

A CRITIQUE OF PERMACULTURE

Cleaning out the stables.

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[Introductory remark: This is a slightly modified version of an article originally written for the Permaculture magazine in the late 90s. You have to make allowance for its age and the passage of time, but I would stand by most of what is written].

There is something which has been troubling me about Permaculture, which has been hard to put my finger on. In fact Permaculture itself is hard to put a finger on with any certainty! A whole series of puzzles have thrown themselves up recently.

For example I met a smallholder and grower who had been at it for 20 years. His daughter was an enthusiastic permie, and when we were introduced, I naturally asked him what he thought. "When I hear the word Permaculture," he snorted, "I reach for my gun." Why?

I encountered the same attitude at the biennial conference of the Soil Association/Organic Growers Association, which is the high point of the season for the organic movement in Britain: Permaculture is nowhere to be found in the programme, and if it comes up in conversation, people are either embarrassed or openly derisive. Why?

You could argue that these people are rather narrow-minded and the message hasn't got through to them yet. But you could not say that of Robert Kourik, a much respected figure in the PC movement, and whose book *Designing Your Edible Landscape - Naturally* is to be found in all the PC catalogues and on many a PC bookshelf. Contributing to the *Solar Catalogue*, he made the following remarks. It's worth quoting him at length:

In 1978 I read Permaculture One.... A good permaculture is supposed to be a food-producing ecosystem (garden) that is humanly designed, requires little work to sustain, mimics the diversity and complexity of a forest (or other natural system), is heavily based upon perennial food plants, and is self-perpetuating and permanent. With Bill Mollison's first US lecture in 1980, sponsored by the Farallones Institute (where I was then directing the Edible Landscape Program) interest in permaculture took off like lamb's quarters on a heap of moist horse manure.

In the late 1970's I was very excited about permaculture - especially its attempts to develop integrated, sustainable food gardens. Gradually, though, my enthusiasm waned. Like most of the people I've watched cycle through the permaculture 'experience' over the past 16 years, I found the details either to be lacking or counterproductive.

One of the big draws of permaculture, especially to well-educated nongardeners, is the lure of less- or no-work gardening, bountiful yields, and the soft fuzzy glow of knowing that the garden will continue to live on without you. Yet these same 'advantages' often prove to be the biggest letdown for many people.

Could the great Kourik possibly be mistaken? Let me add some other observations. In the last few years I have had extensive (separate) conversations with two well-known luminaries of Permaculture, David Holmgren and Max Lindegger, and have learned a great deal from them. They seem to have arrived at more or less the same place I have via a different route, and we seem to agree on more or less everything. If the wisdom that they speak (and write) is called Permaculture, let's have more of it!

But this experience is unusual for me within the Permaculture movement. Most self-confessed permaculturists I meet exude a certain cultural odour which I find disturbing; quite involuntarily I find myself mentally adding handfuls of salt to everything they say. Nice ideas, yes; but an amazing ragbag of old wine in new bottles, speculative notions that do not accord with my experience or my scientific intuition, and the occasional nugget of genuine insight. All mixed up in an exasperating and indiscriminate brew. Permaculturists - usually rather younger than I am, that often have a peculiar light in their eyes - have said to me, "Well, you obviously don't understand Permaculture." This may well be true, but in that case, David Holmgren, Max Lindegger and Robert Kourik don't understand it either. But we seem to have arrived quite independently in the same sort of place, which seems to be a real place, worth being in: firm underfoot, with clear boundaries and direction signs. What shall we call it? I would like to call it Smart Permaculture: a scientifically literate, error-correcting, holistic approach to sustainability which develops many of the features of classical permaculture, and dumps - or at least demotes - the bullshit. It would aim at typical urban lifestyles and bourgeois aspirations: it does not require or even recommend rural self-sufficiency or living in benders.

Above all, it would take itself seriously, as having important things to contribute to the future of humanity. Most of what passes for Permaculture has no more relevance to the real problems than French provincial cooking or playing the euphonium: no more than charming cultural graces. Or else it's the ideological equivalent of plastic flowers or costume jewellery: the beginner's down-market version of sustainability which you go for if you can't manage anything better. We have to be tougher, more analytical, more willing to enter alien cultural territory and test our ideas to destruction.

Deep breath.

Here is my first attempt to clean out the stables. I shall not mince my words or pull my punches. I expect to receive hate mail and abusive phone calls. But somebody's got to do it. I have asked my friends in the movement if this is the right time, and they've urged me to go for it. So here we are.

There are many permacultures. Nobody within the movement has seriously attempted to sort them out; and nobody outside has thought it worthwhile to bother. This is depressingly symptomatic.

Let us go back to the beginning, to the original "horticultural" interpretation of PC, to be found in the writings of David Holmgren, who derived them largely from the pathbreaking work of Howard Odum. The critical question was: "How can we slow down the unsustainable loss of soils resulting from tillage and farming interventions?". There are two main answers to this: re-profiling land to slow down the progress of water through the landscape; and the use

of stable climax ecosystems as an alternative to constant tillage. (These incidentally are the origins of two of the great clichés of PC design: swales and perennial crops).

It is undeniable that natural ecosystems are sustainable: because they are still there after several billion years! Then why don't we keep them? The answer comes as a great shock to the biologically naive: because in human terms, nearly all natural ecosystems are hopelessly unproductive. They just do not produce the accessible calories (principally as starch) to support large populations. And they don't produce much accessible protein either: mostly they produce cellulose, largely in the form of wood. So contrary to common PC lore, Nature has to be tweaked to improve productivity, usually a lot, even beyond recognition. And 'using nature as a model for design' is not to be taken literally; in fact it is so easily mis-construed that I would withdraw it as a basic design precept for beginners.

Trees are not necessarily more productive than arable crops, are a lot harder to harvest, and take a long time to start yielding food. Yes, you can mix trees and ground crops, but you may suffer loss of yields on the arable crops because the trees intercept most of the light. This is especially true in higher latitudes such as ours. Again Kourik puts this trenchantly:

Another disappointment comes when the young 'permie' realises not too much can be grown in a forest. In reality, forests, whether in the tropical or temperate zones, are not the place where most of the foods we like to eat come from. Forests are a natural result of the evolution of grass and scrub lands. The vegetables and fruits we crave - and most of the flowers too - come from meadow and forest border environments. In most [temperate situations] it is necessary to take away some of the forest in order to create an artificial and ecologically degraded environment for the sake of our favourite foods.... gardeners must still hold back the ecologic momentum of nature in order to raise food. For as soon as one stops weeding, pruning or mowing, the reclamation process begins.

Anyway, back to the story. David Holmgren teamed up with Bill Mollison and they started exploring the implications of the evident non-sustainability of conventional husbandry. The result was Permaculture One, an excellent first shot. The significance of this was that it drew attention to an alternative strategy to that followed by the mainstream organic movement.

What we all want, ideally, is both sustainability and high productivity. More precisely:

- * high productivity per unit of land;
- * high productivity per unit of labour;
- * negligible loss of soil and nutrients; and
- * ecological diversity.

I like to call this The Holy Grail. Conventional husbandry delivers the productivity, but not the soil conservation or the biodiversity. Mainstream Organics recognises this, maintains productivity, introduces wildlife-friendly elements and attempts to conserve soil by the addition of organic matter. But still it is not truly sustainable in the very long term: soil is still being lost faster than it is being generated.

The basic conception of Permaculture suggested approaching the problem the other way round: start with natural or quasi-natural systems that are already sustainable, and try to make them more productive. This was an important and original contribution.

Thus we have two complementary approaches groping towards the Holy Grail in a pincer movement from opposite directions. Marvellous! Surely we're all in this together. But it's

amazing how it's got polarised so that many people think it's got to be one or the other. From time to time there are claims - from both sides - to have found the Grail. On the intensive side, John Jeavons and the biointensive movement reckon they're pretty close, although the labour and skill costs are still rather high. As for the PC side, I meet people all the time that are into PC precisely because they believe the Grail has been found - to be sure by someone else, Bill Mollison perhaps, or Robert Hart, but they don't doubt that it really is out there somewhere. Or even if it's not quite yet in the bag, the PC approach, they are sure, is certainly on the right track; there's only one way to approach it, and that's from the sustainability side.

To caricature, the Grail claim is that with modest inputs of labour, land and materials, huge yields can be sustainably delivered. To which serious food producers would very likely reply "Bollocks!", but suaver sceptics would perhaps ask mockingly, "The Grail! You've found it! Show Us!". I too am always asking to be shown. Well, I've travelled around the world quite a bit looking for it, and despite persistent rumours, I have not yet seen it.

But back to the story again. Up to now we have been talking about strictly ecological principles, to do with land use and food production. These were the ideas that lay behind Permaculture One, and I would like to call them Permaculture (A), the land-use interpretation. This is what Kourik is implicitly referring to, and what people are appealing to when they observe our vegetable garden at CAT and say, "You're not into Permaculture then?".

[Puzzled frown]: "But we are!".

[Puzzled frown back]: "But there aren't any trees..."

It is also the reason why horticulture figures so prominently in 72-hour design courses, and why Mike Feingold can offer the witty definition, "PC is revolution disguised as organic gardening".

So we could say that PC(A) is that approach to the Holy Grail that tries to graft higher productivity onto stable, climax ecosystems - where native perennials and woody plants are predominant. It contrasts with conventional organic husbandry that tries to graft sustainability onto disturbed, artificial, pioneer ecosystems where exotic and cultivated annual plants are predominant.

In practice, anybody who wants to try and live off their own produce will use a bit of both, as David Holmgren argues with exquisite concision in his article "Strategies for Sustainable Garden Agriculture". In fact David, as any sensible person would, argues that true PC takes the best of both worlds, and he remarks ruefully:

I have to say the worst examples of permaculture-inspired gardens combine the limitations rather than the advantages of both, involving the use of elaborate structures and massive amounts of imported organic materials, to create jungles of a diverse range of marginally-useful species which [merely] supplement the externally supplied diet.

It is interesting that in that article, (reprinted as "Perma-Horticulture" in *Clean Slate*) David listed what he saw as the difference between the classic organic intensive approach and the 'wild', extensive or PC approach. I had also made such a list, and they are very nearly identical. Here is mine:

INTENSIVE

(When people use the term "organic gardening" this is what they usually mean)

Focus on food

Conspicuously artificial appearance at macro-level

2-dimensional

Super-mesification through imports, or concentrate mesic conditions

High yields in mesic zones

Preference for traditional crop types with maximum conventional palatability

Preference for annuals

Cultivars, hybrids, exotics

Emphasis on management

Low initial costs, much routine input

High input/high output

Sensitive to lapses of management

Quick to establish

INTEGRATED

(When people use the term "Permaculture" this is what they usually mean)

Focus on all useful products and "fringe benefits"

Quasi-natural appearance at macro-level

3-dimensional

Accept what's there or disperse mesic conditions

Yields lower locally, but may be high overall

A wide range of unconventional crop types. Changes of taste and preparation

Preference for perennial and woody species

Original species, natives

Emphasis on design

High initial cost, less routine input

Low input/low output

Robust against lapses of management

Takes time - the long haul

Here of course we both recognise the foolishness of fetishising a single good idea and wheeling it in at every opportunity. The fetishism of trees and perennial plants has led to the following historical irony. When European farmers first started living in the tropics they did not realise how different things were; naturally enough they applied their hard-won

experience, cut down the trees, ploughed up the soils and tried to grow European varieties. The results are disastrous in ancient tropical soils; the only sustainable way to farm in the tropics is to keep the soil covered and use as many permanent plants as possible. Fortunately, owing to warmth and high light levels it is possible to combine trees and herbaceous plants and get very good yields of starch-rich ground crops while hanging on to the soil, as many traditional Indonesian and Meso-American polyculture systems demonstrate. But in a weird inversion of the classic colonial mistake, many Permaculturists have taken methods appropriate to the tropics and tried to apply them in temperate climates with rich glacial soils. Well I won't deny you get some nice trees, habitat, a bit of fruit, and a myriad herbal flavours: but the yields at the ground level under a mature canopy are at best modest: there just isn't enough light. If you want high yields, the trees have got to be managed very strictly, and are usually not worth the trouble.

Which brings me to another common oversight in PC (A): neglecting to count the set-up costs against eventual yields. Conventional gardening is management intensive: you have to keep doing it or it fails. On the other hand you get results quickly, and the yields are good. A lot of PC lore derides this and suggests that with good design you should be able to get the same yields with much less work using perennial and woody crops. Even if this is true, the effort needed to set up the system is greater, often much greater; and it takes time for the system to evolve into good productivity. This must all be counted on the negative side in comparing the two systems. Usually it is just disregarded. It is all the worse because the typical permie is not someone with good access to land who is likely to be able to stick at it for thirty years, nor someone with the capital to invest in necessary infrastructure.

To summarise my views on PC(A), I have not been impressed: in my experience there is basically a choice between high-input, high-output systems and low-input, low-output systems, although both can be improved by good design and/or skilled management. Both might be equally rational in terms of the ratio of what you put in for what you get out. The former is probably more suitable for people with lots of time and limited space; the latter for people with plenty of space and not much time. They are complementary options. But PC has got itself into a serious muddle about this, and it is hard to see how to clear it up. The following alternatives strike me:

1) PC (A) defines itself in terms of the extensive approach and claims that it is in some sense better. It needs to explain why this is to be expected, then to systematically test it.

2) PC (A) defines itself in terms of the extensive approach but makes no claims except to say this is uncharted territory, might not lead anywhere but worth a look. There may be some useful surprises, and because nobody else is doing so, it performs a useful service for a minority to investigate it.

Both these two position PC as something distinctive and leave us with clear notions of what it is, or is not. If we don't use the word Permaculture here, we need another word for this precise but restricted notion. It would be very nice to be able to test its claims, and outline its benefits in various circumstances. What is important is that at a certain conceptual point, practitioners say "we are taking *this* path. We are not taking *that* path. We might not be back. We'll send you a postcard." Then they have taken responsibility for what they find, and must mourn for what they have forsaken, or exult that they found something better.

3) PC (A) could define itself in terms of the optimum balance or *mixture* of the intensive and extensive approaches, whatever works better in a given situation. This is David Holmgren's view. It makes PC far less distinctive, except that conventional gardening has historically neglected the extensive style. In the end it comes down to common sense, an open mind, and culling ideas from as many places as you can. People who consciously travel this route tend to use the term PC less and less because it has no clear purpose, just a label for whatever works.

Of course there are a lot more more ideas in PC(A). One was the idea of polyculture itself: that natural systems do not tend to consist of enormous single-species stands, while artificial monocultures suffer from all kinds of problems. Why not then, have deliberate, designed polycultures? In many parts of the world this was standard practice, combining two or more complementary crops. While the yields of each crop might be less than if it had been grown alone, the combined yields are often greater. This led to another insight: broadening the concept of yield. If all the possible uses and functions of a group of crops is taken into account, it changes the rational calculus for selection of crops and their disposition. This is a salutary reminder to conventional organic growers, who often think far too narrowly about their yields.

Here there was something very irritating about PC in practice: the 'look at all the yields' principle was applied quite dogmatically and was not carried to its logical conclusion. Thus step no. 1 in doing a PC job on a conventional garden was to dig up the lawn. This can be traced to PC's origins in Australia, where maintaining European lawns is a real uphill struggle and consumes a lot of resources. But the 'yield' of lawns is colossal in the cultural and recreational sphere. In terms of environmental impact, it would probably outrank anything else you got out of the garden if it made the garden so attractive it prevented a few car trips. But in standard PC calculus playing football or having a picnic in the garden don't count as yields; far too much weighting is placed on measurable material things. Actually I use my lawn as a carbon-fixing device in the manner of John Beeby to "launder" (Kourik the inveterate punster would no doubt write "lawnder") the nutrients in urine and turn them back into a solid form: this is an excellent tangible use.

The PC call to 'broaden the framework' is a salutary one, and can of course be applied outside the strict sphere of land use. But in the garden, PC has often failed to apply its own principles, and has been hobbled by its own dogmas.

Another idea that came up in PC (A) was that of ergonomics and physical arrangement. To improve efficiency it can be very helpful to arrange various functions so as to minimise trips, and also so that the output of one part of the system could feed easily into another part. This is a commonplace in industry, but a novelty for many gardeners. In small European gardens it doesn't make a great deal of difference because trip-lengths are so small anyway, but on a larger scale it certainly could. Applied to a typical Australian smallholding, this led to zoning theory. It also emphasised the "holistic" nature of any system: that you mustn't get stuck in one subsystem, but need to keep checking the links between the subsystems looking for synergies and complementarities.

In fact when I first came across Permaculture, it was this ergonomic aspect which seemed most conspicuous; in my mind I formed the equation "PC = gardening + ergonomics"; at that time it didn't seem to imply organic practice necessarily, just the sensible disposition of the

various elements of a garden or holding for maximum convenience and efficiency. Who could argue with this?

Again, I found that actual PC practitioners were far too rigid and dogmatic about these arrangements, trying to make things look like a diagram in one of the books. In practice there are so many complicated and conflicting factors which determine the layout of various elements that zoning cannot be seen as any more than one of a dozen checklists that are worth going through to check that there might be something you've missed that could make an improvement.

The previous section is a sample of the kind of critique that could be applied to PC (A). And is. And permies should be responding, either with their own results, or from reputable sources. Remember that it does not mean anything without the numbers: how much in kg; how long it took in hours; how much it cost in pounds. etc

Anyway, what happened next was the conceptual equivalent of that period in the history of the universe shortly after the Big Bang which physicists call "inflation". PC went global, came out of the garden, and became an all-singing, all-dancing philosophy of life. This is quite a different animal and I shall call it PC(B).

One important feature of PC (B) is that it is riddled with unstated assumptions that lead to great confusion. An example is the strong presumption in favour of low-tech and bohemian standards of living. This is so marked that some people use the word permaculture specifically to refer to the radical, nomadic, anarchistic region of the sustainability landscape. There is nothing intrinsically wrong with this, but because it is not clearly stated (say in a Design Course), with reasons and a respectful nod in the direction of others who have not chosen this path, many potential enthusiasts are terminally confused. It is important to be aware of the rest of the landscape, so you can put up good road signs for people to find you, while those who are going to be unhappy can be helped to find somewhere more suitable.

Certainly most permies and many sympathisers are hopelessly muddled about the distinction between PC (A) and PC (B), and they flip back and forth without noticing it. The muddle is based on the supposition that there are design principles so fundamental that they apply to any aspect of life, from gardening to money to architecture. At some level this might well be true, but in my view (and experience) these principles are so broad and general they are not very much help unless you already know a great deal about the actual topic in hand and can use them to interpret the meaning of the general principles. *They are no use for beginners.*

In any case there is no central canon of rules; different people give different lists. Most are not unique to permaculture, but it could be argued that it is the *specific combination* that is distinctive. Let's think of analogies: a toolbox. If you want to equip yourself for certain tasks you'll have a certain selection of tools; a given box will be defined by the actual selection of tools, but also by their arrangement, relative accessibility. Generally those which are most useful and most used have pride of place.

Permies obviously think their conceptual "box" is special and are keen to promote its use. It can be almost a religious experience. For many people this is their first holistic toolbox and it

is so much better than none at all that they impute almost magical powers to it. Many people coming across PC for the first time have imagined that Mollison actually invented the whole thing, and were bowled over at its usefulness in areas where they had hitherto been unable to operate. The "box" and its contents have acquired such an aura of unimpeachable wisdom that it has inhibited many of the self-correction processes that must go on, and it has made many assume that the answer to any problem must be in there somewhere if only they can find it - whereas it would often be better to look elsewhere, or indeed start from scratch.

In my experience the typical PC toolbox (remember we're still talking metaphors here!) is only one among many. The tools are not necessarily well-chosen, neither are they arranged to be most useful. Neither are they a great deal of use in the Real real world. They are more like a Swiss-army knife: a good range of different things, but too general-purpose for more than emergency use. For real life, you want proper, dedicated tools. So the tools for horticulture are likely to differ from the tools for energy-efficiency or for running a meeting. Of course there will be delightful similarities, but no substitute for real expertise and experience in a given area. I do not believe that you can derive useful tools from the general principles of Permaculture any more than you can from the general principles of Buddhism or Logic or General Systems Theory or the works of Marx or Schumacher. Insights, wisdom, heuristics, yes, but no philosopher's stone.

At the same time, many other practical holistic philosophies or approaches exist which have their own toolboxes and Swiss-army knife equivalents. They are in a way cousins to permaculture, and permaculture has to decide whether it is the general case, or a special one. If you were in India, say, and encountered someone helping a blind beggar across the road, it would be odd to say "I see you are a Christian" as if Christianity had a monopoly on kindness. In the same way it seems odd to me if people say "Oh I see you're into Permaculture"; am I? I am inclined to answer "Yes" on the understanding that Permaculture is another name for the holistic approach. But then all hell breaks loose: people project so much baggage onto the term that using it at all leads to a godawful tangle of confusion and misunderstanding. I've learned to steer clear of it; I prefer to speak in plain English and say what I really mean.

Let me summarise some of what I have been saying in the form of two paired lists. The first list describes what have observed of Permaculture as a kind of cult; the second what I think it would need to make it into a coherent approach or philosophy:

‘CULT’
PERMACULTURE

Not defined precisely: a collection of implicit meanings which cannot be stated simply

Basic ideas derived from founding texts, with additions based on popular ecology and ‘voluntary simplicity’

‘SMART’
PERMACULTURE

Seeks a definition which can be translated into testable, common-sense terms

Founding texts taken as postulates for testing. Subsequent ideas arise from systematic enquiry

Assumes basic assumptions and ideas are correct; there is no need to test them	Eager to progress by testing assumptions and ideas --- and discarding if necessary
Values <i>resonance</i> . Not bothered by contradictions or imprecision;	Values <i>clarity</i> . Uncomfortable with vagueness or ambiguity;
“Smorgasbord” of unclassified ideas	Constant attempts to rank and classify ideas according to value or usefulness
Intuitive tenor	Sceptical, pragmatic tenor
Bohemian style; attractive to those with more time than money, often younger people	Academic style; attractive to those with more money than time, often older people
Emphasis on rural self-sufficiency; links with modern economy downplayed	Emphasis on conventional urban life; deliberate engagement with the modern economy
Central role for horticulture	No special role for horticulture
Stress on ‘natural’, ‘extensive’ systems of land use	Greater role for traditional intensive husbandry
Special universal set of design principles, easily applied in different spheres	No universal design principles but an evolving collection of specialist sets; emphasis on experience and common sense
A complete philosophy	Not complete in itself: part of a wider movement
More like a religious or political cult	More like an immature academic subject
Heroes: Mollison, Fukuoka, Hart	Heroes: Holmgren, Lindegger, Kourik

A final word to Robert Kourik?

As I write today, the third wave of interest in Permaculture has arrived. Mostly, I'm glad that permaculture is around to intrigue a new audience. Permaculture will continue to be a worthwhile intellectual hook, one that captivates and lures mainly cerebral types into the fuzzy logic of the garden. Permaculture is like a beneficial fungus in your brain, which attaches to your brain cells but eventually roots into the duff and soil. Once a person is gardening and getting really dirty, the dictates of the permacultural religion fall away like layers of a moulting caterpillar.