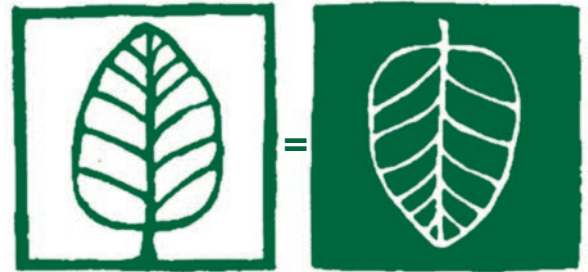




The Scottish Ecological Design Association Magazine

S u m m e r 2 0 1 1

The 20th Anniversary Issue



SEDA

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What is Ecological Design? (Can we really have our cake and eat it?)

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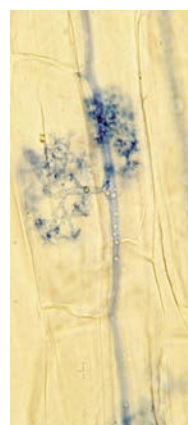
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View from the Chair

by Robin Baker



I am delighted to see this bumper edition of the SEDA magazine covering such a wide range of designers, activities and interests within the scope of ecological design.

It is good to look beyond the cur-

rent fixations on the economy, energy & carbon targets to the global context - with a population predicted to reach 9,000,000,000 by 2050, unsustainable consumption, depleting resources, continuing deforestation & loss of habitat on land and in the sea.

WWF & the Scottish Wildlife Trust have been campaigning for a UK Marine and Coastal Access Act and the Marine (Scotland) Act which received Royal Assent on the 10 March will offer some protection to the seas around Scotland. Now urgent reform is needed of the EU policies that result in the disgraceful waste of fish stocks. However Biodiversity and Climate Change targets are threatened by short-term financial considerations of the EU.

I am aware that SEDA could be more effective as a campaigning group if we partner with other organizations.

The Reforesting Scotland 1000 Huts campaign was launched in Edinburgh on 15 June at a day of talks and

debate. There seems to be a big cultural difference between the Nordic Countries, eg Norway where 1 in 10 have access to a Hut and Scotland where 1 in 200 have access to a rural retreat and the idea of a second home has overtones.

In the UK we seem to have lost a connection to the countryside and become a nation of caravaners. As we focus on the built environment we must not forget our place in the natural world.

The next magazine will feature the Sustainable Communities conference at New Lanark, which was a great success with many excellent speakers and interesting discussions.

As I hand over the chair to Paul Barham I am immensely grateful to all the speakers, Lorna Davidson of the New Lanark Trust, Mary Kelly for organizing the event so efficiently and for Richard Atkins who chaired the proceedings.

Editorial

by Professor Sandy Halliday

SEDA has a healthy appetite for periodic soul searching, which is probably related to its equally healthy biennial turnover of chair.

Different faces bring new energy and new ideas, which has helped SEDA to remain fresh throughout its 20-year life. The recent probing into SEDA's core raised interesting questions about our role in a world waking up to the idea of peak oil but still largely sleep walking through dying bees and fast asleep to the notion of natural systems. It gave rise to the question that underpins this bumper issue to coincide with our birthday "What is the Importance of Ecological Design?"

As guest editor I invited the membership and the wider community to answer the question and we received the multi-faceted response that I had hoped for. Here we have passion, anger, humour, empathy, depth and breadth. We have position papers, reviews, requests and even a themed crossword. Co-founders Sebastian and Howard have journeyed back to the roots – Sebastian the collective and Howard the personal. There is no-one that this issue does not

affect. It touches on economics, health, food, transport, politics, community, wildlife, life quality, land, manufacturing, story telling, anthropology and the extent to which organisations will choose to lie to us in order to try to sell to us. Hopefully the articles will educate and inform and lead to new avenues of discovery.

I have taken a light touch to editing. It is a time for freedom of expression and for voices to be heard. I did try to steer away from the well-trodden ground of buildings but in a concession to a highly contemporary debate I've included opposing views on Passivhaus design. SEDA is a forum for advanced class debate that others shy away from.

Ecological design clearly means many things to many people. The message that I have taken from the diversity of responses is that ecological design requires us to understand and to support natural systems through design and not seek to replace them. It is advanced class design. SEDA need not be a congregation of magpies, or a murder of crows, as environmental groups are so often perceived. SEDA is a proactive force for creativity and, both individually and collectively, we are a focal point

for positive values that need to be heard. Perhaps one route for SEDA is to investigate not what we know about how the world works but what we need to know: not to minimise our impact in the world, but to maximise its positive impact. We have here a wedge.

Please make sure that this magazine reaches the widest possible audience; circulate it to everyone you can on behalf of SEDA so that they can be moved, inspired, educated and informed by it, and through that get a little closer to understanding the Importance of Ecological Design.

To everyone who contributed, I could hear your voices, and we need your voices. I thank you for them wholeheartedly.

Sandy Halliday – engineer, Principal of Gaia Research and Gaia Aldas.
sandy@gaiagroup.org

This Issue of the SEDA Magazine was put together by Sandy Halliday, Sam Foster and Steve Malone. Sincere thanks to all who have contributed. While we hope you find the articles and features of interest we would point out that they do not always represent the opinions of SEDA.

SEDA Needs You: why join us

Members support the Association's aims to advance ecological design in Scotland and so benefit from its research and publishing around ecological design.

Benefits also include:

- Connection with the **main network of ecological designers in Scotland**
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A Passion for Design

by Robin Harper

Since I stepped down from Parliament, but not away from the issues I still wish to pursue, I have been so involved with the National Trust for Scotland, gardening, practicing the Piano for the first time in years, and up to 5th May, touring the country campaigning for my successors, that I have scarce had time to reflect for more than a few minutes on anything.

However, this contribution is my first opportunity to reflect on some of my passions: design, our surroundings, art, architecture, amenity, all those things in the built environment that make life a pleasure, or diminish our existence, stunt our spirits, and limit our horizons if we get them wrong, or pay no attention to them at all.

We need three horizons: what our plans are for re-use and refurbishment of the buildings we have already; what we would like to see as soon as possible (a fairly elastic horizon); and what we would like people to see as our legacy to them in one hundred years time, and they should make sense with each other

The long-term horizon needs to be determined by a social ambition, some kind of vision of a more equal society, where the differences between the rich and the poor

are minimised; in fact where real poverty is minimal, and where excessive rewards are also minimal. No more gated estates and rural enclaves for the super-rich, no more featureless high-rise schemes on the fringes of our cities, no more bankers' bonuses. This will say something about how our cities and towns ought to look in a hundred years' time, and what our ambitions should be for the next ten years.

If we go for free market, then the trends we see already will continue. Even in the design for the much-vaunted Polnoon rural idyll [proposed low-carbon village in East Renfrewshire], the social housing is planned for a block right in the centre of the village. Maybe this is an attempt at inclusiveness - I would see it as patronising and ill-conceived, likely to produce the same ghetto effect that ensues from our present policy of peripheral build for the poor.

Edinburgh is no more inclusive now in planning and architectural terms than it was fifty years ago, and putting new schools into the estates that look good for a while, but have designed life spans of about 25 years, did not work, for complex reasons, and certainly in no sense due to any lack of dedication, determination, and innovation on the part of the teachers who do valiant and often inspiring work in these areas.

Where do the values shared by sustainable architecture and ecological design fit into this conversation?

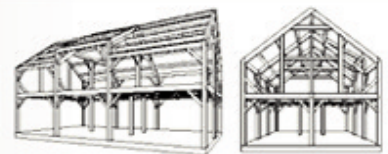
Our attitudes to minimising our environmental impacts signify a similarly caring set of values where humanity is concerned. The values are not just survival techniques, concerned only with the effects of global warming on amenity, agriculture, and our ability to feed ourselves and find water and shelter. Biodiversity, and shared values, caring community aspirations, equality of esteem for all people of all ages, are all mixed up in an ecological approach to planning and architecture.

If we take some of the best planning here and in places like Amsterdam, Amersfoort and Curitiba, we can see where our future should lie: anything that we do not like will block that bit of the way forward for as long as it is built to last, so it is crucial that planning for architecture in an equal, community-based, urban society and its attendant values are part of the thinking of Government, planners, councillors, architects, developers, transport executives etc. as soon as possible. Government may not quite get it, I fear.

We need champions; we need city and council architects; we need to educate our political servants (they are elected to serve, not master, after all). Let's start thinking how we go about this, who we work with, who our partners could be.

Robin Harper is Patron of SEDA, was Britain's first Green parliamentarian and has recently stepped down from active politics.

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Pictured: Garden House at Humehall in the Scottish Borders (Icosis Architects) recipient of Scottish Borders Council's Sustainable Design Award.



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How can a devolved Scotland be green?

by Dr Ulrich Loening

The election is over, but political argument continues as usual. I am driven to ponder again what is the position of Scotland in the world and indeed what is the state of the world as a whole. I do this as an immigrant living for over half a century in this, my cherished adopted country. I view Scotland from a global or at least a European perspective, looking in from the outside as well as seeing from the inside. And what I see is a wonderful country that has been as degraded as much of the planet over the past many hundreds of years. One would think some urgent action is needed, and everyone would vote Green. Although party politics continues as before, (congratulations to the two Greens!) there has been some improvement in that every party now recognises that ecological policies are urgent, and Scotland has succeeded in making ambitious plans in the all-important Climate Change (Scotland) Act, which obliges us to reduce our climate impacts.

Most people are now aware how our environment is in trouble and no longer able to provide the services that we have taken for granted. Services that, in total, are worth far more than any measure of the traditional economy, and which have diminished, not due to cuts but due to over-exploitation. Yet I see that my adopted country has become much like a developing "third world nation", and the overwhelming vote has made that look more so. Like a developing country, Scotland has been selling its land and natural resources as well as its industrial assets to others, for short term gain to a floundering economy, not for long term development of wellbeing for all. What for instance, can be the rationale for trying to extract more oil and gas from the North Sea at the same time as trying to reduce emissions according to the Climate Change Act targets?

Nearly 20 years ago my colleagues published a study ("Study maps path to green state of independence", Scotland on Sunday, 23 April 1995) which showed how Scotland "in many ways is one of the best placed parts of the world to create a sustainable environment" and could do this best in a devolved or independent manner, given that it had bought some time with two major nuclear power stations. However, these few years have been largely wasted from this perspective. Scotland

has continued to sell off its heritage. As a very small example I have watched Scotland exporting its last remaining quality hardwood timbers, in the round, to Europe, even to Japan and thereby losing the local added value of sawing and processing, just like in a developing country, until some of them forbade it.

We tried to interest the architects of the Parliament in using the then abundant elm. Hundreds, possibly thousands, of tonnes were available due to Dutch Elm disease. It would have been a unique opportunity to create an historic building such as could not be built again for perhaps a millennium. Instead, as we all know, they chose the conventional oak. But almost all was imported; a very small amount is Scottish, and as far as I am given to understand, makes the floor of the debating chamber. At least it provides an advertising slogan: "Use Scottish Oak; it speaks for itself from the Floor of the House"! This is at the end of a long line of loss of forests. So now Scotland is among the most deforested in Europe or even the world, except for short-term spruce plantations. In that situation, the proposal to build four biomass power stations, fired with wood fuel, is wholly inept. This could only increase net carbon emissions.

On a bigger scale, we have seen major industrial enterprises sold out to foreigners. Wind and wave energy installations now depend mostly on imports, yet could have been, and nearly were, built up in Scotland. Again, it's rather like investment in "third world" countries by the old traditional European colonial expansions. After these many decades, most of those conquered countries have sought and sometimes found, their independence or at least their devolved self-determination in the Commonwealth. Now we have voted to do likewise. I find it therefore a deep disappointment that the old attitudes remain, and Scotland has again allowed foreign investment to "Trumple" over its land and ecology. Just in the way that Scots have done to others in the past, and brought home the wealth that is still apparent in the great 18th Century estates.

There must be interesting lessons from other small independent countries, like the Scandinavian countries, Switzerland, or even Belgium. Only the latter was to any large extent a colonial nation. All have much less class-ridden societies. Most,

especially Switzerland, do not allow non-resident foreigners to buy land, or even large corporations. Such sell-offs are always like selling your inheritance for a bowl of potage, and particularly so when that inheritance is your very land. Shifting sand dunes, as illustrated so well in an aerial view in *The Scotsman*, of 1st April 2011, are natural phenomena; in Spain they are protected in the Donana National Park. For me, the picture told the opposite story to the one given in *The Scotsman*. It tells how valued natural land was given over to foreign domination, independence lost, and the final values accrued to others. Not what most people voted for.

(<http://thescoatsman.scotsman.com/features/An-eagle-eye-view-Donald.6743185.jp>)

So in practice, I detect a basic contrast between being green and equitable, and promoting policies in the name of devolution or independence. While the Government may well be proud of its Climate Change Act, the increased imports of consumer goods from China and Eastern countries are not included in the carbon emission figures, so the supposed improvements are spurious. And whenever oil is discussed, even "peak oil", there is no mention that less oil, not more, has to be 'produced'. Unless the rate of extraction is lowered, there cannot be any reduction in emissions. All that does not yet look like a green plan of action for an independent country.

Therefore I challenge the new majority to lay the basic infrastructure to allow Scotland to develop in an ecological and equitable direction, acting internationally. Only in that way, can devolution or independence have meaning and value.

Dr Ulrich Loening is former Director of the Centre for Human Ecology, University of Edinburgh.



Balmedie beach
Photo: Adrian Loening

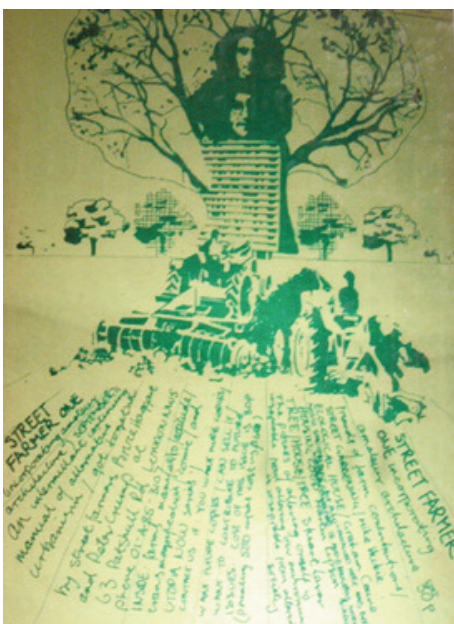
Since Silent Spring

by Howard Liddell

From the moment that I heard SEDA were seeking to define Ecological Design it bothered me. It does beg the question “why you would join something if you didn’t know what it was?” But it also got me thinking about what individual members’ eureka moments might have been and how wide a range of routes into SEDA is possible. Maybe we could do a SEDA-tweet and publish it.

Here’s mine for starters:

‘72 - mind blown green by Street Farmers – AA students’ direct action theatre, satirising anti-environmental attitudes. I had to read the books that influenced them.’



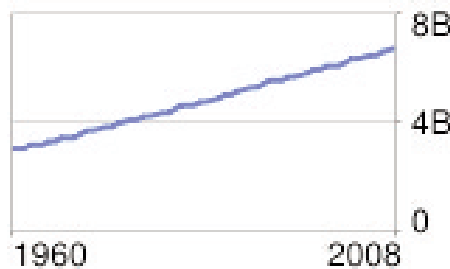
Issue One of Street Farmer magazine: one of only two editions. (Image: <http://www.flickr.com/>)

So, this article is a nostalgic trip following my ‘72 Pauline Conversion, and wondering if any of the bibliography I read then still has value.

The beginnings in the sixties

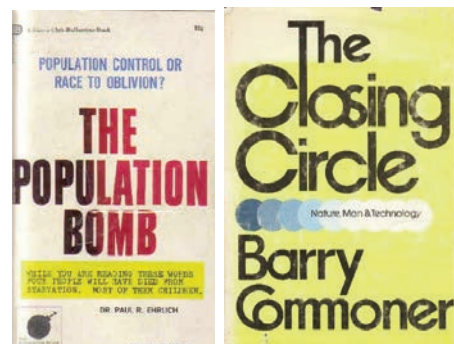
Most environmentalists will acknowledge the 1962 publication of “Silent Spring” by Rachel Carson as the beginning of the green movement. Although I had started my reading with “The Population Bomb” in which Paul Ehrlich argued that anyone

who didn’t have the snip after 1.4 children, was behaving irresponsibly (and in 1974 the world population was half what it is now).



World population 1960 – 2009 in billions (Image: <http://twotrees.wordpress.com>)

“The Closing Circle”, by Barry Commoner, opposed Ehrlich’s snip prognosis arguing that over-population occurred where infant mortality was high and that, when standards of living improved, where mothers were confident their children would survive the birth rate had been shown to go into decline. He also underlined the inequity of third world versus first world consumption, whereby a child from the third world would consume 400 times fewer resources than a child in the developed world. How ironic that over the past two decades the most draconian population policies have been introduced in China and not in the west.



(L) Population Bomb, Paul Ehrlich, 1968
(R) The Closing Circle, Barry Commoner, 1971

Commoner, a biology Professor, stood for the presidency of the USA in 1980 and wanted the American economy to be restructured to conform to the ‘unbending laws of ecology’. He was a pioneer in bringing sustainability to a mass audience and his campaign was fought on the basis that “polluting products should be replaced with natural products.”

His four laws of ecology still resonate:

1. Everything must go somewhere
2. All things are connected
3. There’s no such thing as a free lunch, and
4. Nature knows best

In other words there is “Only one earth” - the title of the next book on my reading list and the precursor to the global environmental summits, the best known being the Rio summit of 1992.

The Club of Rome

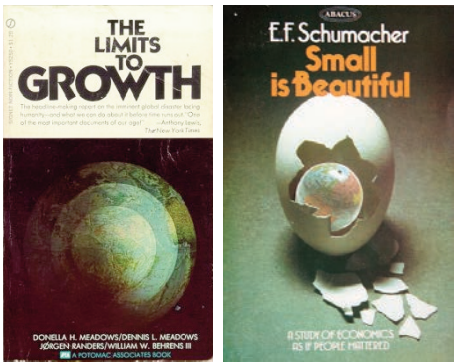
Leading lights of the self-selected elite of the Club of Rome and main authors of “Only One Earth”, Ward and Dubois, were swiftly followed by “Limits to Growth”, often known as the Meadows Report. This study developed a computer model that followed five different strands of world development. These have become the basic elements of most models of sustainable development: population, industrialisation, pollution, food production and resource depletion.

Critics claimed the model was too simplistic, but generally the underlying thesis that all things are indeed connected - and cannot be addressed as unique and discrete problems - is a principle that still needs to be more widely accepted. For example, we are currently being presented with a dumb-down focus on mere carbon counting as a response to the totality of the world’s ecological dilemmas. This equates, in my view, to re-doing the stitching on the re-organised deckchairs on the Titanic.

This sense of urgency was already extant when I attended a conference in my home town of Newcastle in 1974, which was addressed by Ernst Schumacher, who declared that he reveled in his reputation as a crank, saying, “a crank is something that is very small but very strong and creates revolutions”.

I was quickly onto his several books, the best known of which is “Small is Beautiful” and, as we become increasingly clever (now called ‘smart’) I am still much taken by his assertion that mankind has become “too clever to be wise”.

Meanwhile wisdom was in evidence just along the road in Newcastle, as the embryo of a significant community development - Ralph Erskine’s Byker - was emerging. This project was well-reviewed by my Hull teaching colleague Alison Ravetz, a leading sociologist, and normally a critic of much of the so-called community architecture of the time.



(L) *Limits to Growth*, Meadows, Meadows & Randers, 1972
 (R) *Small is Beautiful*, E.F. Schumacher, 1973

Jerry Ravetz, Alison’s husband and head of the History of Science department at Leeds University, introduced me to a whole area of research and philosophy that had been missing in my bibliography up to then. Jerry was working on what we could learn from the 95% of laboratory experiments that failed, arguing that we can learn more from failure than success (which often comes without us knowing why). He was the first person to alert me to the new science of genetic engineering, saying “if Rachel Carson scared you then look out for this lot”.

I paid less attention to this comment than I should - being distracted by the new pride of place on my reading list, a political treatise by one of Jerry’s students, David Dickson, in what came to be a best-seller: “Alternative Technology and the Politics of Technical Change”. This put forward the case that Alternative Technology was an inherently socialist technology as it utilised energy sources that were already distributed widely to us all. He clearly missed the bit on control of the means of production in his Marxist readings.

If we take a snapshot right now, how much community, alternative technology are we seeing versus the amount of corporate technology in the world of renewables? It does, however, raise the important point now being discussed, for example, in the windfarm, the biomass and the nuclear debates: whose backyard is being exploited and for whose benefit?

Back to the future

And so, eventually, on this backyard theme, we come back to Rachel Carson, the pioneer of this socio-environmental question.

Natural farming was all we had until the end of the Second World War - it was

known simply as farming. ‘Unnatural’ farming (i.e. using agri-chemicals) was deliberately and heavily promoted by central governments seeking a peacetime application for the large scale chemical industry that had grown rapidly during the war, and had thereby become a large employer. Jobs mean votes. Unless you happened to be an agricultural worker that is. These were the chemical land clearances in more senses than one.

At first, farmers resisted the government promotion. However, their antipathy was eventually worn away (as with chemicals so in life) and PCBs and DDT and their like began being sprayed willy-nilly over huge acreages. In due course the down-winders started to develop cancers. The fact that this was heavily denied by the industry - complicit with those same governments - was the reason that Rachel Carson - almost single handedly and at great personal expense - risked public derision from the rich and powerful. She laid down meticulous and incontrovertible scientific evidence of the links.

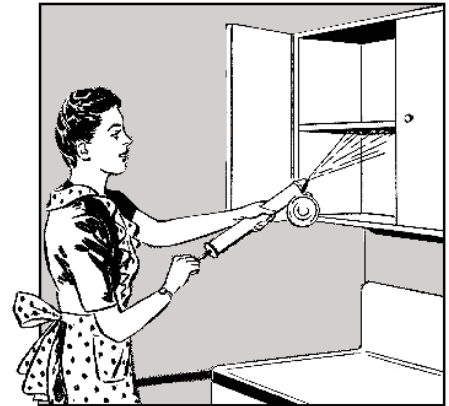


Rachel Carson
 (Image: US Fish & Wildlife Service)

That she lived to see only part of her work have a potential legislative outcome (JFK set up a committee that vindicated her work) is part of the tragedy of her story. Two years after publishing her book she died of breast cancer, a condition she kept to herself to her death for fear that industry would claim she was biased.

“Carson accused the chemical industry of spreading disinformation, and public

officials of accepting industry claims uncritically.”



DDT... FOR CONTROL OF HOUSEHOLD PESTS

Prepared by the Bureau of Entomology and Plant Quarantine, Agricultural Research Administration, United States Department of Agriculture, and the United States Public Health Service, Federal Security Agency, Washington, D. C. Issued March 1947

DDT Promotional Poster, USDA, 1947
 (Image: www.mindfully.org)

Ring any bells?

It is extremely important that SEDA seeks to emulate such pioneers as Carson. The corporate reaction to our own recent struggle - to confront ongoing toxicity in the supply chain for buildings - has a resonance in the bullying tactics of big industry in the sixties. It took until 1972 for DDT to be banned in the USA and until 2000 for it to be banned in New Zealand, with the government there giving farmers 18 months’ notice so that they could stockpile it for the future (it was only the sale of DDT that was outlawed).

“Deny the problem. Distort the facts. Discredit the opponent. Distract by suggesting voluntary action. Delay legislation. and Dilute its substance.”

To which the positive riposte is: We at SEDA must not lose sight of the battles we have inherited from these important pioneers, because they are by no means won and there are indeed some new ones they could not have even imagined.

Howard Liddell is a founder member of SEDA and Principal of Gaia Architects, Edinburgh.

Celtic Tiger In Collapse: Explaining the Weaknesses of the Irish Model

Professor Peadar Kirby (Palgrave MacMillan, 2010)

Book Review by Paul Leech

Although apparently part of an establishment, Professor Kirby is in fact a thoughtful contrarian who is prepared to analyse, from first principles, his own nation in a global context. He has been an implacable critic of the 'Celtic tiger' and has tried to guide governance whenever he has had an opportunity to do so.

Empirical learning is vital to progress. In the book Kirby is unflinching in his critique of 'group think', the mutually affirming momentum of the herd: swarm theory also comes to mind. He critiques the marginalisation of dissent by powerful blocks of vested interests, which tend to control political process through economic muscle.

He also critiques the symmetrical euphoria and self-congratulation in Ireland, matched by enthusiasm at the core of the EU and elsewhere as the flows of global capital found an apparently rewarding

home in the Irish bubble economy. Now the centre repudiates the periphery and national boundaries are used to punish the errant on the pretext of avoiding contagion: the centre does not hold, and indeed threatens, the credibility of the ideology of the European Union.

He interrogates various readings of the tiger phenomenon and provides critical readings. In doing so Kirby relies on the work of Herman Daly, who in turn relies on Aloys Schumpeter and Nicholas Georgescu-Roegen, in a distinguished stream of economic thinking which sees economics as the study of living systems and which is now hugely relevant.

In part 3 he explores the role of the state, market and society in a modern economy, learning from the Irish experience with a growing emphasis on environmental dimensions.

His insight that economic madness has increased social vulnerability is key. The absorption of the Green Party in a coalition government, into conventional governance,

has led to an unfortunate crisis in ecological politics in Ireland, from which much can sadly be gleaned. The absurd position of 'not left, nor right but straight ahead' has been proven to be a stupid and naïve cliché.

Kirby is also constructive and forward-looking, with a solutions orientation in the final chapter. His insights are of benefit, both in Ireland and elsewhere, as we emerge from the collapse of conventional capitalism into the mid-term aftermath of the collapse of totalitarian communism. The burning question for Kirby is 'what next'?

This sociological analysis [Korovic 2010] of economic process, as related to quality of life, is very instructive in the policy debate, post crash. The basis is rigorous social science, examining the core structural weaknesses and exploring the alternative in the light of experience.

The reassessment of future policy, in sustainability terms, needs to take on board a wide range of social and environmental indicators and not just conventional quantitative economics.

A layered reading of the book is possible, speed-reading if necessary, as very concise conclusions and summaries are provided at the end of each of the ten chapters, as part of a coherent structure for the book.

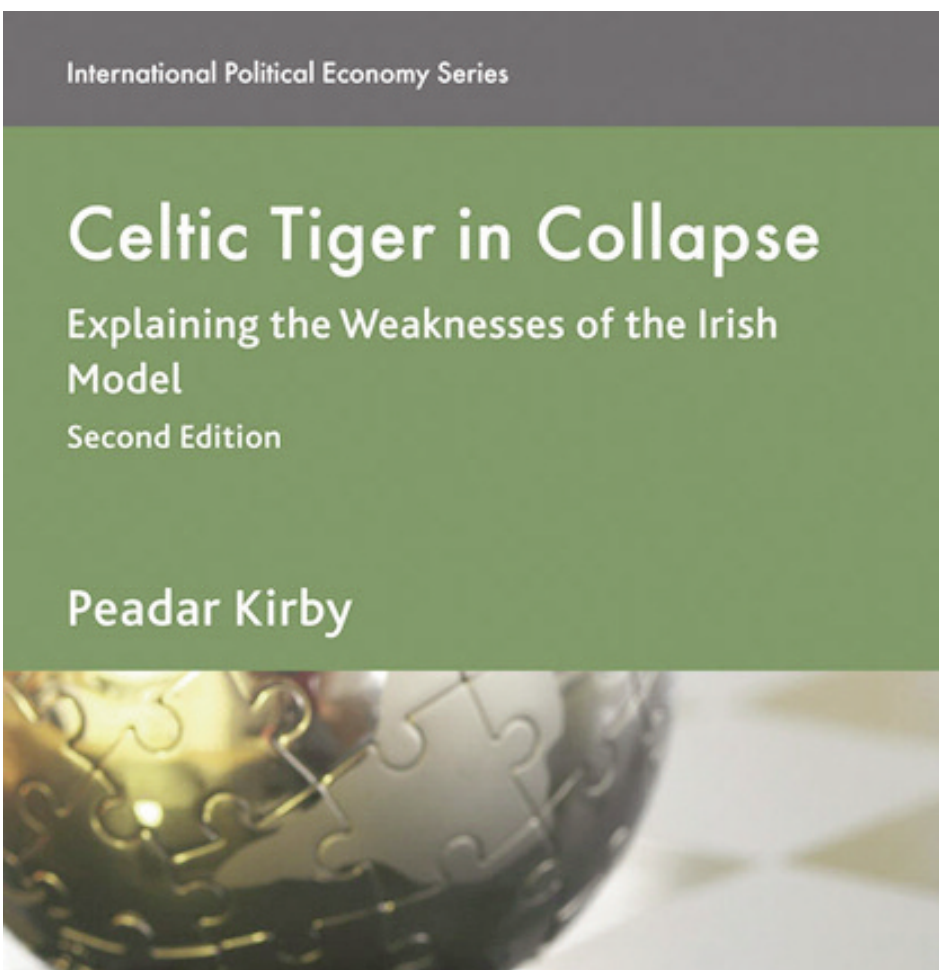
As an expert in the Latin American theatre of economic social and ecological development he brings useful perspective to a discussion dominated by a US / EU world view.

At a time of burgeoning Scottish national sentiment the experiences of the Irish Republic may prove salutary to those prepared to learn from mistakes and play to the strengths of self determination.

Blurring of the left - right fundamental divide has been fashionable but is profoundly unhelpful; could it also be a good time to revisit the thinking of that distinguished Edinburgh mind, Patrick Geddes?

This book seems highly relevant to ecological design of economic, political, social and environmental policy.

Paul Leech is the Principal and founder of Gaia Ecotecture, Dublin.





A film by Helena Norberg-Hodge, Steven Gorelick & John Page



the Economics of Happiness



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Designing out Greenwash

by Ed Gillespie

Design has come a long way since William Morris suggested that everything should be either 'fit for purpose' or 'beautiful to look at' or ideally both. The combination of aesthetics and functionality served the design community well as a neat goal against which the efficacy, effectiveness and essential elegance of design could be measured. Was your design cleverly executed, ergonomic and appealing to the eye? In which case job done and pats on the back all round!

As we march onwards into the 21st Century there is a new gauntlet being laid down to the design world: the third pillar of great design - that of sustainability. And we're having to take the scope of this beyond the lovely wallpaper that Mr. Morris was so good at. With a burgeoning global population predicted to reach 9 billion souls by 2050, we have an enormous design and production challenge on our hands. How do we design the world and products in it such that it meets this anticipated need and allows such a large number of

people to flourish without trashing the entire planet in the process?! How does design deliver outcomes that are practical, beautiful AND sustainable?

The physics of ever-expanding material consumption and unbounded economic growth on a finite planet is self-explanatory. Those who wring their hands in angst about how the needs of all the additional people will be met if the whole world aspires to our current Western, developed, model of consumerism need panic no longer. It simply can't happen. It's probably not even possible. So something has to give. We need to be significantly smarter, do more with less, meet needs and aspirations in dematerialized ways, develop new products and services that are highly durable, adaptable and flexible, that have recycled content, or have reuse and recycling in mind. We must close loops, upcycle and adopt cradle-to-cradle thinking and approaches. The list of changes we need is a long one. The design world, understandably, and excitingly, is at the heart of this.

However all is not well. While the potential of designers to re-engineer the world and our lifestyles is unarguably massive, we are yet to see transformative change in the industry. A few small-scale specialist design agencies and consultancies have sprung up, but most designers still perceive 'sustainability' as being a bit 'hair-shirt' and not very 'sexy'. Yet the challenge is systemic and at such scale it can no longer be seen as niche. Mainstream designers must perceive this as the most innovative, cutting-edge and transformative game in town - the opportunity to solve needs, problems and issues with neat, well-thought-through solutions. To redesign the future.

This requires a new mindset. It's not an 'end-of-pipe' mentality in which simply remaking an existing product from recycled materials is enough. We need to assert an holistic approach to defining genuine 'needs' and meeting these with cleverly crafted solutions that deliver robust sustainability. The fear is that the sustainable design agenda is being at best hijacked at worst perniciously undermined by the manifestation of 'greenwash'. By this I mean the false claims or positioning for design products or services that appear to represent progress towards sustainability but are dangerously misleading or distracting; a thin verdant-toned veneer for outcomes that are unsustainable.

The growth in public understanding and

concern around sustainability and its integrated challenges, from biodiversity loss to climate change, has led to an inevitable and positive rise in the growth of informed and ethical consumption. People want to 'do the right thing' and are prepared to put their money where their mouth is. They want quality but not at any price, either to their pocket or the planet. The risk lies in the growth of unsubstantiated, literally incredible green claims, manifested as 'greenwash' that then undermine consumer trust in the whole market for goods and services; in the worse case scenario, undermining the green business case itself.

This is where the veracity of green design claims is so important. In order to tackle the scourge of greenwash head-on, three years ago we created 'The Greenwash Guide'. Not a 'how to' publication, more of a 'how to spot it & avoid it' tome. The aim (report free from the Futerra website) is to inform designers and marketers of the risks of greenwash. It recommends how to avoid greenwashing yourself through a list of the 'Ten Signs of Greenwash' and provides a health check process for interrogating environmental claims.

As a designer ask yourself, 'Have I been guilty of any of these claims?' Have you used woolly language to mask a material shortcoming in your project? Is what you've produced for one client only one lonely sustainable product in a range of ghastly greenwash? Is the cheesy, green fields image - suggestive of environmental credentials - realistic or deceitful? Are you ramping up a minor element of your design's greenness to mask bigger shortcomings? Is your product 'best in class' (a 'class' of unnecessary junk)? Are you without evidence to underpin your claims or trying to bamboozle with jargon? Have you misrepresented or invented a third-party endorsement? Have you been a bit naughty?

Well, if you have, don't beat yourself up about it. Instead, please don't do it again. Take stock and think about what you might do differently next time. To paraphrase the legendary WW2 poster, this is not a time to 'Keep Calm And Carry On' instead we should 'Get Excited And Change Things'. Come on, there's a world out there that needs redesigning. Let's get to work.

Ed Gillespie is co-founder of specialist sustainability communications agency Futerra (www.futerra.co.uk).



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Green threads

[Spotted] by Matt Bridgestock

I would like to nominate Paragon Profiles for a 2011 SEDA Award (greenwash category). It appears from the Home Building and Renovations show that Paragon Profiles have been at the forefront of ecological design for sometime producing PVC windows, which save on precious timber resources. They proudly produce 'C' rated windows. The t-shirt illustrated was issued to everyone who visited their stand and, for me, sums up their approach to sustainability.



Photo: Matt Bridgestock

...As mentioned in the previous issue – for all of you irritated by the message in every hotel about saving the planet by re-using your towel - please feel free to send in your examples of Greenwash to Howard Liddell (howard@gaia-group.org) Entries will be judged and the winner presented with a prize at this year's Show and Tell...

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Ecological Design in Agriculture

by Dr Ulrich Loening

The ways in which we farm are as open to ecological design as is the built environment. In looking very briefly at the history of modern farming, I outline my perception that there are two scientific attitudes, which led to opposite directions of development of farming and of human society in general.

As chemistry emerged in the late 18th and early 19th centuries and the elements and their salts were discovered, Justus von Liebig (1803-73) was among the first to realise the opportunities for increased food production. He, inspired directly by Lavoisier's (1743-94) discoveries in Paris, showed how plants could derive their nutrients from soluble salts of nitrogen, phosphorus and potassium. Liebig's understanding was taken up enthusiastically by Lawes (1814-1900), who inherited property at Rothamsted in Hertfordshire and Gilbert (1817-1901), who studied for a year in Germany with Liebig, then joined Lawes in starting what became the longest running continuous agricultural trials in history, and still going strong.

It is important for understanding the ecological design implications, to realise that Liebig's discoveries would have been made at that time anyway: they were inevitable once chemistry had become established. Yet this was achieved, including the further advances at Rothamsted, in the almost complete absence of any knowledge of the roles of micro-organisms, and almost nothing of plant physiology or biochemistry. The initial advances were made in ecological ignorance, and it cannot surprise anyone that this led to criticism of modern agricultural science. Liebig himself realised that there is more to nutrient cycling than could be understood at the time. In particular the fixation of atmospheric nitrogen to nitrate in plant roots was not discovered in his lifetime, but exonerated his instincts.

Research at Rothamsted advanced; the use of the three soluble salts as fertilisers became common. Phosphate came from super-phosphate, pioneered by Lawes, who financed the research through that.

Chilean nitrate was the commonest source of nitrogen; this became scarcer, and critically so for Germany towards 1914, because this potassium or sodium nitrate is a vital constituent of explosives.

Enter the ultimately tragic life of Fritz Haber (1868-1934), who succeeded in developing a process for combining hydrogen with atmospheric nitrogen at high temperature and pressure to make ammonia, which is then oxidised to nitrate. With his engineer colleague [Carl] Bosch (1874-1940), the Haber-Bosch fixation of nitrogen became the major worldwide source of nitrates. This has fed the world to its present large population, partly through the Green Revolution, which allows crops to use large amounts of nitrate. Now about half of your body protein is made from H-B nitrogen, and the amount of nitrate cycling through the biosphere has doubled, causing pollution everywhere. This "Nitrogen Revolution" created the agro-chemical industry after the First World War. Similarly the Second World War led to the pesticides and herbicides. The scientific attitude throughout was the natural human one of successful power over nature (cf. Francis Bacon, 17th C, "Knowledge is power").



Typical of this is an advertisement I found in France in 1981 (above). The romantic beautiful weeds, totally destroyed all the way to the distant village and

church. This was the height of success, as assessed at the time, and represents a science of power.

In contrast, only 40 years after Liebig, Franciszek Kamienski (1851-1912) discovered fungi growing in close contact, apparently symbiotically, with plant roots. He named them mycorrhizal fungi. He and others realised that these fungi exchanged nutrition with the plant. We now understand that mycorrhiza release bound nutrients in the soil and feed them directly into the roots, in exchange for the carbohydrates made by the plant.

It is now known that most, around 70-90%, land plants are associated with such fungi. It is even probable that plant life on land was made possible only by such symbiosis. The photo on the opposite page shows mycorrhizal hyphae in blue within the unstained cells of a plant root. This represents the most abundant type of symbiosis in the world.

Out of this new understanding grew another attitude to farming, promoted by Sir Albert Howard, agricultural advisor in India. His experiences of the health and yields of crops and animals led to his "Agricultural Testament" in 1940: "The slow poisoning of the life of the soil by artificial manures is one of the greatest calamities which has befallen agriculture and mankind. The responsibility for this disaster must be shared equally by the disciples of Liebig and by the economic system under which we are living." His oxen, fed on healthy grazing, did not contract Foot and Mouth Disease even when rubbing noses with infected cattle: a lesson for the 2001 Foot & Mouth outbreak in the UK.

Here we have the beginning of a different revolution in agricultural science. It differs from the science started by Liebig's followers, in that it deals with how plants actually take up their nutrients, not with how they could do so if presented with the soluble salts. That is, the process of plant nutrition turned out to be much more complex than merely the take-up of soluble nutrients. Even the discovery of mycorrhizal fungi represents merely a single indicator: there is more and greater complexity among the millions of species in the soil. So we have identified two very different sciences of agriculture





1) One showed how plants can live using soluble salts; this is the conventional science; it works because it short-circuits a natural process, successfully.

2) The other is the observational science, which showed that plants actually take up their nutrients in bound form from the soil.

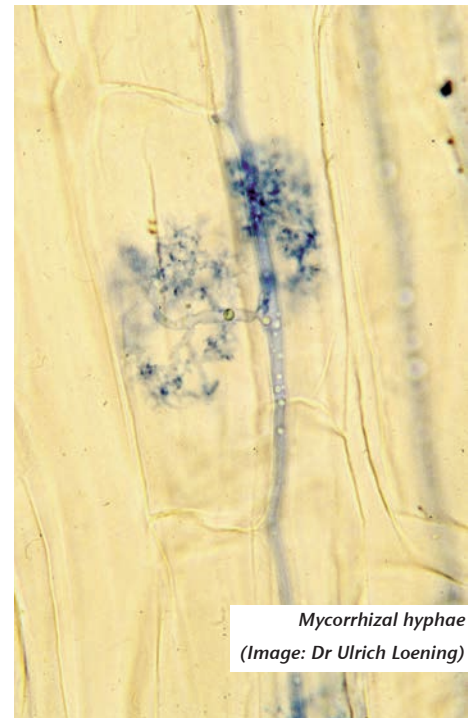
Both are rigorous sciences; the choice of which to apply cannot be made by science alone, but depends on what one wants to achieve.

It is remarkable is that these two sciences have taken so little notice of each other, as shown by a Rothamsted Conference report in 1994 to celebrate 150 years and Albert Howard's book. The two paths are based on different attitudes about applied research. These two lines are so widely divergent that they have actually become incompatible, both in practical application and in philosophical approach. There are

no compromises. The same arguments apply to many other areas such as medicine. In short, we have Two Sciences, much as in CP Snow's [1959 lecture] "The Two Cultures".

In contrast to the Conventional first, we need a word for the less-appreciated second: I call it "Convivial Science". The whole idea could lead to a re-appraisal of the applications of science, to better public acceptance of science and improved policies towards an ecological design of society. Nothing less than a New Enlightenment!

Dr Ulrich Loening is former Director of the Centre for Human Ecology, University of Edinburgh.



*Mycorrhizal hyphae
(Image: Dr Ulrich Loening)*

How bad are bananas? The carbon footprint of everything by Mike Berners-Lee (Profile Books, 2010)

Book review by Jim Johnson

Berners-Lee runs Small World Consulting, specialists in assessing the carbon footprint of products, services and materials. His work takes in the wide range of issues necessary to track back through the extraction of raw materials, manufacture, transport, packaging, marketing etc. until the product is consumed or put to use. Clients range from a supermarket chain to a microbrewery in Kendal,

The book may have a slightly jokey approach (and is wittily written) but this belies a deeply serious attempt to measure carbon footprints, which, as he says, "is THE climate change metric we need to be looking at...this book is about making the most realistic estimates that are possible and practical, and being honest about the uncertainty."

He relates his footprint figures to a nominal 10-tonne lifestyle, giving a yardstick against which to measure the order of importance of the many decisions we have

to make - no good worrying about the lowest carbon way to dry your hands if you are a frequent transatlantic flyer. His advice on beer; "A pint of local ale per day would be 1% of the 10-tonne lifestyle. A few bottles of imported lager might be as much as 10%." The 10-tonne lifestyle is unsustainable of course: to reach the 2050 target of an 80% reduction would take us down to a 3 tonnes/person/annum figure - impossible for an individual until the whole economy is much greener.

Berners-Lee is particularly good at myth-busting about the cost effectiveness of carbon cutting measures. Some work for Historic Scotland, comparing the climate change implications of various options for a dilapidated cottage taken over a 100-year period, demonstrated that demolition and rebuilding to the highest level of energy-efficiency (Code for Sustainable Homes level 5) is an extremely costly way of saving carbon. "Investing in improvements to existing homes is a dramatically more cost-

effective approach."

He has an equally sardonic view on photovoltaic panels. Calculating that even after feed-in tariffs and government grants, saving carbon costs £330 per tonne, even worse than a micro wind turbine and dramatically worse than off-shore wind, he suggests that photovoltaic panels are only of use as a status symbol: "With the panels you can show everyone you have spare cash but you also think about the world. Photovoltaic panels can replace the SUV."

Bananas are OK by the way; their footprint is relatively low. They grow fuelled by solar energy (no hot houses needed), they travel by sea and they come in their own packaging. The ideal food? Not quite (see p28 of the book for their downside).

Jim Johnson is a founder member of SEDA, author and retired architect.





Local Food - Healing Ourselves, Healing the Planet

by Helena Norberg-Hodge

From global warming to the global financial crisis we're getting very clear signals that we need a fundamental change in society. After 35 years' experience working with the social and environmental movements on four continents, I'm convinced that the most urgent issue is the need for fundamental change to the economy. We need to shift away from globalising towards localising economic activity - a strategic way to simultaneously reduce CO2 emissions, while creating secure and meaningful work.

Localisation doesn't mean that every community would be entirely self-reliant; it simply means striking a balance between trade and local production by diversifying economic activity and shortening the distance between producers and consumers wherever possible. Since food is something everyone, everywhere, needs every day, a shift from global food to local food would have the greatest impact of all.

Paris in the 1970s was a city full of character and life. Each quarter had its own colourful market, selling wonderful fruits, all kinds of vegetables, meats, superb cheeses and wine. All of that diversity originated at no great distance: most of it came from different regions of France, if not from the immediate surroundings of Paris. Today it can be difficult to find garlic in Paris that has not travelled from China. In the super-

markets, grapes from Chile and wine from California are increasingly commonplace. The diversity of French foods is in decline, and those that are available are becoming more and more costly.

In the little villages of Southern Andalusia in the 1980s, almost all the food in the shops came from the villages themselves or the immediate region: goats' cheese, olives and olive oil, grapes, fresh and dried figs, wine and many different kinds of meat. Today, I find almost nothing that has been produced locally. The olives may have been grown in the surrounding region, but they have travelled to the metropolis to be packaged in plastic and then sent back again. Virtually everything sold is vacuum-sealed in layers of plastic. Even cheese rinds are now made of plastic.

In line with these trends, in 1996 Britain imported more than 114,000 metric tons of milk. Was this because British dairy farmers did not produce enough milk for the nation's consumers? No. The UK exported almost the same amount of milk that year, 119,000 tons. Apples are flown from New Zealand and green beans from Kenya. We might wonder how these can possibly compete with local apples and beans – surely food produced locally should be cheaper? But it isn't. Instead, generally speaking, fresh local food is vastly more expensive than food from faraway. The main reason for this is government investments and subsidies.

Governments, using taxpayer's money, fund the motorways, high-speed rail links, tunnels, bridges and communications satellites that make the supermarkets' global trade possible. This money also subsidises

the aviation fuel and energy production on which supermarkets depend. And it helps fund the research geared towards biotechnology, mechanisation and intensive chemical use. Local traders, small-scale farmers, retailers and manufacturers pay the price through their taxes and also through being forced out of business.

In this age of impending oil shortages and global climate change, it is sheer madness to waste fossil fuels transporting food needlessly around the planet. In recent years, it has been calculated that transport for the UK food market accounts for 19 million tonnes of carbon dioxide emitted each year. Besides creating pollution, the transportation of food in ships, airplanes and trucks, damages roads, intensifies congestion and, worse, causes accidents. Research conducted in 2005 estimated that the government could save £2.1 billion in costs associated with environmental damage, congestion and infrastructure if the food economy were more localised. That is a significant savings for the taxpayer.

However, some people argue that the global food economy is a sign of progress and the emergence of a global, cosmopolitan society based on the principle of choice. However, the diversity of choice available to consumers is an illusion. Pressure from supermarkets and government subsidies forces producers to grow monocultures of standardised crops to suit the globalised marketplace. So the global marketplace is actually eradicating diversity – a fundamental principle of life.

In 2004, over 630,000 tonnes of apples were consumed in the UK. Of these an estimated 80 per cent were imported. Supermarkets want apples that travel and store well. They require apples that are uniform in shape and colour, free from the lumps and bumps typical of an organic, heirloom variety. France, New Zealand and South Africa supplied two-thirds of these imports, with the United States following a close fourth. From tree to mouth, some apples travel around 20,000 kilometres.

The National Fruit Collection in the UK contains over 2,300 varieties of apples. Today, only two varieties dominate UK orchards. We see the same trend amongst all fruits, vegetables, grains and even meat and dairy products. This loss of agricultural diversity is a direct result of the move



Photo: Sandy Halliday



Urban Ecologies of Cake

by Cat Button

towards the production of monoculture.

Wild biological diversity and cultural diversity are also under threat from the monoculture. In study after study, it has been shown that large farms growing single crops are bereft of the variety of wildlife species that live in great numbers on small organic farms that grow a diverse range of crops. Food is also closely linked to cultural identity. As the global consumer culture steamrolls across the planet, amalgamating diverse cultures into one big Coke-swilling, McDonald's-munching 'global village', we lose the varied and vivid tapestry of cultures that once inhabited this planet.

Citizen groups around the world are beginning to realise that the highly centralised and subsidised economic system is the prime culprit behind the loss of diversity and many international food crises: food shortages in developing countries, GM contamination and diseases like BSE, salmonella and avian flu. Increasingly, grassroots movements are pressing for major policy changes at national and international levels in order to bring the global financial markets under control. They are also working to strengthen local economies.

As part of the local food movement in the UK, several organisations now promote local varieties of apples. Production of heirloom varieties is good for the ecosystem: traditionally managed orchards support twice the number of birds and a greater range of species than intensively managed ones. Buying local apples is good for the local economy. Recent research has shown that old varieties of fruits and vegetables are more nutritious and contain significantly higher levels of salvestrols — a potent cancer-fighting compound — than modern hybrids. So enjoy a local apple a day and revive the local economy, protect the environment and... keep the doctor away.

Helena Norberg-Hodge is Founder and Director of the International Society for Ecology and Culture, a non-profit organization dedicated to the revitalization of cultural and biological diversity, and the strengthening of local communities and economies worldwide. (References for some of the statistics noted above are available on request.)

Baking a cake is complex process involving a disparate range of ingredients and energies. So here I would like to use the example of baking a simple sponge to tackle wider issues about how we consume and to think about the flows through a city. This is a set of thoughts and considerations and not a quantitative 'carbon footprint' analysis of the process. The idea of shopping locally and awareness of food miles have increased in the last few years but there are many other issues entangled in interconnected modern ways of life.

First, put some butter in a bowl. Consider the processes and the flows that brought the butter to your kitchen. Where and how it was produced and how it got to the shop you bought it from. Is it local? Organic? Imagine the network of people / animals / infrastructure / machines extending beyond the city that brought the butter to you.

Secondly, cream in the sugar. Let's assume that it's caster sugar, though again there is a matrix of choices and flows that led that sugar to your bowl. Fairtrade versus local food is an issue

regarding this product.

Now beat in some (free-range) eggs. The issue to be discussed with this product is packaging. Do you take an empty egg box to your local store for refilling or recycle the box? Of course the most local and packaging-free solution is from your own back garden. I don't have chickens but last year I had a glut of courgettes, so made a mountain of courgette muffins and topped them with cream cheese icing.

Then fold in some self-raising flour. Even if you bought it locally and it's from your region, there is no guarantee that it wasn't sent to a depot hundred of miles away in another city on the way to becoming part of your cake.

Finally bake it in an oven (or save energy by licking it from the bowl!). I don't have room here to tackle the issue of oven type and fuel choice. The most important thing of course is to make sure you eat every single crumb to reduce wastage. Yum!

Cat Button is a PhD student currently living and studying in India.



Photo: Cat Button

Continuous Cover Forestry

by Gill Pemberton

Continuous Cover Forestry is an approach to forest management that is practiced more widely on the continent than in the UK but is becoming increasingly popular in this country.

It allows managers to meet the multiple objectives that are often required of forests, and to avoid clear-fell. Over time a well-managed forest under CCF will provide a steady supply of timber of different sizes, protect biodiversity and soil and water quality and, with its irregular structure and variety of species, can enhance recreation areas and the landscape.



Photo: Gill Pemberton

One of the aims of CCF is to encourage natural processes so that the forest performs as a productive ecosystem. Species are allowed to reflect the inherent variations of the site, and small stands or individual trees are selectively removed at intervals to give space for, and encourage the growth of, high quality groups of trees or individuals. The yield control is based on measurements of stem diameter and stem increment rather than age and area.

Restocking by natural regeneration is an economy that helps make CCF financially viable. Trees seed when they are mature, which may be c. 20 years for some pioneer species up to 50 years or more for some deciduous species, so mature individuals are needed to produce the seed as well as giving quality timber. Selective felling is used to adjust the amount of light that reaches the forest floor to trigger regeneration and control its development and, as far as possible, to limit the growth of ground vegetation that might strangle the saplings.

Over time the forest develops an irregular structure with a layered under-storey of youthful trees. The floor becomes patchy, some areas under deep shade whilst in other places there may be more exposed ground or clusters of young trees. The pattern varies according to the demands of different species as well as the lie of the land. For example, seedlings of pioneer trees need plenty of light for germination, e.g. larch, Scots pine and birch. In these cases larger areas must be felled to encourage regeneration and the forest then takes on a reticulated, scraggy appearance. Parts of Glenmore Forest are being managed under CCF and show this variable structure.

CCF is not a precise science with standardised solutions; the forester has to develop a relationship with the ecosystem and respond to changes in the forest as well as instigating them. It takes patience and a long-term vision – in ‘tree time’ rather than ‘man time’ – to develop a mature forest with a rich variety of fungi, flora and fauna; conversion alone, from a uniform structure to an irregular one, can take 40 – 100 years.

Gill Pemberton was previously membership secretary for SEDA.

Tenement Tree

by Gordon Peters

Despite the considerable efforts of local residents to point out to Edinburgh Council's Planning Committee and its Development Management Sub Committee that they were about to ruin the integrity of a Georgian street in the World Heritage Site, to despoil an historic garden and completely occlude a Huguenot temple, by agreeing to a new private development which would build over the garden space and put two listed ash trees at serious risk, this is precisely what the Councillors went ahead and did.

The brazenness and utter lack of concern for the local environment and its people, for the history and the green space, for appropriate and in-scale use of our living space, and for the protection of what flora and fauna we still have around us, led me to write this poem.

Tenement Tree

In blossom or leaf, or russet or bare,
You stand as a sentinel, one of a pair;
Your sister along is safer a bit
Though developer's shovel would spew her
with grit.
No harm have you done but only sustain
Life all around as you drink in the rain,
Your listing is said to hold off the axe,
But not from a Council whose ethics are lax.

You've heard the yells of women haunted
Sheltered Huguenots not wanted,
Seen the proud elm yield to the saw,
Kept blackbird and squirrel in your maw;
A doomed pigeon you kept in balance
As the peregrine struck just like a lance;
While brambles and currants beside bore
fruit,
Guarding the tenement you took root.

Enlightened city had let you be
Till Mammon's grasp said 'damn the tree';
The planning officer did his best
Neighbours rallied, to the provost a pest;
But burgesses whose icon is a tram
Determined to build seeing gold in a pan,
Yet recession's cold draft sees the gold turn
to dust
And you dear tree saved, to await further
lust.

Gordon Peters is a resident of Edinburgh.



Sex and the Pedestrian

by Robert Ritchie

I am a non car-owner who walks everywhere, where feasible, for business and pleasure. As the author of articles for the Sustainable Scotland website I promote the benefits of walking - from carbon emissions reduction to the personal physical and mental health benefits.

I frequently encounter, particularly in urban areas, anti-pedestrian features which make walking less pleasant / more stressful, and perhaps for some people may be deterrents. Most of this could, with some common sense and foresight (and abandoning their cars occasionally!) be avoided by planners, developers and designers. Here are some of the features I am thinking of.

Pedestrian crossings. The present inconsistency between and within towns and cities in the type of crossing installed is confusing, unsettling and - I think - potentially dangerous. Pushy Puffins are usurping traditional Pelicans. I cannot be alone in finding the Puffins, though appealing as birds, disorientating as crossings. And can't we reduce the number of two-stage unsyn-

chronised crossings, which just encourage walkers to ignore warning signs? And can't we just eliminate three-stage unsynchronised crossings? Yes, they do exist; Victoria Bridge / Market Street in Aberdeen, for example.

Graffiti. Graffiti is more than visually repulsive: its presence can be disturbing, with its connotations of loitering youth. How many people are put off walking the Clyde Walkway because of it. So what can be done? Don't get schools to paint murals in underpasses. It doesn't discourage the graffitiists. Don't use expensive and / or difficult to clean or overpaint materials in locations where graffiti attacks are predictable, and it usually is. Where graffiti is predictable, use surfaces which can be easily painted and destroy the graffiti instantly it appears.

Some of the worst of the rest (too many to expatiate at length about and excluding the multiplying hordes of homicidal cyclists who will take more than design to eliminate from our pavements). All the relevant professionals know about lines of desire, so why, oh why, are there so

many paths tramped across corners and through hedges and fences? (That was the poor excuse for the title by the way!) Why does an obvious walking route (Stirling to Springkerse Retail Park) have a busy crossing with traffic lights but no pedestrian crossing and a detour through a garage forecourt?

There has been a lot of research in recent years, which proves the many benefits of encounters with greenspace and biodiversity. Let us therefore curb the arboricidal and unnecessary tidying up policies of some councils where established trees and shrubs are needlessly killed or mutilated. Let us not allow development on every bit of greenspace or potential green space in our towns.

And, just as importantly, where areas are landscaped and laid out with ornamental flowers and shrubs, why not maintain them - coming along at least once a year to remove weeds, prune, replace dead plants etc. You know it makes sense!

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Urban Wildlife

by John Newton

Development of any kind is all too often considered as having a negative impact on wildlife. However, properly considered and managed it can also present an opportunity to increase ecological value, especially in urban areas. Healthy wildlife is beneficial for householders, for those at work, for wildlife, and even the economy. It must be stressed that accurate and timely habitat and vegetation surveys are the basis for sound ecological work and practical solutions. Ecologists and environmental specialists can be relied upon to provide clear and practical advice on the best way to work with wildlife, protected species and habitats. Indeed, when developers work alongside such specialists there can be considerable benefits and, in some cases, prestigious awards. Conserving wildlife comes down to understanding what is important on a site and mitigating for any impacts. However, all too often the potential for enhancements is overlooked despite the



European Water vole (Arvicola amphibius)
(Photo: John Newton)

fact that real benefits can accrue. For example, Ashmount Primary School in North London achieved an 'Outstanding' BREEM rating for the design stage assessment of a unique and exceptional site.

A range of recommendations was aimed at increasing the number of insects, birds and bats that already used the area for foraging and breeding. They included a biodiverse brown roof, growing climbing plants on the vertical structures, planting wildflower meadow plant into amenity grassland and creating native hedgerows.

Ecological enhancements can be added to buildings themselves. Green roofs, walls, bridges, terraces, and even whole buildings, are popping up in cities around the



Living Wall, Westfield, London
(Photo: John Newton)

world. Green roofs provide many benefits in built-up areas including reduction of the 'urban heat island effect' (UHIE), absorbing pollutants and dust, ameliorating storm-water run-off, as well as enhancing the environment for people and wildlife. See www.livingroofs.org/2010030566/green-roof-benefits/heatland.html

The green roof effect of evapo-transpiration acts to cool air. With a cooler surface at roof level the green roof reduces the need for air conditioning. The combined effect is to reduce the UHIE. One study found that if the whole building fabric was enveloped in vegetation, this could lead to an 84% reduction in demand for AC. Run off during storm events is also reduced, leading to savings in regard to SuDS technologies.

Eversheds Ltd. has the largest green roof in the City of London, measuring 1,500m², and in the shadow of St. Paul's Cathedral. The green roof design incorporated a number of features to increase opportunities for biodiversity, including a varied substrate depth suitable to attract a large variety of wild plants, such as wild mignonette and common rockrose, and invertebrates. Log-piles were also placed on the roof to attract invertebrates, and swift boxes were erected on the walls of the roof top plant room. The roof will eventually become a feeding station for a range of bird species, possibly including the rare black redstart.

Creating green infrastructure within the urban environment is also important for developing liveable cities. Green and blue corridors and linked 'green oases' need to be factored into local planning. An excellent example is The Fat Walk in the east of London, extending along part of the River

Lea and meandering through a range of urban habitats and post-industrial landscapes down to the Thames. This new stretch of linear green space should commence this year.

The project included the planting of native trees and shrubs, the creation of linked patches of wildflower meadow and waterside habitat, erection of bird boxes, provision of new nesting sites and enhanced habitats for bats and otters. A variety of climbers will cloak the façade of an existing bridge. A kingfisher and sand martin bank will overlook the river, embedded with artificial nesting tunnels. Black redstarts and peregrine falcons forage along the riverside, which in places comprises reed-bed and low-tide mudflats, providing habitat for reed warblers, waders and wildfowl, all a stone's throw from Canary Wharf.

John Newton is an Ecologist with The Ecology Consultancy, Edinburgh.



Green roof, Eversheds Ltd, London
(Photo: John Newton)

Sustaining Dunbar - Ecological Design at the Community Scale

by Phil Revell

Sustaining Dunbar is one of fifty or so community initiatives across Scotland that is part of the 'Transition Network'. What distinguishes 'transition' as a model of change is its permaculture approach to working with complex living systems, its emphasis on Peak Oil as a much more potent motivator than Climate Change and, above all, its view of our inevitable transition to a future beyond fossil fuels as a positive opportunity for enhanced wellbeing. Sustaining Dunbar started life in the summer of 2007, initially as a group of local people meeting to discuss what we could be doing as a community to face up to the global challenges ahead. Volunteer discussion groups formed to discuss specific issues around food, energy and transport and soon started running events and practical projects, some of which have developed into independent organisations. Funding from the Scottish Climate Challenge Fund from early 2009 has been crucial in taking a number of these projects forward and in particular has enabled the development of our 'Dunbar 2025 – Local Resilience Action Plan'.

Dunbar 2025 Local Resilience Action Plan

This is a fifteen-year community plan for building a vibrant, low-carbon, localised and resilient economy. It builds on extensive local consultation and research in which over 1500 local people were interviewed throughout the Dunbar and East Linton ward. This research highlighted a strong desire to be able to source more locally-produced food, live in more comfortable and energy-efficient homes in neighbourhoods which are safe and attractive to walk and cycle around, for increased opportunities for local employment...and much more. The surveys also highlighted the many barriers that currently prevent us all from doing many of these things, such as cost, time, availability, ownership and regulations. The plan describes a vision for how a low-carbon future may look and shows how local groups can work together with East Lothian Council and the Scottish Government to deliver local energy, food, transport, health, education and enterprise solutions, much less dependent on fossil fuels.

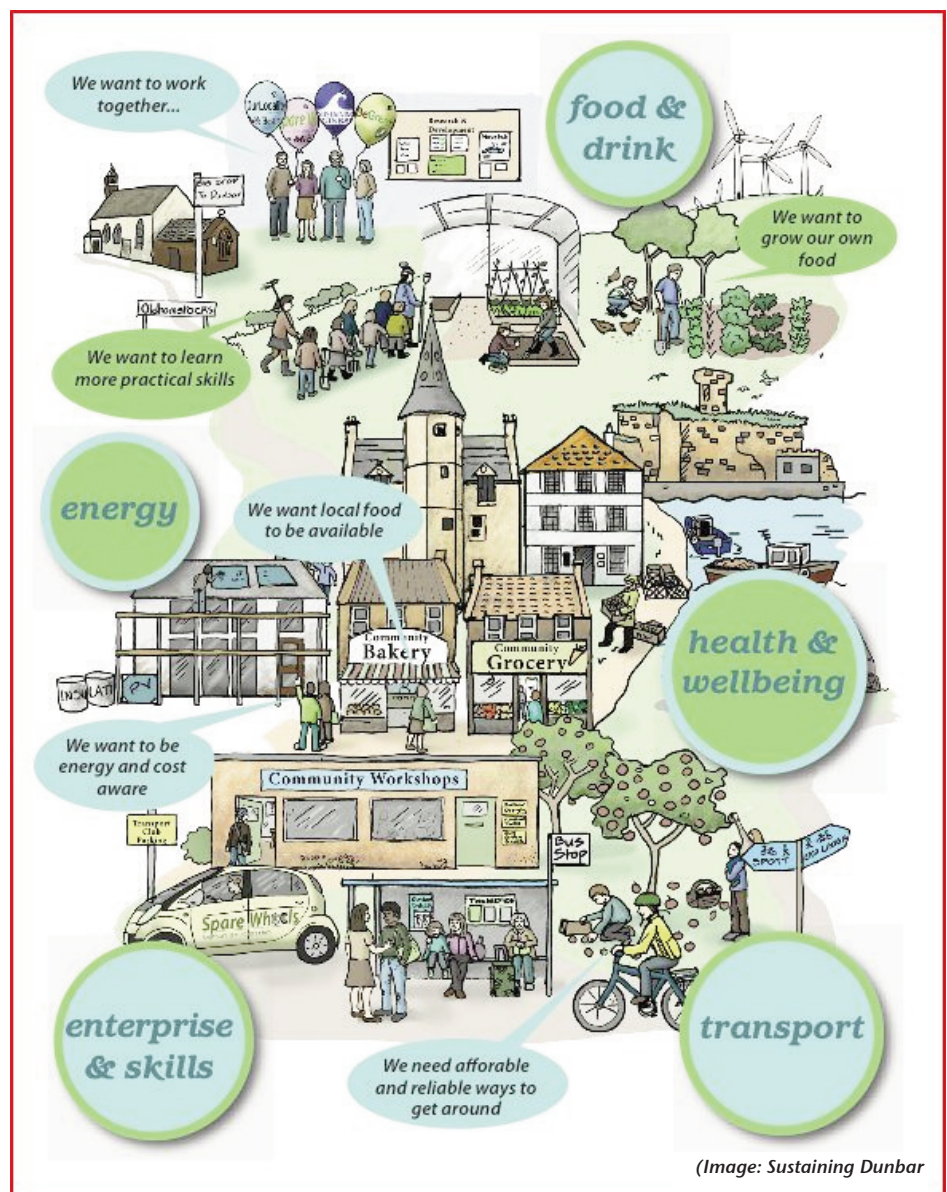
Practical Projects

Apart from taking a strategic approach, Sustaining Dunbar is also working at a very practical level, partly to start making positive change straight away, partly as a way of raising awareness and actively involving more people and partly to develop momentum and a feeling of empowerment. Projects currently underway include Dunbar Community Bakery (due to open in August), the BeGreen home energy advice service which provides home energy audits and hopes shortly to launch an interest-free revolving loan fund for eco-refurbishments, Dunbar Allotments Association, Spare Wheels car share club, Cycling Dunbar, Neighbours Together, Worms Work, REL-BUS bus users group and the OurLocality web platform. We have organised numerous public events including Apple Days, Bikefests, the 'Gathering-In' community

festival, film shows, workshops, published integrated public transport timetables and supported other organisations such as Dunbar Community Woodland Group and Dunbar Arts Trust.

We seek to be an enabling organisation, providing a core service to initiate, facilitate and support local projects that are in line with our aims. We also aim to become self-financing, with a web of social enterprises, including community owned energy generation, feeding surplus income into a community investment fund.

Phil Revell is one of the Project Coordinators for Sustaining Dunbar. Further information available at: www.sustainingdunbar.org



(Image: Sustaining Dunbar)

The importance of Passivhaus

by Chris Morgan

Passivhaus [a low-energy building standard developed in Germany in the 1990s and becoming increasingly popular in the UK] has become something of a divisive issue of late, within SEDA and to an extent in the AECB. I think this is a shame, but I also think it's a mistake and that we should know better.

Firstly, it doesn't help that a good deal of nonsense has been written and said about Passivhaus design. I've read a number of statements about Passivhaus design that are not true, or are misleading. This is not the place to start refuting or clarifying specific things, but it doesn't help! Conversely it is true that, like any new idea, there are those who believe Passivhaus is the answer to all the world's problems, which is equally unhelpful, but this happens with any 'movement' and we need to see past that.

Secondly, at a basic level, Passivhaus design in cool climates involves five key elements: super-insulation, elimination of thermal bridges, high levels of air-tightness, high performance triple glazing and heat recovery ventilation (HRV). I suspect that everyone in SEDA understands that it is important to be energy efficient before you start playing with renewables, so it's worth stressing that Passivhaus is almost entirely about reducing demand before even thinking about supply. Four of the five key elements are simply about better insulation and air-tightness. What's not

to like?! My sense is that the HRV is the only really controversial aspect. I too have my concerns about HRV, but it's only part of the story.

Thirdly, when I was learning about sustainability at University, I was very conscious of divisions within the body of thought on the subject. 'Serious' energy efficiency types didn't approve of wasting time on embodied energy, or the 'healthy building' stuff, and certainly didn't approve of esoteric drivel like 'spirit of place' and other, soft, aspects of sensitive design. Conservation types didn't approve of anyone much, while Architects with a capital 'A' didn't rate any of the poorly-designed crap that passed for 'green' design, or the sort of participatory, 'non-design' that Community Architects offered. Those Designers living and working in the city were convinced that 'true' sustainability involved sorting out the cities with fewer cars, good public spaces and some allotments, while profound rural issues remained largely ignored. Others dismissed the whole issue because it didn't deal with population growth, or the existing built stock, and so on.

Why is it so hard to see that all of these things are relevant and valuable lines of investigation and, moreover, that they are all intimately connected?

To me, Passivhaus versus "real sustainable design" (as it was put to me recently) is simply another example of invented divisions

where none exist. If creating, conserving and supporting life is our goal, then all efforts to do this are worthwhile.

Fourth, diversity of opinion is a good thing. How many of us can put our hand on heart and say that we, solely, know everything about ecological design? Assuming that most of us would acknowledge our limitations, it follows that we can only learn new things from other people, doing different things from us. It's crucial, rather than undesirable, therefore, that there is (bio)diversity in approach in order for us to progress. So let's not dismiss what the enthusiasts uncover in their efforts to grind down those energy figures. Meanwhile, the sceptics may indeed discover alternative ways of achieving the same benefits with less technology. I for one will be very happy if they do.

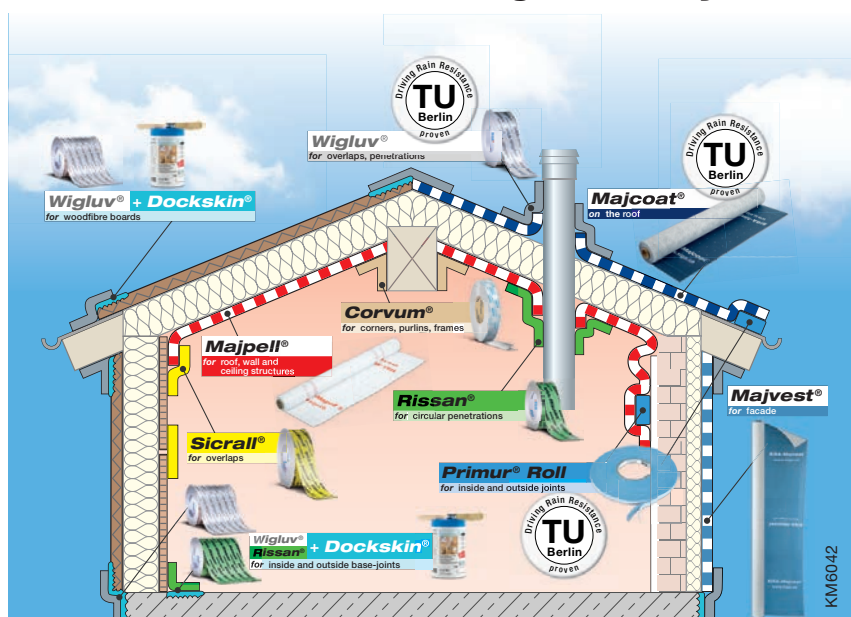
I too was sceptical when I first heard about Passivhaus design: it struck me as too 'techy'. Well, it is 'techy', but I can only stress that having gone through the [Certified European Passivhaus Designer, CEPH] course and the design and build process in some depth, I'm sure the benefits comprehensively outweigh the potential risks. Moreover, those risks will only be understood by building examples and examining carefully what happens, so it is important that some of us have a serious go at it.

So, what's the importance of Passivhaus? For me, the Strathclyde [CEPH] course and my immersion into the rigours of Passivhaus design have taught me a huge amount. I'm grateful for that, and glad to have the knowledge and skills to reduce energy use in my buildings to a tiny fraction of what I could before. None of which prevents me from remaining every bit as motivated as before in all other aspects of ecological design.

Someone wrote of our age that "the genius for fission is our outstanding trait" Those of us in SEDA are used to stitching these things back together. For SEDA, perhaps the importance of Passivhaus could be to remind us of these things: Passivhaus is a good thing, not a threat, and it's a legitimate part of the wonderful matrix of things we're all trying to understand. Let's stop constructing unnecessary divisions between ourselves, there are plenty of them already and, please, let's all appreciate each others' efforts. For me, that's always been the best thing about SEDA, it would be a terrible thing if we managed to lose that.

Chris Morgan is a Certified Passivhaus Designer and long standing SEDA Member.

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For more information contact SIGA: Jason Byrne, jbyrne@siga.ch

The engine is not responding!

A critique of the automatic energy-saving home

by Bjørn Berge

With the new Norwegian building code of 2010 - and expectations concerning the regulations fixing them to Passivhaus standard from 2015 - we are about to pass a milestone in Norwegian building tradition. For the first time the "requirement" for mechanical [ventilation] systems is being brought in as a prerequisite for living. That the direct energy and climate effects of these measures will often be questionable, and that it also raises serious indoor climate problems, is gradually becoming a part of the public debate. This article attempts to penetrate deeper into some of the social, political and cultural aspects of this, which must now be called a fateful paradigm shift.

"The first time I flew in an intercontinental Airbus, I was told the story of the technological principles behind them. It is possible that it is a myth, but it was said that the plane was so optimized and highly tuned with the speed and fuel consumption that it could no longer be controlled by humans, but was dependent on a wide range of computers to keep the height and balance. The pilots were there primarily to ensure contact with the airports around the globe, and perhaps also for appearance's sake. Manual override was impossible and if the electronics failed the plane would hit the ground."

With the changes now being implemented in the building sector in Norway and most EU countries, the same procedure will also soon apply to our houses. Indoor air quality and energy management will increasingly be at the mercy of finely-tuned machinery that is beyond our influence. Control systems for temperature and lighting, fully-automatic boilers and blinds, heat pumps, heat exchangers and balanced ventilation system will take over the jobs we have previously done for ourselves by opening and closing windows, putting on the heating, dressing in sweaters, turning lights on and off, drawing curtains, etc. And the assertion that they can apparently also do the job better than us has legitimized an aggressive marketing and subsidy policy, with the stated goal of as many people as possible taking up this new technology.

Together with this summer's changes to the (Norwegian) Planning and Building Act was also the first injunction. Everything

that is built and refurbished in the future will be required to be provided with a balanced [mechanical] ventilation system with heat recovery. Although not expressed directly, this is the consequence when the energy and ventilation sections of the regulations are seen in context. In 2015 there will be an introduction of the Passivhaus standard, and from 2020 probably a pure zero-energy standard; in both cases, these measures will intensify the use of technology even further. In parallel with this development is now the so-called 'smart' house, which in addition to the arsenal of energy-saving measures will also include a range of extra benefits, such as safety mechanisms for the elderly and disabled:- Are the doors going to be closed and locked? Is the cooker switched off? And, taken to its next level: is the heart rhythm good? Should medication be taken, etc. These are all actions with the best of intentions and, thus, as with the energy measures, very suitable for inclusion in future building regulations, under the sections on Universal access, Fire etc.

Growth economics and technology choices

In the EU's energy directive from 2008, which forms the basis for the new Norwegian building regulations and the plans for a general Passivhaus standard, great importance is attached to the potential for growth in jobs.

Expectations mobilize equity markets. In the movie, "Money never sleeps", the arch-capitalist Gordon Gekko says that "green is the new bubble." The Economics of our system will apparently not work without growth. In economic theory, there also exists the term "built-in obsolescence". And if products also can be said to be for a good cause, it gradually becomes almost routine for the authorities in European countries to submit to the feeder stimulus. It is also increasingly claimed that specific products should be used, and thus quite logical that natural ventilation is rejected in favour of more complex and highly-mechanised ventilation strategies.

In Report No. 7 the government determines that Norway has to "contribute to the development of technology that helps to show that it is possible to decouple economic growth from growth in greenhouse gas emissions." According to a number of economists and ecologists, this is an impossibility on a par with the search for the per-

petual motion machine. In reality, by its nature, the economy is an open subsystem subordinate to the earth's ecosystem, which in turn is finite, without the possibility to grow and it is a materially closed loop. As long as the economic subsystem grows it will incorporate more and more of the total ecosystem, until the limit of 100% is reached.

And what about residents?

The results of technological development have always been presented as social and cultural progress. New inventions in medicine, transportation, communication, education, economy, housing, etc. are all considered as a kind of inevitable evolution and enhancement of culture. But often we have not seen the scope of procurement.

In the building sector we have seen the consequences, whereby a wide range of building materials introduced over the past fifty years have been shown to emit harmful gases into the indoor environment.

Technologists seek ways to keep the focus on the object and what is new and groundbreaking about it, while ignoring the restriction to the social environment into which the object is to be introduced.

"We do not know where we are going, but we are on our way",

Langdon Winner

The house as an incubator or self-expression?

In the interwar years Le Corbusier dreamed of building anywhere on the planet with "une respiration exacte." And so it was, the indoor spaces in which we spend 90% of our lives, become more or less fully air-conditioned, with overall control given to management systems. A necessary foundation for this automation has been to establish the exact comfort level that everything is to be controlled for.

The EU standard for comfort is based on the so-called PMV scale, developed by the Dane, Ole Fanger. It includes air and radiant temperature, air velocity and relative humidity, with 0 on the scale representing "I feel neither cold nor hot." The reference condition of comfort thus defined as a perceptual absence. The same method is applied for the norms of smell, where the 'absence of smell' should be sought.

The result is that buildings must be well ventilated while simultaneously meeting ambitious energy-efficiency targets, as now



required in Passivhaus buildings where it has been necessary to add heat exchangers on the exhaust air together with their the associated controls. There are several ways to arrange this. A widely-used method means that the air quantity is regulated by CO2 sensors in every room, where the CO2 concentration is expected to indicate the user load. This thus remains a pure automation technology based on the PMV scale, and must not be confused with user control. The resident's own sense of adventure will continue to be overridden, and therefore we arrive very close to a passive incubator state.

In fact, studies have indicated that it can be positively beneficial to have fluctuations in thermal conditions, and that the threshold for "0" on the PMV scale will be dependent on sex, menstrual cycle, race, obesity, season and time of day. Age also plays a part: children naturally like to have conditions that are cooler than adults, but they can quickly become socialized to warmer environments. The consequence may be

that our children will choose a higher temperature faster, which will inevitably lead to higher energy consumption nationally.

Technology stands, in many cases, between nature and ourselves. Perhaps also between our own nature and ourselves. And it regulates our relationships instead of us regulating them.

But where did the saved energy go?

While the building regulations from 1960 to 1990 gradually became tougher, insulation requirements and technological developments simultaneously launched more energy efficient materials, heating and ventilation systems, energy consumption rose in the housing stock in the same period by almost 40%. The background was a simultaneous rise in floor space. But for apartment buildings there was also an increase in energy consumption per square metre, as we have expanded the heating season and turned up the room temperature, and larger parts of the area warms up, partly because the storage areas in the

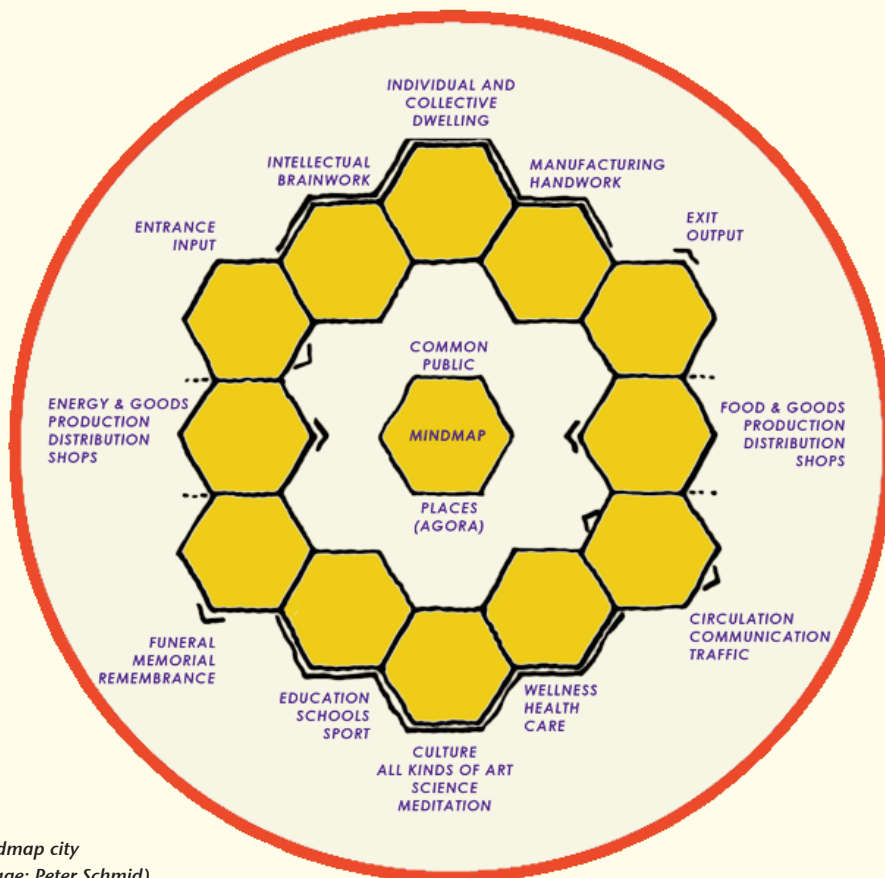
basement and attic are now almost completely integrated into the heated areas of the house.

The phenomenon is described as "the rebound effect" and the background is this: when energy use is reduced, households release a greater proportion of their salary for other purposes. Several consumer researchers have already noted that, in addition to building bigger houses, people are also renovating and replacing furnishings more often. In addition, the desire to travel rises and we buy more electronics, clothing and other consumer goods, which in most cases are produced with low efficiency coal-burning in Asia. The result of energy-efficiency in the building sector can thus, in the worst case, be that the total greenhouse gas emissions rise, so-called "back fire".

Bjorn Berge is an architect with Gaia Lista, Norway.

Human(e) – Ecological Architecture: Considerations on the State of the Art and the Aims of Deep-Sustainable Building

by Peter Schmid



Mindmap city
(Image: Peter Schmid)

Congratulations to SEDA on your long lasting pioneering work! Two decades ago I had the opportunity to visit an interesting and mould-breaking exhibition of student projects in Edinburgh. The exhibition was organised by SEDA, and the projects contained many innovative ideas in the field of healthy, energy-saving, and environmentally sound building.

A General Critical Introduction

After many, large, man-made disasters in our natural and social environment architecture and building on all scales should (again) closely attune itself to the life-supporting qualities of the ecological re/cycling processes. In nearly all countries now there is clearly a growing consciousness concerning the need of so-called 'greening'. We need a 'green', or 'greener' approach, behaviour, and technologies in the various fields of our civilisation.

Meanwhile we are actually experiencing a major development of highly sophisticated technologies: besides information and



Cyclone Shelter

by Gordon Peters

Gordon Peters came across a free-verse poem he did while in Bangladesh in 2004 about a cyclone shelter on the island of Hatiya in the Bay of Bengal, which was an amazingly well-thought-out and constructed building (it regularly housed about 60 workers in computerised work stations yet had no doors and glass windows - but plenty of open bits and curving design and all made with locally rescued materials and serving as a training horticultural space for women with the motto 'from disaster to development' run by a local Bangladeshi NGO)!!

Cyclone Shelter

It was not so much built to withstand
as built to stand with
---the teeming people of that place,

the hurling winds from the Bay as they
would roar and vault and bend

the coconut palms double yet funnel
through curving open windows,
and anointed with island dyes, the building
blocks themselves reconstituted from the
concrete of the disappearing hospital

as it

slipped

into

the shifting oceanic mud.

This was a place everyone could run to; an
open place which undulated while being
still and

stood immobile while being

lashed;

a place with sitting in corridors and walk-
ing through rooms,
computers that folded back upright after
the storm - unharmed;
women in saris who weren't afraid;
the permaculture plots in its elliptical belly
always breathing, regrowing,

awaiting new plants
from women for whom this would be their
only future husbandry.

Gordon Peters is a resident of Edinburgh.



*Shelter staff, with shelter in the background
(Photo: Gordon Peters)*

communication technologies there is, for example, the fast-evolving development of gene- and nanotechnology, applied in more and more corners of our daily life. Impressive inventions for the most complicated and amazing of applications are taking place; not only for our wellbeing, for which they are usually promoted, but also for warfare - and sometimes on a gigantic scale.

Energy-saving or even energy-producing processes and objects including housing are hot items. Efficient systems for production, traffic, or for elderly people, - often at the cost of high-energy consumption - can make people more and more dependent on these systems. However, the impact of most of these on the quality of our lives is certainly not yet clear. We generally notice threatening developments where it concerns loss of privacy, or the growing pressure from corporate business to obtain monopolies over various key products, such as food or herbs - sometimes even using (legal) prohibitions that prevent ordinary citizens access to their legitimate rights to healthy and clean food and medicine. However, our modern age shows many contradictions in the way we are building our culture.

Looking to Building

Against the background of the above we need to try to find an ethically responsible way to build and to manage our lives and

habitat together with all our neighbours, in both the short and the long term.

The needs for Human(e)-Ecological Building are to be found in two main areas: First there is the historical basis. Many centuries ago - before the age of industrialisation and its use of energy on a large scale - we can find quite responsible behaviour towards the natural environment, using it in a relatively modest way for the creation and maintenance of culture and civilisation, including housing and other buildings.

And then there is the basis of our current demands. Ecological and technical catastrophes, depletion of non-renewable energy and material resources, and large-scale illnesses, as a consequence of a form of civilisation alienated from Nature - including Sick Building Syndrome - are reasons enough for a serious pursuit of resolving these burning problems. We have been confronted with these problems since the middle of the 20th century.

The combination of these two factors brings us towards human and humane (especially psyche-related) and ecological building (Integral Bio-Logical Architecture). It continues the original and 'healthy' approach of the past, and it answers the urgent demands of the recent past and our time.

The State of the Art - More Specifically
A superficial browse through current

publications shows, nearly worldwide, that 'greening' in nearly all sectors is fashionable 'Greening' as an approach in which 'simply' a revival of a nature-orientated attitude is apparently taking place. A more careful review actually makes clear that many of these 'green' approaches, behaviour, processes, and products don't take all the relevant components of the whole scene - integrally - into consideration.

The pre-requisite for 'deep-green' - i.e. for a human(e)-ecological-response - can only be given if the demands for healthy and environmentally-friendly qualities are fulfilled concerning all related pre-conditions, side effects and consequences, locally and globally as well as in both the short and the long term. We are currently a long way from a building culture that could be characterised as having such characteristics.

Few will be ignorant of the fact that the fundamental reasons for this situation are not (only) to be found within the building scene. There are nowadays political, economical or commercial powers, which significantly guide the world. Nevertheless it is essential that a change towards a better world should come from every angle.

Peter Schmid is Founder and President of the Global Network of Organisations for Environmentally Conscious and Healthy Building (ECOHB).



Old bones tell remarkable stories – The Sustainable Calendar

by Dilly Ward Bundy

Excavations of human bones from Anglo-Saxons grave circa 1000 A.D. show that people living then were as tall as us, their limbs were as sturdy and their teeth as strong. And for those who choose to interpret 'design for living' as a coherent or purposeful pattern for living, these are facts to seriously consider.

Other sources of a similar date also tell remarkable stories. The Julius Work Calendar is a rare 12-page manuscript produced at Canterbury Cathedral. It combines recitations for saints' festivals with lively sketches depicting a range of monthly communal activities - from ploughing fields, sowing seeds and animal husbandry to hay-making and harvesting with scythes. And the bottom line? Exercise! Physical hard graft!

Unfortunately for those involved, these activities went on all year round, from dawn to dusk, in all weathers, and no shirking. We know this from another remarkable Anglo-Saxon document written by Aelfric, a Wessex schoolmaster and later Abbot of Eynsham. His instructional dialogues offer wry observations about daily life, vividly recording just how tough and dangerous working the land could be.

But his account must be tempered by a reality very few experience today - that of the security offered by 'tied' living and communal interdependence. Where the system worked well, the lord of the manor or local bishop offered an umbrella of protection for his tenants, bondsmen and servants. They in turn laboured to provide an annual tithe, which, once paid, allowed them to pursue enterprises like pannage and course-fishing.

So prosperous were these rural communities, a surfeit of grain offered significant trading opportunities. We have that evidence from buried treasure - hordes of high-grade Anglo-Saxon silver coins. The coded hieroglyphics on these coins indicate an economic and administrative system so sophisticated that, across the sea, first Viking and then Norman neighbours grew increasingly restless for part of the action.

And that has been the surprise. Our Anglo-Saxon ancestors created an enviable civilisation unmatched in northern Europe. They thrived on a simple, wholesome diet, breathing clean air and suffering little noise. Lean free-range animals provided their meat and this contained three times as much protein as fat. Ploughland was for feeding humans only. If the work was

tough, the resulting tithe barns full of grain provided communal satisfaction. And exercise brought its own reward - height, strength and relatively good health.

Life, however, was not all hard labour as the Julius Work Calendar shows. Saints' days and holy festivals were much anticipated opportunities for celebratory communal feasting. Mead was the drink of choice, a highly potent beverage brewed from crushed honeycomb residue. As revelers squashed together on benches, gorging themselves on roast meat and knocking back goblets of mead, they could be philosophical about occasional bad harvests and seasonal months of famine. Conviviality was key to Anglo-Saxon living.

And so from our perspective circa 2000 A.D., can we learn anything from these people who thrived a thousand years ago? If we can, then what we learn now may help us implement a more sustainable mode of living for future generations; one that may offer the chance to survive until 3000 A.D. and beyond.

Dilly Ward Bundy, MA, lives in Menorca, Spain. The island is one of UNESCO's Reserves of the Biosphere dilly@wordcurves.com

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Growing up with Stories

by Claire Hewitt



Claire Hewitt

Since the dawn of language, story has had its place in explaining the world and, as humans, who we are and what is required to grow a mindful and inter-dependent community.

"Storytelling is an essential part of human experience, dating back to the emergence of language in all cultures and is an interactive process dependent on direct communication between teller and listeners" Bea Fergusson, Storyteller.

In the shelters that protected us, round the fire, a tale would be spun to warm the cold endless nights and bring communities together, young and old. This ancient oral tradition was carried by the travelling Tailor, Cobbler or Tinsmith, maybe the Thatcher or Spinner or Weaver. When the day's work was complete, and the belly full, the village would gather to hear an old tale from the Long Ago Time, maybe a sad lament or a life story to cheer the soul. And as the story unfolded, hands were never idle: a baby's shawl, a carved wooden doll, warm woollen socks were created, and imbued with the magic of the tale.

So how can Storytelling enrich our communities and make a difference? What place does it have in the bringing together of people and the building of sustainable communities? How can it create opportunities for passing on hand and lifeskills from older to younger generations and the stew-

ardship of the rich fauna and flora of this land?

In Highland Perthshire I have been whit-tling away to establish Storytelling and Storymaking as an essential intergenerational and educational resource while contributing to the creation of a Story-rich community. Travelling from school to school, village hall to Storytelling yurts and tipis in the woods, local folklore, songs and memories have been shared between young and old. Through a project in remote rural schools called 'Felt Story' we have created felt story panels together, and kneaded bread-dough with families while telling a tale or three of course! A 'make do n'mend' textile project at Stanley Mills brought SWRI womens' knitting and stitching skills together to create an early years soft toy resource, and, as the hands worked, the stories of these women's lives were shared over a cuppa and some fresh baked cake. And as the women began to grow in confidence they found ways to pass on their skills to children, and with them their knowledge and stories from a long life of learning!

I am also involved in a wonderful project called 'Woodlands, Words and Wonders', created by Perth and Kinross Countryside Trust. We take children out of the classroom environment and out into a woodland within 20 minutes' walking distance from their school, and spend a whole day having great fun while learning about useful plants, trees, wildlife and bush-craft, and listening to stories and creating new tall tales! We hope we will encourage teachers to use outdoor classrooms more, and Storytelling too, and also inspire the children to discover the magic of the out-

doors away from computers!

If we wish our children to grow up as responsible humans with respect for each other and the planet they live on then Storytelling and Storymaking has a place in this. It builds strong roots in a community and keeps us connected 'Eye to Eye, Mind to Mind, and Heart to Heart' as the Scottish Travellers would say. Simple things like gathering round a kitchen table, the smell of a honey sunshine cake baking and a fabulous story to share with a cup of tea and a warm fire. Or maybe out in the woodlands, on a cold spring morning, when dragons' breath rises from every mossy mound and sharing a tale under an ancient oak. Children LOVE den building, so what better way to introduce them to ecological design and environmental building issues than slapping on sticky mud on hazel hurdles after a traditional folk tale!! And the stories we share whilst our hands are busy, are there to support and guide us through out our lives. They will always be there, we just have to listen, see, smell, touch, taste and sense them in...

*The words we speak and the songs we sing,
In the pictures we draw and stories we write,
In the bread we bake and the pies we make,
In the seeds we sow and the flowers that grow,
In the paths we walk and the hills we climb.
In the swans we spy in the deep blue sky.
Listen – like a fox, hear the mouse underground
Listen and follow the bird's sweet sound.
Follow the song to the faerie mound...*

Claire Hewitt is a storyteller based in Aberfeldy, Perthshire. www.clairehewitt.co.uk www.scottishstorytellingcentre.co.uk



Making a Storycoat
(Photo: Claire Hewitt)

Our right to health

by Heather Harbison

A healthy attitude means taking responsibility for our own health and wellbeing. In order to do this, we need the freedom to make choices.

The Traditional Herbal Medicinal Products Directive, which went through on 30th April 2011, bans the use of any Herbal Remedy not registered under this scheme.

Health of the human being is multi-faceted. It includes health of physical, emotional, mental and spiritual aspects. Our health cannot be viewed in isolation, for we are part of our environment, part of nature and part of our universe. We have the right (or should have) to choose what we eat, how we exercise, what life-style we embrace, and what spiritual belief we hold. If we choose wisely, then we might expect to have relatively high levels of energy and to experience good health. However, when

things go wrong, and get out of balance, we need to look for help. I believe that at this point we should be able to use our responsibility to look for the therapy of our choice, to restore our wholeness, our state of wellbeing.

Systems of traditional medicine have been in operation for thousands of years in many parts of the world. They are systems of good health, used to maintain the health of the 'Whole Person', and often used in a preventative way. The theory of Chinese Medicinal thought is an integral part of Chinese philosophy. The energetic patterns found in a person relate to the energetic patterns in the universe (5 Element Theory). Ayurveda (the system developed in India) means 'The Complete Knowledge for Long Life'. Both these traditional systems use herbal remedies, as well as various forms of massage and exercise, to maintain good health and longevity. Yoga

and Taoist forms of exercise, including Chi Gung, Tai Chi and meditation were developed so the individual could keep the body and mind in excellent working order! In China and in India traditional medicine is always the first option: if it doesn't work, they will look at Western methods. We should be allowed to follow this course of action if we choose.

In the West, herbal remedies have also been used for many, many years. More recently allopathic medicine has been developed to treat symptoms of ill-health. This system treats specific symptoms, largely by using drugs that have been created by large pharmaceutical companies. By treating a symptom in isolation, this symptom can sometimes be reduced, but often the cause that underlies its development is not addressed. These drugs often have side effects that influence other aspects of our health. Dependency on doctors and drugs

Just a little bit of soap

by Janice Foster

There's a very good chance that you know someone who has suffered from eczema or a skin condition, but have you ever stopped to think that it could be linked to the products that come into contact with our skin?

This miraculous organ - a human's largest - forms our natural heating and cooling system, as well as providing protection from the environment, so it's worth considering what we put on it.

The majority of people in the 'developed' world use skincare products such as soap, shower gel, bubble bath, shampoo, conditioner and moisturising creams every day. Our increasingly consumerist society means these are often purchased simply because we like the look or smell of a particular product or the packaging. However, it is worth approaching these with a degree of caution, as the majority of products contain carcinogens, neurotoxins and other hazardous substances; all of which are specifi-

cally designed to be absorbed by the skin.

Sodium Lauryl Sulphate (SLS), used in the vast majority of skincare products to produce the foaminess with which we all associate effectiveness, was originally developed as an industrial degreaser. It is understandable, therefore, that SLS strips our natural oil layer and irritates the skin.

Sodium Lauryl Ether Sulphate (SLES), a very close relation of SLS, is less abrasive and foams more, but is an oestrogen mimic and thought to increase the chances of breast cancer, endometrial cancer, stress related illnesses and lower sperm counts. Parabens, another very common ingredient in skincare products, are known to be hormone disruptors that affect fertility in both sexes and, more recently, have been linked with breast cancer.

Ultimately these products are washed down the drain or sent to landfill, where their effects continue. Many common skincare ingredients are toxic to the aquatic environment and do not break down quickly.

So where does that leave our morning routine? If you've just been through to the bathroom, made a pile of things to go in the bin and are wondering how to cope, you'll be glad to know that there is good news.

A revival in natural soaps and skincare products is emerging as a cottage industry across the globe, with the main focus being on natural and benign ingredients like flowers, petals, vegetable oils, plant extracts and essential oils. These do not contain petrochemicals, parabens or SLS and the only by-product created is glycerine, which is highly moisturising. Ironically, in commercial soap manufacturing the glycerine is extracted and sold separately, often as skin moisturisers to repair dryness originally caused by the commercial soap!

As always, the proof of the benefits of using natural products is in the using. To alleviate some eczema that had recently appeared I decided to stop using synthetic soaps and moisturisers and try natural soaps. Unfortunately many 'natural' prod-



reduces our ability to take responsibility for ourselves, and strips us of our freedom of choice.

The multi-million pound companies that make the drugs for symptomatic use can afford to run long and elaborate research programmes and tests. The test runs look at one drug for one symptom. Does the drug make the symptom better or not? That is relatively easy to measure, so you have a result. Herbal medicines, acupuncture, homeopathy and other treatments are more subtle. They do not lend themselves so readily to scientific examination because they affect the energetics of the whole person, and people vary! Many more factors are involved and the reactions of individuals differ. The results that a regulatory body wants, of a cut-and-dried nature, are not easy to obtain. This directive will therefore put a lot of products and small companies at risk.

I believe it is right to ensure that any medical practitioner is trained to the highest degree. In this country, the training necessary to carry out herbalism, acupuncture, homeopathy, Shiatsu, massage and many other therapies is extremely rigorous, and is taken very seriously by the relevant professional societies. It is short-sighted and highly offensive to those who have spent their lives studying and practising to develop an expertise in therapy, that a ban will be allowed to block their activities.

CAM (Complementary and Alternative Medicine) state that: 'It is time to create a healthier system of healthcare that focuses primarily on prevention, but which integrates the best of CAM with the best of allopathic medical care to provide a more holistic approach to healthcare'.

With the present ban in place, and with the present attitudes of the regulatory bodies, we seem to be a long way from this. Let

us all work together to ensure that we make progress towards this end, that we get a more balanced view on what our healthcare system allows, and encourages us to do, and that we don't lose our right to select the medical care of our choice.

The Alliance for Natural Health is preparing a challenge to the EU directive (The Traditional Herbal Medicinal Products Directive). The first stage of their challenge will be a Judicial Review in the UK High Court. After this they aim to take their review to the European Court of Justice. Please look out for info, and support the cause.

Heather Harbison is a Herbalist.

ucts on the market still contain synthetic fragrances, colours and chemicals and palm oil: 'green wash' you might call it.

To get round this the last resort was to start making soap that only uses natural ingredients. And it actually cleared up the eczema. Comments from friends, family and husband have all been positive too, with others noting that minor skin irritations have disappeared.

With only a little research into skincare ingredients, the amount of information and evidence on their potential effects is astounding. The (pre)cautionary plea is to check the label to ensure that the product IS natural and, above all, protect your skin, as it works hard to protect you.

Janice Foster is an Environmental Services Engineer and soapmaker.



Nettle soap
(Photo: S. Foster)





Uist Eco Film Festival

by Andy Mackinnon

The inaugural Uist Eco Film Festival took place from 29 April to 1 May in Benbecula, Outer Hebrides. A collaboration between Taigh Chearsabhagh Museum & Arts Centre and Sustainable Uist, the festival presented 35 films over three days plus related events focussing on climate change and sustainability issues in island and maritime contexts. These included the UK Premiere of *Climate of Change*, narrated by Tilda Swinton, and the Oscar-nominated *Waste Land*. The festival was the first specifically environmental film festival in Scotland, just ahead of the National UK Green Film Festival.

A regular film club, Film Friday, has run at Taigh Chearsabhagh over the last five years screening indie and art house films that wouldn't get to the Uists on the Screen Machine, the mobile cinema which tours throughout the Highlands & Islands. In 2009 Taigh Chearsabhagh showed the *Age of Stupid* at a Film Friday night as part of the film's European-wide premiere with a live webcast Q&A session after the film. At the end the audience collectively decided to form what became Sustainable Uist.

Sustainable Uist has developed exponentially since then, and thanks to a second round of Climate Challenge Funding, will soon support six full-time posts researching and developing environmental, carbon-reducing projects. Raising awareness of environmental and sustainability issues is a key part of Sustainable Uist's remit – so the idea of the Uist Eco Film festival was born.

Marketing the festival was done almost entirely online with its own dedicated website (uistfilm.org) and Facebook page started up 3 months prior to the festival, although we did manage to get some coverage on Radio Scotland and TV and radio news packages on BBC Alba. Another mar-

keting ploy was a 90-second cinema trailer, which played before the main film programmes on the ScreenMachine, and at An Lanntair art centre cinema in Stornoway, Club Film in Sleat on Skye and in Taigh Chearsabhagh's cafe throughout April.

We attempted to make the festival as low-carbon & paper-free as possible. Only 3000 double-sided A5 promotional flyers were printed for distribution in the Outer Hebrides and Skye, plus daily programme handouts at the festival itself. Our Skye-based printers, Strath Print Ltd, use recycled paper stock and vegetable-based inks.

The festival attracted an audience, mostly islanders, of around 350 over 12 free screening sessions. The weather was incredible! We estimate that we could have doubled our audience had it not been for the sun splitting the skies. One of the eco features of the festival that we were really looking forward to as a very engaging and interactive demonstrator of energy use was our bicycle-powered generator running a LED projector screening films in the festival café. Alas, we only received the generator on the second day of the festival and proved to be faulty once we set it up.

Programming the three festival strands – what we've got, how we stand to lose it & how we can change the situation – was undertaken over an extended period, trawling the internet for what new environmental films were coming and what was proving popular at the latest eco film festivals around the world. We were especially pleased to secure the UK premiere of *Climate of Change*, directed by Brian Hill and written by Simon Armitage, which was a bit of a coup for such an unknown and new festival. There was a significant grassroots element to the programming with a screening session focussing on locally-produced short films at which a new film pro-

duction scheme, *Uist Get Reel*, was launched by Taigh Chearsabhagh, probably the best-resourced arts venue in Scotland for digital media production.

The festival encouraged debate on sustainability in an island and maritime context during post screening discussions with special guests including Ruth Little (Cape Farewell), Lucy Conway (Eigg Heritage Trust), Angus Aynsley (Waste Land producer) and the prominent Human Ecologist, Alastair McIntosh. A panel discussion after the Scottish premiere of the *Economics of Happiness* and Alastair's keynote was chaired by Prof. Jan Bebbington of St. Andrews University Sustainable Development faculty. Other filmmakers we would have loved to have invited to attend but could not for both budgetary and environmental concerns, including Robert Macfarlane, Leo Murray and Brian Hill, provided introductory video messages to show before their films.

The festival was funded by Regional Screen Scotland, Scottish Islands 2011 and the Climate Challenge Fund. Substantial in-kind contributions from Taigh Chearsabhagh, who are supported by Creative Scotland and the local authority Comhairle nan Eilean Siar, and Sustainable Uist and their respective memberships made the whole festival possible.

We hope to build on the success of 2011 and develop an annual event perhaps in conjunction with other Highlands & Islands organisations as part of a touring festival.

Andy Mackinnon is the principle organiser of the Uist Eco Film Festival.

<http://uistfilm.org>

<http://taigh-chearsabhagh.org>

<http://www.sustainableuist.org>

<http://alastairmcintosh.com>



**Uist
eco
film festival**





Logo-motives

by Sebastian Tombs

What's in a logo? In a world of Brand imaging, a logo can be seen as something of a visual cliché, inducing lazy thinking rather than, perhaps, the lively imaginative thinking that SEDA members might prefer to be associated with. Nevertheless, the image which the SEDA team chose, (with his approval, of course!) Aldo van Eyck's subtle and gently humorous inversion of two archetypal pictures of 'leaf' & 'tree', still resonates positively for me. Turning clichés 'on their heads' is a good way of waking people up. And that is what we're (still!) trying to do, 20 years on.

The logo, in its essence, is showing how interconnected everything is: from small to large - from part to whole, from local to global; how we need to have multiple scales in our contemplation as we design, and to give adequate value to them all. And the logo's use of living things emphasises

the dynamic and organic nature (!) of sustainable living, reliant as we are on the beneficent forces of life, light - even love - for successful and wholesome environments and human interactions.

Lastly, the logo is a continuing tribute to one of the 20th Century's most humane of designers, Aldo van Eyck, for whom the richness of human life had to be the primary objective, in the face of a zealous movement in which "form(alism) follows function(alism)".

All of these aspects of the SEDA logo still hold true for me. But perhaps occasionally, we could keep our message refreshed by using the logo upside down, or back to front? And would you even notice?!

Sebastian Tombs is a founding member of SEDA.



DESIGN, INSTALL AND COMMISSION

IDES ENERGY SOLUTIONS is the brand name for DANN LIMITED'S (www.dannlimited.com) renewable energies department.

IDES ENERGY SOLUTIONS gained their MCS accreditation in January 2011 and since then have been involved in designing, installing and commissioning not only roof mounted systems but also ground mounted arrays.

IDES ENERGY SOLUTIONS may well be seen as the 'new boy' to the solar PV market but they can draw on their 25 years of experience in the electrical and security industries having served commercial, developer and residential markets installing electrical, security, building management systems, multi-room music, home cinema systems and acting as system integrators to make the installations seamless.

IDES ENERGY SOLUTIONS see solar PV installations as a natural progression to the services it can provide to their clients and also intend to add further renewable technologies later this year.

IDES ENERGY SOLUTIONS have also completed installation of their 'SIMPLICITY ENERGY MANAGEMENT' system into the ROYAL BOTANIC GARDEN in Edinburgh to measure electricity usage in 'real time' providing the management team with invaluable information on consumption and costs. This has proved a valuable tool and it is anticipated that this will also be rolled out to include water and gas.

Should you wish any further information
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www.idesenergysolutions.co.uk



Bringing It All Together

by Andrew Guest

As principles of sustainability in architecture and design move slowly from fringe to mainstream practice (although the extent to which this is happening fast enough is, of course, a matter of debate) what do we mean by ‘ecological design’ and who are ‘ecological designers’?

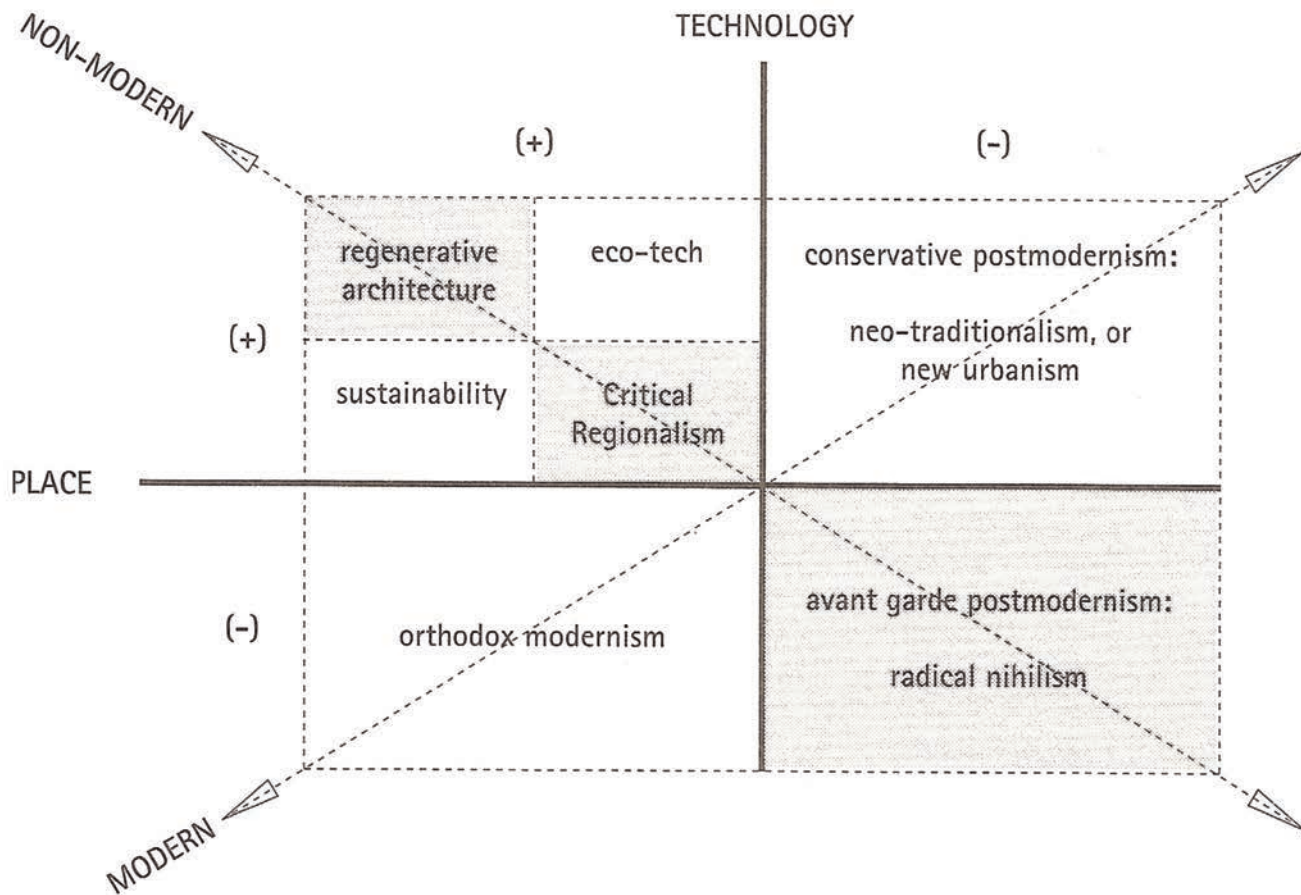
I write this not as a designer, nor purely as a bystander, but as one whose career has been spent creating communication between professional and public in the fields of culture, art and the environment. Although I first became interested in the issue of sustainability through architecture I have also explored it in relation to other areas such as food and waste. I presume all ‘ecological designers’ share a sensitivity to the use of natural resources and an overall concern for the quality of the environment, ranging from increasing biodiversity to

reducing pollution; in urban design I assume that they would aim to reduce the need for transportation and build in measures such as encouraging the local growing or sourcing of food. I also imagine that ecological designers are committed to these principles in their personal as well as their professional life, and that the barriers between their personal and professional lives therefore become blurred. From all of these presumptions I conclude that a key aspect of ecological design is a holistic understanding of the relation between the private and the public, and the local and the global, and of course of the interdependence of humans and nature.

But there is a need to extend this holistic viewpoint to the concept of design itself, and to confirm that ‘ecological design’ should be about much more than buildings and materials and resources, and even sites and places. Just as ecological designers look beyond the object of the building to its site and its relation to natural resources,

and just as a fundamental consideration of sustainability is about changing the way we live so that we consume less rather than rely on technological solutions to increase resources, so ecological designers should be at the forefront of promoting the full reality of architecture being about people rather than objects or even ‘places’. In the changing landscape of relationships between individuals, the state, civil society and the corporate sector, ‘ecological designers’ have to be clear about where they fit.

Steven Moore, an architect who writes about regionalism and about sustainability (of course intimately connected), sets out such a role for designers as the third of his eight-point ‘Nonmodern Manifesto for Regenerative Regionalism’. ‘Rather than construct objects, the producers of regenerative architecture will participate in the construction of integrated cultural and ecological processes.’ He goes on to explain this in the following terms - ‘Historically,



Steven Moore’s matrix summarising his idea of the non-modern. He develops this idea from an analysis of the stance of several architectural ideas or trends in relation to what for him are the two key factors of ‘technology’ and ‘place’. Reproduced from ‘Architectural Regionalism’ ed. Canizaro (see Footnote 1) with the permission of the author.

architects have tended to claim sole authorship for places and thus obscure the complex social and ecological processes in which buildings participate. A regenerative architecture will de-emphasize the significance of objects and emphasize the construction of processes that relate social activity to ecological conditions.' Moore's manifesto for a 'regenerative architecture' in the dimension of what he calls the 'Non-modern' is an illuminating cultural and political understanding of architecture and design into that also meets many related aspirations for 'regionalism', 'participation' and 'sustainability'; it is also forward-looking and alert to contemporary needs while moving clearly beyond the defunct shells of modernism and its shallow descendant post-modernism.

The writer John Thackara has set out a similar trajectory for how we should think about design today. In 'Design after Modernism', edited by Thackara and including essays by a wide range of critics and practitioners including Kenneth Frampton, Robert Venturi and Peter Dormer, Tom Mitchell describes the extent to which makers have co-opted users in the development of science, product and software design. His essay 'The Product as Illusion' concludes with this proposal - 'The designer's role in the post-mechanical era is to make the design process equally accessible to everyone. In order to realise this programme, design, like the avant-garde of art before it, must abandon aesthetics and become instead a socially oriented process in which, like the new scientists, we are all both spectators and actors.' This is surely a good template for an 'ecological designer'. Ideas such as these could be dismissed as 'fine in theory' and un-related to the hard graft of building and development; but cultural commentary and critique, in which a wide range of thinkers and practitioners take part, and the different 'imagining' of the purpose and practice of design (and of sustainable living) that such commentary provokes, should be an important part of a holistic view of design. Although the idea that more attention needs to be paid to processes rather than products is beginning to creep into Government thinking in Scotland about regeneration, much more space is needed in Scotland for ideas and debate, in an environment in which the Government takes over too much space and where the oxygen of open discussion is in short supply. The act of imagining itself

and the values of experimentation and innovation - important ingredients of a holistic, process-centred view of design - also need to be regularly excavated from the risk-averse, target-focused, numbers-driven culture that increasingly dominates both construction and cultural production. The exhibition 'Spaces of Labour' held recently at The Lighthouse in Glasgow was a good example of designers combining an imaginative with a more literal approach to propose what the future of work might be - and might look like. Unless we can begin to vividly imagine the sustainable world we all would like to live in, we will never manage to create it. Writing recently in The Guardian on the respective roles of the state and the individual in creating a low-carbon economy Pat Kane emphasised the need to engage individual creativity - 'A green politics has to be thinking passionately about zones of creativity and innovation for human beings, as well as the constraints and duties of low-carbon living. Otherwise the transformative dimension of our own nature will end up repressed and frustrated.' Although it is often said that Scotland's smaller size (and perhaps some of its traditions) should facilitate the collaboration and connections that are part of taking a more holistic approach, Scotland remains just as centralised as the rest of the UK and perversely this small size then leads to even less innovation. Collaborative and holistic practices are more likely to be developed at

the smaller scale and the more local level where different agendas can more easily find common ground and different skills find ways to work together. The work being carried out by Development Trusts in Scotland, for example in Neilston, provides some indication of the potential for national innovation at a local scale. Part of the role of 'ecological designers' should be to argue for the decentralisation of power and authority that will enable this kind of holistic collaboration and innovation to take place.

A new 'nonmodern' understanding of ecological design could lead the way in re-defining the role of designers today, and help meet the many inter-connected challenges of sustainable living. As the association for ecological design, SEDA should play a significant part in Scotland in creating the cultural climate for this broader understanding of ecological design to thrive - by providing the oxygen for discussion, experimentation, innovation and imagining at a national level and at a local level the framework for truly collaborative, contextual processes, alive to the realities of people, place and planet.

Andrew Guest has worked as exhibition organiser, curator and director for a number of arts and cultural organisations. He writes about art, culture and the built environment.



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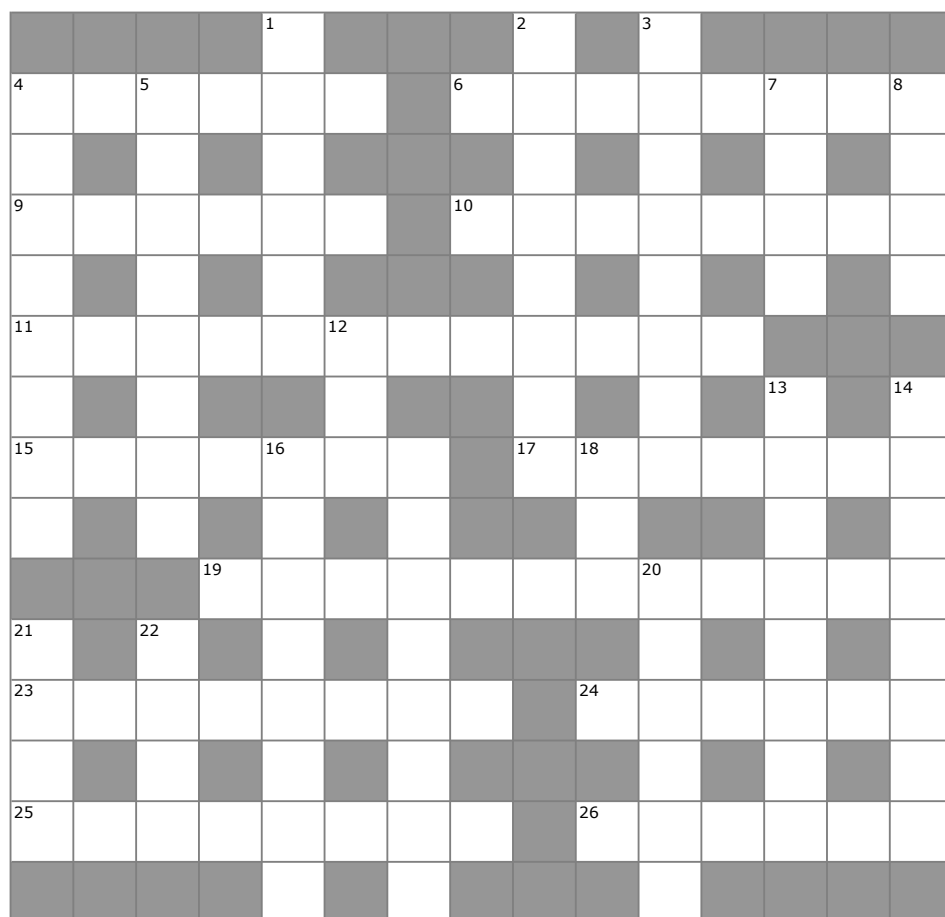
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The Back Page

(Crossword provided by Howard Liddell)



Notes:

ACROSS

4 Signed off drawing

6 National identity sees alcoholic-free
Information centre in southern club

9 C Good French preceded by transport

10 Flooring oil with a giddy northern mule.

11 Quite naturally the eastern company will
acquire sense before a friend

15 I am one with a gallery to copy

17 Lug the egg holder to be serious

19 Trust a clan eleven to turn into something
unspoiled

24 Roughly, a French first woman precedes
new-gutted lady

25 Hallelujah, after the 4th comes this

26 Gets up but I am surrounded by bums
Or

Gets up as returning ocean surrounds back-
ward male teacher

DOWN

1 Confuse gran with spectacles to get farm
money prefix

2 Get things going by moving with
Alternative Technology at the centre

3 Slow pedestrian saint comes before expen-
sive car

4 Fib has received pronunciation interspersed
when aged

5 Confident east has nothing in white horses
with initial communications systems

7 Topless sea-changes in March

8 Camel's back loses bend, replaced by chem-
ical drug to create drug plant

12 Don't remember model after place for hot
metal

13 Gin stem 'e turns up to these

14 Kit with cress can confuse bumper state-
ments

16 A rotter confuse rodents to become a don.

18 Frenchman leaves shopping centre for
everyone

20 Change the rein he uses at this place

21 Earthly remains of the French holy man

22 A confused prophet can burn