aiaVT

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the secret glamour of garbage

daniel hecht

In the world of environmentalism, some ideas seem to have panache, and some don't. If renewable energy is the rock star of environmental technologies, for example, solid waste management seems . . . well, distinctly unglamorous.

At least that's what I thought until I heard a real firecracker of a talk by Donna Barlow Casey, director of Central Vermont Solid Waste Management District (CVSWMD). Her presentation focused on Zero Waste, an innovative program that CVSWMD has aggressively embraced.

Donna is petite, energetic, with short blonde hair and an air of fierce conviction. An art major in college, she seems an unlikely waste management expert. But her professional trajectory is easily explained: "I was raised with a strong reverence for the Earth, and I've always felt very connected to the natural environment." Her job applies her values in constructive action.

cont.

Architectural Record/ *in the Cause of Architecture*
AUGUST 1929

Architecture, the Expression of the Materials and Methods of Our Times

Le Corbusier

http://archrecord.construction.com/inTheCause/onTheState/LeCorb.asp

LET US not confuse outward show, however impressive, with an essential truth which is still indistinct in the whirlpool of an epoch in the full tide of evolution.
By "impressive outward show," it is implied that the architecture of today appears to be dictated in the eloquence of its form by modern materials and methods. "Essential truth" suggests an architecture that results from the state of mind of an epoch and that an architecture exists, takes form and is expressed only at that very moment when a general evolution of mind is accomplished. It is at that moment alone

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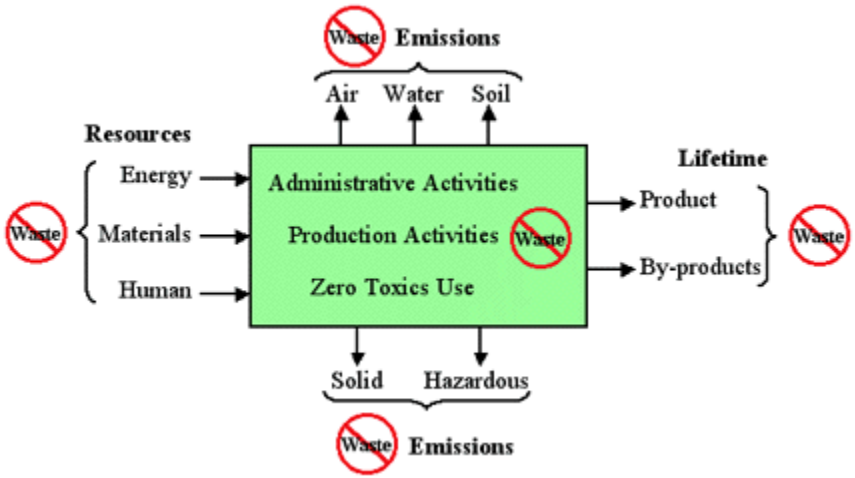

For Donna, "waste" is not a noun; it's a verb – an action, what we do when we squander things. Waste is pandemic in the industrialized world. According to Amory Lovins, our consumer society squanders 99% of the value of any natural resource as we extract it, make it into useful things, transport it, use it, and discard it.

And the consequences are dire. To get a gallon of oil, a tree, or a fish to our furnaces, desks, or tables, mountains of trash are created. Trucking it to landfills or dumping it in the ocean burns energy and wreaks havoc on ecosystems. Wasted organic materials generate methane gas that causes global warming. Landfill disposal mixes organic materials with paper, plastic, and who knows what, precluding other, better uses of these materials. Landfills eventually reach capacity, and new ones have to be constructed – in someone's proverbial backyard.

Fortunately, the art of recovering wasted resources has been making great progress, a quiet revolution led less by new technologies than by new cultural paradigms and new models of economic value.

Donna Casey didn't invent the Zero Waste program – it's a growing, world-wide initiative — but CVSWMD is the first of Vermont's waste districts to embrace it.

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when mind has recognized and admitted a system of thought which, above all, represents in every field a profound modification of previous states. There is no architecture during periods of crisis; architecture comes after periods of crisis.

The crisis then has passed? From the consideration of the world about us the opposite seems certain. Perhaps not; a few spirits (not all–far from that, but only those of leaders—and that is enough) have passed through the crisis, and have formulated a new attitude of mind which follows completed

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Its basic ideas are familiar: Waste not, want not; a penny saved is a penny earned. But the broad application of these can be quite difficult; Zero Waste initiatives take a decade or more to take full effect.

At the community level, one of the main Zero Waste precepts is that end-users of goods – that's us — need to take responsibility for the fate of our discards.
Non-use, re-use, and recycling are the first steps of the program. Next is to make optimum use of organic materials, notably food garbage, which constitutes about 20% of the waste stream.

It's stinky stuff, but it has terrific potential. CVSWMD has been working for several years to develop clean food waste sources at schools, offices, and hospitals, which can sort large volumes of it at their facilities. This "source-separated," clean food waste – no plastics, disposable diapers, or batteries, please! -- produces value again and again.

Right now, it's taken to compost farmers such as Vermont Compost, creating benefits all along the line. Waste generators save money on reduced hauling fees; waste isn't trucked long

cont.

changes. Only objects–material reality–are in a state of complete disturbance. And why are they? Because precisely at this moment, there breathes a new spirit and the entire world–both man and materials–must inevitably follow the implacable destiny of a new tendency.

Is there then indeed an origin to this profound upheaval? Most certainly. It has existed for a hundred years. During the century our brains have escaped from ancient customs. Our life has gone from day to day, changed bit by bit. And thus we

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distances to landfills, saving energy. Diverting this waste from landfills reduces the number of new landfills needed, creates an entirely value-added industry that builds the local economy, and nourishes Vermont's soil.

But food waste can do another neat trick: produce energy. Aha — solid waste becomes a rock star after all!

Think of it this way: Every city and town in America already possesses a major renewable energy source. It doesn't need to be dug up or brought from overseas, doesn't require toxic chemicals or create greenhouse gases.
It's food waste, of course. It's already here because we already brought the raw material, food, here to eat.

Biodigestion of food scraps produces much more energy than manure does – after all, its nutrient value hasn't been extracted by passing through a cow. A food scrap-fueled biodigester energy plant can create jobs, supply locally-generated renewable energy, and still provide fine compost as a by-product. By capturing all the methane, biodigested food waste produces far less climate impact than landfill-squandered food. And biodigester energy facilities can be sited almost anywhere, not on prime forest or pasture land — or cherished ridgelines.

cont.

scarcely appreciate it. We were unable to know where all this was leading, we could feel only that it was leading, powerfully, violently, and ever and ever more rapidly.

Meanwhile, shallow spirits of limited vision cried out: "The world is being wrecked, all is lost." And in desperation, like shipwrecked sailors grasping at floating debris, we clung to the past. Never before had so much archaeology been done as during those heroic times when science was pushing us, each day more insistently, along the adventurous paths that lead towards the unknown.

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For more information about Zero Waste and the secret charisma of solid waste, visit the website of Zero Waste Alliance (ZWA), the main organization promoting the program in the U.S. Their site at www.zerowaste.org offers a fine overview of Zero Waste theory and practice, and suggests many resources for communities wishing to start the program. It also cites persuasive case studies illustrating the economic benefits of Zero Waste programs for businesses.

Many other fine Vermont organizations are redefining "waste" and creating value out of once-squandered resources, such the Chittenden Waste Management District, Vermont Business Materials Exchange, and more. We'll look at some of their glamorous innovations in a future column.

Daniel Hecht is a novelist and executive director of Vermont Environmental Consortium.

Is not architecture determined by new materials and new methods? (It is high time I were defining what architecture is.) Indeed to all in America belong the new materials, with you modern methods are in use. But for a hundred years your architecture has not evolved. Alone your programs have changed. And you construct your skyscrapers in the manner of students of the Ecole des Beaux-Arts building a private house. I repeat: a hundred years of new materials and new methods have made no change whatsoever in your architectural viewpoint.

cont.

The Woodburner's Companion: Practical Ways of Heating with Wood

chris nielson, associate aia

Wood has served as a source of heat for centuries. In the modern world, it may seem pointless to use such an ancient form of heat, especially when numerous alternative methods exist. It may seem less sensible to heat with wood after considering the inconveniences associated with wood burning. Many households are heated with fossil fuels. Homeowners connect boilers to automatic thermostats, and merely worry about paying the fuel bill. However, we should instead consider the real price paid for such "convenient" heat. Have we taken into account the rising price of oil? Have we established the real price of international policies associated with our country's demand for cheaper fossil fuel? After thorough reflection on the implications of heating a home with a reliable source other than wood1 , this ancient source emerges as a rewarding alternative to the "standard" method.

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It is time, though, to define architecture. Architecture is not building. Architecture is that cast of synthetical thought in response to which the multiple elements of architecture are led synchronically to express a purpose. And as this synthetical purpose is absolutely disinterested, having for object neither to make durable, nor to build rapidly, nor to keep warm, nor to promote sanitation, nor to standardize the domestic usefulness of the house, I would say, since it is above any utilitarian objective, it is an elevated purpose. Its object is to bring us

cont.

aiaVT welcomes

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aia**VT** is edited by Andrea Murray, AIA. Published views are the author's and not necessarily the views of AIA Vermont or any other organization.

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AIA Vermont reserves the right to edit articles for available space and determine appropriate content prior to inclusion. Submissions must be received by the 15th of the month prior to publication.

In his book, The Woodburner's Companion: Practical Ways of Heating with Wood, Dirk Thomas offers a comprehensive manual to heating your home with an age-old fuel. Thomas, a Vermont chimney sweep himself, explains the basics of wood burning that any reader can understand and appreciate. In illustrating the advantages and disadvantages associated with wood fires, he considers all aspects that may impact a homeowner's heating decision, including details such as the aesthetics of an open flame and the reward of harvesting your own fuel. He writes that ". . . wood is an inconvenient heat source, but for people who learn to accommodate the inconvenience, it's a heat source that offers far more than warmth" (Thomas xi).

Thomas organizes his work into categories that allow the reader to gain a general knowledge of the multiple stoves, boilers and fireplaces available for burning wood. Care has been taken to clearly explain the pros and cons of each system and the dangers frequently associated with each. Thomas also focuses on the many flues and chimneys that each home may have and similarly explains their maintenance requirements in a fashion that anyone can understand. He organizes sections specifically on wood, the heat value of different types, and the processes associated with harvesting or obtaining the wood, and how to effectively burn it in your home. Thomas' book leaves no aspect of wood burning untouched.

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benefits of a different nature from those of material usefulness; its aim is to transport us to an inspired state and thus to bring us enjoyment.

Saying this I find myself in accord with the humblest accomplishment of the simplest conscientious laborer, and on the other hand I put myself in agreement with all the great traditions of the past.

* * * *

Nevertheless, there exists in these days, an absorption in

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Having spent my first Vermont winter in heating an older farmhouse, I found The Woodburner's Companion incredibly interesting and informative. Growing up, I always lived in houses heated with oil-burning boilers. My family would light fires in a fireplace on special nights. We enjoyed wood harvested in the local woods as an aesthetic commodity; we treated wood burning the way one might treat a flower arrangement. After gaining insight on the political and economic implications of our oil-driven nation and absorbing some of the basics of wood heating, I realize that wood can be used as much more than a flame to cozy up to on a winter night. As wood burning technologies advance, I hope to learn more about how to efficiently heat a home with a fuel that can be harvested in my back yard.

1 As of this writing, methods other than fossil-fueled heat have yet to be as reliable or labor-free.

definitely practical ideas which is precisely expressed by the subject which was suggested to me, "Architecture, the expression of the materials and methods of our times."

I will even say that it is the clue to the present situation. And here is the reason:
A system of thought is imbued with life only when there exists a balance between the results of evolution and the spiritual direction of its progress.

cont.

designing a house for wood heat- a sustainable alternative to oil and gas: revised/updated book offers advice

linda chestney

The Woodburner's Companion, by Dirk Thomas, is an updated 3rd edition, and a comprehensive guide that provides an easy-to-understand explanation of the many ways you can burn wood for heat. Thomas discusses the fuel value of various woods, how to buy firewood and get the most heat from it, the environmental impact of wood burning and a variety of chimney and flue arrangements. Tremendous emphasis is placed on wood-burning safety. Detailed descriptions of wood burning installations are included which are based on the latest codes and recommendations.

What, then, is the direction of its progress today?

A hundred years of a mechanical era have brought forth an entirely new spectacle. Geometry is supreme. Precision is everywhere. The right angle prevails. There no longer exists any object that does not tend to severity.

Industrialism has stated the postulate of economy: to attain the maximum of result at the minimum of expense.

Science, mathematics, analysis and hypothesis, have all created an authentic machinery of thought. An imperative need of clarity, the search for the solution. It is for that which the mathematicians term the "elegant solution."

Has not this all pervading precision, exactness and accuracy definitely annihilated the imperceptible, distance and mystery?

cont.

Designing a House for Wood Heat

Dirk Thomas, author and a seasoned New Englander who has endured many a cold winter, says a critical guideline for designing to accommodate wood stoves is to create a fairly open floor plan, since interior walls are impediments to air circulation of the heat. Having stoves in several rooms helps, too. But bear in mind that most stoves are designed to heat areas larger than typical rooms and may run poorly—as well as produce creosote build-up—when asked to do too little.

Ideally, Thomas says, a house would have one room per floor. If a stove is located in a central area, free of floor-to-ceiling partitions, rooms adjacent to that space will stay warm.

A floor plan should grow up, not out. Heat rises, so it's easier to heat a two-story house than the same square footage on one floor. Additional advice includes creating a central staircase and adding a few floor registers. Design the space with a central chimney and it will stay cleaner, last longer, and return more heat to the house than a chimney on an exterior wall. Also consider the size of the house. Think smaller, folks. McMansions do not fare well with heat distribution from wood stoves.

cont.

Miraculously, quite the contrary is the case. This century has officially opened to us gates yawning on the infinite, on majesty, silence and mystery. More than ever before, man's soul is pathetically brought face to face with itself. Never was there an epoch so powerfully, so unanimously inspired. Poetry is everywhere, constant, immanent.

* * * *

Here, then, is set forth that point of view which constitutes the present era, a veritable magnetic pole towards which swings the compass of our initiatives, of all our initiatives.

cont.

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half of all new homes will be "green" by 2010

According to a survey conducted by McGraw-Hill Construction last year and highlighted at the recent NAHB National Green Building Conference. Findings indicated that between 40 and 50% of homes built in that year will contain at least three of five green building elements, compared to just 2% of the residential construction market last year. The survey also revealed that 63% of green home buyers last year said their purchases were motivated by the lower operating and maintenance costs that come with energy- and resource-efficient homes, and that 85% registered greater satisfaction with their new green homes than with their previous, traditionally built ones.

Speaking at the National Green Building Conference, NAHB Vice President/Secretary Bob Jones explained that the national movement toward environmentally sensitive construction will be hastened by the arrival of the first-ever green building standard that is now being developed by NAHB and the International Code Council. This standard will be based on NAHB's Model Green Home Building Guidelines, which are a proven, rigorous, yet very flexible means of allowing builders to create green building programs and build great homes across the country. See a list of the building professionals that have been selected to sit on the ANSI National Green Building Standard Committee on the NAHB Research Center's Web site. The first meeting of this group is scheduled for April 19-20 at the National Housing Center.

Thomas offers more good tips for designing houses for wood heat—like considering accessibility to the chimney for cleaning, flues needing a clean-out with a tightly sealed access door, designing for a minimal amount of stove pipe, and specifying a removable chimney cap to allow for sweeping and inspection.

Thomas also convincingly argues that wood heat is environmentally defensible.

The Woodburner's Companion/*Dirk Thomas*
Alan C. Hood & Co., Inc. • Paperback, 6" X 9"
• 176 pages • illustrated, bibliography • index
• ISBN: 0-911469-28-1 • $16.50
www.hoodbooks.com

Let us come to the point. What, in view of the purity and supreme clarity of this new state of thought, are our present architectural forms? Do we concern ourselves with this gleaming liberty of disinterestedness, of courage and poetry? Alas, how timid we are, how firmly we are chained, like slaves. The past has ensnared us, whereas its law is to cry to us, "carry on–why don't you progress and move forward?" We are cowardly and timorous, lazy and without imagination.

Cowardly, timorous, lazy and without imagination, because, now and invariably, we want our new houses to resemble the old. What a poverty of creative ability!
Meanwhile the means are at hand; science, mathematics, industry, organization.

We still permit our houses to lie close to a damp and unhealthy ground. We are still discussing whether or not our houses are to have roofs, while roof gardens bring health, joy, and an

cont.

upheaval of plan replete with magnificent liberties. We are still building our houses of stone, with massive walls, while light and slender cars are speeding at sixty miles an hour through snows or under the tropical sun. We are still employing masons and carpenters on the job, to work in rain or snow, or fair weather, while factories could turn out to perfection that which we accept poorly executed. And so forth and so on.

Here, now, are my conclusions. In what way are we to allow so many innovations? How are we to select these forms still unknown in the building of houses? How are we to arrange them in such a manner as will bring us anew before an architectural phenomenon as will make us feel once more the vigorous delights of architecture?

A state of new enthusiasm exists; a system of thought has been wrought by a hundred years of investigation and acquired results. We have a line of conduct. Instinctively our choice tends towards such constructive systems, towards such materials as possess forces capable of feeding our enthusiasm. In us moderns the new feelings, an instinct, control actions which are in harmony with each other.

The harmony of former centuries is in confusion. The effect continues but the cause has been swept aside by the mechanical revolution. The mechanical revolution is a new cause–immense phenomenon in the history of mankind. Where are the new effects?

Let us be led by this enthusiasm which animates us. Industrialization, standardization, mass production, all are magnificent implements; let us use these implements.
I wish to give you the basis of my reasoning: I am certain that that which at this moment appears most revolutionary in contemporary architectural creations, be it in France, Germany, Russia, or elsewhere,–all that is still nothing more than the old aspect caught in the quicksands of the past. It is my opinion that as yet we have seen nothing new, done nothing new. That which will come in architecture will survive only when an urbanism, brought face to face with the present social upheaval, will have created cities of which we have as yet not even an idea, of which we have not yet even considered the possibility.

Such is the progress on the one hand (and it is gigantic by comparison with the means at the disposal of the builders of the Romanesque period, or that of Louis XIV) and on the other hand the architects of the contemporary epoch daring at last to state a problem, and to announce the answer, and thus to give to the world an architectural system which is the resultant of the spirit of an era.

The line of action exists–the modern system of thinking.

The Americans, however, are the people who, having done most for progress, remain for the most part timidly chained to dead traditions.

On the other hand, their willingness to progress further strikes me as boundless. And that is a force which, soon, will swing the balance.