
Permaculture: A Way of Seeing

by Joel Glanzberg

When I first heard Bill Mollison speak about patterning he also noted that we treat everything as trivial. He maintained that because we see everything as separate from everything else, and nothing as affecting anything else, we trivialize everything. This includes ourselves. It makes us impotent, unimportant and alone.

This seemed to me deeply true, and it also seemed that in patterning lay the key to all of permaculture and the remedy to this isolation. By looking from the permaculture perspective of patterning everything else fell into place. Permaculture no longer seemed like a complex system of strategies, ideas and techniques, but a way of seeing.

This was a change of perspective I had been working toward for a long time. The patterns in patterning rang bells from way back. Spirals, pinecones, seashells, trees, old stories—all these had influenced me. When I was a little kid we lived in the city. Everything was man-created. Anything not man-made was at least man-placed. Everything seemed cold, objective and arbitrary. I was surrounded by objects, separate and isolated, capable of existing in any context or even in no context. My actions—even my existence—seemed not to matter or affect anything. I was just one of a mass of humanity going about their daily activities.

When I was about eight years old we moved to what was then the country on its way to becoming the suburbs. It was mid-winter. One snowy day I followed a flock of birds from bush to bush. They brought me to the edge of the woods. Far above my head towered huge trunks and branches, black against the snow and sky. Here was something entirely new in my experience. It made me feel so small, and yet it all seemed to be a part of me.

I spent most of my spare time in these woods. In every direction there was life and motion. The sunlit green leaves blew in the wind above my head, birds flitted from branch to

branch around me, mayapples covered the hillsides, and squirrels and 'coons ran about while badgers and groundhogs burrowed under the ground. The woods seemed one big life woven out of many.

It was around this time I first found words from someone that seemed to describe this feeling or perspective:

Then I was standing on the highest mountain of them all, and round about me was the whole hoop of the world. And while I stood there I saw more than I can tell and I understood more than I saw; for I was seeing in a sacred manner the shapes of all things in the spirit, and the shape of all shapes as they must live together like one being. And I saw that the sacred hoop of my people was one of many hoops that made one circle.

—Black Elk

Black Elk was clearly seeing the whole world. It was made of the hoops of many: “the two leggeds, the four leggeds, the wings of the air, and all the green things.” But how do you make a circle out of hoops? To me, he seemed to be talking about a pattern like the one on the back of acorns and pinecones, where intersecting curves weave together to form a circular whole.

It was already clear to me that the natural world was constantly changing, interchanging and flowing. I saw the curves on a pinecone as representing these flows, and the pinecone itself was like a knot.

Years later I found another piece of the puzzle, from someone else's view of what Black Elk had said.

That reminds me of the Japanese term for song, bushi or fushi, which means a whorl in the grain. It means in English what we call a knot, like a knot in a board...like the grain flows along and then there's a turbulence that whorls...It's an intensification of the flow at a certain point that creates a turbulence of its own...but then the flow continues again. That's parallel to what Black Elk says in Black Elk Speaks, talking about the Plains Indian view of physical nature: that the trees, animals, mountains are in some sense turbulence patterns, specific turbulence patterns of the energy flow that manifest themselves temporarily as discrete items, playing specific roles, and then flowing back in again.

—Gary Snyder
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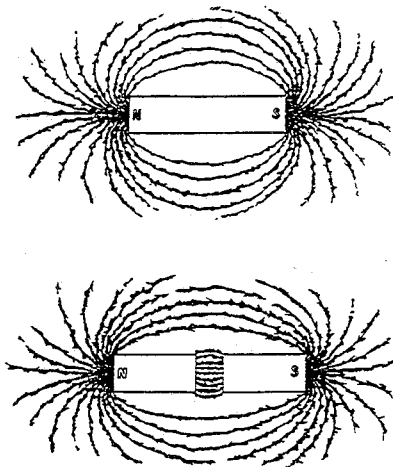
Illustration above: Roxanne Swentzell

This was very different from how I was used to viewing the world. I knew that all things are constantly in flux. Living things take in material and energy from which to build their bodies, and shed waste and dead tissue. Mountains are certainly continually building rock or soil, and eroding. But I was still used to thinking of these "things" and their individuality as primary. I thought of nature as made up of individual "things" interacting. Here Gary Snyder was saying that it is *not* that flows occur between "things," but that the "things" are merely manifestations of the intersections, or knots, of flows. Rather than seeing the "things" as primary, and the flows as secondary, he reversed it. What if the flows are primary and my precious "things" secondary? What if the interactions are more real than the "things"?

I encountered this same change in perspective when studying electromagnetism. Michael Faraday, a 19th century scientist, had insights into electromagnetism which showed this same reversal of focus. Before Faraday's time, scientists had talked about "charged particles" connected by "lines of force." They saw the particles as real and the lines of force as imaginary, or at least as being created by the particles. The particles were like my "things," and the lines of force like flows.

Similarly, scientists had talked of "lines of force" as emanating from magnets. Again they saw the magnets as primary, and the lines of force as secondary. These magnetic lines of force can be seen by sprinkling iron filings on a piece of paper atop a magnet. When Faraday cut a magnet in half, the lines of force remained unchanged, no matter where or how many times he cut it. He realized it wasn't the magnet creating the lines of force. The lines of force were simply flowing through the magnet. It was the focus of the lines of force. Perhaps we could say that the magnet was a knot or whorl of magnetic lines of force. Faraday extrapolated from these findings that perhaps in the field of electricity there were no "charged particles"—they might simply be a manifestation of the intersections of lines of force. Again, what had been seen as a "thing" now looked like a knot or focus of flows.

I started to look at the pattern on sunflowers. The face of a sunflower reveals a pattern like that on pinecones and acorns. Two series of logarithmic spirals radiate out from the center. One series curves clockwise and is intersected by the



other series curving counterclockwise. When I looked at this one way, it appeared to be a mosaic design, created by many seeds of the proper size and shape. But if I looked in another way, the flows or curves appeared predominant, with the seeds simply manifestations of the intersections of these flows.

The face of the sunflower reflects the pattern of stream-line flows in trees and other plants. The sugars, created by sunlight in the leaves, travel to the roots as sap in the phloem. Nutrients and water travel up the plant from the roots to the leaves in the xylem. The patterns they trace are called streamlines. These streamlines connect leaves and roots on opposite sides of the plant (in much the same way as the right and left sides of our bodies are controlled by the opposite hemisphere of our brains). As the exchanges flow between them, they spiral around the center of the plant. They also interweave, changing places. The outer layer of the roots becomes the inner layer of the stem and vice versa. The plant is itself a focus or whorl of flows, twisted and woven together.

All of this got me looking at weavings of all sorts, and baskets in particular. When I looked at a Tarahumara basket I saw the sunflower pattern. Again, two series of intersecting curves formed a whole. In this case the curves or flows were obviously primary, and the diamond shapes created by their crossing were (like the sunflower seeds) just manifestations of the flows intersecting. Each diamond was a knot where things came together to form "something," and the basket was one big knot, made from many smaller knots.

Again Black Elk's words came to mind: "...one of many hoops that made one circle..." The basket seemed to me like all of nature: a complete whole, made up of intersecting flows, held tight by their many strivings. I realized then that nature, like the basket, is not held together by cooperation, but by tension. Each strand of the basket is straining to be itself, trying to push the way it wants to go. When you look at the fibers of a basket, you see that by pushing against one another they support one another. It is stable by being a dynamic equilibrium.

A quote from Heraclitus sprung to mind at seeing this: "They don't see how pulling apart is bringing together, as in the back-bent tension of the bow and lyre." Here, I thought, is the beginning of the weaving, and of permaculture. This beginning has to do not with discipline, order, organization, planning, etc., but with the tension created by unconstrained interrelationship. In short, good natural order, rather than maintained disorder.

It became clearer to me that it is not cooperation and compromise that make nature work. It is flows and their manifestations interacting and pushing on one another. They do not go out of their way to push. Just being themselves creates the tension that draws them together. This pushing also puts things in their right places. When things are in their right places, unity is created.

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In nature and in permaculture, everything has needs and products. Any needs not provided by the system must be provided by us, and that is work we have to do. Any products not used by the system are wasted and hence are pollution. In a permaculture system where things are put in their right places, the chicken gets to be a chicken (scratching, eating bugs, plants, and fruit, shitting, laying eggs, mating, etc.) and its products help us and the system that supports it.

Order is created, not by cooperation, but by the tension of things striving to be themselves. This also applies to us. Our consciousness can enable us to deflect or ignore the pressures that keep us or put us in our right place. But not forever. Eventually we must assume our right place, be put there forcibly, or be pushed out of creation. No matter how much we damage the web of life, it will survive, with or without us.

Luckily the same consciousness which allows us to disregard the pattern of nature allows us to see it. Look!

Imagine you are atop a tall cliff, high in the mountains. All about you is the circle of the world. You are at its center. A thin cloud cover moves and shifts over the sun. You notice a single golden eagle rising up from the valley far below. He spirals higher and higher in long slow arcs, his spiral seeming to tighten as he climbs. As he rises above the peaks you see

him against the back-lit clouds. The sunlight fills the shifting clouds with colored light. This light seems to stream from the eagle's tail and wingtip feathers, spinning outward, crossing and recrossing, like the curves on the face of a sunflower. As you watch, the light streams downward. You imagine them connecting to everything around you. You see the tall spruce trees spiraling up into these colored threads of light. Connected to them are all of the lives associated with the trees: the animals, bugs, soil, you. All twisting together in one huge interwoven thread. The colored strands continually shift with the eagle's circling. Everything around you is alive, and you see that it is holy.

In this place nothing is trivial. Without need for pride everything is important. It matters intensely whether you toss that can out or recycle it. It matters intensely whether you use redwood from California or home-grown black locust. Your actions affect everything. Everything is you.

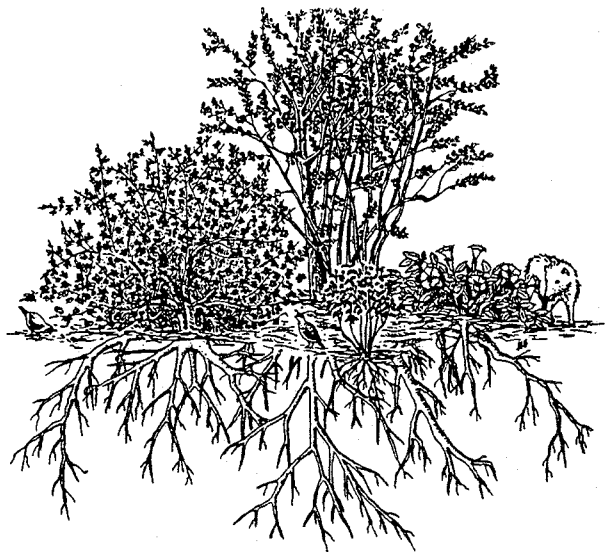
This is a tremendous responsibility, but also a blessing. Our actions are no longer small and meaningless but important and powerful. Suddenly all of the power to "fix" the mess we are in is in our hands. This power does not come from our being better, stronger, smarter, faster, or above anything. Our importance never comes from our accomplishments. It comes from our having a place, and accepting it.

A Knot in the Flow Called a Guild

On the hill behind my house there is a juniper tree, planted by a blue jay. The bird ate ripe berries one fall. Within her stomach, the seeds were acid-treated, and she deposited them in a nutrient bundle while sitting on a rock. The jay was not trying to plant a tree. She planted it simply by being a blue jay. The rain washed the dropping off the rock. In the moist shade of the rock a tree grew.

Eventually, other jays came to eat its berries. From its branches, they dropped packages of seeds they had eaten. In the shaded wet mound of good soil created by the leaf drop, wind borne debris caught by the juniper, and bird and animal droppings, prickly pear, currants, and gooseberries started to grow. The prickly pears helped to hold the soil. Growing outward from the tree's canopy, they collected and held more soil and nutrients.

A pack rat family made its home beneath the plants, and hid its winter stash of pinons there. One grew into a



A low desert guild: wolfberry, hackberry, datura, chiltepine, quail, javelina.

Illustration: April Baisan

tree. In the winter, quail shelter in the plants, and fertilize them while planting grasses and eating berries and seeds.

Imitate this scene elsewhere, and you have the beginnings of a little knot in the flow called a *guild*.

—Joel Glanzberg