Ho, every one that thirsteth, come ye to the waters, and he that hath no money; come ye, buy, and eat; yea, come, buy wine and milk without money and without price. – Isaiah 55:1

On certain days, especially in the morning, you can drive by a forested area and see the mist rising from hundreds of trees. Water vapor that has evaporated from the leaves has started to condense into visible droplets. It is an awesome sight! Truly a transpiration of delight!

Transpiration is the process whereby water is moved around green plants. From tiny shoots to enormous trees, plants need to get water to every part of their structure. Plants will take water in mostly through the roots. Water is needed throughout the plant but especially in the leaves, where it is one of the two raw materials for photosynthesis. Generally speaking, the roots of a plant are in the ground and the leaves are higher up. That means that the water must be made to move upwards, against gravity.

Water can move through the plant in capillaries, but there has to be some mechanism to pump the water upwards. That mechanism is transpiration. Water is able to evaporate through stomates under the leaves because of the energy available from sunlight and lower atmospheric concentrations of water vapor, and, in the process, carbon dioxide can get into the leaves through the same stomates, that are basically like little holes, providing doorways into the leaves.

There is some debate as to whether transpiration causes the opening of the stomates or whether the carbon dioxide entering the leaves triggers the transpiration. Either way, this has all the appearance of a mechanism designed by God, and it works exactly as it was designed.


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