

## **The Ecstasy of Ecology:**

### **Penny Livingston and the Permaculture Institute of Northern California by Mary DeDanan**

If commercial agriculture (with its bulldozers, mono-crops, fences, pesticides, and herbicides) is rape of the Earth, and if standard organic gardening is consensual sex with the Earth, then permaculture is ecstatic tantric union with the Earth. Just ask a permaculturalist. Notice those big smiles on their faces.

Consider Penny Livingston-Stark, informally known as the Permaculture Queen, who consults, designs, and teaches worldwide on the finer points of this ecological design system from her home in Point Reyes Station. Over the past ten years, she has created "food forests," designed gardens, constructed sensuous buildings, and restored severely degraded lands, all while training some of the best practitioners in the field. A beautiful middle-aged woman with blonde hair turning silver and a no-nonsense preference for cowboy boots, Livingston beams with energy. She's got to be up to something.

Her mission is nothing less than remaking the world, one garden at a time. While the basic permaculture system is rooted in agriculture, it quickly expands to include a multitude of global issues: soil restoration, clean water, waste systems, ecoforestry, alternative energy, housing, urban food security, and local economies—and that's just for starters. "Permaculture is about overall sustainability," says Livingston. The term is a contraction of "permanent culture" and its concepts originated over 20 years ago in Australia, from whence it's spread like a weed. "We're talking about 'permanence' in the dynamic sense," Livingston explains, "not necessarily keeping things the way they are right now, but the permanence of culture itself, of humanity on the Earth." This, as anyone paying attention understands, is now The Question.

Permaculture's sensible answer is for humans to ally themselves with nature instead of trying to control nature. It carefully studies natural patterns, cycles, and diversities, and distills this into a set of principles and concepts, which are then used as the framework. Permaculture insists



on the whole picture, Penny in her Pt. Reyes garden, holding Inga the chicken from soil microbes to global weather patterns.

It takes advantage of every relationship and synergy. It uses local resources, or grows its own. It wastes nothing. It asks every element to serve multiple functions. Every need is filled by diverse resources. From these principles, "permies" design optimal systems that can be adapted to human settlements in any part of the world. Permaculture can create or remake homes, gardens, farms, and forests in a way that is low-impact, feeds the inhabitants abundantly, provides sanctuary for wildlife, and restores damage previously done. Above all, permaculture is practical and solution-oriented. Not least are the side benefits: a well-done permaculture project is luxuriantly beautiful and takes much less work to maintain than the norm. (Permaculturalists recommend that humans use that extra time in play, rest, and enjoyment.)

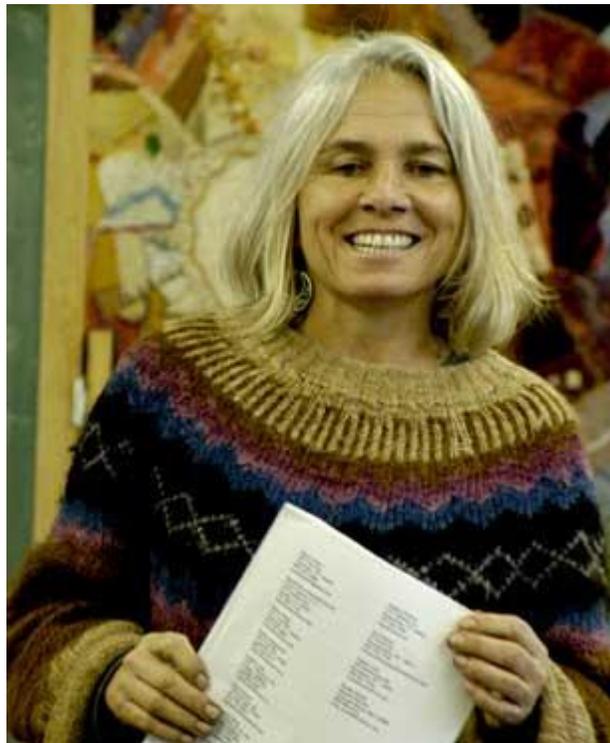
Permaculture is catching on. The work of Livingston and her husband James Stark has been featured in glossy magazines spreads and books, including a cover story in *Natural Home*. Their exuberant display won the exhibitor's award at last year's huge San Francisco Garden Show. Through the organization she started and he helps maintain, the Permaculture Institute of Northern California, Livingston has taught permaculture all over the US. She's also taught in Portugal, France, Bali, and Mexico; she'll be doing a session in England this summer. Livingston trained permaculturalist and writer Toby Hemenway, who recently published the most accessible book yet on the subject: *Gaia's Garden* (2001, Chelsea Green; after reading it I was inspired to sheet mulch my entire front yard). Tours of the curious and the dedicated, from students to city council members, visit Livingston's own garden in Point Reyes.

And what a garden it is! Riotous yet ordered, a medley of fruit trees, vegetables, flowers, berries, natives, herbs, plants that attract beneficial insects, and plants that enrich the soil (some— gasp—might even be considered weeds elsewhere). It's lush, yet all done with a minimum of water, resources, or labor. The most important permaculture tool, says Livingston, is a hammock. First relax, observe, and think. "A well-designed garden, properly installed, requires very little maintenance," says Livingston. "Our garden, we kid around, is the 'ungardened' garden."

It is an entire ecosystem on one acre. There are ponds large and small, fed by rainwater collected from the roofs of hobbit-esque outbuildings made of cob. Ducks splash, then patrol for pests. (Livingston doesn't like the term "pest." "If you have a problem, it's not a pest problem. It's a lack-of-predators problem.") Chickens busily turn the soil, eating insects, fertilizing as they go. From the henhouse, Livingston gathers a couple eggs the size of elliptical tennis balls. Worms in bins, slow and sinuous, eat kitchen scraps and create rich castings, then a few are themselves fed to the catfish lurking in the aquaculture pond. The gardens surround the house, originally an ordinary '50s sort of place, now remodeled, inside and out, with thick earthen adobe and plasters colored with natural clay: warm golds, maroon, and terra-cotta.

Livingston delights in boasting of her soil, an opulent dark loam, noting that most gardens and farms deplete topsoil, or lose it to erosion. "We've built 18 inches of topsoil in seven years." It's soon apparent that the

woman is passionate about soil. "Standard agriculture treats soil like dirt!" she says, and that's just to warm up. Nature takes 600 to 900 years to build one inch of topsoil. Modern agriculture is based on the European model, but Europe farming culture didn't evolve with the same harsh storms common elsewhere, particularly in the US. Plowed and exposed, those precious inches of topsoil can wash away overnight. Commercial agriculture, says Livingston, is not sustainable. "The more we buy food that's been produced in a way that's creating soil loss and ground water pollution, and then sucks water out of the ground to irrigate it, and then salts the soil as a result of evaporation of that irrigation—the more we pay that, we are buying our demise right there. I don't want to sound doom and gloom, but every single culture that was based on irrigation of dry lands has failed. Every single one." Eventually, she says, "Deserts are created, and, through convection, they actually propagate themselves, they spread." She points to civilizations of the once Fertile Crescent (now Iran and Iraq) and the Sahara. She talks of our own Central Valley, now dealing with created salinized soil problems.



Penny Livingston-Stark teaching at EAT

The permaculture alternative is an abundance of family gardens—"every garden can produce more food than the inhabitants can consume"—and local, small-scale, bio-regionally adapted farms—"the bread baskets that should be surrounding cities and towns." The goal is to provide for human needs in the places we live, instead of importing everything. It is not only much more environmental friendly, but basic, common-sense food security, surprisingly rare in the age of globalization. "You support your local farmers first and foremost," Livingston insists. I, spoiled, wonder if that means we'd have to give up our exotic staples. "If you want things like coffee or tea or chocolate," Livingston replies, "those are luxuries. Find out where you're buying it from. And think about the communities you're supporting globally when you are buying coffee. Coffee is a

forest crop, it should be shade grown. It is a crop you don't have to monoculture, in fact, it's better if it's not monocultured. Same with cacao, chocolate." Permaculture, she notes, doesn't require sacrifice of one's pleasures, but awareness. Indeed, permaculture invites new pleasures.

"People can walk out their door and have a garden that is not only very beautiful to look at, but also provides for their needs, as well as the needs of wildlife, and birds, and their neighbors. So they start to create human-based ecologies. It's more than just a garden. It's whole system design."

That whole system extends to the other needs of humans, whether energy, water, or social systems. For example, permaculture enthusiastically embraces the alternative energy revolution—it meets the principles of appropriate scale, conservation, and diversification. "If everybody's getting their power from one way, that's not sustainable," says Livingston. "Instead we create diversities of how to get your needs met in many different ways, so if one doesn't come through for some reason, you have another. For example, doing photovoltaics and wind power and geo-thermal and micro-hydro—and tying back into the grid with net metering. How many ways can you get renewal energy, not only from your individual site, but on a neighborhood scale, or bioregional scale? So we're also looking at a diversity of scales—what's the best way to work?"

Water, says Livingston, is another crucial example. "Not only where it comes from, but how many times can you reuse a resource, over and over again, before the needs of your system are met?"

Yet a third example is the budding Permaculture Credit Union, based in Santa Fe, New Mexico, which Livingston and her husband enthusiastically endorse. Small loans are given for planting and restoration projects, alternative energy systems, and so on. The revolution must be funded.

"With good design," says Livingston as we drink tea on a cold spring day, back in her warm, colorful earthen house, "humans can be part of the solution, instead of part of the problem. It's how we design our homes and our communities, and how we provide for our needs, thereby limiting the destructive type of consumption that happens all the time. That's the real point. Trying to create designs that provide for many of our needs onsite, or within our bioregion, as possible." She practices every bit of what she preaches, and obviously has fun doing it. What was once a front porch is now opened to the living room, letting in bright, pale sunlight. Pots of strawberry and golden raspberry starts fill the porch, waiting for their turn to go out.

Livingston smiles easily, in no hurry although consultations are scheduled for her afternoon. "It's important to recognize that we are a part of nature. That's the promise of permaculture, to reunite people back in the garden again."

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EAT in Penny's living room

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