

Design Relationships

Patterns



The Branch

The Branch gathers, collects and distributes the flow of water, air, energy, or material. It increases exchange and transport and anchors them. You can see patterns of branching in trees, in blood vessels, and in the flows of water.



The Lobe

The Lobe provides surfaces for exchange, edges, or interfaces where two things meet. The edge is the most productive and fecund part of a system, where the most interesting things happen. For instance, to provide natural wastewater treatment, build stacked rocks with lots of places for things to grow and clean the water, and lots of opportunity for water's movement, bubbling and gushing.

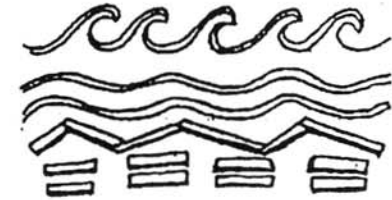


The Spiral

The Spiral, found in water swirling down a drain, the shell of a snail, and in tomatoes, has the function of speeding up or slowing down, of concentrating or dispersing, depending on which way the flow is going. Branches off the stem of a plant go in a spiral, maximizing exposure to the sun. Thermal convection in air provides an effortless ride for migrating geese or human glider pilots.

"Nature's forms are the most practical and functional and most efficient in terms of space, materials, energy, and time. Nature's patterns teach us how to get the most from the least."

Michael. S. Schneider



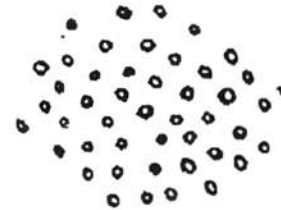
The Wave

The Wave patterns – streamlines, zig-zags and flows – provide pulsation, timing and the possibility of measurement over time into a system. Waves are found in water, of course, but also in static fixtures such as swales on contour. Your heartbeat is a wave pattern.



The Net

The Net or Mesh is useful for sorting, collecting, filtering, and small surface exchange. It distributes both tension and force. In nature we find this pattern in spider webs and birds' nests. We can use the pattern to strengthen and reinforce. For instance, straw mulch is very stable; when stacked at different angles it is not easily removed by wind or rain.



The Scatter

The Scatter pattern introduces the element of chance into a system. It breaks things up and slows them down.