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Green Living Journal

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Publisher's Page

Lunch: It's No Picnic

By Gary Munkhoff

A paradigm shift in one's personal perception of life can take place in a sudden "Eureka" moment or it can slowly evolve over years. The important thing here is that shift happens and that can make all the difference. Such a shift can be triggered by earthshaking events or it can be coaxed into being by something as simple as the day to day act of eating lunch.

For a lot of us lunch is the most anticipated meal of the day, and over the last forty years of working in the woods I have eaten literally thousands of them shared with zillions of bugs in all kinds of weather. No Ipods, no cell phones, no Game Boys. Just me and Mother Nature sharing many quiet moments. But let enough time go by and that midday meal shifts from being another brown bag picnic in the woods to being a simplistic model for the sustainable life that we are all striving to attain.

To explain this shift we'll begin by going back, 50 years or so to my student years and the many eye opening lectures on the insects, diseases and other pests that plague our forests. Here were revealed the facts of life from a tree's point of view and it all came down to this: from the day it first forms as a seed until the day it finally succumbs and topples to the ground, a tree is constantly being assailed by a whole gang of voracious insects, insidious diseases and ravenous critters (humans fit here but we'll leave them out of the picture for now). And all the time that these critters are having their way with the trees, another whole bunch of parasites is busy attacking the first gang. Simply put, trees are lunch for a host of other living organisms who are themselves lunch for still others. My first glimpse at the harsh realities behind the "balance of nature".

Now add the sad observation that even in the most remote corners of our forests you can find mylar balloons, plastic bags, fishing line, oil filters, old tires, cable, tin cans, plastic bottles, glass bottles, clothing, car bodies and on and on. Then of course there is all of that unseen stuff that floats in the air, which is constantly being washed into the soil and ground water by our abundant rains.

But even more ominous is the plastic accumulation crisis that is building in the ocean. The "Great Pacific Garbage Patch" or more specifically the North Pacific Gyre is the 50 plus year collection of plastics and other human debris that is entering the natural food chain by being ingested by living organisms on all levels from jellies to fishes to birds and to people. These plastics photo degrade down to molecule size particles, but are never digested by any of the existing marine organisms. These left overs from our "technologically advanced" society are not lunch items for anyone so they never become part of the natural food chain. Instead they maintain their toxic integrity as they move through the food chain causing hormone disruption and reproductive problems at all levels.. For more on this go to http://www.algalita.org

The grim reality of our situation is that the existing life forms of our planet just can't evolve fast enough to make lunch of what we are spewing out of our homes, offices, factories, tailpipes, smoke stacks, and nuclear reactors. And if they can't digest and breakdown our garbage and waste products our future becomes our worst nightmare.

The solution is a paradigm shift in the way we produce and consume the goods that are required to support our modern day society (see the book review on page 30). Not an easy task and one which appears to be out of our hands as individuals, but not entirely so. We all have to make a personal commitment to get involved in this shift by being conscious of what we purchase and how we will dispose of that item when we are through with it.

There are only two kinds of leftovers: lunch and pollution. So which are you leaving behind?



National Editor's Page

Pieces of Wood

by Stephen Morris

West Brookfield is the classic Vermont hamlet—dirt crossroads, a church, a one-room schoolhouse, and a half dozen farmhouses. Stella Maloney, who taught at the schoolhouse until it closed in 1968, lives in one of the homes. The Wakefield family who has operated Meadowbrook Farm since 1852 owns several others. The farming success of the Wakefields has kept the town looking much as it did fifty years ago, a hundred years ago, and a hundred and fifty years ago. As one after another of the hillside farms "gave up," Meadowbrook Farm expanded to fill.

Another village home, a modest cape built around the time the Wakefields started farming, was for sale when we moved to Vermont in 1979. There is an illustration of the house on the cover of West Brookfield and Thereabouts, a town history written by Alice Webster Wakefield. The image, taken from an advent calendar made by a village resident, portrays a Vermont of our mind's eye, without junk cars, mud, and houses wrapped in plastic. In the foreground is a house—our house!—that spills its radiant light out onto the immaculate snow. Presiding over all, majestic even without summer plumage, is a towering sugar maple whose branches spread a protective canopy over house and



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town. Inside the book are a half dozen other photos of the house and tree. The constant is that the horizon, even a hundred years ago, is dominated by the massive maple in our front yard.

We were charmed by the tree, the house, and the village of West Brookfield. We proudly made it our home. The tree even had a thick first limb that would be perfect for the tire swing that our sons, one just born, one not yet contemplated, would forever associate with their childhood.

Not long after moving in we were approached by a neighbor, Gregory Schipa, founder of Weather Hill Company, a firm that specializes in historic preservation and restoration. Schipa seemed determined to keep West Brookfield in the 1850s.

"Those trees, especially the maples, are getting on. You should think about replacing them." Part of me thanked him for his advice, but another part—the speaking part said, "Those trees are good for another fifty years."

"I know," Schipa replied, "That's why you should be thinking now about replacing them."

Schipa proved a man of his convictions, and helped me plant a line of maples over the next two years. The saplings looked slightly ridiculous dwarfed by the behemoth, but he assured me I would thank him some day. For the next few years the saplings grew much as did our young family. We were shaded by the big trees in the summer as we watched the kids take countless rides on their tire swing. In the autumn I raked leaves into playful piles. The favorite game was "Leafman," in which one person buries another in leaves, then lures an unsuspecting third person to the pile. Upon the pronouncement of "Leafman" the pile stirs and a roaring, snarling leaf monster emerges. Works every time.

After the leaves were pulverized by the glee of kid power, they became winter mulch for the perennials, as purposeful on the ground at thirty below as they had been on the branches providing summer shade. The first official act of spring was removing the leaves to give the crocuses a better look at the sun. Afterwards we took the leaves to the vegetable garden, tilling their remaining organic matter into the rocky soil.

Just as Gregory Schipa had been our partner in planting young trees, Bruce Cameron became our partner in keeping the maturing trees healthy. (Our signature maple was flanked by a lanky Dutch elm and a second maple that would have been impressive anywhere else but alongside its larger cousin.) Cameron, Central Vermont's resident



tree expert, is an ex-Shakespearean actor with a soft voice that still manages to articulate each syllable so that you can hear clearly from the cheap seats. Cameron explained to us about the lifecycle of maples, how they start breaking apart in chunks when they reach a certain age. How they die from the center out. And ours had reached that age, give or take a few decades. Through proper maintenance and strategic cabling, the maples should last our lifetimes, said Cameron. The Dutch elm, however, even though it looked healthy, was living on borrowed time.

Mere months later it was gone, a victim of the disease that bears its name. I spent a frustrating summer trying to split elm with my maul, using the stump as my base. When I was done dealing with the sinewy wood, I kept right on banging on the stump to reduce it to ground level. For all the aggravation it caused in splitting, the elm kept us warm that winter.

The next summer disaster struck the lesser of our maples. I got the call at work, one of those traumatic moments frozen in time. At least it hadn't fallen on the house. I had another stump to keep me busy for the summer. And another warm home that winter. The saplings now had six or seven years' growth and were sturdy young trees whose vitality took some of the sting away from our loss. Schipa had been right, and if I didn't thank him properly then, I do now.

With two of the three down, we redoubled our efforts to keep the remaining maple standing. Cameron ordered specific care and maintenance, which included me climbing into the tree's central cavity and removing all accumulated soft material with a post-hole digger. This unique chore yielded exquisite compost for the garden, as well as an assortment of golf balls, Star Wars figures, MatchBox cars, Whiffle Balls, and Transformers. This unexpected "trip to the toy store" so delighted my two sons that they wanted me to perform this maintenance on a weekly basis.

The maple held up well for the next dozen years. A chunk or two fell off, but the basic canopy remained intact. The trees I had planted with Greg Schipa were now in an adolescent growth spurt, just like my boys. Each year Bruce Cameron would stop by, tighten the cables, and give us a progress report. He's the kind of guy who will do this whether you ask him or not and whether you pay him or not. With Bruce, the tree comes first. The maple, he reported, was holding it's own.

But meanwhile, life around the maple changed. Flashforward what seems like an instant but was in reality a decade. The family has spent a "year abroad" in California and returned. They've moved in town to be nearer the school and all things teen-aged. The boys are poised on the brink of the nest. Strangers pay rent to live in the house and to enjoy the maple's shade.

Eventually the strain of being absentee landlords took its toll, and we put the house up for sale. Prospective buyers were interviewed as much for their willingness to keep alive ancient maples as for their ability to meet the asking price. Eventually, a deal was struck. The new owners, a young couple from California, brought new energy and vitality to the homestead, as well as a reverence for the intact Vermontness of West Brookfield. They put a new tin roof on the house. Soon a baby was on the way, and within a year the big tree was down, practicality overruling sentiment. I stumbled, unprepared, upon the scene with my younger son, now a young man. We turned the corner into the village to see a massive stump surrounded by dismembered eighteen-inch sections. It was overwhelmingly sad. The new owners were in the front yard. They, too, are saddened by the loss, but felt they had no choice, citing Bruce Cameron, the patron saint of venerable trees, as advising them that it was time to put it down. My son asks if they found any toys in the cavity. Turns out, they did. (Months later, I see Bruce at the local bank, and he mumbles condolences about the tree, as if he had somehow failed. Nothing could be further from the truth. I'm glad he was the one to bring it down. I'm sure he did it with love.)

A hidden blessing is the sudden prominence of the line of sturdy, young maples, now some twenty-five feet tall and producing their own sap, shade, and foliage. We request, and are given, some lengths of the fallen maple.

My wife bursts into tears at the news. It is months before she is able to go back to West Brookfield. I harbor thoughts, maybe delusions, that I am going to transform the chunks of maple into hand-sculpted keepsakes of our years beneath her canopy. I tell the family that this will be my Christmas gift for the next year. I contact a friend who had a similarly sentimental maple taken down in her front yard. She contracted with a local artisan to work with her downed wood. After many hours struggling with old, punky wood he produced a disappointingly small number of artifacts for a disappointingly high price. I can tell from her cocked eyebrow that I am setting myself up for the same fall.

But my plan is different. I will work the wood myself, freeing bowls and spoons and toys and tops and trinkets from the heavy blocks. I have visions of myself, Gepettolike, working by firelight. I see my sons, unwrapping their Christmas packages, and the look of awe as they recognize the simple treasures that have been created by my hours of loving labor.

By the following December, with Christmas season in full swing, my forward progress consists of buying a book on woodworking and staring forlornly at maple chunks that look much as they did when thrown into the back of my pick-up. It has taken a year, but I now recognize that I lack the skill, tools, knowledge, time, and will for this plan. Having created the expectation of Christmas gifts from the maple, I resort to Plan B. I go to the local dollar store and find some wooden spoons stamped "Spain." I leave on the 99-cent price tags, wrap them in dollar-store paper, and write a sentimental story about the mighty maple. On Christmas Eve the family convenes over coffee—we're all adults now-and I make the presentation. There's a moment of silence between reading the story and unwrapping the presents. The silence is repeated as they see the simple spoons, read the price tag, and see "Spain" stamped on the back.

One son says, "This is so lame."

The other says "This is so you."

Then we laugh. Together. The maple has delighted us once again.

The story has an epilogue, and a new hero. Later that same day I am at a seasonal craft show staged for the holidays at Chandler Gallery in Randolph. A handsome wooden pen catches my eye, and the signage tells me it comes from Fat Rooster Farm in nearby Royalton. I know

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the farm as a local CSA (Community Supported Agriculture). As have many of today's practitioners of sustainable farming, the folks of Fat Rooster have broadened their definition of "farming" by offering diversity in an increasingly commodified world. Although only six years into its existence, Fat Rooster has already been immortalized in a handsome coffee-table book Harvest: A Year in the Life of an Organic Farm (The Lyons Press, 2004).

A few days later my mind links these pieces of wood, now resting atop my stacked woodpile, with the pens. Then, things happen fast. I wonder if Fat Rooster has a website? Click. Do they say anything about their wooden pens? Click, click. Hm-m-m. They will work with your wood or theirs. Light bulb. Click, click. Contact us. Click, tap, tap, tap, click.

That evening there is a return email in my inbox from Kyle Jones of Fat Rooster Farm. The next day I deliver five lengths of maple, formerly of West Brookfield, to Fat Rooster Farm. Two friendly dogs (one with one blue and one brown eye) and a pair of intimidating "watch" geese herald my arrival. I am about to leave when Kyle emerges from the barn and calls after us. Along with Gregory Schipa and Bruce Cameron, Kyle becomes the third hero of this story.

Kyle tours us through his shop, examines the pieces of wood, and tells us how he happens to be turning out hardwood pens from a remote vantage overlooking the second branch of the White River. An ecologist by profession, he works two days a week with the National Park Service in Woodstock. The rest of the time he tries to make ends meet at Fat Rooster Farm. He is a native of Ohio who married a

Vermonter. He's not a woodworker by trade, but he has developed a woodworking sideline as a way to generate some revenue during the cold weather. He's an easy guy to like.

He walks us through the process. The wood is chain sawed into rectangular slabs measuring roughly six inches thick. On a band saw in the shop the wood is sliced again and again into sticks. The wood is dried for about a year before being worked. Pieces are then cut to length, drilled, and the internal fixtures glued in place. He then takes upwards of an hour turning each pen on a lathe, feeling the grain, giving each a unique look and curve, and applying the finish. If all goes well, pens can be ready for Christmas.

He looks at my wood, says it appears to be good, but he won't know for certain until he looks inside, i.e. rough cuts it with a chain saw. The next day I receive an email titled "Grand Opening" that says "I was very impressed by the wood in your logs. Lots of color, a little spalting and crotch grain. I reply back that I hope "spalting" and "crotch grain" are good, and he responds "Trust me, they are." So I am trusting Kyle to take this special wood and to give new life as pens, and maybe even bowls. In the process he can redeem me for trying to preserve with a lame joke the memory of a tree that gave us buds in the spring, shade in the summer, piles of joyful leaves in the fall.

Next Christmas Eve we'll convene over coffee. I will let them unwrap their pens, and then tell them that these came from our majestic sugar maple in West Brookfield. Use the pens, I will say, to write poems, love letters, or to sign autographs. They will look for price tags or telltale stamps of origin, but won't find them. Not this time.

Local Notes

Eco-Guides guide homeowners on the path to sustainability

A new home consulting service in the Portland area aims to reduce homeowners' environmental footprint one home at a time. Through a series of home visits, Eco-Guides will assess a homeowner's impact, inform them of sustainable choices and help them to implement changes. Their five areas of focus include: energy efficiency, water conservation, green gardening, waste reduction and toxics elimination.

"From our efforts to 'green' our own homes, we found that there was a lot of information on sustainability, from many different sources and it was often difficult to determine what applied to a particular home based on its age, its occupants and their lifestyle. We aim to make it simple for homeowners to do the right thing for the environment. In addition we show our

homeowners the impact they're having and what they can achieve in terms of dollars saved, gallons of water conserved, waste reduced, etc.," says co-owner Lisa Ard.

Some of the ways Eco-Guides make it simple to go "green":

"We do the research and deliver the recommendations that will work for our homeowners", says co-owner Laura Baldschun.

They deliver their expertise over three home visits, so a homeowner isn't overwhelmed with information

They provide an Eco-Guidebook full of checklists, additional reading, helpful brochures, rebate information, etc.

They offer environmentallyfriendly product and service referrals

"We remain an ongoing resource for our homeowners long after the home visits. For instance, a year after our consultation a homeowner may have their dishwasher go out; we'd like to help them easily select an energy- and water-efficient dishwasher plus take advantage of any rebates or incentives", says Lisa Ard.

Eco-Guides partners with local agencies, water bureaus, and service companies to help spread the mes-



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sage of living sustainably.

For further information on Eco-Guides, please contact Lisa Ard, at (503) 730-0676 or Laura Baldschun at (971) 255-9159. Read more about Eco-Guides, their results and what customers are saying at www.eco-guides.us.

Backyard retreat offers a green getaway

A new Portland company, Clean Green Studios LLC, recently launched its first sustainable product: a complete set of blueprints for a quick green getaway. The Hope Studio[™] retreat was designed to give homeowners a quiet space, far enough away so house noise can be left behind, but not so far that it takes fossil fuels to get there. The first Hope Studio was built in Woodland, Washington, on the buyer's riverfront property.

With a licensed contractor, a Hope Studio can be built in the backyard in less than a week. Depending on location, it may not require a building permit. The 120-sq.-ft. structure was professionally designed for art, woodworking, exercise, meditation, or entertaining a few friends. As its website www.cleangreenstudios.com suggests, "Think of it as that creative backyard space you've wanted ever since you outgrew your treehouse."

Blueprints for the shell — with storage loft, French doors and large windows — feature green building materials such as galvanized steel siding, sustainable energy features that include LED lights, and a small footprint that keeps the structure affordable.



The shell can be left as is, for a three-season retreat. Owners can later decide to deck it out with their favorite finishes, for a custom feel. The blueprints, designed by CEO/creative director Margaret Smith and green build-

ing designer Sebastian Collet, are available online at www. cleangreenstudios.com. The full-sized set of blueprints — delivered to the door — is printed on recycled paper, naturally.

In addition, Smith and Collet are finishing up blueprints for Hope Shelter[™] homes: sustainable dwellings for people in developing nations. Non-profit organizations and volunteer builders will find these to be a green alternative to conventional wood-frame house-building in developing nations.

For a limited time, Clean Green Studios is offering a way for customers of Hope Studios to help shelter families in developing nations. For every Hope Studio set of blueprints sold, the company will donate Hope Shelter blueprints (when available) to a non-profit house-building organization in developing nations.

The advisory board for Clean Green Studios features some top names in green Portland businesses. Board members include Mark Lakeman, architectural designer and founder of Communitecture; Jonathan Cohen, president of Imagine Energy; and Bryce Yonker, founder of Clean Technology Alliance.

For more information, write margaret @cleangreenstudios. com. (*HopeStudio -copyrightCleanGreenStudios*)

Eco-Friendly lifestyle store in Uptown Village Vancouver, WA offers Green, Sustainable products to help homeowners and contractors compose life in the key of green.

Vancouver, WA – 10 November 2008 – Today's homeowner/builder has more Green options than ever before when Building/Remodeling a home. While "Green", "Sustainable" and "Eco-friendly" are buzz words used by copywriters for today's big box retail giants, many consumers are left wondering what it all really means.

Dan Plaza and Heidi Olsen have opened Ecolution



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NW LLC to help consumers answer these questions and find out how to live life in an Earth-friendly way. To this end, Ecolution NW offers a wide selection of high-quality sustainable flooring options like Bamboo, Cork and Marmoleum. Hardwood options include FSC certified woods, Re-claimed/salvage woods, and Local/Regional hardwoods. We offer counter tops made from sustainable/certified hardwoods, recycled curbside glass and fly ash, and FSC certified recycled paper! Other products include recycled glass and porcelain tiles, insulation made from recycled blue jeans, and a fantastic line of sustainable dog and cat toys made from recycled plastic bottles.

According to Mr. Plaza "The statement I get most often is, "You are crazy for starting a business in today's economic climate?" My answer is always "Yes" and that I wouldn't have it any other way. Both Heidi and I have a passion for these products and a belief that we are responsible for the planet our children, and our grandchildren will inherit. Green is more than a buzzword to us. It is a way of making decisions based on fairness, sustainability, and ultimately, responsibility. That is how Heidi and I define living life in the key of Green."

Dan Plaza began working in the post-consumer recycled content business in the mid nineties. He has an extensive background in flooring, and most recently was the sales manager for one of the Northwest's pioneers in the sustainable wood products industry. He holds a B.S. in Journalism from the University of Oregon. He is the proud father of two daughters and two step-daughters and resides in Vancouver WA.

Heidi Olsen has been designing for longer than she can remember. Her designs have been featured on HGTV, Child



Magazine, and the Oregonian. Heidi most recently served as showroom manager for Endurawood in Portland OR. She is the proud mother of two daughters and resides in Vancouver WA.

Ecolution NW, LLC is open Monday thru Friday 10am to 6pm. Saturday 12pm to 4 pm. Closed Sunday's. We also offer appointments to fit our customers schedule.

Contact: Dan Plaza - Ecolution NW, LLC - 1709 Broadway Street - Vancouver, WA 98663 PH: 360.601.8454 www.ecolutionnw.com dan@ecolutionnw.com

Permapave Northwest announces "sustainable, green technology" pervious paver to help solve storm water issues

Permapave NW, located in Vancouver, Washington has begun production of a pervious paver with an unprecedented water flow through rate - up to 1.5 gallons per second per square foot. "The pavers provide a hard, functional surface, yet are amazingly permeable," says Permapave NW General Manager, Rick Ianello. "They are made with

natural stone, and an acrylic polymer binder, which allows water to freely pass through and, at the same time, filters out 100% of gross pollutants."

Many builders believe they can actually reduce the size of an onsite bio-swale or detention pond by utilizing the pavers to recharge the aquifer through infiltration. Applications range from pervious sidewalks and tree surrounds, to driveways, patios and beyond. The paver material can even be inseted in a steel roadway storm water grate.

Architects and developers are constantly faced with the issue of storm water management and regulations. Ianello also states, "Our pavers allow

these individuals to make the most of buildable space while conforming to storm water runoff requirements. Just imagine if the pavers are used in place of impervious sidewalks, or if they were to be used along the edge of an asphalt parking area."

The pavers are available in a variety of aggregates and colors, and in two standard sizes, 300 x 300 x 50mm and 400 x 400 x 50mm, standard thicknesses of up to 100mm





(4in.) thick, with custom shapes and thicknesses also available. They comply with ASTM freeze thaw requirements, are unaffected by salt, unaffected by UV and are considered an inert material.

Additional information on this cutting edge product can be found at www.permapavenw.com or by calling 877-694-0141.

ReFind Furniture Grand (Re)Opening Saturday, November 22nd

ReFind Furniture—a service of The ReBuilding Center—has opened the "greenest" showroom in town, featuring home furnishings handcrafted from 100% reclaimed building materials.

ReFind Furniture designs and handcrafts environmentally sustainable, natural, contemporary furnishings for residential and commercial spaces. A primary goal of ReFind is to preserve the environment and benefit communities. In this regard, we work exclusively with materials reclaimed from deconstructed Portland-area homes. This historic old-growth lumber finds new life in a distinctive line of furniture and custom designs. ReFind Furniture established in 2001—is a service of The ReBuilding Center, a non-profit reuse center with the largest volume of used building materials in North America.

A challenge that both Emerick Architects and the general contractors, Orange Design Industries, took on was to create a storefront presence for ReFind Furniture that was separate but also echoing the design of the larger ReBuilding Center. Orange addressed the task by pairing clean, modern fixtures—such as three large, donated glass and metal doors—with warm, industrial salvaged wood. White panel doors from the 1920s contrast with dark barn wood; raw reclaimed 2x4s lie next to planed clear vertical growth fir. A 13-foot display wall is filled with horizontal, remilled trim, salvaged by ReFind Furniture from old floor and wall joists. Railings by Suri Iron with recycled and reclaimed metal and accents of purpleheart wood, left over from a deck remodel, add to the industrial yet warm feel of the new showroom. www.refindfurniture.org.

Bureau of Development Services Creates Process to Get Sustainable Technologies into Building Faster

Portland, OR Portland City Council recently passed an ordinance allowing the Bureau of Development Ser-



vices (BDS) to create an Alternative Technology Advisory Committee (ATAC) to help evaluate innovative sustainable technologies in the context of existing building code requirements.

"The creation of the Committee is vital to the bureau's efforts to move emerging green technologies into more development projects in Portland," said Debbie Cleek, a Green Building Specialist for the bureau.

In 2006, the Development Review Advisory Committee (DRAC), a citizen advisory body representing those with interests in development review processes, neighborhood livability and the environment, convened a subcommittee to look at ways the City could accelerate sustainable development on a city-wide scale. One of the recommendations of the DRAC subcommittee was to create a committee to review alternative technology.

BDS has seen growing interest on the part of developers to use innovative building products or construction practices to increase a project's sustainability, or to comply with green building certification programs, such as LEED. At times these technologies are so new that they do not have standard testing data available to show how they perform. In addition, nationally recognized testing data is often expensive and time consuming to obtain.

To address these issues, BDS has created a new review process where an applicant can gather relevant information about a technology and present it to a panel of experts with backgrounds in the sustainable building industry. The panel will review the information and make a determination as to whether or not the data is sufficient to support its use in building projects. In addition, the technology must offer a more sustainable option than the product or system it would likely replace. The Committee will make a recommendation to BDS that will be considered as part of a standard building code appeal using the 'Alternative Methods' section of the state Building Code.

BDS and our industry partners believe that this new process will open up an avenue to allow more experimentation with new building methods, which in turn will help advance green building science. It is anticipated that the applications the Committee will see will run the gamut from high-tech building products that are currently being used in Europe to natural building methods using simple, local materials.

For more information about the Alternative Technology Review Committee, please contact Debbie Cleek at 503-823-9651 or visit BDS' website at www.portlandonline.com/bds/atac.

Electric Vehicle Dealers Update

MC Electric Vehicles is now located at: 6311 NE Saint John Rd, Ste. B Vancouver, WA 98661 503-519-3784 http://mcelectricvehicles.com Hours are 8AM to 4:30 PM Monday-Friday Other hours are possible by appointment only

Seen at the Alternative Transportation Show In Hood River

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www.GreenDogPetSupply.com



Pets

Green Pet Care How-To

By Diane MacEachern

My cat Midnight has been suffering the last few years from an over-active thyroid. The vet could never tell me what might have caused her condition. A new study suggests that pets like mine and maybe yours are being contaminated with high levels of some of the same synthetic industrial chemicals that researchers have found in people. Working with the Centers for Disease Control and Prevention (CDC), Environmental Working Group (EWG) studied 20 dogs and 40 cats. The researchers discovered that the animals were contaminated with 48 of 70 industrial chemicals tested. Average levels of many chemicals were substantially higher in companion animals than is proportionally typical for people, with 2.4 times higher levels of stain-and grease-proof coatings (perfluorochemicals) in dogs, 23 times more fire retardants (PBDEs) in cats, and more than 5 times the amounts of mercury, compared to the average levels the CDC and EWG found in the people they studied.

How do our pets get exposed to these toxins? They walk across lawns that harbor pesticide residues. They breathe in indoor air pollutants. They lie on furniture or carpeting that's been treated with fire retardants. Pets play close to the floor, often licking the ground as well as their paws, a habit that greatly increases both their exposures to chemicals and the resulting health risks. And because their lifespans are compressed - dogs develop and age seven or more times faster than children -- pets also develop health problems more rapidly.

'For pets as for people, the result of seemingly harmless actions is a body burden of complex mixtures of industrial chemicals never tested for safety. Health problems in pets span high rates of cancer in dogs and, as with my Midnight, skyrocketing incidence of hyperthyroidism in cats.

How can you protect your pet?

- Avoid lawn chemicals. Stick to organic fertilizers if you maintain grass. Keep your pet off lawns that have been chemically treated. Replace your own lawn with native grasses, stones, and other groundcovers that require nothing other than local climate conditions to grow.
- Eliminate products that pollute indoor air. Replace aerosol air fresheners and fragrancebased cleansers with fragrance-free options. Substitute non-toxic bug repellents for chemical pesticides. Open windows to air out rooms. Simmer cinnamon sticks and cloves in a small pot of water to refresh your home.
- Clean furniture and carpets with vegetablebased soap and water. Avoid industrial- strength floor cleaners whose left-behind 'shine' contains chemicals that could compromise your pet's health. Ask professional carpet cleaners to use certified eco-friendly cleaning products.
- Buy an organic cotton towel or throw rug for your pet's bed and for your furniture. Protect your pet from the fire retardants found in most upholstery and carpeting with organic fabrics you can launder in biodegradable detergent.
- Choose safer toys. Muttropolis sells toy flowers for cats made from recycled plastic and certified organic catnip. Olive Green Dog sells toys made from non-toxic plastic for dogs, as well as shampoos, soaps, cookies, and more.

Diane MacEachern, author of Big Green Purse: Use Your Spending Power to Create a Cleaner, Greener World, available at www.biggreenpurse.com.

Finance

Financial Independence – For Us Common Folk

by Jane Dwinell

What would you do with your life if you didn't have to work for money?

I faced this compelling question 13 years ago. I didn't have an answer. Sure, it would be nice to travel, spend more time with the family, and all that, but what would I do – actually do with my time -- if I didn't have to work for money?

I let go of the question, and I focused on another one – what is "enough?" That is, how much "stuff" – material goods – was enough for me, and my family? How many services did we need to pay for, and how many could we handle ourselves?

It was another big question that began to shape my life.

In the meantime, I followed a process that allowed me to answer these questions – I began to keep track of every cent my family spent and took in, what we spent it on, and then asked the question – is this purchase in alignment with our values? After having considered what our "real" hourly wage was (it's not what's on your paycheck), I could also figure how many hours of our life energy we spent to acquire that good or service.

Does this sound complicated? Does it sound intriguing? It's all part of a nine-step program called "Your Money or Your Life" (YMOYL) presented in a 1992 book of the same title written by Joe Dominquez and Vicki Robin. This book changed my life.

In our busy, consumer society, it seems that so many of us just go along with our lives without taking time to consider if what we're doing – and how we spend our money – is in alignment with our values. I thought my family lived a pretty simple, honest life. We gardened and raised a good share of our food. We lived off-the-grid with solar power. Both adults were committed to working part time so that one of us would be home with the kids. We didn't buy too much stuff – or so I thought.

It turns out that, by examining our life by following the nine steps, we were able to achieve Financial Integrity, Financial Intelligence, and Financial Independence.

Here are the steps:

Step 1: Making Peace with the Past

In this step, you look at how much money you have brought in over your whole life, and what your current "balance sheet" is. Figuring out your assets and liabilities is more than adding up the worth of your house, your car, and your savings minus your mortgage, loans, and credit card debt. It's also counting everything you own, and determining the worth of all that stuff should you sell it tomorrow in a yard sale or on Ebay. This is a very enlightening step. It's the first step toward Financial Intelligence.

Step 2: Being in the Present – Tracking Your Life Energy

Now it's time to figure out your "real hourly wage." Determine your gross weekly or yearly income, and then



deduct all the expenses that you incur with your paid work (weekly or yearly). This includes commuting costs, wardrobe, meals, the alcohol or drugs you use to wind down, the vacations you have to take to de-stress, the visits to the massage therapist or the psychologist or your health care practitioner to clear up "problems," and the time it takes to do all these things. Do the math, and discover your real hourly wage. It'll be a wake-up call, for sure. If you're self-employed or your income is erratic, you'll have to be creative in figuring this out.

Once you've done that, it's time to keep track of every cent that comes into or goes out of your life. Not everyone is a numbers-cruncher, and this step is a stickler for many. It may take you several months to figure out a system that works for you and your family. I've been doing it for 13 years, and my system has evolved over time. It can be done, and it is the centerpiece of the program.

Step 3: Where Is It All Going?

In this step you take all those monthly figures that you've got written on scraps of paper, Post-it notes, or index cards, and tabulate them.

Create your own monthly balance sheet with income and expenses in categories that work for your situation. You'll want categories for housing, transportation, food, health care, other services, and material goods. You can make each category as general or as specific as you want.

Once you know total expenses, you can then determine how many hours of life energy (via your "real hourly wage") that it took for you to buy all that stuff.

Is this how you want to spend your life?



Step 4: Three Questions That Will Transform Your Life

Once you know how many hours of your life energy it took to get your food, take care of your car, keep a roof over your head, and find time for some fun, ask yourself these three questions about each category of expenditures:

• Did I receive fulfillment, satisfaction, and value in proportion to life energy spent?

• Is this expenditure of life energy in alignment with my values and life purpose?

• How might this expenditure change if I didn't have to work for a living?

Do this with total honesty. You may discover areas of your life where you clearly want to spend less of your life energy. Conversely, you may find areas where you want to spend more. Find out what is Enough for you. Now you're building Financial Integrity.

Step 5: Making Life Energy Visible

Create a wall chart for yourself with a line for income, and a line for expenses. Put it in a place where you will see it every day. Make it attractive and make it big enough – you'll be watching your life change.

Step 6: Valuing Your Life Energy – Minimizing Spending

If you're asking yourself the Three Questions, you will probably find your spending going down. Not buying stuff is a good first step. For the things you need, you can look into buying used, bartering, buying on sale, using the library, brown-bagging it, and making and repairing things yourself. There are oodles of ways to save money, and there are plenty of books on the subject. Be creative. It's your life energy.



Step 7: Valuing Your Life Energy – Maximizing Income

Because you value your life energy, you'll want to make sure that you're paid what you're worth. Negotiate with your employer or in any contract work that you do. Don't accept a job if you're not being paid enough (remember your "real hourly wage"). Sometimes you'll save money by not working, by working closer to home, or at a job you love (so that you don't have to pay for all those de-stressing activities).

Step 8: Capital and the Crossover Point

Now it gets fun. As you spend less and earn more, you will start to save money. Once you have six months of living expenses tucked away in a money market for a cushion, you can start to invest your money toward the day when you reach the Crossover Point – Financial Independence. Calculate the interest rate on your capital (using the best rate on a current Certificate of Deposit as a guesstimate), and add that line to your Wall Chart. One day your interest income will be your only income. When it reaches the same place as your expenses, you've reached Crossover, and you can leave your paid work.

Step 9: Managing Your Finances

As you begin to invest, you need to educate yourself about the best choices for you. This is not the time to speculate in the stock market. You want steady and secure income. The authors of YMOYL recommend investing in long-term US government bonds. Not being that interested in investing in the federal government, and not trusting its security, I invest in Vermont bonds – those that finance schools, hospitals, and housing. They're tax free, too.

Educate yourself about investments. There are many good books on the subject. Talk to others about their choices, and invest your money wisely. It's still your life energy, and now it can give you Financial Independence.

Financial Independence gives my family the option to do paid work that we love (if we choose), volunteer in our community, and have plenty of time for family, friends, and avocations. It's a good life, it's a balanced life, and it's available to anybody – just follow the nine steps.

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Falling Down and Rising Up

by Louise Diamond

Sometimes systems get so complex that they tip over the edge of chaos and break apart. The cascading economic crises gripping our nation and our world are shattering our financial system, both its structures and its underlying assumptions.

Painful as this is, it is also a powerful opportunity. Putting the same pieces together in a slightly different configuration will not suffice. The brokenness of our financial markets shows us that the time has come for something that will look and feel and smell profoundly new.

Systems emerge to satisfy needs, to serve a shared purpose, and to insure a better fit with their environment. Our failing financial system functioned as if its purpose were twofold: to guarantee continued growth and to make its owners/managers as rich as possible. In a world confronting the reality that there are natural limits to growth, and realizing the interdependence of all within a single whole, the present system is not sustainable and should be transformed.

It's important that we name the basic values and assumptions that led our behemoth financial system to break down. These are all inter-related, and feed each other. They include:

- Greed The game is to get as much for yourself as you can, without regard for how it may hurt others.
- Gambling Risk is good; greater risk is even better (and more fun), especially if it's with other people's money and assets.
- Debt Living beyond your means, whether at the individual level or nationally, drives the economy and should be encouraged, especially to fuel our materialistic and militaristic pursuits.
- Market as God The 'market' knows best and should be left alone, regardless of how it is manipulated for the benefit of the few.
- Exploitation and Entitlement The rich and powerful are entitled to operate as they see fit, using the resources of others for their own gain.

We can do better than this. In fact, the evolutionary arc of the human family impels us to do better than this. With discussions in Congress now about halting the slide into greater failure, we have the perfect opportunity to set in



While the administration seeks top-down fixes, the momentum for change is coming from the bottom up. People are speaking out, and their voice carries great wisdom. They are naming and demanding the new attractors for a re-born financial system, including:

- Stewardship The assets of the people are to be understood as a sacred trust in the care of those who handle them. They should be managed for the good of the people, not the managers.
- Accountability Those who mis-manage the assets of others should be held responsible, not rewarded.
- Balance We live within a cycle of reciprocity, where receiving and giving back with each other and with the natural world are in harmonious relationship with one another.
- The Larger Good The benefit of the few at the expense of the many is not only a moral issue; it is an inherently flawed pursuit, for when many suffer so a privileged handful can reap gain, the whole social/economic fabric is weakened. Looking to the well-being of the greater whole rather than its separate parts is the natural and logical approach in an interdependent world.
- Healing To rebuild trust when it has been broken requires contrition, apology, and the making of amends to those who have been hurt. This facilitates forgiveness and lays the ground for moving forward together.
- Responsibility Regulation and oversight are how systems can assure that the dynamics of freedom and structure, expansion and contrac-





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tion, emergence and organization, can best be managed creatively and productively.

 Basic Human Needs – The strength of a nation lies not in the material wealth of a small elite group, but in satisfying the basic needs of all its citizens for food, water, safety, housing, health care, education, jobs, dignity, and opportunity.

Elements of a new economy built on these values already exist, through micro-financing, social entrepreneurship, corporate social responsibility, fair trade cooperatives, barter mechanisms, and socially-conscious investing. Now is the time to acknowledge and build on these successes.

This is a rich moment for reflection. Rarely do we get to stop and look deeply at how we have been operating, and to make conscious changes that truly transform the status quo. Even in pain, we need to be fully present to the moment, to give space for breakthrough ideas and innovative measures to emerge around the new attractors.

While Congress will have to enact temporary measures to slow further breakdown and alleviate suffering,

it should resist the rush to a comprehensive fix that would only perpetuate the root causes responsible for this situation. What the administration can do now is to admit that we're just beginning to craft a whole new story about our financial lives together, to listen to the people's wisdom about what

"You can never change things by fighting the existing reality. To change something, build a new model that makes the existing model obsolete." ~Buckminster Fuller

that story should entail, and to articulate a clear purpose for a rebuilt financial system – that it should truly serve the needs of the people in a world where we are, indeed, all in this together.

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Building

Insulating Concrete Forms: Beyond Concrete

by Josh Hogue

Photos courtesy of Brad Rozema, Concrete Special Ties, Hermiston, Or.

Building blocks for a beautiful home that is made to last and offers energy efficiency second to none... Seemingly a newly evolved concept, this alternative building method has been around longer than you would expect, over 20 years. And over the years it has been perfected and advanced along with technology to become a better, more viable product.

On the mind of today's homebuyer is not only cost, but also of concern is building a sustainable "green" home. It used to be that building environmentally sustainable housing came at too high a cost to the average consumer. That still remains quite true when trying to build a green home using the stick-framing method, using wood. Concrete provides the answer on how to achieve a socially acceptable, economically affordable, environmentally sound home.

What Is It?

Insulating Concrete Forms (ICF) are hollow blocks or panels consisting of two layers of rigid polystyrene foam





insulation. These blocks are stacked, interlocked, and reinforced with steel rebar and ties before filling with concrete. They assemble quickly with less strain on the installer than having to pack wood and lift walls, an added safety benefit. The result is a continuous structural wall assembly, one big solid structure, insulated on both sides. The foam blocks become insulated backing and house preset fasteners to allow the attachment of any common siding material with ease for interior and exterior finishes. And, you



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can rest assured that the polystyrene is environmentally safe because it is nontoxic, recyclable, and does not break down or support moisture. There are several manufacturers of ICF blocks that vary in structure and design, keeping the market competitive.

Appearance

At first glance, you cannot tell a concrete home from any other on your block, unless you would have seen it during construction. The outward appearance of a finished concrete home reflects all of today's contemporary finishes, inside and out. That is because of the fasteners in the ICF block itself, mentioned earlier.

The only noticeable difference to the educated consumer, appearance wise, is the thickness of the wall. With an 8-inch ICF block, walls are 11 inches thick, making windowsills and doorways deeper. Again, the width and sizes of the blocks will vary depending on the manufacturer of the block. Concrete is surprisingly flexible in the ways it offers aesthetic appeal.

Not only can it be used inside the walls, but throughout the interior and exterior, it can shape a beautiful look that functions for you. From stucco to countertops, stamped patios to tiled flooring, roofing to siding, fireplaces to showers, the creative capabilities are astounding. Many different colors are being produced by adding mineral pigments or recycled crushed glass. Textures can be from smooth to brushed, exposed aggregate to pre-distressed for that rustic feel.

Design Capabilities

Concrete can take any shape or form since it is aqueous when first mixed, and must harden to set. Whether your taste in style is Contemporary, Victorian, Colonial, or Prairie, ICF has the capability to achieve the particular look you desire. You are not limited to right angles with ICF; rather a variety of curves and angles can be achieved. A knowledgeable ICF home designer can make efficient use of the material strength concrete provides in creating larger open spaces that remain quiet because of the thick insulated walls; less noise will travel room to room.

Energy Efficiency

The material used to form concrete and the continuous mass of the solid structure resulting from a concrete pour, becomes a nearly impenetrable barrier to heat, cold, moisture, sound, and air. The advantages to ICF over wood frame equal energy efficiency and cost effectiveness. ICF uses less of a collection of materials to generate solid airtight walls, whereas stick-framing nails together several separate layers of different materials to achieve a lesser result. Each point of connection or joint is a potential leak for air or moisture. Air leakage accounts for most of the energy loss in a home. ICF construction eliminates the potential problem of drafts with the solid wall it creates. The double insulated concrete wall is a thicker solid mass, allowing less heat to penetrate either from inside or out. The R-Value of the polystyrene left in place as part of the concrete wall is higher than could ever be achieved by wood; the foam form starts with an R-value over 20 before it is even filled with concrete or finished. Finished walls can reach an R-value of 50+. This translates into large savings now and over time on your utility bills because the home will naturally stay warmer in the winter and cooler in the summer. This also means smaller heating/cooling units are needed to service larger areas, saving you in initial construction costs. Studies confirm an overall savings of approximately 40% considering the combinations of these factors.

Environmental Sustainability

Sustainability is defined as making something continue to exist; to maintain through time. ICF provides long-term value to you and the environment in several ways. First, the concrete consists of common materials that are found abundantly in many local areas. While wood is renewable, is takes a long time to grow a new tree to the stage it is usable in the industry. Concrete not only uses readily available materials but recycled materials as well, such as fly ash and slag. Even old concrete can be pulverized and reused. Then there is the mixing of cement; it uses only water, so it doesn't off-gas chemicals. The properties of the ICF and the concrete remain inert, while many other common building materials do not. The expanded polystyrene is recyclable, doesn't emit toxins, and in its manufacturing there is no use of CFCs or CFLs, rather steam is used. Also, the indoor environmental quality is healthier in an ICF home because it resists infiltration. When used in combination with airexchange units or humidifiers, levels of airborne particles like dust and allergens are significantly less than the average home.

Durability

Concrete gets stronger with age. The polystyrene foam does not support moisture; therefore molds and bacteria cannot grow. This also makes it rot resistant. As a pest deterrent, the ICF structure cannot be eaten, burrowed into, or otherwise infested. The concrete will withstand a wildfire



or earthquake, and will still be standing after a tornado or hurricane hurls debris at it. Its durability will keep you secure in all types of natural disasters. Because of its proven ability to resist damage, many homeowners' insurance programs offer a discount for such a home. Less maintenance is required since will not need to be fixed or replaced over time, truly a lasting investment.

Comfort

Due to the consistency of the air throughout an ICF home, hot and cold spots are eliminated. This air consistency is a result of the airtight and impermeable qualities the ICF wall holds. And, this keeps the environmental quality of the air higher. Noise reduction is another feature offered by the ICF wall, as the thickness and insulation protect sound emissions from infiltrating the wall in much the same manner as it keeps outside temperatures from permeating, only allowing a third of the noise level you would hear in a wood home. You and your family can also rest in comfort knowing how safe the house is in a natural disaster, and that you won't have to spend the following years continually repairing and maintaining the home; you'll have more time to just enjoy it.

Economic Impact

This is a long-term result. Concrete is comparable in price to a wood home, slightly more, but the long term benefits outweigh the initial cost. Less energy is used, meaning lower, much lower, utility bills. Reduced energy consumption helps the economy and the environment. Using better materials and less of them has a global effect environmentally and economically, gravitating a change in the old ways of building; there is a better way. Not having to maintain the home as much is a cost reduction, and saves on your time and worry. Disaster resistance will save more than just money on your insurance premiums, but possibly your life. And because of all these factors, your ICF home will have a higher resale value, which stimulates the economy and provides you a solid investment. When building a new home, don't pass up the opportunity to educate yourself on the benefits of ICF as a strong alternative to wood. The viability of this product equals peace of mind in one of the largest investments you make in your lifetime.

Josh Hogue designs energy efficient homes and offers project management services. Contact him at Superior By Design, 541-951-7677 or visit his Web page: superiorbydesign.com

Gardening

A New Hydroponics Primer

by Jay Potter

Hydroponic gardening can be a fun and exciting way for gardeners of any skill level to enhance the joy we all get from cultivating plants. The purpose of this article is to first illustrate the advantages of growing in a hydroponic gardening system rather than in soil, to describe some different types of hydroponic gardening systems, and lastly to give some tips on how anyone can easily and inexpensively set up their very own soil-less garden.

The main reason gardeners choose a hydroponic system over soil is because the yield is greater and the plant growth is faster. In soil, plants expend energy building extensive root systems to search for nutrients to feed the plant. Because hydroponic plants are constantly supplied with the necessary nutrients to their root systems, they can use more energy on growth above the root zone.

Soil is also a perfect host to many parasites, fungus, and plant diseases. Soil plants also outgrow their pots requiring them to be re-potted. In general, hydroponic plants not only grow faster, but they also reach maturity faster.

Feeding Your Plants

With only a couple of tools, one to check the ph of the water and another to check the amount of nutrients or fertilizer (also known as ppm or TDS) in the water, a gardener is able to ensure that the plants are being fed at their optimal levels. Feeding the plants water with a correct ph is imperative.

The ph range for plants such as tomatoes or peppers is 5.8 to 6.5. This is the range where the transfer of nutrients in the water to the root system can occur safely. Products can be obtained for raising, lowering, and measuring ph at your local gardening store.

Once the ph is set in the proper range, it is time to feed the plant. Tomatoes and peppers are fed at a rate of 500 to 700 ppm during vegetative growth and 1,200 to 1,500 ppm during flower depending on the specific strain. Measuring the exact amount of nutrients is a key to maximizing a plant's potential. By monitoring the amount of nutrients in the water, a gardener can ensure that their garden is not being underfed, which causes deficiencies, or being fed too much, which causes the plants to stop growing. Most plants need different nutrients for vegetative growth and flowering.



These, along with devices to measure the level of nutrients in the water are available at your local gardening store.

Choosing a Growing Medium

The next step is to choose a growing medium for the seedling. The three most popular soil-less mediums are coco, expanded clay pellets, and rock wool. Usually, a combination of mediums is used. For example, seeds may be started in plugs made of coco fiber and later transplanted into mesh pots filled with expanded clay pellets that are then placed into one of several types of hydroponic systems. The coco plugs are especially good for beginners because, unlike the rock wool, they are ph neutral and do not require conditioning prior to use. Much of choosing a growing medium becomes a matter of preference. However, ease of use and irreclaimability of the growing medium are things to consider.

Three Types of Hydroponic Systems

There are basically three different ways to set up a hydroponic gardening unit in different combinations and variations. The first unit is called aeroponics. An aeroponics unit is usually a long plastic tube or tray that has been slotted so that plants can be inserted. The tube is then connected to a reservoir with some tubing that has been attached to a submersible pump inside the reservoir. The pump sends nutrient solution from the reservoir to the end of the tube. As the nutrient solution is pumped into the tube, it runs past the root zone of the plants and returns to the reservoir to be pumped again.

The second hydroponic system is called ebb and flow, or flood and drain. Ebb and flow systems are characterized by a flat tray (or table) positioned over a reservoir. Again a submersible water pump is used to flood the table periodically and then the nutrient solution returns to the reservoir below the table. Rock wool is usually the preferred growing medium for ebb and flow units because it holds moisture better than the others. Because the gardener knows when they have set their flooding to occur, it is possible to check the ph and the ppm before the plants are fed. In contrast, the nutrient solution in the aeroponics unit is in constant contact with the root zone requiring the gardener to keep a close eye on the ph and ppm of the nutrient solution.

The third way to set up a hydroponic garden is called a deep water culture (DWC). DWC uses a specially designed bucket and lid to grow plants. The bucket is filled with nutrient solution and an air stone is placed in the bottom of the bucket. This provides the root zone with oxygen and keeps the water from becoming stagnant. The plant is then



placed in a lid that fits right on a five gallon bucket and is supported with expanded clay pellets. The gardener must then monitor ph and ppm closely, and must also change the nutrient solution in the buckets every seven to ten days.

While all of these units have their pros and cons, the DWC is the easiest and most inexpensive for a beginning hydroponic gardener. Each individual bucket unit can be purchased for fewer than thirty dollars and sets up in only a couple of minutes. Having your plants in buckets has many advantages. The first and most important advantage is that plants will grow faster and the gardener will be rewarded with a larger yield. Other advantages include the ability to simply bring your system in off the patio on cold nights to prevent freezing and the ability to move the system throughout the day to maximize sunlight. Plants that are in the ground are a risk for frost, especially early and late in the growing season, and are limited to the amount of sun exposure they receive.

I have illustrated some of the advantages of growing in a hydroponic system, briefly described some hydroponic systems and growing mediums, and given some ideas on how to begin growing a hydroponic garden. There are many different methods for enacting the three major hydroponic systems and even more choices for the gardener concerning nutrients (including organic options), lighting, and ventilation. Please feel free to contact your local gardening store with any questions and happy gardening!

Jay Potter is with Green Thumb Hydro Gardens & Organic Supply, which has stores in Klamath Falls and Medford. Call them at 850-0017 or 779-8600.



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Advantages of the Hydroponic Method

The greatest advantage of the hydroponic method is that crop yields are increased many times over those of conventional agriculture. It is this fact that makes hydroponics ideally suited to the space restrictions encountered in the average small home greenhouse.

The yield of tomatoes grown in soil is from 5 to 10 tons per acre. With hydroponics, the harvest is boosted to between 60 and 300 tons per acre! For cucumbers, the equivalent per-acre statistics are: 3 1/2 tons in soil, compared with 14 tons for hydroponics; for lettuce, 4 1/2 tons per acre in soil, versus 10 1/2 tons with hydroponics.

In addition, it is estimated that hydroponic methods require only 1/20 to 1/30 the amount of water required by conventional soil gardening, thus making it possible to grow large amounts of food in arid and semi-arid environments. This is because the solution is captured and saved to be recycled over and over again.

Another advantage is that hydroponics lends itself to automation -- a very important fact for people who can't always be around when their plants need attention. The technology for this is very simple and uses an insignificant amount of electrical energy.

Excerpted with permission from The Hydroponic Hot House: Low-Cost, High-Yield Greenhouse Gardening by James B. DeKorne. Available from Loompanics Unlimited, PO BOX 1197, Port Townsend, WA. 800-380-2230. *A* Google search gave us the following hydroponic suppliers in the Portland area:

American Agriculture	Light Manufacturing Company
Cascade Horticulture	M & R Horticultural Sup- plies Inc.
Everbody's Garden Center	Northern Light & Garden
Evergreen Garden Supply	Northwest Hydroponics
Green Source	Oregon Rainforest Co.
Grow America Garden Supply	Roots Garden Supply
Homegrown Garden Supply	Rose City Wholesale
Indoor Hydroponic Gardens	Sunlight Supply
Island Flowers & Indoor Gardening	The Garden Spout
Life Light Technologies	Urban Flora

Education

Connecting the Dots on Food, Health, and the Environment

20

By Fritjof Capra

A discussion of the interrelations between food, health, and the environment is extremely topical today. Rising food prices together with the price of oil and a series of so-called "natural" catastrophes dominate the news every day. At the same time, there is a lot of confusion. Why are world food prices increasing so quickly and dramatically? Why is world hunger rising again after a long steady decline? What do food prices have to do with the price of oil? Why is it so important to grow food locally and organically? In this brief talk, I shall try to show that a full understanding of these issues requires a new ecological understanding of life (a new "ecological literacy") as well as a new kind of "systemic" thinking – thinking in terms of relationships, patterns, and context.

Indeed, over the last 25 years, such a new understanding of life has emerged at the forefront of science. I want to illustrate this new understanding by asking the age-old question, what is life? What's the difference between a rock and a plant, animal, or microorganism? To understand the nature of life, it is not enough to understand DNA, proteins, and the other molecular structures that are the building blocks of living organisms, because these structures also exist in dead organisms, for example, in a dead piece of wood or bone.

The difference between a living organism and a dead organism lies in the basic process of life – in what sages and poets throughout the ages have called the "breath of life." In modern scientific language, this process of life is called "metabolism." It is the ceaseless flow of energy and matter through a network of chemical reactions, which enables a living organism to continually generate, repair, and perpetuate itself. In other words, metabolism involves the intake, digestion, and transformation of food.

Metabolism is the central characteristic of biological life. But understanding metabolism is not enough to understand life. When we study the structures, metabolic processes, and evolution of the myriads of species on the planet, we notice that the outstanding characteristic of our biosphere is that it has sustained life for billions of years. How does the Earth do that? How does nature sustain life?

Ecological literacy

To understand how nature sustains life, we need to move from biology to ecology, because sustained life is a property of an ecosystem rather than a single organism or species. Over billions of years of evolution, the Earth's ecosystems have evolved certain principles of organization to sustain the web of life. Knowledge of these principles of organization, or principles of ecology, is what we mean by "ecological literacy."

In the coming decades, the survival of humanity will depend on our ecological literacy – our ability to understand the basic principles of ecology and to live accordingly. This means that ecoliteracy must become a critical skill for politicians, business leaders, and professionals in all spheres, and should be the most important part of education at all levels – from primary and secondary schools to colleges, universities, and the continuing education and training of professionals.

We need to teach our children, our students, and our corporate and political leaders, the fundamental facts of life – that one species' waste is another species' food; that matter cycles continually through the web of life; that the energy driving the ecological cycles flows from the sun; that diversity assures resilience; that life, from its beginning more than three billion years ago, did not take over the planet by combat but by networking.

All these principles of ecology are closely interrelated. They are just different aspects of a single fundamental pattern of organization that has enabled nature to sustain life for billions of years. In a nutshell: nature sustains life by creating and nurturing communities. No individual organism can exist in isolation. Animals depend on the photosynthesis of plants for their energy needs; plants depend on the carbon dioxide produced by animals, as well as on the nitrogen fixed by bacteria at their roots; and together plants, animals, and microorganisms regulate the entire biosphere and maintain the conditions conducive to life.

Sustainability, then, is not an individual property but a property of an entire web of relationships. It always involves a whole community. This is the profound lesson we need to learn from nature. The way to sustain life is to build and nurture community. A sustainable human community interacts with other communities – human and nonhuman – in ways that enable them to live and develop according to their nature. Sustainability does not mean that things do not change. It is a dynamic process of co-evolution rather than a static state.

The fact that ecological sustainability is a property of a web of relationships means that in order to understand



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it properly, in order to become ecologically literate, we need to learn how to think in terms of relationships, in terms of interconnections, patterns, context. In science, this type of thinking is known as systemic thinking or "systems thinking." It is crucial for understanding ecology, because ecology – derived from the Greek word oikos ("household") – is the science of relationships among the various members of the Earth Household.

Systems thinking emerged from a series of interdisciplinary dialogues among biologists, psychologists, and ecologists, in the 1920s and '30s. In all these fields, scientists realized that a living system – organism, ecosystem, or social system – is an integrated whole whose properties cannot be reduced to those of smaller parts. The "systemic" properties are properties of the whole, which none of its parts have. So, systems thinking involves a shift of perspective from the parts to the whole. The early systems thinkers coined the phrase, "The whole is more than the sum of its parts."

What exactly does this mean? In what sense is the whole more than the sum of its parts? The answer is: relationships. All the essential properties of a living system depend on the relationships among the system's components. Systems thinking means thinking in terms of relationships. Understanding life requires a shift of focus from objects to relationships.

For example, each species in an ecosystem helps to sustain the entire food web. If one species is decimated by some natural catastrophe, the ecosystem will still be resilient if there are other species that can fulfill similar functions. In other words, the stability of an ecosystem



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depends on its biodiversity, on the complexity of its network of relationships. This is how we can understand stability and resilience by understanding the relationships within the ecosystem.

Understanding relationships is not easy for us, because it is something that goes counter to the traditional scientific enterprise in Western culture. In science, we have been told, things need to be measured and weighed. But relationships cannot be measured and weighed; relationships need to be mapped. So there is another shift: from measuring to mapping.

In biology, a recent dramatic example of this shift happened in the Human Genome Project. Scientists became acutely aware that, in order to understand the functioning of genes it is not enough to know their sequence on the DNA; we need to be able to also map their mutual relationships and interactions.

Now, when you map relationships, you will find certain configurations that occur repeatedly. This is what we call a pattern. Networks, cycles, feedback loops, are examples of patterns of organization that are characteristic of life. Systems thinking involves a shift of perspective from contents to patterns.

I also want to emphasize that mapping relationships and studying patterns is not a quantitative but a qualitative approach. Systems thinking implies a shift from quantity to quality. A pattern is not a list of numbers but a visual image.

The study of relationships concerns not only the relationships among the system's components, but also those between the system as a whole and surrounding



1338 NW 23rd Av. at Pettygrove (503) 224-4929 • www.newrenbooks.com Mon-Thurs & Sat 10-9 • Fri 10-9:30 • Sun 10-6 larger systems. Those relationships between the system and its environment are what we mean by context.

For example, the shape of a plant, or the colors of a bird, depend on their environment – on the vegetation, climate, etc. – and also on the evolutionary history of the species, on the historical context. Systems thinking is always contextual thinking. It implies a shift from objective knowledge to contextual knowledge.

Finally, we need to understand that living form is more than a shape, more than a static configuration of components in a whole. There is a continual flow of matter through a living system, while its form is maintained; there is development, and there is evolution. The understanding of living structure is inextricably linked to the understanding of metabolic and developmental processes. So, systems thinking includes a shift of emphasis from structure to process.

All these shifts of emphasis are really just different ways of saying the same thing. Systems thinking means a shift of perception from material objects and structures to the nonmaterial processes and patterns of organization that represent the very essence of life.

Current world problems

Once we become ecologically literate, once we understand the processes and patterns of relationships that enable ecosystems to sustain life, we will also understand the many ways in which our human civilization, especially since the Industrial Revolution, has ignored these ecological patterns and processes and has interfered with them. And we will realize that these interferences are the fundamental causes of many of our current world problems.

It is now becoming more and more evident that the major problems of our time cannot be understood in isolation. They are systemic problems, which means that they are all interconnected and interdependent. One of the most detailed and masterful documentations of the fundamental interconnected-ness of world problems is the new book by Lester Brown, Plan B (Norton, 2008). Brown, founder of the Worldwatch Institute, demonstrates in this book with impeccable clarity how the vicious circle of demographic pressure and poverty leads to the depletion of resources – falling water tables, wells going dry, shrinking forests, collapsing fisheries, eroding soils, grasslands turning into desert, and so on – and how this resource depletion, exacerbated by climate change, produces failing states whose governments can no longer provide security for their citizens, some of whom in sheer desperation turn to terrorism.

When you read this book, you will understand how virtually all our environmental problems are threats to our food security – falling water tables; increasing conversion of cropland to non-farm uses; more extreme climate events, such as heat waves, droughts, and floods; and, most recently, increasing diversion of grains to biofuel.

A critical factor in all this is the fact that world oil production is reaching its peak. This means that, from now on, oil production will begin to decrease worldwide, extraction of the remaining oil will be more and more costly,





and hence the price of oil will continue to rise. Most affected will be the oil-intensive segments of the global economy, in particular the automobile, food, and airline industries.

The search for alternative energy sources has recently led to increased production of ethanol and other biofuels, especially in the United States, Brazil, and China. And since the fuelvalue of grain is higher on the markets than its food-value, more and more grain is diverted from food to producing fuels. At the same time, the price of grain is moving up toward the oilequivalent value. This is one of the main reasons for the recent sharp rise of food prices. Another reason, of course, is that a petrochemical, mechanized, and centralized system of agriculture is highly dependent on oil and will produce more expensive food as the price of oil increases. Indeed, industrial farming uses 10 times more energy than sustainable, organic farming.

The fact that the price of grain is now keyed to the price of oil is only possible because our global economic system has no ethical dimension. In such a system, the question, "Shall we use grain to fuel cars or to feed people?" has a clear answer. The market says, "Let's fuel the cars."

This is even more perverse in view of the fact that 20 percent of our grain harvest will supply less than 4 percent of automotive fuel. Indeed, the entire ethanol production in this country could easily be replaced by raising average fuel efficiency by 20 percent (i.e. from 21 mpg to 25 mpg), which is nothing, given the technologies available today.

The recent sharp increase in grain prices has wreaked havoc in the world's grain markets, and world hunger is now on the rise again after a long steady decline. In addition, increased fuel consumption accelerates global warming, which results in crop losses in heat waves that make crops wither, and from the loss of glaciers that feed rivers essential to irrigation. When we think systemically and understand how all these processes are interrelated, we realize that the vehicles we drive, and other consumer choices we make, have a major impact on the food supply to large populations in Asia and Africa.

All these problems, ultimately, must be seen as just different facets of one single crisis, which is largely a crisis of perception. It derives from the fact that most people in our society, and especially our political and corporate leaders, subscribe to the concepts of an outdated worldview, a perception of reality inadequate for dealing with our overpopulated, globally interconnected world.

The main message of Lester Brown's Plan B, is that there are solutions to the major problems of our time; some of them even simple. But they require a radical



shift in our perceptions, our thinking, our values. And, indeed, we are now at the beginning of such a fundamental change of worldview, a change of paradigms as radical as the Copernican Revolution. Systems thinking and ecological literacy are two key elements of the new paradigm, and very helpful for understanding the interconnections between food, health, and the environment, but also for understanding the profound transformation that is needed globally for humanity to survive.

Fritjof Capra is the bestselling author of The Tao of Physics, The Web of Life, and other books. A physicist best known for his work in systems thinking, Capra is also cofounder and chair of the board of the Center for Ecoliteracy.

This essay is adapted from a speech Fritjof Capra delivered at a professional development institute, "Linking Food, Health, and the Environment," hosted by the Center for Ecoliteracy and Teachers College Columbia University in the summer of 2008. It was originally published by the Center for Ecoliteracy, a non-profit foundation dedicated to schooling for sustainability. The Center for Ecoltieracy is online at www.ecoliteracy.org. Reprinted with permission.

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Ask A master Recycler

By Dana Jeffries

Send your recycling questions to crads@greenlivingjournal.com

I read an article about egg cartons: we cannot put them in to our recycling bin because they become mush in the recycling process and cannot be used again in a new product. I wasn't sure about it because the publication of the cooperative recycling program of Washington County and others clearly shows we can include them in our recycling bin. I wanted to find it out more regarding on this, so I contacted to Metro Transfer Station. Again, they clearly said the cardboard paper egg cartons can be recycled. My question is "where did you get such information and why did you make us so confused?" Or we should not believe Metro.

Tammy

Hi Tammy!

You can recycle your cardboard egg cartons either way-by throwing it in your curbside rollcart or by tearing it up and adding it to your compost pile. Either way is acceptable. While cardboard egg cartons are allowed in recycling rollcarts and bins all around the Portland metro area, that doesn't mean they will return as new product. They are made of the lowest grade paper available which has reached the end of its useful lifespan. Yes, they do turn to mush in the recycling process and that mush is not used to make new paper products. The good news is that the cardboard egg cartons break down rapidly in your compost pile and even, dare I say, the landfill.

Why do some recycling programs discriminate between plastic bottles that have a neck smaller than it's base, and plastics with the same recycle number that don't have a neck? Like cottage cheese or yogurt containers?



The answer has a lot to do with what the current market for recycled plastic is and that can be really confusing to keep up with. It is always changing. The market for a certain kind of plastic may be strong for a time, and then become weak.

Used to be the numbering system on plastic containers ruled. We were all told to pay close attention to the numbers inside the chasing arrow symbol on plastic containers when we sorted them for recycling.

These days, the number - or the resin - is not so important as the manufacturing process the container went through. Some plastics are blow-molded (think 'glass blowing') and some are injection-molded. The way the material was processed changes the structure of the type of plastic resin, hence the number on the container doesn't matter at that point. Currently, in the Portland metro area, the number on the plastic container doesn't matter when we toss them into our rollcart bins because later the plastics will be sorted out according to the way the plastics recyclers need them in the current plastics market. The *kind* of plastic container does matter however - no clamshell containers or plastic bags are allowed in curbside collection programs.

For the very latest information on where to take plastics that can not be recycled curbside always check in with the Metro Recyclng Information Hotline at 503-234-3000 Monday through Saturday.

Master Recycler- Dana Jeffries Master Recycler Graduating Class #1 K103 On Air Personality and mother of 2 girls. You can try to keep up with Dana on her web page: www.k103.com/pages/talent_dana.html

Lifestyles

Greener Apparel From the Bottom Up

Adapted from information available at www.repairmyfootwear.com by Linda Pinkham, publisher of Green Living in Southern Oregon.

Years ago, I slipped and fell in the Sierras on a backpacking trip because my beloved and comfortable hiking boots had traveled so many hundreds of miles on my feet that they had nearly slick soles. I condemned those boots to the landfill - oops! Turns out that I'm not Goody Two Shoes after all,



since it takes more than 50 years for leather shoes to break down in a landfill. Apparently, they will still be there for some time after I'm gone.

Older and wiser now, I bought a quality pair of hiking boots to replace them. But with wisdom and age, also comes wider feet. Every time I take a long hiking trip in my higherend boots, I get blisters. This time, I took my boots into one of the local shoe repair where the owner looked them over with the critical eye of a shoe surgeon, looked at my feet and my very large bunions, felt around inside the boot, and said "We can fix this very easily." Cost: \$12. You should see me out hiking happily and blister-free in the near future.

An incredible number of shoes end up in landfills each year because people don't even consider other options. You can green up your shoe habits by following some of the advice from the Shoe Service Institute of America. The following information is adapted from their Web site, available via www.repairmyfootwear.com.

Buy Quality Footwear

SUPPOR'

FRT

Purchasing footwear isn't just a fashion decision. It is a decision that affects your comfort and health both in the short term and over a period of years. Quality, repairable footwear gives your feet the support they need to bear up to their daily burden. It is a renewable resource that eases the burden on your bank account. It even eases the burden on the environment by staying in service for years instead of clogging landfills.

There are three keys to choosing quality footwear. First, look for a shoe with solid construction that will give your feet the support they need. Next, look for quality materials that will make your feet comfortable and keep them healthy. Finally, make sure you buy shoes that fit properly.

Footwear isn't just part of your wardrobe, it is an investment. Spend your money wisely and the return will be more value for your dollar, more comfort, better foot health and even a sense that you are helping the environment.

As with all investing, it is wise to have a counselor to make sure your money is well spent and continues to pay



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dividends. In the footwear arena, that counselor is your local shoe care professional.

Shoe Repair & Care

Shoe repair and shoe care make sense for several reasons.

First, shoe repair adds value to your footwear investment. Quality, well-maintained men's shoes can be resoled seven to ten times at a fraction of the cost of new shoes. With new soles and heels, and reconditioned uppers, the shoes will look like new, yet retain that broken-in, comfortable feel. It is not uncommon for a man to get thirty years out of a good pair of shoes. Resoling hiking boots can cost between \$50-\$80, dress shoes \$48-\$65, cowboy boots \$50-\$65. Quality women's shoes can be resoled three to five times.

Shoe repair can also alleviate a variety of physical problems. Worn heels will change your gait. When you are not walking properly, your feet, ankles, knees, hips and back can all suffer. Improper fit causes calluses, corns and bunions. Shoe repair shops offer stretching services and fitting aids to alleviate those problems. Typically, they can stretch a shoe from a D to an EE in width. They can also add more space for toes or raise an instep. They can even stretch the calves on boots. If your shoes are too loose, you can pick up heel grips, tongue pads and insoles to create a better fit.

Other shoe repairs include adapting shoes to fit unique feet, professional waterproofing, changing heel tips to non-skid rubber, applying heel savers to prolong the life of the heel, adding protective soles to increase the longevity of leather soles, replacing eyelets and other hardware. Most shoe repair shops can even restore your Birkenstocks to like new, and for less money than the factory rebuild.

Another reason to have a shoe repair and shoe care routine is your appearance. Do you want to get ahead in the workplace? A nationwide survey showed that 89 percent of business recruiters rate good grooming as very important to becoming a senior execu-

More Than Shoes

By Linda Pinkham

You can also visit the shoe repair shop with new shoes. Here are a few ways shoe repairers add value to new footwear.

Protective soles can be applied to extend sole life and increase slip resistance.

- Shoes can be dyed if a color change is necessary.
- Shoes that are too tight can be stretched up to a guarter size.
- Plastic heels can be replaced with slip-resistant rubber.
- Shoes can be weatherproofed for added protection in wet or oily environments.

Your shoe repairers' expertise isn't limited to your feet. They can also:

- Replace Zippers
- Shorten belts
- Repair luggage
- Re-lace baseball gloves
- Stitch handbags
- Repair jacket tears
- Refinish leather coats
- Replace buckles



tive. The most common mistake for men, and the second most common for women, is unkempt shoes.

On a personal level, two out of three young female professionals say unkempt shoes suggest negative characteristics about men in social situations. Half of the men felt the same about women with sloppy footwear. The most frequent negative character traits suggested were sloppiness, indifference to good grooming and to detail in general, and carelessness. Shoes are a reflection of their owner's personality.

Finally, shoe repair is among the oldest forms of recycling. Each year, the shoe repair industry keeps some 62 million pairs of shoes out of landfills and on consumers' feet. So next time you invest in footwear, get some advice from a shoe repair professional. Shoe repair adds value to your footwear investment. Your neighborhood shoe repair professional can save you money, make your shoes more comfortable and keep you looking good.

Editor's note: There are over 50 shoe repair shops in the Portland – Vancouver metro area. A Google search will give a you an extensive list so you can find one near you. -GM

More Green Footwear Options

by Linda Pinkham

Besides increasing your shoe wardrobe's longevity, here are some more tips for greening up your shoe lifestyle, gleaned from the website www.greenyour.com:

Choose shoes made from natural materials instead of synthetics, which have lots of embodied energy and are often created with toxic processes.

Choose shoes made from recycled materials like recycled

plastic bottles or tires, although these materials, called "gypsy plastic" usually aren't repairable because adhesives won't stick to them.

Donate old shoes. If you must get rid of your shoes, see if you can donate them to a worthy thrift store where someone else who needs them can extend their usable lifespan.

Choose carefully and buy high quality shoes that will have a long lifetime and are repairable.

Athletic Shoe Trends

If the thought of my old hiking boots haunting the dump for the next 50 years is disturbing, consider that if I throw away my old gym shoes, they'll linger in the landfill for a 1,000 years! According to Dan Shulters of Dan's Shoe Repair, repairs to athletic shoes aren't usually cost effective because the uppers wear out about the same time as the soles. The good news is that a couple of athletic shoe companies are tackling the problem.

Brooks, a manufacturer of athletic shoes, has developed and is using a material they call BioMoGo, which can biodegrade in roughly 20 years when placed in the landfill. In a very green gesture, they have made the formula



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available for other shoe manufacturers instead of patenting the process. By using BioMoGo in its shoes, Brooks predicts it will save nearly 30 million pounds of landfill waste over a 20-year period.

Don't worry, the shoes are made with a special nontoxic additive and don't biodegrade under normal use. They require specific landfill conditions of low oxygen, adequate moisture, and high microbial load to start the biodegradation. Nonetheless, you should consider keeping your closet clean, just in case...

Nike, an Oregon shoe manufacturer, takes a different approach to the problem. They accept donations of up to 10 pairs of used sneakers at a number of locations across the United States and unlimited numbers of shoes sent directly to their recycling facility. The shoe soles are ground up to use in kid's playgrounds, sport parks, and other facilities.

Since the birth of Reuse-A-Shoe in 1990, they've recycled more than 21 million pairs of athletic shoes toward more than 265 sport surfaces, giving thousands of young people access to new playgrounds and athletic facilities around the world. The following list shows approximately how many pairs of recycled athletic shoes generally go into making each surface:

- Outdoor basketball court: 2,500 pairs
- Outdoor tennis court: 2,500 pairs
- Full field or soccer pitch: 50,000 75,000 pairs
- Mini soccer field: 10,000-20,000 pairs
- Running track: 75,000 pairs
- Playground: 2,500 pairs
- Indoor basketball court: 2,500 pairs
- Indoor synthetic basketball court: 2,500 pairs

To keep their recycling equipment running smoothly, they have a few guidelines for recycling:

- Athletic shoes only (any brand)
- No shoes containing metal
- No cleats or dress shoes
- No wet or damp shoes

You can send any number of shoes to them at: Nike Recycling Center c/o Reuse-A-Shoe 26755 SW 95th Ave. Wilsonville, OR 97070 (Nike will not accept shoes delivered with postage due.) For more information about Reuse-A-Shoe, see: http://letmeplay.com/reuseashoe/

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10 Easy Ways to Be More Sustainable with Your Home Organizing

by Robin Shreeves

The dark days of winter combined with the coming of the tax man put me in the mood to organize my stuff. Robin has come up with some practical and logical ways to purge and organize and has generously given us permission to share them here. –GM.

I'd love to hire a professional organizer, have that person come in and put in cabinets and shelves and cute little color coordinating baskets and window treatments. But that wouldn't be sustainable or affordable. I'm going to have to get organized in a sustainable way. Here are ten easy ways I could do it.

- The first step in organizing is always to get rid of things you don't need. Don't throw away anything usable. Donate or freecycle it.
- 2. Tackle the paper monster. If your home is anything like mine there are piles of paper everywhere, not just in the office. Gather it all up and put in several piles - recycle, shred (then recycle), file, reuse (if there is still a clean side to the paper and you don't need what is on the front) and perhaps another pile or two that you deem necessary. Then tackle the piles until all paper is where it should be.
- 3. Anything that is behind closet doors doesn't

need to look pretty, it just needs to be organized. There's no need to buy matching boxes or baskets. Shoe boxes and other make shift organizing supplies are fine.

- 4. Pens and pencils can go in mugs. You don't need a fancy desk top pencil holder.
- 5. Use well washed glass jars and plastic jars to hold items.
- 6. Buy used. If you need shelves or containers, hit the thrift store or yard sales.
- 7. Repurpose things you already have. Do you have any unused furniture sitting in an attic or basement. Could an old chest of drawers be used to organize kids papers and craft supplies? Sometimes a fresh coat of paint and some new drawer pulls can do wonders.
- 8. Use old dresser drawers underneath beds to store items. If you are worried about dust, place a beach towel over the drawer that can be easily washed. There isn't a week that goes by that I don't see someone put an old dresser out at the curb.
- 9. Ask your friends, neighbors and family members for things that they aren't using. Let them know you're trying to get organized and e-mail them a list of things you'd like to have. You might be surprised at what people have stored away that they are happy to part with.
- 10. Once you're organized, stay organized. If you know what you have and where it is, you'll eliminate making the mistake of buying duplicate items.

Robin Shreeves is a freelance writer. Her environmental pieces can be found on the internet at Mother Nature Network, Sustainablog, and A Little Greener Every Day. She can be reached at robin@shreeves.net





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Robin Wheeler US/Can \$16.95

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Book Review

Cradle to Cradle/ Remaking the Way We Make Things

by William McDonough & Michael Braungart

William McDonough's book, written with his colleague, the German chemist Michael Braungart, is a manifesto calling for the transformation of human industry through ecologically intelligent design. Through historical sketches on the roots of the industrial revolution; commentary on science, nature and society; descriptions of key design principles; and compelling examples of innovative products and business strategies already reshaping the marketplace, McDonough and Braungart make the case that an industrial system that "takes, makes and wastes" can become a creator of goods and services that generate ecological, social and economic value.



In Cradle to Cradle, McDonough and

Braungart argue that the conflict between industry and the environment is not an indictment of commerce but an outgrowth of purely opportunistic design. The design of products and manufacturing systems growing out of the Industrial Revolution reflected the spirit of the day-and yielded a host of unintended yet tragic consequences.

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Today, with our growing knowledge of the living earth, design can reflect a new spirit. In fact, the authors write, when designers employ the intelligence of natural systems—the effectiveness of nutrient cycling, the abundance of the sun's energy—they can create products, industrial systems, buildings, even regional plans that allow nature and commerce to fruitfully co-exist.

Cradle to Cradle maps the lineaments of McDonough and Braungart's new design paradigm, offering practical steps on how to innovate within today's economic environment. Part social history, part green business primer, part design manual, the book makes plain that the re-invention of human industry is not only within our grasp, it is our best hope for a future of sustaining prosperity.

In addition to describing the hopeful, nature-inspired design principles that are making industry both prosperous and sustainable, the book itself is a physical symbol of the changes to come. It is printed on a synthetic 'paper,' made from plastic resins and inorganic fillers, designed to look and feel like top quality paper while also being waterproof and rugged. And the book can be easily recycled in localities with systems to collect polypropylene, like that in yogurt containers. This 'treeless' book points the way toward the day when synthetic books, like many other products, can be used, recycled, and used again without losing any material quality—in cradle to cradle cycles.

The Geothermal Difference

If you would like your heating and cooling system to: Tap the earth's energy to heat & cool your home Also provide hot water for your home Provide HUGE SAVINGS on your monthly utility bill Operate efficiently for up to 40 years Be safe, quiet and clean for the environment Install in a retro-fit or new construction Increase the value of your home

> Then call us today for more information on Geothermal Heating & Cooling





How important is clean air to you?



Indoor air quality can be 2-10 times more hazardous than outdoor air. In fact, 50% of all illness is aggravated or caused by poor indoor air quality.* Air duct cleaning helps improve the air quality in your home or office by removing dust, pollen, pet dander and other contaminants. 'Sources: EPA and American College of Allergies

Ensure your family is breathing healthy, clean air with Alpha Ecological's exclusive Proven Air Duct Cleaning method & Electrostatic Filter installation.

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