

# interview



## Indigenous by Design

by Emily Appelbaum

Dave Jacke is the founder of the environmental design firm Dynamics Ecological Design, and award winning author of the comprehensive two-volume work *Edible Forest Gardens*.

### How is permaculture different from organic gardening?

Think of nature and agriculture as laying on a continuum. If you stack up all the ecosystem characteristics—how stable is the system, how resilient, how much labor goes in, how much energy comes out—the agricultural system performs poorly on all but one: net food per acre. In terms of net energy gain, this is terrible. Eight to ten calories are put into conventional agriculture for every calorie derived. A natural ecosystem performs much better—except in terms of food production. Organic farming tries to move agriculture towards the natural end of the spectrum, but is high maintenance, with composting and cover cropping and interplanting. What I'm proposing, and what I advocate for, is that we start on the nature end of the spectrum, and move toward agriculture. We increase the amount of food produced, but maintain the ecosystem and the ecosystem properties.

### Is “edible forest gardening” an example of permaculture?

“Edible forest gardening” is a slice of permaculture. It's a vision of humans living as part of natural systems, embedded throughout human culture. It's the actual

integration of human culture into ecosystems, and it's the movement of people who are seeking to do just that. “Edible forest gardens” are just one way to get there. Actually, “forest gardens” were originally the core of permaculture, but the field has expanded since 1970. [The field of permaculture was developed by Bill Mollison and David Holmgren in the 1970s, and came to focus primarily on the desert or tropical regions of Mollison's native Australia.]

### So in a way, “Forest Gardening” takes the idea of organic gardening one step further—or really, returns it one step back--toward natural ecosystems?

With “Forest Gardens”, we really are designing ecosystems. In fact, we design ecosystems every day already. When I was applying to graduate school in the 1980's, I talked to ecologists, landscape architects, people in agriculture. I said I wanted to design ecosystems and they said, “You can't. It's impossible.” Nonsense. A parking lot is an ecosystem. Skyscrapers are ecosystems. It's just, because we don't understand this, we're designing very poor ecosystems.

### Why are “edible forest gardens” something that people should consider for their own homes, even if they don't know how to farm or like the look of landscaped beds?

I say: you can have your suburban landscape and eat it too. You can put the same amount of work into designing a forest garden as a perennial flower bed, and still have a perfectly beautiful landscape. I'm looking for people who are really into green this and

environmental that but not really doing it; focusing on those people who think they get it and don't. No one knows any perennial crops beyond asparagus and rhubarb—we look at whole perennial systems. It's not about things, but rather, the relationships between things. So we must look at turning design elements into patterns. We use emergent properties like self-maintenance and soil renewal to tell us how to design. Most people look at a permaculture garden and think it's a mess, because they don't understand the underlying design goals—to produce clean air, clean water, and to improve biodiversity

### Food is looming so large in environmental debates right now—people are aware of energy policy or public transport, sure, but food seems to be the one thing they can really act on. Why do you think this is? Is food really the most significant aspect of life to target?

American culture, American media, American consumption, is structured around food. Food becomes symbolic. When you go to a foreign country, when you're visiting another culture, one of the main differences you focus on is the food. Food is the expression of who we think we are. It's the most visceral way in which the environment becomes us. The expression of ourselves that food embodies, is very deep. You understand tremendous amount about cultural by looking at cuisine—it's archetypal, fundamental. What do you eat, and how do you eat it.

Continued on page 36

## Continued from page 28

a fresher, green-collar one. The idea is less that companies will make unmerited claims to green employment and more that well-guided investment from both the private and public sector can legitimately reorient the imposition of economic players on the natural environment.

As I've mentioned, this consideration played a significant role in Obama's successful campaign last fall. But with promised legislation already in the Senate, there is little that the average citizen can do to ensure a favorable future for green employment other than train themselves most appropriately to take advantage of a perceived demand. Likewise, it is safe to say that few Yale students are gunning for hire as an environmentally conscious cement worker. Instead, environmentalists, but also many economists, political and social scientists, chemists, engineers, and a host of other disciplines, are all reading the newspaper and talking to their professors to envision their niche in an elastic future.

In fact, now that climate legislation seems inevitable in some form, the debate has shifted away from if green jobs, to which green jobs. A recent New York Times blog titled "Are Green Jobs Good Jobs" highlighted the debate as to whether compensation for green employment is good enough to justify our reliance on these positions to replace millions of jobs lost during the recession.

The hard reality is that job-searching Yalies can probably ignore the most elemental considerations of a shifting market. Indeed, it is difficult to swallow that an Ivy League education buys a degree of immunity from the economic consequences of political reversals, though I would hardly uphold John Barrasso's (R-Wyo.) criticism that Obama tends to "promise jobs for all, create some for a few, and let the rest of us fend for ourselves." This is not the first time in history that necessary political changes must render certain employment obsolete. But these changes will also bring about the rise of new sectors and new competition. Congressman Markey (D-MA) lauds cap-and-trade legislation as an opportunity to spawn "the energy Amazons, eBays, Googles, and YouTube-Tubes" of the future. He's right. The opportunity to innovate is ours.

## Continued from page 32

she stated "We are heavily regulated and have strict Department of Transportation security plan requirements about shipping waste. All regulated material that leaves Yale is removed by licensed contractors and all waste facilities are audited by [Yale] staff."

Mrs. Armstrong's department is not the only one to handle hazardous waste. During "Spring Salvage", Yale student are encouraged to relinquish their unwanted items of any kind, from furniture to water bottles to clothing. Last year, 60 tons of material was recovered. The Spring Salvage program collects a more toxic and electronic items than any other recycling program on campus, as students do not routinely recycle broken electronics throughout the year. It appears that the majority of this electronic waste is given to local charities, although this trend is too small to be recorded accurately.

While most of the material collected through spring salvage goes to local New Haven charities, some is shipped overseas. According to C.J. May, the manager of Yale Recycling, the school sent two trailers full of mattresses past the legal limits for use in dorms overseas. They were accepted by the charity Food for the Poor, a Christian charity that serves Latin America and the Caribbean.

For the most part, Yale's recycling and salvage drive is not driven by its economic benefits. According to the Yale Recycling website, Yale saves approximately \$33 for each ton of material that is recycled instead of transported as trash. In addition, Yale makes up to \$30 per ton of corrugated cardboard sold to Marcus Paper.

When Yale students first started recycling in 1970, they would have had no conception of the behemoth of an industry they were helping to create. Today, Yale, just like the rest of the United States, ships its recycling waste overseas where it is often the exact opposite of an "eco-friendly" solution. It is clear here that the United States and other nations that continue to wantonly ship their recycled products overseas, without regard to the consequences, are happy to maintain the image of environmental progress while ignoring what goes on behind the façade.

## Continued from page 33

**You said, "I believe that the true purpose of forest gardening is to reintegrate humans with nature, to give us a visceral experience of ecology in our back yards, so that we can realize that we are not separate, that we are one with the natural world, that we are nature." What about someone walking into Costco, which has a rapidly growing organic campaign these days, and buying a tub of organic microgreens? Is that reconnecting? Or does it have a different purpose?**

It's still an industrial relationship, the national organic standard. It was industrialized. At first, it was much more about culture and our relationship to the land, but it was co-opted, and became big business. But that's a sign of success. Culture must go through what it's going through. It will transform. Are we changing by choice or by rising sea levels, food shortages and marshal law-- that's the only question, really. It's going to change. It cannot last. But we need to be imagining a scale of change in our life times that is akin to a twenty foot sea level rise over the next twenty years. Only then do we have a fighting chance. Indigenous land management actually improves the health of the land. We're going to learn how to become indigenous; we're going to learn how to become a part of an ecosystem-- that's our human role.

**What about people who actually are indigenous to our area? There's a lot of talk in academia right now about indigenous knowledge. Should we be returning to the methods that indigenous people developed?**

Well, take corn for instance, which we originally saw grown here by the Mohawk nation. A lot of knowledge and experience was wrapped up in that corn variety—it was bred for New England, to germinate in cool, wet soil. A lot of native people aren't sharing seeds; they aren't sharing knowledge. They feel violated. They see their knowledge as sacred. We have to develop our own systems. Also, those systems evolved in a relatively stable climate. We're now entering a period of rapid climate change. We've limited ability of plants to move. There's not as much wildlife. We have a job—we must design new ecosystems to adapt to climate changes we've created.