

Permaculture Cairns Newsletter

EMPOWERING COMMUNITIES WITH SUSTAINABLE SOLUTIONS



Care for the Earth, Care for people, Fair share the excess

Permaculture Cairns Incorporated

Web Site: www.permaculturecairns.org.au

SEPTEMBER NEWSLETTER

PERMACULTURE CAIRNS MEETING

Tuesday 19TH SEPTEMBER 6pm for a 6.30 start

ARC Disability Centre 92 Little Street Manunda

Members free, but bring some nibbles for the cuppa break
and a dollar for the raffle, which helps pay for the venue.

Non members \$5

AGENDA

Welcome to new members and visitors

Upcoming workshops and events

Permaculture Principle Number 9: a practical explanation.

Guest Speaker:

Carol Laing will give us an update from a recent forum on Agriculture and Human Health Solutions

Plant of the Month, book of the Month, Backyard happenings

and if anyone has something to add please bring it up on the night before we break for a cuppa.

Meeting close and now time for a chat, a cuppa and a snack with like-minded people

All finished by 8.30pm.

Principle 9: Use small and slow solutions

“The bigger they are, the harder they fall.” “Slow and steady wins the race.”



Small and slow systems are easier to maintain than big ones, making better use of local resources and produce more sustainable outcomes.

The snail is both small and slow, it carries its home on its back and can withdraw to defend itself when threatened. The proverb “the bigger they are, the harder they fall” reminds us of the disadvantages of excessive size and growth while “slow and steady wins the race” encourages patience while reflecting on a common truth in nature and society.

In the Tropical Garden in September

The weather has been great this year, cool mornings and evenings and bright sunny days.

And the plants love it. Keep your garden beds mulched to conserve moisture and to keep the roots cool.

COMPOSTING - This month I am about to finish off the second huge compost heap which is 1.2mt high and about 1.50mt in diameter, enclosed with wire mesh and weed control matting. This is a great way to use the banana trunks, pawpaw trunks (the bats broke a branch off covered in pawpaws), pigeon pea trees, crotalaria plants, banana leaves, arrowroot plants and tree prunings. Don't take them to the dump they are a valuable resource. Create your own fantastic humus which will feed you plants and store carbon in the soil. Do a bit for the environment and our future life on this plane. Every little bit counts.

PREPARING FOR PADDY STRAW MUSHROOM CULTIVATION - Collect Banana leaves and let them dry out. Store them cut to the length that will fit in the plastic bin you will be packing them into to spawn. Keep them dry at all times, if mould appears Put them in the compost heap.

WHAT'S PRODUCING IN THE GARDEN NOW – 5 varieties bananas, cape gooseberries, pawpaws, cumquat, lemons, 3 varieties tomatoes, capsicum, celery, Chinese celery, chilli, cucumbers, 2 varieties beans, Bok choy, 2 varieties kale, various lettuce, rocket, 2 varieties coriander, four varieties basil, tatsoi, eggplant, parsley, chives, garlic chives, shallots, wong bok, tarragon, rosemary, thyme, mint. lemon thyme, oregano, 5 in one herb, shiso, cocoyam, bush pumpkin, 2 varieties sweet potato, 2 varieties taro, and the tropical perennial greens are there also, okinawa spinach, sambung, brazilian spinach, kang kong, leaf ginseng, tree lettuce. and on the footpath are pandan, galangal, 2 soursop trees, lemon grass, birdwing butterfly vine, pigeon pea, rosella, sweet potato and flowering plants. All this on a 650sqmt block of land with a house, car port and driveway. So look what you can grow to feed your family, fresh, nutrient rich food for very little work once the soil has been enriched with humus and minerals.

WHAT TO PLANT NOW - Corn, Perennial capsicum, Kale, Cucumbers, Snake beans and Blue Lake Beans, pumpkin, melons. Grow Cos and loose-leaf lettuce, coriander, bok choy and rocket in part shade.

Upcoming Workshops and Events

FNQ COMMUNITY EXCHANGE Relocalising Far North Queensland aka LETS Local Energy Trading System

September calendar

JULATTEN – Saturday 2nd Mount Molloy Markets Our LETS folk are having a combined community stall pop in and say hi, find out more about LETS Trading.

KOAH – Saturday 2nd 9am – 1pm Monthly Market and Trade at Koah Community Hall. You are invited to be part of the local Koah Monthly Market, an excellent family friendly venue. This is a traditional cash market, however LETS members are welcome to participate and trade \$5 or 5B per stall, set up from 8am.
Event Host: Tonielle – 0422 068 995

MALANDA – Sunday 10th 10am – 12pm Trade in the Park, Eacham Memorial Park, opp. the post office. Bring along morning tea to share, something to trade and display your wares. There is a shelter, so it's an all-weather event. Family friendly with playground next to it. BYO chair. Be there or be square
Event Host: Katrin - 40966755 or 0417822446

YUNGABURRA – Sunday 10th 1pm – 5pm Natural Health with Homoeopathy WORKSHOP! With 30 years Homoeopathy experience Ingrid is sharing her knowledge. Ensure good health using the safest & most effective treatment. Everyone, including animals can benefit from homoeopathy, children, especially respond beautifully. In this workshop you will learn how to treat many conditions and we will also look at preventative treatments of infectious diseases. \$50 plus 50B. Ask Ingrid about concession, discounts available for refreshers.
Event Host: Ingrid Mullings - 0459 793 313

RAVENSHOE – Tuesday 12th 2pm Octopi Garden. Bring along something to trade, a friend and a positive vibe. Trading and sharing is key to the success of all events no matter the numbers.
. Most importantly have fun. Please contact Event Host: Hayley - 0416 528 177

ATHERTON – Saturday 16th 6pm – 8pm Dinner and Trade, Irene's House at Evens Street, Atherton Bring along a plate to share and something to trade. For further info and RSVP contact Event Host: Irene - 0439 914 876

YUNGABURRA – Saturday 23rd 12 - 2pm that retro cafe Market & Trade day. The RED SHEDS SHOPS 20 Eacham Road, Yungaburra. This event is the directly after the Yungaburra market! Bring along something to trade a rug to display your wares. That retro cafe is offering 100% Bartles for drinks from the menu, you will need cash for lunch and drinks from the display fridge. Come along, combine your market shopping and then pop up to the cafe for a cuppa & some trading. Event Host: Melitta – 4095 2340

CAIRNS CITY Trade at 'Lafew Teahouse & Kombucha Bar'. LETS relies on member initiative and participation to make events happen. Lafew Teahouse & Kombucha bar is available any **Sunday between 12-2pm** for trade days. Lorna, however, will not be the re to organise it. Lorna invites anyone in Cairns to create, with the space a place to trade – the shaded garden area out the back is also great.
Contact Lorna for more info – 0475 762 838

SEPTEMBER 15th - DEADLINE FOR OCTOBER CALENDAR

All details to Melitta - fnqces@gmail.com or 40952340 to be included in Calendar, Website, Facebook and other Promotions

What to bring to Trade Events where not specified above: food & drinks for yourself or to share, or money and/or Bartles at some venues, friends, Trading Record Sheet and pen, any goods you wish to trade, table/rug to display them upon is often useful, your own chair at some venues, promotional material of any services you are offering if applicable, \$20 to join LETS if you are not yet a member.

fnqces@gmail.com - 4096 6972 - www.fnqces.org - www.communityexchange.net.au



International Permaculture Convergence

ipcindia2017.org

Hyderabad, Telangana, India

TOWARDS HEALTHY SOCIETIES

CONFERENCE
25 - 26 Nov 2017
CONVERGENCE
27 Nov - 2 Dec 2017

REGISTER NOW

- 1st time in India
- 1200+ participants
- 70+ countries



Hosted by

Aranya

AGRICULTURAL ALTERNATIVES
Permaculture India - Forest Farming

For more info on the Convergence check out the website"-

ipcindia2017@permacultureindia.org

Stratford library starts a seed library



Join us at 3pm on the
*4th Wednesday of
the month*

@ Stratford Library

**First Seed Swap:
23 August**

Access your free packets of seeds and learn
about our Seed Library!



What to do with saved seeds

Place your dry, clean seeds in an airtight container. Seeds must be protected from heat, changes in temperature and humidity. Cairns Libraries provides appropriate seed storage conditions. Cairns Libraries has free small plastic bags for you to place your seeds in. 10-20 seeds per packet.

Cairns Libraries has pre-printed and downloadable seed labels for you to use. It is very important to correctly label your seeds

Website for Permaculture videos info and blogs

Permaculturenews.org/category/how to

AND

Geofflawtononline.com

Check out the Friday Fives, join up for insights and benefits

News from Home and around The World



Earthships: A Sustainable and Alluring Housing Option

The homes that we live in are the epitome of industrial pillage of the earth. Massive amounts of cheaply built lumber teeming with damaging chemicals from the structure of our homes. To heat and cool our homes, fossil fuels are pumped into our homes leading to excessive greenhouse gas emissions.

Despite the comforts and luxuries that modern-day housing offers, for the most part, it is one of the most unsustainable aspects of our lives. Earthships have been in development since the 1970s and offer a unique and more ecologically friendly way housing alternative.

THE ECOLOGICAL COST OF MODERN HOUSING

The most common construction style which has come to dominate the American housing market is a timber frame made from pressure treated pine wood 2x4s and plywood sheeting. The house façade is covered by either plastic siding or imitation brick and the inside walls are usually made from dry wall.

Since most new houses built for the market in the industrial world are huge structures often measuring well over 2,000 square feet, lots of wood is needed thus contributing to deforestation. The housing industry in the US accounts for close to half of all the softwood timber cut down each year. Over an acre of old growth forest is clear cut every 66 seconds and almost half of that wood is used in homes that whose expected lifetime is less than half a century.

Most houses also use generous amounts of concrete for foundations. Concrete is another unsustainable building material as it accounts for at least 5% of all greenhouse gas emissions. Furthermore, some concrete has traces of radioactive elements within it.

Almost all modern-day homes are heated and cooled by central heaters and air conditioners that run on fossil fuels. It is estimated that almost half of all the energy used in a home is to heat and cool the house. If each square foot of a modern house needs 50 kWh to heat and cool, then for a 2,000 square foot house, this adds up to around 100,000 kWh per year. This causes a large amount of greenhouse gasses to be released into the atmosphere and also leads to a dangerous dependence on fossil fuels. Almost no industrially built home takes into consideration energy efficient building methods that rely on sustainable energy sources. What's more, many local building codes actually prohibit certain natural ways to heat and cool a home.

Another issue with modern housing is the sheer amount of toxic materials used in the construction of these houses. Asbestos is a known carcinogenic that is still used in many forms of ceiling tiles and insulation. Chromated Copper Arsenate is used in almost all pressure treated wood that is a hallmark of the lumber used for framing modern houses. Though the EPA phased out the use of this type of chemical, many older houses will still have this type of pressure treated lumber. Dozens of other chemicals are also included in the lumber used in modern construction and the effects of these chemicals are unknown.

We have come to accept that the building industry should necessarily be monopolized by a group of specialized contractors and that any type of home that doesn't offer modern day comforts (no matter how unsustainable they may be) is equivalent to living in a cave.

WHAT ARE EARTHSHIPS?

Earthships challenge the commonly held assumption that: 1) it is impossible to build your home, and 2) homes cannot be a completely sustainable part of the landscape. At the same time, Earthships prove that sustainability doesn't have to be equivalent with dull, drab and simple housing styles. Rather, many Earthships are beautiful, large homes with many of the comforts that people have come to accept from a home.

Images courtesy of: <http://earthship.com/>

Earthships claim to be 100% sustainable homes that incorporate a number of different features. One of the central tenets of Earthship construction is passive solar design. By angling the home towards the south (in the northern hemisphere) and building large windows on the south facing side of the home, Earthships are able to generate much of the

heat they need for the cold winter months through capturing the light and the heat from the sun.

Additionally, the walls for Earthships are made from sources that can be considered a thermal mass, or some material that will store heat over time. Originally, most Earthships were made from recycled tires that were rammed full of earth and stacked on top of each other like bricks. By the time each tire is filled with soil, it weighs close to 300 pounds making the walls of an Earthship an extremely sturdy thermal mass. Earthship walls can also be built from adobe, cob, or earth-bags as well.

The inner walls are usually made some sort of recycled material such as recycled aluminum cans bound together by concrete. The cans are then plastered with a natural, earthen plaster so that on the inside it is impossible to tell that you are surrounded by nothing more than walls of tires. Earthships are also designed to harvest all the water that they need from the local environment, mostly through rainwater catchment systems connected to the roof. Rainwater is sifted through a silt catching device before being redirected to a cistern which provides water for your household needs.

All of the water used in Earthship homes is either reutilized or recycled. The greywater from showers and sinks is redirected to toilets where it is used for flushing the toilets. The greywater is then passed through a botanical cell where the water is purified with the help of beneficial bacteria and a peat moss filter. This water is then used once again to flush toilets a second time.

Another of the defining aspects of Earthships is that they are built to be 100% energy independent and off-grid. They generate all of their own energy needs through the installation of solar and wind green energy systems. This energy is stored in deep cycle batteries that are stored on the roof.

While most of the heat from Earthships is generated through the passive solar design method and through the storage ability of the massive thermal walls, additional heat can be supplied through wood stoves. New Earthship designs have begun to be built in a "double greenhouse" fashion, with two panels of south facing glass making up the entire southern wall of the home. This traps even more heat and keeps the house warm over the winter. A natural cooling system that relies on convection is also used in Earthships. Pipes are buried underground to gather the cool air from the earth before being brought in to the home. A small window is left open at the top of the home to allow for a steady air flow of cool entering from the bottom and warmer air escaping from the top of the home.

THE EXAMPLE OF NEW MEXICO

Reynolds began building his initial Earthship design in New Mexico. Because of the warmer climate and the abundance of sun, the Earthship passive solar design and the thermal mass walls adapted perfectly to local conditions. Since the 1970s when Reynolds built his first "proto" Earthship model, dozens of Earthships have been built by individuals in the region. The Earthship Biotecture is the world headquarters of the Earthship movement. Located in Taos, New Mexico, it is a sort of living museum and school for Earthship construction and

sustainable living. They also offer an Earthship Academy where people can go to receive hands on training to prepare for their own Earthship construction.

Additionally, the Greater World Earthship Community is a neighborhood made up entirely of Earthship homes. The 633 acres contains absolutely no power lines or sewage drainage pipes. A 100% off grid community, the Greater World Earthship Community shows how people can come together to live in a sustainable way.

EARTHSHIPS FOR A MORE SUSTAINABLE FUTURE

Earthships incorporate numerous elements of sustainable design to offer people the comforts of an industrially built home with the reliance on unsustainably sourced materials and dependence on fossil fuel energy. Through recycling, or “upcycling” materials from our consumer civilization, and through ecological design, Earthships offer one of the most sustainable human dwelling



Permaculture and the Importance of Landscape Design

As more and more people learn about the problems that industrial agriculture (and industrial civilization in general) have caused the world, there is a growing interest in all things organic. From larger organic sections at your grocery store to the explosion of the local food movement with farmer's markets and community supported agriculture programs, organic livelihoods are on the rise.

When it comes to actually growing your own food in a sustainable and ecologically healthy manner, however, it takes much more than just a little bit of compost. The importance of learning how to read the landscape and discover what elements belong and can fit into the overall functioning of the system is an essential part of sustainable living on the land.

Permaculture is one of the most helpful tools to help us learn how to best design our livelihoods to the land.

THE LACK OF NATURAL DESIGN IN MODERN-DAY SOCIETY

Our modern-day society has very little consideration for design, at least any sort of design that takes into account the realities of the natural world. We have grown to believe that as humans, our ultimate purpose is to bring the natural world under our control and make it work for us.

The natural world, when we do see it, is relegated to “wilderness” areas that can be found in national parks. We vacation to see the world as it is, but the rest of the time want the world to conform to our needs and desires. Some people blame this separation between the human and his or her natural surrounding on the Industrial Revolution and our new-found ability to use fossil fuels to help along our inner desire for growth and dominion over the natural world

As technology has developed over time, we have increasingly lost contact with the natural rhythms of the natural world. If you ask any stranger street what mood we are in, they will probably give you a quizzical look. Most elementary school students will be able to identify hundreds of corporate logos and brands, but can't tell the difference between an oak tree and an elm tree. Technology has isolated us from the world around us in two ways. Firstly, it removes us from any sort of proximity with the natural world. We wake up in the morning not to the sound of birds, but to an alarm clock playing our chosen music. Though it may be snowing outside, we walk around our house barefoot and in pajamas thanks to the wonders of central heating. Afraid to brave the cold for even a moment, we push a button from inside our house to start up our car and get it heated before we begin our drive to work.

Secondly, technology has effectively erased the ebb and flow of the seasons. A trip to the local grocery store won't show you in-season and out of season produce. We can get fresh strawberries in the dead of winter and enjoy bananas year-round thanks to a food system dependent on long transportation and cheap wage labor in Mexico and around the world. Permaculture is an attempt to put the natural world back into the equation, to understand that any human economy exists within a larger economy that includes the birds, the soil, the rain, and the aquifers. In essence, the process of permacultural design is to help humanity rediscover the original meaning of economy (oikonomia) as the “ordering of the household.” Our household includes the place we live, the creatures we share it with, and the balance and equilibrium that our lives must conform to if we are to continue to exist as a species that shares this only world of ours.

NATURE AS MEASURE



Permaculture design begins with simply being present in place and slowly getting a feel for what that place will allow one to do. Whereas most “development” in modern day society takes place behind an architect’s desk or in the mind of some agronomist, permaculture urges people to begin by actually spending time in the place where you live. Observing the rhythms of the natural world that we have been taught to forget and seeing patterns emerge from the natural functioning of the world itself are the most important parts of any ecological design. This only happens by accepting a physical proximity and intimacy with our places and learning that Nature should be the measure of our success.

As we relearn these patterns and rhythms, it should become obvious to us that our lives and livelihoods need to conform to the natural functioning of the place. No longer should we consider ourselves to be the epitome of evolution with a divine right to impose our will wherever we go, but rather learn to limit aspects of our livelihood. The idea of finding freedom and belonging through natural limitations is almost a heresy. People who do make the decision to live simply and respectfully of their places are seen to be “wasting” their lives and their talents. For people who do attempt to discover the simplicity of living within natural limits, however, they also find natural opportunities that are many times hidden from the sight of people whose vision is always on the horizon and not on the ground beneath them.

THE SCIENCE OF DESIGN: AN EXAMPLE

On a practical level, living close to the land can help one discover the opportunities that the modern, industrial mind simply cannot see. In rural Kentucky, the son of a wealthy businessman inherited five acres of forest in the foothills of the Appalachian Mountains. His father had kept the land as a reminder of his humble beginnings, but his son could only see it as an antiquated place of backwardness and poverty. As soon as he could, he sold the land and invested his time and money in other ventures.

The small farmer who bought the forest was considering clearing the land to grow tobacco, but while wandering through the forest, he found morel mushrooms growing wild throughout the forest floor. He invested a small amount of money in mushroom spawn, thinned the forest for logs, and began an extremely profitable gourmet mushroom business that maintained the forest ecosystem healthily intact while at the same time providing for himself and his family.

The small farmer's observation of the natural world and his ability to listen to what the forest offered helped him design a livelihood that respected the boundaries and limits of that place while also reaping the benefits of the opportunities that were naturally present. Had he blindly followed his initial anthropocentric idea of knocking over the forest to grow tobacco, the forest ecosystem would have been lost and he almost certainly would have encountered financial ruin as the tobacco industry plummeted shortly after his purchase of the forest.

THE IMPORTANCE OF DESIGN

Of the many different contributions that the permaculture movement has offered to folks interested in living more sustainably, the focus on permaculture as a design process is perhaps the most relevant. Learning to observe the natural world, accept Nature as a measure with the limitations and opportunities that are inherently present in each and every place, and design our livelihoods according to this reality is an indispensable part of living correctly on the land.

NEWSRELEASE

9 AUGUST 2017



KEEPING PESTS AT BAY THE HI-TECH WAY

With pest animals estimated to cost the Australian economy up to \$1 billion a year, CSIRO scientists have developed a humane new technology that could help save Australian farmers' crops and livelihoods.

After successfully scaring away elephants from farms and crops in Africa, scientists are trialling the Vertebrate Pest Detect-and-Deter (VPDaD) technology in Australia against pests such as ducks, cockatoos, rabbits, wild dogs and more, starting in Queensland's Lockyer Valley.

"Ultimately we want to scale-up the technology and roll it out across Australia," CSIRO scientist Dr Ash Tews said.

"The idea here is that we can adapt as necessary."

The technology works by detecting and identifying animals as they come close to farms or crops, and emitting a tailored series of sounds and lights to humanely scare them away before they cause damage.

In Australia, vertebrate pest animals can cause many thousands of dollars' damage in a single dining experience, causing real problems for farmers' orchards, vegetable and cereal crops, and potentially for livestock during critical periods of development or birthing events.

In addition to the feasibility study underway in the Lockyer Valley, CSIRO is looking to partner with local agribusinesses to continue testing and trialling the technology in Australia, aiming to help primary industries facing problems with an array of animals including ducks, cockatoos, rabbits, feral pigs, wallabies, foxes and dingoes.

The previous trial was conducted in Gabon, Africa, where elephants can present a significant problem for villagers and agricultural communities, capable of destroying a community's entire season's worth of crops overnight.

In collaboration with agribusiness company Olam International, the VPDaD technology was successfully used to prevent elephants from destroying fruit crops.

"One of the interesting issues with existing deterrent technologies is that, not only do animals become de-sensitised to them, but smarter ones can even learn to use the deterrents as an indication of a food source, which is the opposite of their purpose," Dr Tews said.

"Our autonomous technology allows the system to recognise animal behaviours in response to deterrents and modify the deterrent strategy until the desired effect is achieved.

"This allows the system to be more effective over long periods of time such as the key threat times during crop growing."

The VPDaD technology consists of two systems: a motion sensor device, and a collection of cameras that can pick up images and heat signatures of an animal, with lights and sounds which function as the deterrent for pests.

CSIRO technology specifically developed for the camera program allows the computer to recognise and classify animals based on the images captured.

In addition to looking at how animals respond to perceived threats, the scientists are also looking at longer-term aspects, such as analysing deterrent effectiveness and animal movements over seasons.

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What creativity really is - and why schools need it

August 31, 2017 9.27am AEST

[Liane Gabora](#)

Author



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Associate Professor of Psychology and Creative Studies, University of British Columbia

Disclosure statement

Liane Gabora's research is supported by a grant (62R06523) from the Natural Sciences and Engineering Research Council of Canada.

Partners



[University of British Columbia](#) provides funding as a founding partner of The Conversation CA.

In this time of global technological change and sustainability challenges, we need to increase creativity levels in the next generation, to ensure the innovations that will keep us afloat. (Shutterstock)

Although educators claim to [value creativity](#), they don't always prioritize it.

Teachers often have [biases against creative students](#), fearing that creativity in the classroom will be disruptive. They devalue creative personality attributes such as risk taking, impulsivity and independence. They inhibit creativity by focusing on the reproduction of knowledge and obedience in class.

Why the disconnect between educators' official stance toward creativity, and what actually happens in school?

How can teachers nurture creativity in the classroom in an era of rapid technological change, when human innovation is needed more than ever and children are more distracted and [hyper-stimulated](#)?

These are some of the questions we ask in my research lab at the Okanagan campus of the University of British Columbia. We [study the creative process](#), as well as how ideas evolve over time and across societies. I've written almost 200 scholarly papers and book chapters on creativity, and lectured on it worldwide. My research involves both computational models and studies with human participants. I also write fiction, compose music for the piano and do freestyle dance.

What is creativity?

Although creativity is often defined in terms of new and useful products, I believe it makes more sense to define it in terms of processes. Specifically, creativity involves cognitive processes that transform one's understanding of, or relationship to, the world.



A society thrives when individuals are given the space to create or imitate ideas. (Unsplash/Chris Barbalis), [CC BY](#)

There may be adaptive value to the seemingly mixed messages that teachers send about creativity. Creativity is the novelty-generating component of cultural evolution. As in any kind of evolutionary process, novelty must be balanced by preservation.

In biological evolution, the novelty-generating components are genetic mutation and recombination, and the novelty-preserving components include the survival and reproduction of “fit” individuals. In [cultural evolution](#), the novelty-generating component is creativity, and the novelty-preserving components include imitation and other forms of social learning.

It isn't actually necessary for everyone to be creative for the benefits of creativity to be felt by all. We can reap the rewards of the creative person's ideas by copying them, buying from them or simply admiring them. Few of us can build a computer or write a symphony, but they are ours to use and enjoy nevertheless.

Inventor or imitator?

There are also [drawbacks to creativity](#). Sure, creative people solve problems, crack jokes, invent stuff; they make the world pretty and interesting and fun. But generating creative ideas is time-consuming. A creative solution to one problem often generates other problems, or has unexpected negative side effects.

Creativity is correlated with rule bending, law breaking, social unrest, aggression, group conflict and dishonesty. Creative people often direct their nurturing energy towards ideas rather than relationships, and may be viewed as aloof, arrogant, competitive, hostile, independent or unfriendly.



Teachers may fear creative mess, but time for reflection and interdisciplinary thinking can nurture innovation too. (Shutterstock)

Also, if I'm wrapped up in my own creative reverie, I may fail to notice that someone else has already solved the problem I'm working on. In an [agent-based computational model of cultural evolution](#), in which artificial neural network-based agents invent and imitate ideas, the society's ideas [evolve most quickly](#) when there is a good mix of creative "inventors" and conforming "imitators." Too many creative agents and the collective suffers. They are like holes in the fabric of society, fixated on their own (potentially inferior) ideas, rather than propagating proven effective ideas.

Of course, a computational model of this sort is highly artificial. The results of such simulations must be taken with a grain of salt. However, they suggest an adaptive value to the mixed signals teachers send about creativity. A society thrives when some individuals create and others preserve their best ideas.

This also makes sense given how creative people encode and process information. Creative people tend to [encode episodes of experience](#) in much more detail than is actually needed. This has drawbacks: Each episode takes up more memory space and has a richer network of associations. Some of these associations will be spurious. On the bright side, some may lead to new ideas that are useful or aesthetically pleasing.

So, there's a trade-off to peppering the world with creative minds. They may fail to see the forest for the trees but they may produce the next Mona Lisa.

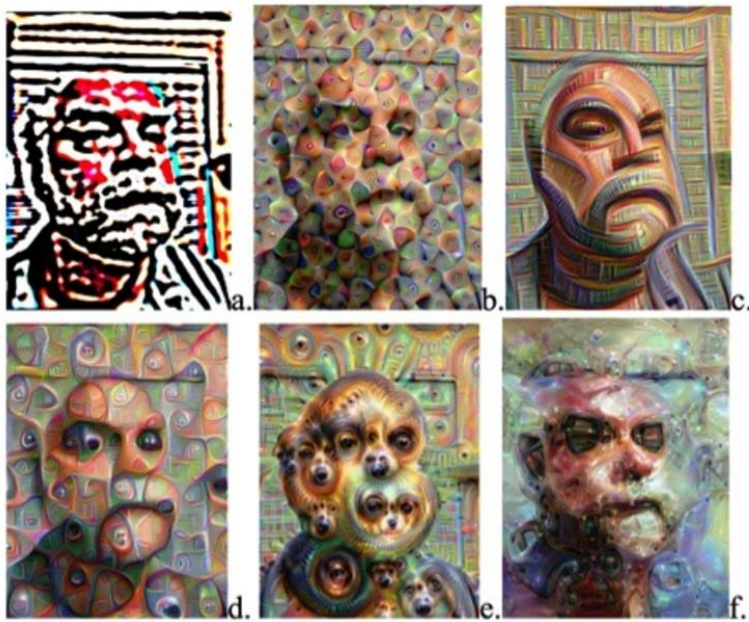
Innovation might keep us afloat

So will society naturally self-organize into creators and conformers? Should we avoid trying to enhance creativity in the classroom?

The answer is: No! The pace of cultural change is accelerating more quickly than ever before. In some biological systems, when the environment is changing quickly, the mutation rate goes up. Similarly, in times of change we need to bump up creativity levels — to generate the innovative ideas that will keep us afloat.

This is particularly important now. In our high-stimulation environment, children spend so much time processing new stimuli that there is less time to "go deep" with the stimuli they've already encountered. There is less time for thinking about ideas and situations from different perspectives, such that their ideas become more interconnected and their mental models of understanding become more integrated.

This “going deep” process has been [modeled computationally](#) using a program called *Deep Dream*, a variation on the machine learning technique “Deep Learning” and used to generate images such as the ones in the figure below.



Images from the Deep Dream computer program. Author provided (No reuse)

The images show how an input is subjected to different kinds of processing at different levels, in the same way that our minds gain a deeper understanding of something by looking at it from different perspectives. It is this kind of deep processing and the resulting [integrated webs of understanding](#) that make the crucial connections that lead to important advances and innovations.

Cultivating creativity in the classroom

So the obvious next question is: How can creativity be cultivated in the classroom? It turns out [there are lots of ways](#)! Here are three key ways in which teachers can begin:

1. Focus less on the reproduction of information and more on [critical thinking and problem solving](#).
2. Curate activities that transcend traditional disciplinary boundaries, such as by painting murals that depict biological food chains, or acting out plays about historical events, or writing poems about the cosmos. After all, the world doesn't come carved up into different subject areas. Our culture tells us these disciplinary boundaries are real and our thinking becomes trapped in them.
3. Pose questions and challenges, and follow up with opportunities for solitude and reflection. This provides time and space to foster the forging of new connections that is so vital to creativity.

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Australia's finger lime industry could be lost overseas if export rules don't change: producer

Landline
By Pip Courtney

Updated 9 Jul 2016, 4:31pmSat 9 Jul 2016, 4:31pm



Photo: Margie Douglas breaks open a finger lime to reveal the "caviar" inside. (ABC: Pip Courtney)

Map: Rathdowney 4287

A Queensland finger lime grower says Australia is in danger of losing the fledgling native citrus industry to overseas competitors unless fruit fly export rules are changed.

KEY POINTS:

- Finger limes are a citrus native to Queensland's scenic rim
- The fruit can only exported frozen because of fruit fly rules
- Producer Ian Douglas wants to rule changed so Australia can own the market before it is developed overseas

Ian Douglas, who runs The Lime Caviar company at Rathdowney in south-west Queensland, said the finger lime industry could be a repeat of the macadamia nut story, where Hawaii got the jump on local growers and developed the Australian native nut as its own.

Mr Douglas said finger limes were now so popular with chefs that the US, South Africa, Thailand and Italy were already planting finger lime orchards.

He said that while he cannot keep up with domestic and international demand for the fruit, which sell for \$40 a kilo, the small Australian industry would not grow unless producers could export their fruit fresh.

Presently, any fruit grown in fruit fly areas must be exported frozen.

"Because it's a citrus, those countries believe [the] fruit fly must be associated with finger limes, which is not true," Mr Douglas said.

"So we can't send fresh finger limes to Japan and other potentially huge markets like China, India, the US and New Zealand.

"We have to overcome that problem, otherwise we will have our finger limes grown offshore."

Photo: Margie and Ian Douglas at their orchard in south-west Queensland. (ABC: Pip Courtney)

Mr Douglas said he made a submission to the Federal Department of Agriculture four years ago, arguing for fruit fly restrictions to be lifted so he could export fresh fruit to New Zealand.

"I was told after they considered our submission we ticked all the boxes, but the real problem was the industry was too small, and we should come back in 10 or so years and maybe then [when we were bigger] they could solve the problem for us," he said.

"That's simply not good enough.

"The Government wants start-up industries to succeed, and this is a genuine start-up industry. The Government must help us."

FINGER LIMES NOT AN INDUSTRY PRIORITY: AGRICULTURE DEPARTMENT

Mr Douglas has found an ally in his local federal MP Scott Buchholz.

When he visited the Douglas's orchard to discuss the issue last month, Mr Buchholz was unaware the fruit was native to the Scenic Rim region, and that the Douglas family — who are the biggest producers in the country — were exporting the fruit around the world.

When he tasted finger limes for the first time, he said he could see why some of the world's top chefs — like Renee Redzepi from Noma in Denmark, and Ben Shewry from Attica in Melbourne — were such fans of the native citrus.

"It's like little lime angels dancing on your tongue," Mr Buchholz said.

Mr Buchholz said he would do what he could in Canberra to help the 50 finger lime farmers in Queensland and Northern New South Wales expand their small industry.



Photo: Finger lime caviar is becoming increasingly popular in fine dining. (ABC: Pip Courtney)

"When we talk about as a Government, making a transition from the resources sector to a more innovative economy, I see no better example on such a fledgling industry than work through the hurdles," he said.

"We have only got a four-year advantage on the international market. That time can disappear very quickly so we need outcomes in place within 18 months."

The Federal Department of Agriculture told Landline the issue was one for industry, not government.

"The department considers advice from the horticulture sector when establishing priorities for market access negotiations with trading partners," a spokesperson said in a statement.

"Horticulture Innovation Australia has the responsibility for providing advice to the department on the collective priorities for the sector.

"To date, industry has not made a recommendation that finger lime access to New Zealand be prioritised."

Photo: Top chefs around the world are interested in the homegrown Queensland product. (ABC: Pip Courtney)

INDUSTRY NEEDS TO BE LET OFF ITS LEASH TO EXPAND: DOUGLAS

Mr Douglas concedes the industry is small, but says the potential for growth is huge.

"I am currently in discussions with an importer in Hong Kong who says he could sell the whole of our production into Shanghai if we can obtain entry into China. Just think of what the Chinese will do when they get a few trees," he said.

The couple plans to plant another 1,000 trees, which would take their orchard to 4,500 trees producing 10 tonnes a year.

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