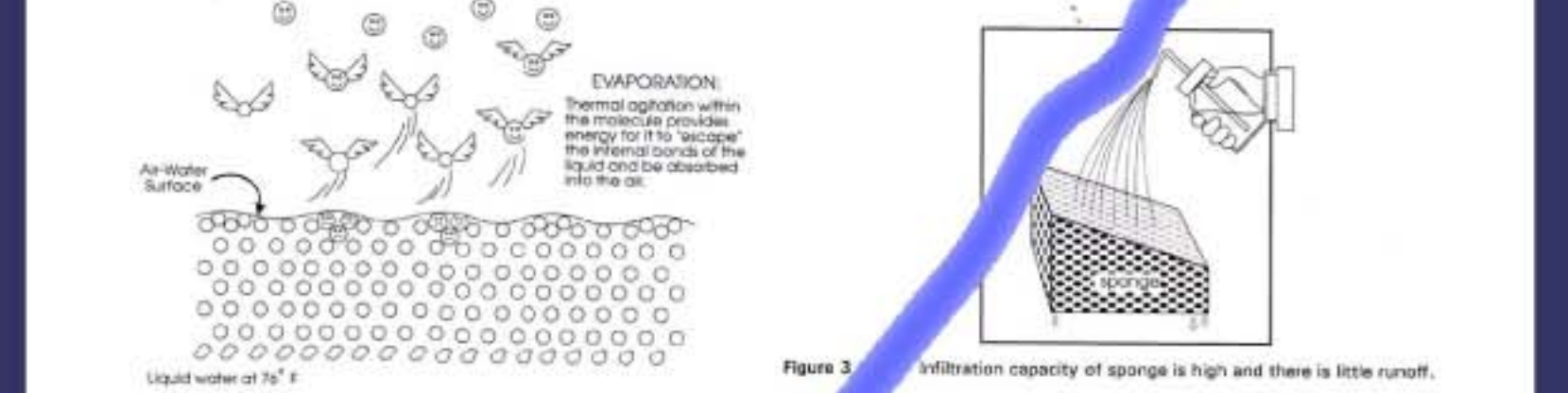
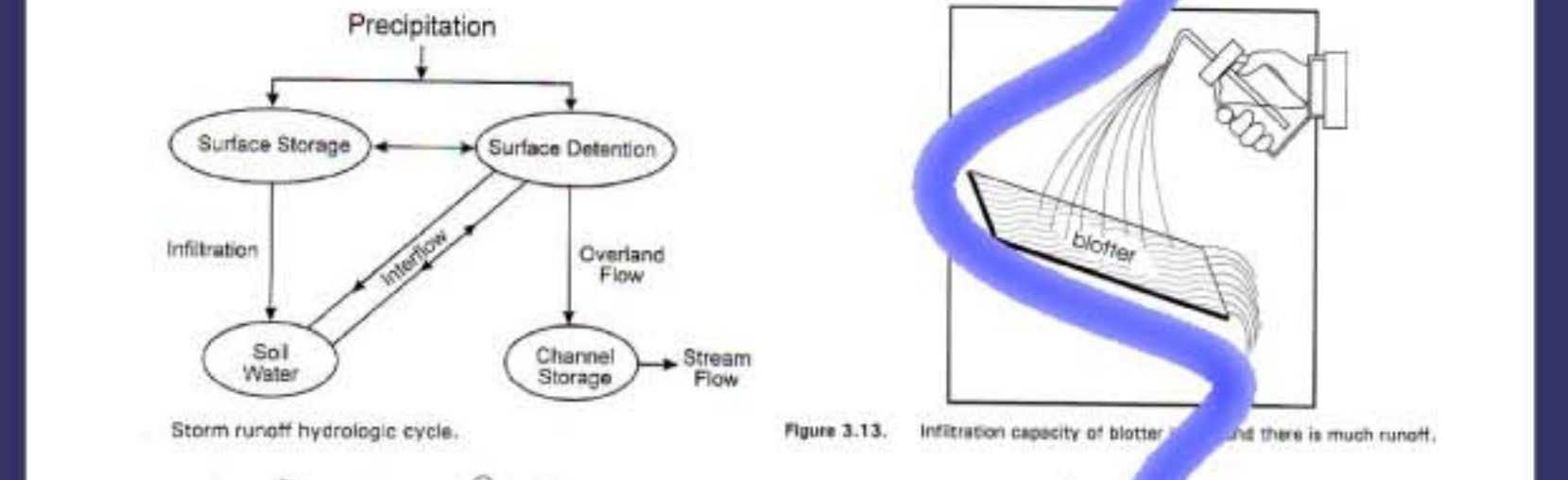
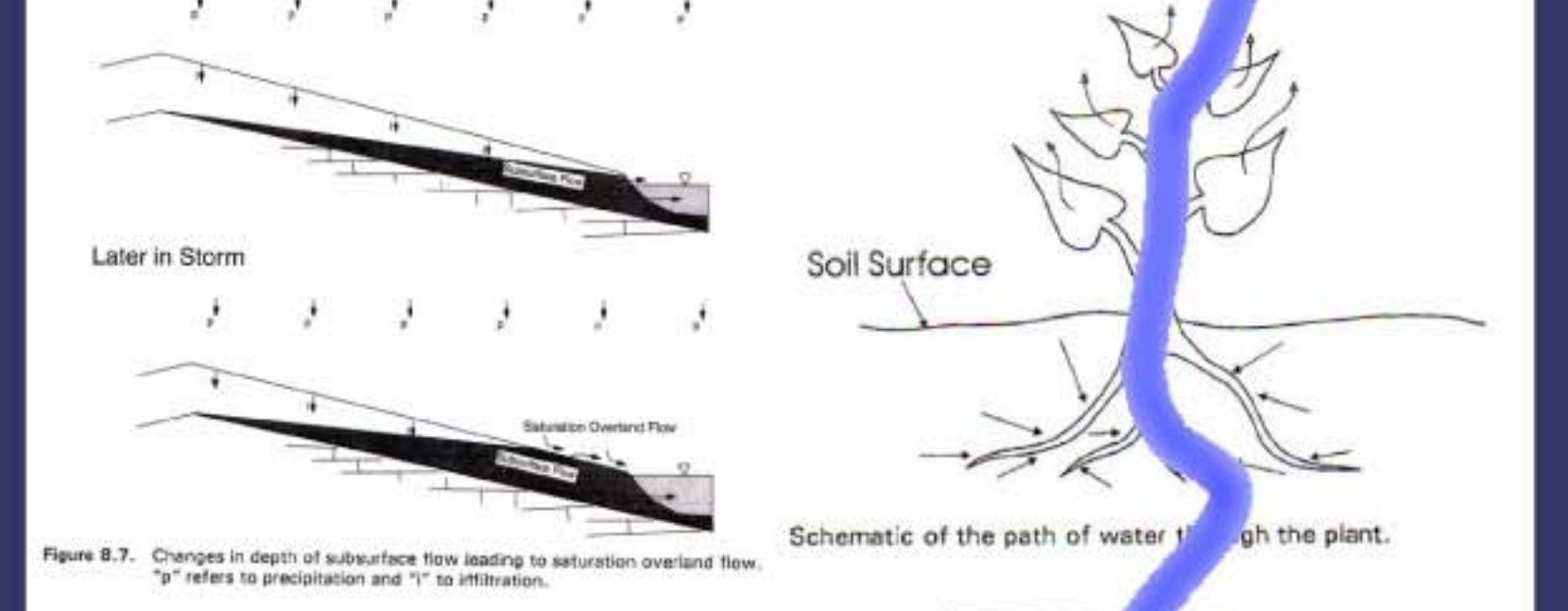
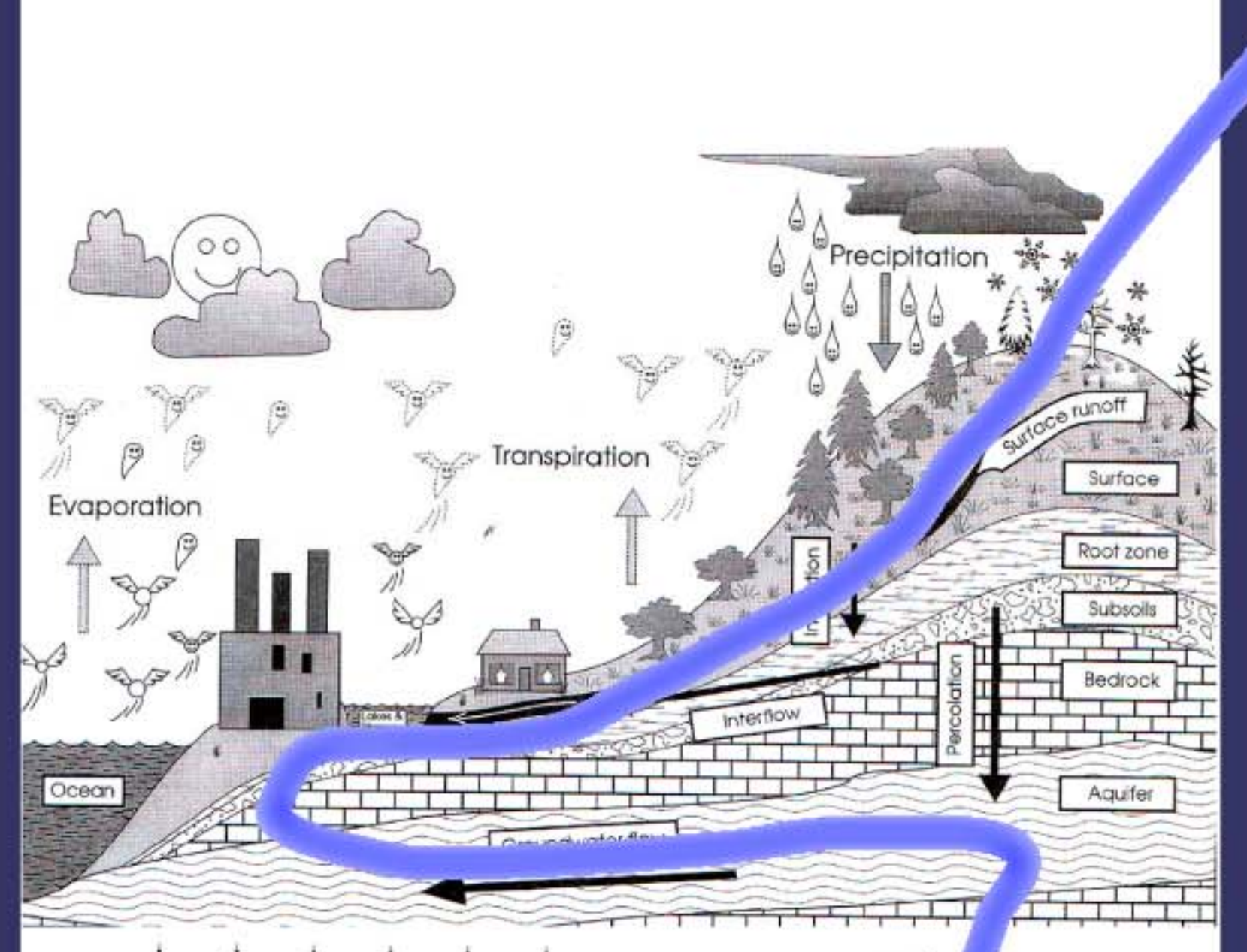
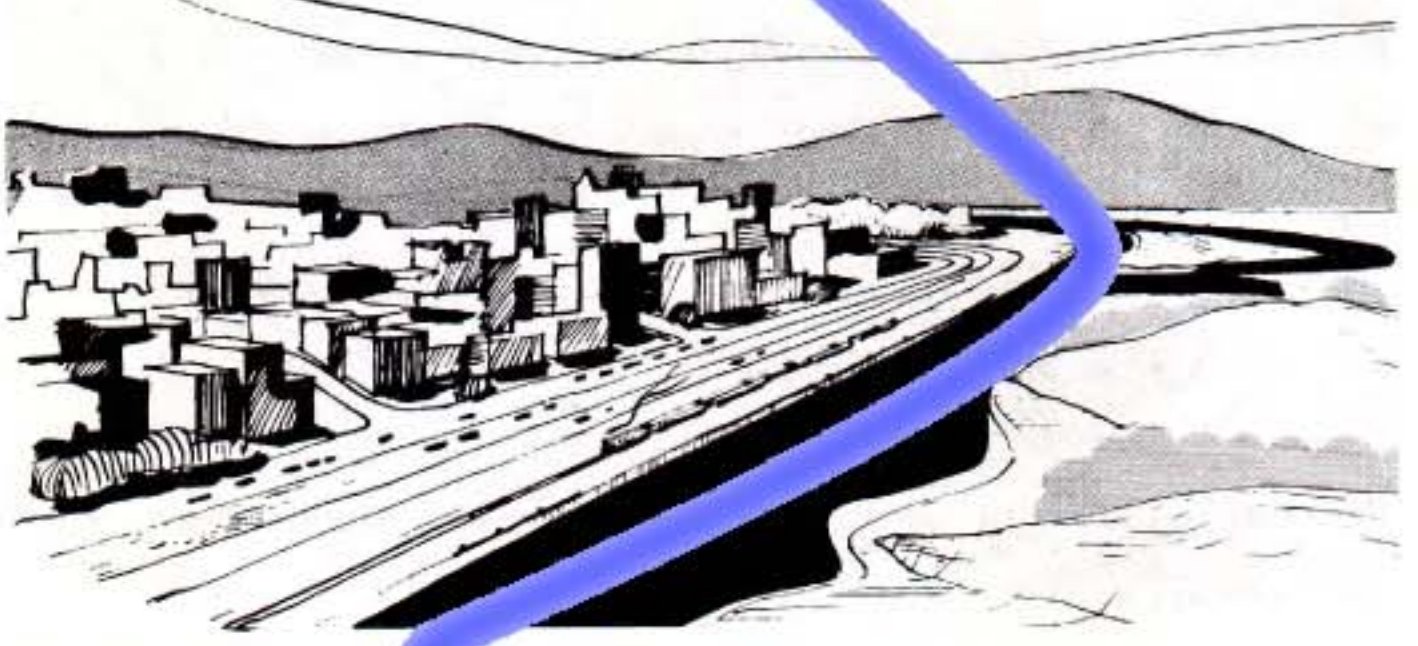


Source: Leopold, Luna B. and Kenneth S. Davis, eds. 1966. *Water*. New York: Time Inc.

**THE BEGINNINGS OF EROSION**  
Many common features of the land, like those shown in these photographs, reveal erosion in progress. At upper left, a slab of basalt is encrusted with salt crystals formed as moisture evaporated. Growing in crevices, the salt crystals can split the rock. At upper right, a snowbank is caked with soil that has picked up from the ground. As the snow melts, the soil is washed away. At middle left, a granite boulder is streaked with trickling dew. The granite decomposes as carbon dioxide dissolved in the dew reacts with the mineral feldspar in the rock, changing the feldspar to clay. At middle right, the face of a granite cliff, shattered with irregular cracks, shows the effect of frost on solid rock. The cracks are caused by expanding ice crystals lodged in pores of the rock. The bottom pictures show two different ways in which flowing water erodes rock. At left, a stream digs a deep pothole into granite rock as it swirls against the surface: small pebbles, called grinders, caught up in the current, scrape against the rock, milling it down. At right, water flows through a channel in limestone, cut into the rock by chemical action. Carbon dioxide dissolved in the water reacts with the mineral calcite in limestone to decompose the rock.



Source: Litton, Burton R., et al. 1974. *Water and Landscape*. Port Washington, NY: Water Information Center, Inc.



Source: Ward, Andy D. and Elliot, William J., eds. 1995. *Environmental Hydrology*. New York: Lewis Publishers.

