

THE PERMACULTURE ETHICS

- **Care of Earth**
- **Care of Humans**
- **Share the Surplus**
- **Respect Intrinsic Value**

THE PRINCIPLES OF PERMACULTURE from Bill Mollison & David Holmgren

Observe and Interact

The primary design tool is the designer.

Beauty is in the eye of the beholder.

Observation is a short way of saying, “Noticing the information coming from all your senses as they experience and interact with your environment, both inner and outer.”

OBSERVATION PRACTICES: sit spot, meditation, breathing awareness, journaling, Nature Walks [learning about the flora and fauna that live around you], Herb Walks [learning about wild edibles and medicinals], learning tracking/hunting skills, learning about the movement of the constellations and the moon.

Obtain a Yield

You can't work on an empty stomach. [and neither can anyone else]

As PC designers, we are creating “cultivated ecosystems” – cultivated to produce a yield of food, shelter, fiber, medicine, or other product/service useful to humans. Therefore, for each element we consider, we must design to obtain a yield.

Redundancy

Have a backup plan.

Be prepared!

For every critical need, provide for multiple ways of meeting that need. Critical needs are water, food, money, heating, toilet, congeniality, social/political power.

USE IN DESIGN:

- Food: Design to have fresh food all year long, *and* preserve as much as you can.
- Water: Cisterns, public utility, *and* pond.
- Electricity: Photovoltaics, *and* grid, or PV *and* wind/hydro power. [and non-electric tools!]
- Polycrop to provide plants with many avenues for pollination, pest protection, nutrients.
- Design or do other creative work with a team – have more than one mind, more than one person holding the skills and information.

Catch and Store Energy

Make hay while the sun shines.

All Energy comes from the Sun. Since energy is lost with every transaction, we need to get as close to the origin as possible; that is, interacting with the sun itself – i.e., plants – to meet our energy needs.

Energy cycles thru our system and then it's gone; minerals can recycle forever in a well-maintained soil.

We want to catch “exotic” energy – that is, energy coming from offsite and moving past, convert it to energy we can use or store, and cycle it through our system as we need it.

We want to grow our own renewable energy – that is, plants and animals for our consumption.

USE IN DESIGN:

- Creating microclimates, passive solar design of buildings
- PV, wind, and water power systems
- Winter storage of tubers & other food
- Small livestock – energy available with no storage necessary
- Ecoforestry: creating renewable energy for the future, woodlots.

Multiple Functions

Stacking functions. Wearing more than one hat.

Related to Get a Yield – Get *Lots* of Yields! [a function – pest control by chickens – is a yield, also.]

Every element in the design will have more than one function; ideally, it has at least three.

Understanding niches – in space and time.

USE IN DESIGN:

- A fence around a garden space serves as a trellis for climbing plants, a place to hang tools or decorations, a place to hang a nest box, bird perches, and a shady microclimate – as well as protecting the garden from invaders. Over time, it also becomes a hedge, if the birds and their droppings have their way.
- Chickens provide eggs, meat, manure, body heat, and manure; and bug, insect, and weed elimination in garden beds [prior to planting] and orchards.

Produce no Waste – Rethink, Reduce, Repair, Reuse, Recycle

Waste not, want not. A stitch in time saves nine.

Waste is a human artifact; it does not exist in Nature. In natural systems, everything is a Giveaway.

USE IN DESIGN:

- Compost. Humanure = human nutrient residue.
- Learn to maintain and repair tools.
- *The Story of Stuff* YouTubes
- Cardboard mulch garden, cardboard for paths.
- Methane digester – methane is captured and burned instead of off-gassing.
- Greywater system – waste becomes biomass for garden.

Observe & Replicate Natural Patterns

Natural patterns – nature’s ways of organizing ecosystems – can be found at all scales in all ecosystems; they are Regenerative patterns – creating and maintaining the ongoing growth and health of the system.

As PC designers, we need to learn to NOTICE patterns, and how to USE them.

EXAMPLES OF USE:

- Soil-building with mulch bed
- Seasonal deciduous shading
- Fermenting foods for storage and alcohol
- Contours as swales
- Forest gardening

Use & Value Renewable Resources and Services

Let Nature take its

course.

Measurements of renewability:

- when replacement time is less than degeneration time
- when the EROEI [Energy Returned on Energy Invested] ratio is above 1
- when embodied energy is considered

EXAMPLES OF USE:

- Plants & animals are not only renewable, but regenerative – they will replace themselves.
- Using wood for buildings - build them so that they won’t rot before their replacement can be grown.
- Use biological resources: fruit & nut trees, manures, compost, draft animals, worm bins, earthworms.
- Solar, wind, PV systems *use* renewable resources, but are not themselves renewable. [wooden windmills?]

Design from Patterns to Details

Can't see the forest for the

trees.

Get the big picture clear before you start deciding on the details.

Look at scales of time and space. Plan for the 7th generation.

Know the limitations of your design. Examine the whole picture – especially the parts you'd prefer not to see.

USE IN DESIGN:

- Thoroughly analyze the landscape patterns on, and surrounding, a site before beginning to consider the human imprint upon it.
- Find pockets of fertility/infertility to be exploited – concentrate growing in the fertile areas, and build fertility on the infertile areas.
- Use patterns of temperate forests to design “food woodlands” in those areas, not tropical-style “food forests”.
- Don't get bogged down on ethical quibbling; look at the big picture of what good can come of using an earth-moving machine to help create long-term sustainability.

Sector & Zone Planning

- **Sectors** are areas on a site where energies are arriving from off-site. We design to mitigate or eliminate hostile sectors, and to enhance or concentrate beneficial sectors.
 - Winter & Summer Sun, Winter & Summer Wind, Water, Wildlife [migratory animals, or sensitive habitat], Fire potential, Noise, Pollution, Social interactions [both positive and negative].
- **Zones** are areas of decreasing need for human interaction, moving outward from a center.
 - Zone 0 – The Heart or the Hearth – the person(s) inhabiting the space
 - Zone 1 – The house/building and its immediate yard
 - Zone 2 – The garden/yard [visit once a day], poultry
 - Zone 3 – “The farm” – long-term storage and commercial crops, orchard, small animals
 - Zone 4 – Grazing/woodlot/forest garden
 - Zone 5 – Wild or Healing land - humans' only presence is for healing, and learning from Nature
 - Zone 6 – The Commercial/Social Zone outside the site

Relative Location

It's the connections that matter.

Needs & Yields Analysis: locate elements so that their needs can be fulfilled by the surplus yields [wastes] of their near neighbors.

USE IN DESIGN:

- Plant a mulberry bush just outside the chicken yard, comfrey all around the chicken yard fence, and Siberian pea shrub all thru their range – to provide for food that you don't have to carry to the animals.
- Allow chickens to range under the fruit trees; much of your fertilizer, pesticide, and weed control are taken care of.
- Place rainwater catchment devices on all roofs, so water is where you need it.

Use Edges and Value the Marginal

The edge is where the action is.

Don't think you are on the right track just because it's a well-beaten path.

Edge Effect: The edges between 2 systems have more species and more productivity than in either of the 2 systems alone. Humans, and many familiar species (deer, rabbits, birds, etc.), are edge species – preferring to live at the margin between forest and clearing.

Edges define changes in time & space, where nutrients and information accumulate.

USE IN DESIGN:

- Blueberries on edge of pond; if pond is round, only 20 blueberries fit, but if you crenellate the edge, you get 30 or more.
- Extending the “edges” of the growing season – early and late season food production – with mulch, row covers, microclimate, etc.
- Swales create water and nutrient catchments, and concentrate growth.
- Wild foods are marginal foods: not our favorites, but life-saving when necessary
- A test for the health of a society: How big is the societal edge/the marginalized people and other animals? How many homeless, institutionalized, criminalized, factory farmed?

Use & Value Diversity

Don't put all your eggs in one basket.

The more diverse the elements in a system, the more diverse the yields and the more diverse the niches that are available to be filled, which creates even more diverse yields – up to a certain limit. More and more diverse elements will not contribute to the health of the system, unless they can make connections with each other. It's the diversity of connections that matter, not just the diversity of elements.

Needs and yields analysis – use diverse connections to meet the needs of each element.

USE IN DESIGN

- Leave the “weeds” in the garden to retain moisture, to provide nutrients and aid soil microorganisms.
- Polycropping – guild and companion planting - forest gardens, alley planting.
- Using animals as a part of other agricultural operations – chicken tractors, hogs for gleying.
- *The problem is the solution* – engage the “problem” in social programs [homeless, drug users, gangs, etc.], not just the experts, in creating true solutions for real situations.

Integrate Rather than Segregate

Many hands make light work.

Co-operative and symbiotic relationships will be more adaptive in a future of declining energy; however, we have a cultural disposition to see and believe in predatory and competitive relationships, and discount cooperative and symbiotic relationships – in nature and in culture.

EXAMPLES IN NATURE:

- Immature systems that are growing rapidly, in a situation of surplus energy, tend to be dominated by competitive relationships. Mature systems have more mutualistic and symbiotic relationships.
- Predator/prey as interdependence.

EXAMPLES OF USE:

- Guild plantings: pollinators, pest confusers, dynamic accumulators, and N-fixers.
- Designing over time to integrate short-term and long-term yields: thin timber forest to plant grass for sheep, get yields from sheep [and bees] while trees grow, eventually get yield from timber.

Apply Self-Regulation and Accept Feedback

Make lots of small mistakes.

The sins of the fathers are visited on the children unto the seventh generation.

Related to issues of scale: start small, get the feedback, redesign. By making small changes, we increase our confidence to tackle more difficult changes.

Notice positive & negative feedback loops

Self-regulation is a response to higher-order negative feedback: self-regulate before the system regulates you

EXAMPLES IN NATURE:

Tripartite altruism [Howard Odum]: in balanced ecosystems, approximately 1/3 of captured energy is required for maintenance, 1/3 is fed back to maintain lower-order providers, and 1/3 is contributed upward to high-order system controllers.

Use Small and Slow Solutions

The bigger they are, the harder they fall.

Slow and steady wins the race.

Systems should be designed to perform functions at the smallest scale that is practical and energy-efficient for that function. This is a direct contradiction to the prevalent practice of using the biggest, fastest solutions that money can buy.

PC design uses time as an element: allowing cultivated plants and animals to slowly integrate with each other and mature into their own place in natural cycles.

EXAMPLES OF USE:

- Garden walls grow over years from rocks removed from gardens.
- Tweaking the system in small, almost imperceptible ways, causes great change: go out in the rain and dislodge debris from waterbars.
- Slow Food movement – celebrates the loving preparation & consumption of food.
- Incremental design – start with a core or nucleus and build outward as needed.
- Rolling PC – start by planting 5% of your land with perennial plants, then follow with 5% more each year. As soon as production begins from the first year’s planting, increase the percentage; within 10 years, the rollover will have happened.

Stack & Pack

Put things closer together [pack], and use vertical space [stack] to get more benefit from less space.

USE IN DESIGN

- Plant thickly, and grow upward with trellises
- Use vines up walls for insulation.
- Plant “scaffolding” for vining plants – corn or sunflowers with pole beans.
- Use floor-to-ceiling shelves instead of 6-foot shelves.
- Teach PC for all educational/social levels, and network laterally with other PC teachers.

Use Appropriate Technologies

Appropriate technology is technology that we can appropriate!

Because tools extend our personal and community power, control of tools is essential to effective self-governance.

Permaculture is generally biology-centered, not techno-centered: we want tools and technologies that help liberate us from dependency and grant autonomy and self-reliance – things that we can build and maintain with little external assistance.

USE IN DESIGN

- Solar, wind, wood, biomass and water-driven equipment for generating power, pumping water, and heating hot water.
- Consider medium-tech: maintaining and riding a bicycle, using a refillable pen, using a razor with replaceable blades, and substituting other nondisposable items where disposables were used.
- Equipment to design permaculture sites (such as computers and software), large earth-moving equipment, cartage services, and other “largescale” items which would tend to be used once, in the implementation of the design, but not on a regular or daily basis.

Consider Succession

One thing leads to another.

To see into the future, stand on the shoulders of those who have come before you.

Ecological succession: creating conditions such that a new life form can take root.

Human land use patterns usually hold back succession at the herbaceous weed phase – grains & annual

vegetables, and the grassland phase – pasture.

By understanding the stage in succession, we can predict which forces will be attempting to change a landscape – what is the force of succession trying to do?

USE IN DESIGN:

- We can “push succession” by planting all stages of a succession together, including the climax species.
- We hold back succession by suppressing growth in gardens and pathways with mulch, cardboard, wood chips, etc.

Creatively Use and Respond to Change

Attitude matters.

Vision is not seeing things as they are, but as they will be.

Design to make use of expected change [entropy & succession, for example], and prepare to respond to changes that cannot be planned for. Durability & stability come from flexibility & change.

Ecosynthesis – ecosystems aren’t static; they change with environmental change. [Ex: Sailing ships from Europe changed the waters of the world by seeding with new life forms.]

USE IN DESIGN;

- Responses to entropy: Either maintain the built environment, or build with renewable materials that will decay & can be rebuilt easily.
- Plant bendable trees where intense winds or flooding may occur.
- Design buildings to change easily for future uses.
- In fire-adapted forests, anticipate fire and reduce fuel levels > smaller fires.
- Opportunistic responses to change or anticipated change: In arid land, plant on a floodplain in hopes of just the right amount of water at just the right time.
- Use pulses of change – fire, grazing, cultivation - after long periods of catching & storing energy. [Swidden agriculture resulted from noticing the changes in fertility after a fire, and reproducing them].

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PERMACULTURE APPRENTICESHIPS WITH PATRICIA ALLISON, 2017

Patricia is accepting Apprentices to live and work with her to deepen their understanding of Permaculture, Consensus, and Ecovillage living, for a minimum of six months in 2017.

REQUIREMENTS:

- ✓ PDC certificate [or PC Fundamentals Course, at the least]
- ✓ Stable health
- ✓ Humility + a desire to learn
- ✓ Emotionally mature [I really don’t deal well with drama queens or mute worker robots.]
- ✓ Really enjoys physical work [enough to keep up with a 120-pound, 72-year old woman.]
- ✓ Financial support for duration of apprenticeship [see below]

WHAT YOU CAN EXPECT IN YOUR DAILY LIFE:

Live in a collective house with up to 15 other people [with your own room or tent site]

- Pay \$180/month for complete use of house and gardens, food, and rent
- Participate in cooking and cleaning rotations & house meetings
- Work with Patricia* and others daily, minimum of 20 hrs/week with at least 1 full day off/week

Participate in Earthaven's new resident program

- Pay Earthaven \$30/month + initial processing fee of \$25
- Give Earthaven 4 hours/week of labor
- Have access to all Earthaven events & meetings