

POSITIVE SOLUTIONS BY DESIGN

[Simon Nisbett has been a resident at Braziers since 1998. His activities there include all aspects of life in the Community. In addition to teaching and studying permaculture, he teaches English as a Foreign Language and both teaches and plays the guitar.]

Permaculture is a philosophy of positivity formulated as a response to the depredations being suffered by the earth at the hands of humankind. Primarily, it is about a sense of personal responsibility for the state of our planet. It holds that co-operation, not competition, is the basis of existing life systems and of their future survival and development. In the words of Bill Mollison, the Australian ecologist who coined the word, "permaculture", and developed the system, "It is a philosophy of working with, rather than against nature; of protracted and thoughtful observation rather than protracted and thoughtless action; of looking at systems and people in all their functions, rather than asking only one yield of them; and of allowing systems to demonstrate their own evolutions."

The philosophy of permaculture has an ethical basis, which is derived from research into ethics adopted by older religious and social groups around the world, which can be summed up thus:

- Care for the Earth
- Care for people
- Setting limits to consumption to achieve fair shares

It will be noticed that the second two arise from the first. Permaculture holds that any action which causes damage to our environment is untenable, because, in the long term, it threatens our very survival. In short, we should not take more than we give.

However, permaculture is above all a practical philosophy: we can all make a difference, and it is our responsibility to re-empower ourselves, fulfil our true potential, and do something. How? By learning to design.

The permaculture design system follows a set of principles, in the main based on observation of natural systems, to enable us to develop food-, fuel-, fodder-, and medicine-producing systems using the least area of land possible - the rest we leave undisturbed, as wilderness, for the sole use of the species we share this planet with.

An integrated permaculture system will ideally provide for all its energy needs from within the system, using the outputs and/or behaviours of one element to provide for the needs of other elements. For example, chickens can provide not only meat and eggs, but also, if kept in a greenhouse, night heat and carbon dioxide for plants; weeding, pest-control, and manure for cropland and orchards; nitrogen-rich feathers for compost. In this way pollution can be avoided - put simply, pollution is an unused output - and the need for inputs from outside the system is reduced, lessening the energy used. High-yielding diversity is paramount, as in nature: as we increase the number of elements in a system, the number of possible beneficial relationships increases exponentially.

Every element in a system should have as many functions as possible. For example, a lean-to glass-house on the south side of a dwelling will provide a microclimate for growing delicate plants; it will provide additional water-catchment, to be harvested and stored for irrigation; and it will provide free heating to the dwelling by passive solar gain. We try to base our designs on an understanding of the fundamental ecological resources: water, climate, forests, soil, and species, always taking into account the long-term effects of our actions, and using these resources in a sustainable way that does not degrade them, and if possible builds them.

This is in stark contrast to industrial agriculture, where monoculture and soil-loss (caused by excessive deep ploughing) necessitate the use of pesticides and chemical fertilisers which poison species and water; where the level of outside inputs is so high that the energy used exceeds the energy produced; where vast acreages are used to produce low-yielding single crops. In short, where the keyword is short-term profit with scant regard to long-term consequences. Industrial agriculture can only survive so long as the unrenewable energy sources upon which it is based last. It is not sustainable.

Alongside these ecological principles, we also apply what are known as the principles of attitude - tenets that we hold in our minds as a general background to our thinking. These are as follows:

Work with nature, not against -

we can progress better by assisting rather than impeding natural processes.

The problem is the solution -

it is how we see things that makes them advantageous or not.

Minimum effort for maximum effect -

do not waste energy in pointless work.

The yield of a system is theoretically unlimited -

we can always find yield potential that has been overlooked.

Everything gardens -

for example, we can use chickens to eat slug eggs, scratch up the ground, and manure it for us, thus saving us work.

Permaculture was first proposed in 1975 by Bill Mollison, based on his observations of Aboriginal peoples in Australia and elsewhere, integrated with modern ecological thinking. However, there were people farming with methods based on similar principles before his arrival on the scene, most notably Robert Hart in England, and Masanobu Fukuoka in Japan. The former pioneered forest gardening, where food is grown in a system based on the multi-tiered way a woodland grows: tree canopy, shrubs, and herbaceous plants. Fukuoka, in his inspired and inspiring book *The One Straw Revolution* describes his highly successful method of farming, which he has spent the last forty years developing, without ploughing or using of fertilisers. We also find roots of the ideas in Permaculture in the thinking of Sir Albert Howard in the early decades of the twentieth century, and Lady Eve Balfour, founder of the Soil Association. There are also links with movements for social change in the 1880s and the 1930s. Permaculture should not be seen as an isolated philosophy, but as part of a continuum.

So permaculture is a philosophy whose aim is to fulfil human needs without destroying the planet which provides for us, and to repair damage already done. However, for this to happen, we must first develop social institutions and processes that will enable people to co-operate peacefully rather than compete violently.

In the last three years, Permaculture design philosophy has been applied to a number of projects at Braziers. First came the salad beds on the drying green. They are positioned so as to provide easy access from the kitchen for the cooks. A variety of leaf salads are grown in a polyculture system, where plants are sown so densely as to leave no room for weeds. Harvesting is done with a pair of scissors, leaving the roots of the plants in the ground, so that the plants continually regenerate. The beds are only three feet wide, so the soil is never trodden on - everything can be reached from the wood chip paths around them.

Next, the herb garden was given a make-over [Diagram 1 on page 3]. The design was based on "Gangamma's Mandala", where a system of paths within the area of the bed gives easy access to every inch, again eliminating any need to step on the soil. The soil in both of these systems is never dug - there is no compaction to necessitate it - so the organisms which make up the living part of the soil are left undisturbed to do their work. Fertility is built when nothing is growing by the application of a straw mulch, in imitation of a forest floor.

This method of building fertility has also been employed in the walled garden, where the bulk of our vegetables are grown. Here, we have experimented with companion-planting systems which eliminate the need to rotate crops. We have also covered large areas which were infested with couch grass with black plastic: when this is removed after a couple of years, we will have perfect, clean soil for growing food in. This is an excellent illustration of the energy-conserving strategy embodied in the principle, minimum effort for maximum effect.

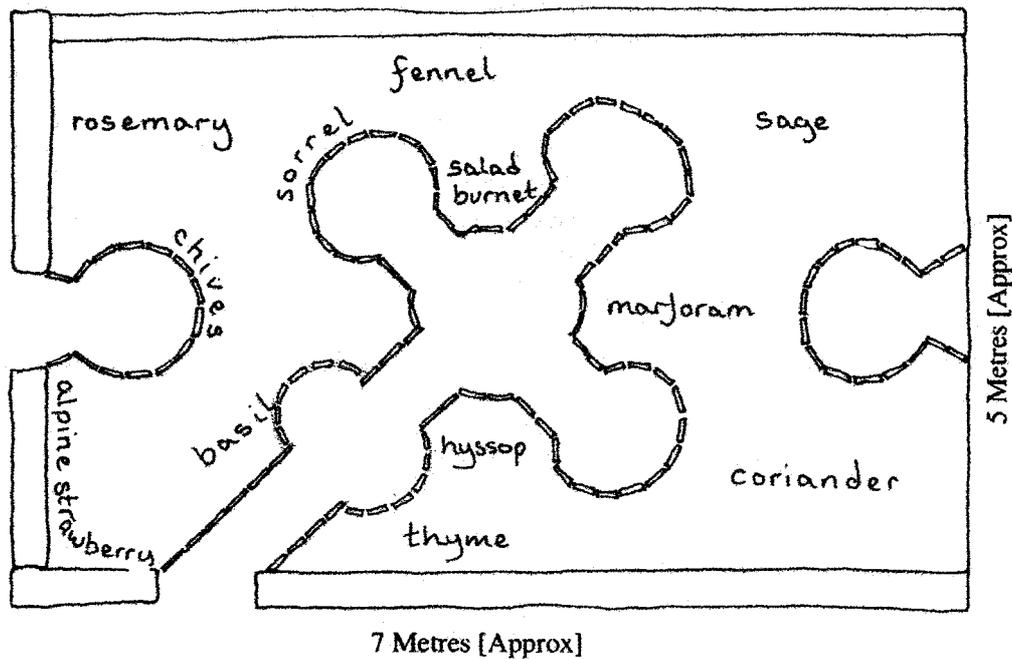


Diagram 1 : Braziers' Herb Garden, opposite the Wood Store [Anna Kendall]

In the camping field, we have built two sets of composting toilets, based on a design known as the tree bog: there are two cubicles on a platform about four feet above the ground, equipped with toilet seats. The waste drops onto the ground, and the user throws down a handful of sawdust. Thus the faeces decompose aerobically, which means no smell. Planted around the toilet are willow rods, which take root, and harvest the nutrients. We will then harvest and use the willow. Our version of this design, we can proudly announce, has been dubbed by a visitor (who has visited many such facilities), a Rolls Royce among compost toilets! In hand at the moment is the creation of a forest garden on the slope above the North Garden and the drying green, based on the work of Robert Hart. In a forest garden, we combine fruit and nut trees with soft fruit bushes and mainly perennial vegetables and herbs. The layout includes many paths and clearings in order to achieve a maximum amount of edge. This area of interface is the most productive part of a woodland owing to the increased light and precipitation, and ease of access.

Permaculture is naturally concerned also with establishing modern, energy-efficient heating systems in buildings, with adequate insulation, and using only renewable resources. This is a somewhat daunting prospect for the future.

Permaculture - the word is intended to refer to permanence, or sustainability, not only in agriculture, but also in human culture - is proposed as a positive solution to global problems. We must start at our back doors, both literally and figuratively, and work outwards. Before we can save the planet, it is up to all of us to put our own house in order, come to terms with our prejudices, inconsistencies, and projections, and help other people to do the same. It is here - in irrational human behaviour - that we find the true root of the world's problems. This is the area covered by the second component of the permaculture ethic - care for people. The principles and philosophy of permaculture are as applicable to the design of processes for enabling productive inter-personal relationships, and equitable social structures, as they are to the fulfilment of our material needs.

Simon Nisbett T.E.F.L., Dip. Perm. Des.